COSMO BIO

Inspiration for Life Science

PRODUCT CATALOG

4th edition

COSMO BIO CO., LTD.

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Inspiration for Life Science

About Cosmo Bio

Established in 1978, Cosmo Bio provides the most up-to-date products and technical information available from world-class manufacturers, to laboratories, research institutes, life-science education and testing organizations throughout Japan and around the world.
We are proud that our ability to supply a vast array of products and information allows us to serve the needs of all of our customers. By making full use of our international network, coupled with the highest quality information, we support the life sciences community with a level of commitment and responsibility befitting a company that is trusted by its valued customers.

Research Reagents for Immunology

Monoclonal antibodies, polyclonal antibodies, labeled antisera, special antisera, purified antigens, and physiologically active substances

Research Reagents for Gene Engineering

Restriction enzymes, modification enzymes, nucleic acids, reagents for detecting genes, PCR-related reagents, and equipment

Research Reagents for Tissue Culture

Animal serums, media, culture systems/apparatus, and antibiotics

Miscellaneous Research Reagents for Biochemistry

Sugars, lipids, lectins, hormones, peptides, amino acids, chemical substances, virus, bacteria, enzymes, and enzyme substrates

Apparatus for Biochemical Research

Electrophoresis apparatus, cell-gene operation equipment, analysis software, isolation-refining equipment, culture apparatus, measuring instruments, gel photograph devices and related products, disposable products, biohazard safety appliances, and auxiliary equipment for experiments such as cold insulation

Contents

Abbreviations Guide

Cross Reactivity

ALL	All Species	**HU**	Human
AV	Avian	**MAM**	Mammalian
BOV	Bovine	**MKY**	Monkey
CAN	Canine	**MS**	Mouse
CHK	Chicken	**POR**	Porcine
EQ	Equine	**RAB**	Rabbit
FEL	Feline	**RAT**	Rat
GP	Guinea Pig	**SHP**	Sheep
GT	Goat	**XEN**	*Xenopus laevis*
HAM	Hamster	**YST**	Yeast
HIV	Human Immunodeficiency Virus		

Applications

Agg.	Agglutinating	**IF**	Immunofluorescence
ChIP	Chromatin Immunoprecipitation	**IHC**	Immunohistochemistry
DB	Dot Blot	**IHC(f)**	IHC frozen section
EIA	Enzyme Immunoassay	**IHC(p)**	IHC paraffin section
ELISA	Enzyme Linked Immunosorbent Assay	**IP**	Immunoprecipitation
FC	Flow Cytometry	**LM**	Light Microscopy
Gel Shift	Gel Shift Assay	**Neu**	Neutralising
IA	Immunoassay	**RIA**	Radioimmunoassay
IB	Immunoblot	**WB**	Western Blot
IC	Immunocytochemistry (cell)		

Conjugation

2AP	2-Aminopyridine	**HRP**	Horseradish Peroxidase
ALP	Alkaline Phosphatase	**PE**	Phycoerythrin
Cy	Cyanine	**TXRD**	TEXAS RED®
FITC	Fluorescein Isothiocyanate		

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General Information

International orders

You can purchase our products from our distributors around the world.

Please contact the distributor near your country.
http://www.cosmobio.co.jp/export_e/order/distributors.asp

If you are located in the USA, please contact Cosmo Bio USA

Cosmo Bio USA, Inc.
2792 Loker Avenue West, Suite 101
Carlsbad, California 92010, USA
Phone: 760-431-4600
Fax: 760-431-4604
E-mail: info@cosmobiousa.com
Website: www.cosmobiousa.com

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You can also place your orders directly to us:

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Phone: +81-(0)3-5632-9617

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From our Online Shopping site: http://www.cosmobio.com

Regarding our terms and conditions, packing and shipping, please refer to our website
http://www.cosmobio.com

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Our highly trained technical staff is always available to assist you. Please include the catalogue number and product name if available upon sending us your inquiry.

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Online Registration & Ordering

Online Registration

1 Click on “Online Shopping”

www.cosmobio.com

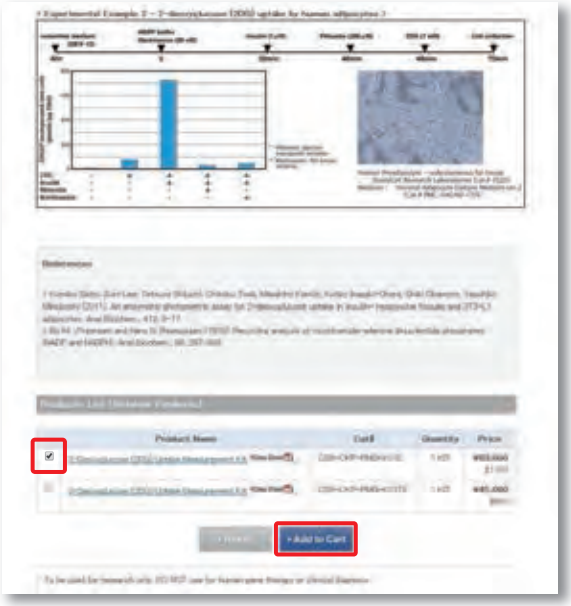
2 Click on “Customer Registration”

3 Confirm “Terms and Conditions” and click on “Agree”

4 Enter “Customer details” and click on “Registration Confirmation”

Ordering from our Online Shopping Site

1 Check the box of the item you would like to purchase and click on “Add to Cart”



2 Confirm the product and quantity and click on “Order details”

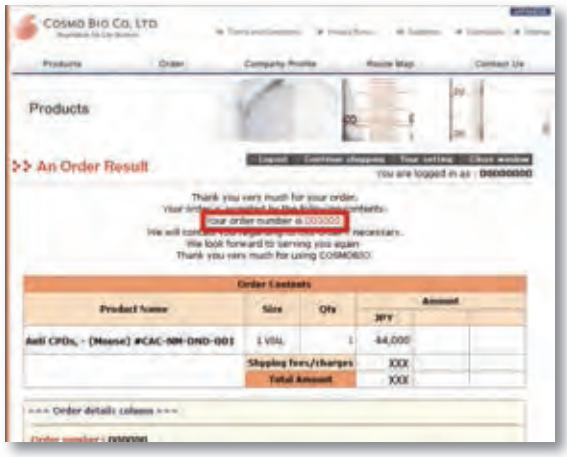
3 Enter your Login ID and Password and click on “Login”

4 Confirm your order and click on “Order confirmation”

5 Enter your credit card information and click on “Submit”

6 You will receive an automated “Order Acceptance Notification” by e-mail

Please keep a record of your order number for future reference



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	FINLAND	NP	Nuppulinnan laboratoriopalvelu Oy Käyntiosoite. Jokelantie 346 Halli D 05430 NUPPULINNA Finland Phone: +358 207920350 / Fax: +358 207920351 E-mail: nuppulinna@dlc.fi
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Country		Distributor	Contact address
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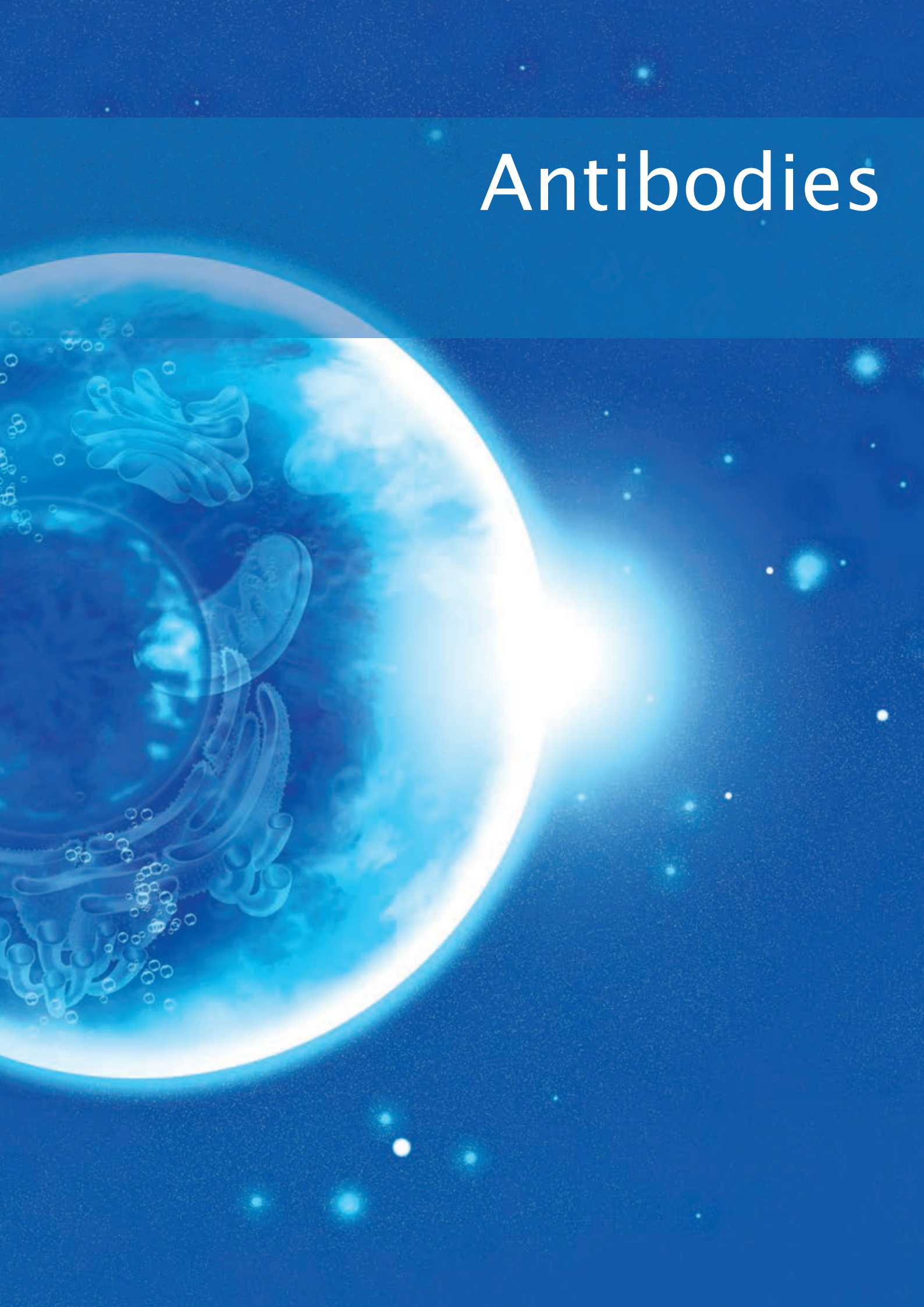
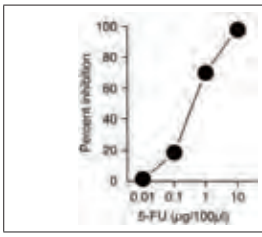
Antibodies

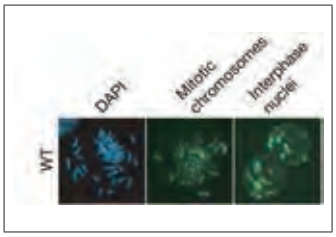


Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Numeric							
2-Methoxyestrone	Polyclonal	RAB	–	RIA	–	FKA-216	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-216-E	2000 test
3-DG-Imidazolone	Monoclonal JNH-27	MS/IgG1	–	IHC	–	KAL-KH043	50 µg
4-Androstenetrione	Polyclonal	RAB	–	–	–	FKA-150E	2000 test
4F2 Heavy Chain / 4F2hc / CD98	Polyclonal	RAB/IgG	HU/RAT	IHC	–	KAL-KE020	250 µg
	Polyclonal	RAB/IgG	MS/RAT	WB/IHC	–	KAL-KE028	25 µg
4-HHE (4-Hydroxy-2-Hexenal)	Monoclonal HHE53	MS/IgG1 κ	–	IHC	–	NOF-N213730-EX	30 µg
4-HNE	Monoclonal HNEJ-2	MS	–	IHC/WB	–	NNS-MHN-020P-EX	20 µg
	Monoclonal HNEJ-2	MS	–	IHC/WB	–	NNS-MHN-100P-EX	100 µg
4-Methoxyestrone	Polyclonal	RAB	–	RIA	–	FKA-218	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-218-E	2000 test
(4R)-Hydroxy-2-nonenal-Protein	Monoclonal R310	MS/IgG	–	WB/IHC	–	CAC-N-53000801	30 µg
4R-tau Peptide	Polyclonal	RAB/IgG	HU/MS/RAT	WB/IHC	–	CAC-TIP-4RT-P01	50 µℓ
5α-Androstane-3α, 11α, 17β-Triol-11-Succ-17-Glucuronide-BSA	Polyclonal	RAB	–	EIA	–	FKA-146	2000 test
5α-Androstane-3α, 17β-diol	Polyclonal	RAB	–	RIA	–	FKA-130	2000 test
5α-Androstane-3α, 17β-diol-3-glucuronide	Polyclonal	RAB	–	RIA	–	FKA-142	2000 test
	–	RAB	–	RIA	–	FKA-144	2000 test
5α-Androstane-3α, 17β-diol-3-Glucuronide-BSA	Polyclonal	RAB	–	EIA	–	FKA-142-E	2000 test
5α-Androstane-3α, 19β-diol	Polyclonal	RAB	–	EIA	–	FKA-130-E	2000 test
5α-Pregnane-3-20-dione	Polyclonal	RAB	–	RIA	–	FKA-322	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-322-E	2000 test
5β Androstane-3A (5β-Androstane-3α, 17β-diol-glucuronide)	Polyclonal	RAB	–	EIA	–	FKA-132-E	2000 test
	Polyclonal	RAB	–	RIA	–	FKA-132	2000 test
5-Fluorouracil	Monoclonal H3-17	MS	–	ELISA	–	CAC-NM-MA-002	1 vial
5-Methylcytosine	Monoclonal 5MC-CD	MS/IgM	–	IB	–	BAM-51-003-EX	100 µg
	Monoclonal 5MC-CD	MS/IgM	–	IB	Biotin	BAM-51-004-EX	50 µg
	Monoclonal 5MC-CD	MS/IgM	–	IHC/IB	FITC	BAM-51-005-EX	50 µg
6β-OH-Cortisol	Polyclonal	RAB	–	RIA	–	FKA-432	2000 test
	Polyclonal	RAB	–	ELISA	–	FKA-432-E	2000 test
6-pyruvoyltetrahydropterin synthase	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PTS-249	100 µℓ
7-KC (7-Ketocholesterol)	Monoclonal	MS/IgG	–	IHC(f)	–	NOF-N213810-EX	100 µg
	Monoclonal	MS/IgG	–	IHC(f)	–	NOF-N213820-EX	20 µg
8-OHdG	Monoclonal N45.1	MS	–	IHC	–	NNS-MOG-020P-EX	20 µg
	Monoclonal N45.1	MS	–	IHC	–	NNS-MOG-100P-EX	100 µg
11β-OH-Testosterone	Polyclonal	RAB	–	–	–	FKA-148E	2000 test
11B-OH-ANDROSTENEDION	Polyclonal	RAB	–	EIA	–	FKA-140-E	2000 test

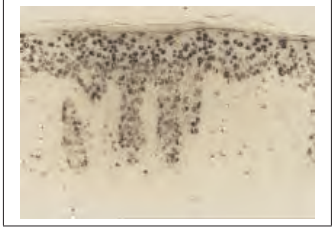
4R-tau peptide #CAC-TIP-4RT-P01
Immuno staining for paraffin embedded section of cerebral cortex prepared from AD brain (retrieved with proteinase K and formic acid).



5-Fluorouracil #CAC-NM-MA-002
Monoclonal antibody (H3-17) is capable of binding to free 5-FU.Free 5-FU efficiently inhibits the antibody binding to immobilized 5-FU-BSA (5 ng/well), which was detected by a competitive ELISA.



5-Methylcytosine #BAM-51-004-EX
Detection of DNA methylation in mouse embryonic stem cells by immunofluorescence staining with the anti-5MeC antibody Intense 5-methylcytosine staining at pericentromeric regions was seen in the mitotic chromosome and interphase nuclei of ESCs.



8-OHdG #NNS-MOG-020P-EX

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
11-Oxo-Testosterone	Polyclonal	RAB	HU/BOV/EQ/ MAM/Fish	RIA	–	FKA-118	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-118-E	2000 test
16α-OH-4-Androstendione	Polyclonal	RAB	–	RIA	–	FKA-124	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-124-E	2000 test
16α-OH-DHA	Polyclonal	RAB	–	RIA	–	FKA-126	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-126-E	2000 test
16α-OH-Pregnenolone	Polyclonal	RAB	–	EIA	–	FKA-318-E	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-328-E	2000 test
16α-OH-Progestrone	Polyclonal	RAB	–	EIA	–	FKA-306-E	2000 test
	Polyclonal	RAB	–	RIA	–	FKA-306	2000 test
16α-OH-Testosteron	Polyclonal	RAB	–	RIA	–	FKA-128	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-128-E	2000 test
17α, 20β, 21-tri OH-Progesterone	Polyclonal	RAB	–	RIA	–	FKA-340	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-340-E	2000 test
17α, 20β-diOH-Progesterone	Polyclonal	RAB	–	EIA	–	FKA-332-E	2000 test
17α-OH-Pregnenolone	Polyclonal	RAB	–	RIA	–	FKA-320	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-320-E	2000 test
17α-OH-Progesteron-3	Polyclonal	RAB	–	RIA	–	FKA-308	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-308-E	2000 test
17βHSD Type8	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KR099	25 μg
19-NOR-4-Androstenedione	Polyclonal	RAB	–	EIA	–	FKA-122-E	2000 test
20α-OH-Progesterone-3	Polyclonal	RAB	–	RIA	–	FKA-310	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-310-E	2000 test
20β-Hydroxy-Ecdysone	Polyclonal	RAB	–	EIA	–	FKA-614-E	2000 test
20β-OH-progesterone	Polyclonal	RAB	–	RIA	–	FKA-312	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-312-E	2000 test
2,4-Dichlorophenoxyacetic Acid	Monoclonal 2C4	MS/IgG1 κ	–	ELISA	–	CAC-KYU-HT-M007	100 μℓ
5', 3'-Nucleotidase, Cytosolic (NT5C)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NT5C-273	100 μℓ
6-4PPs	Monoclonal 64M-2	MS/IgG2a κ	–	ELISA/IC/ not_FC/not_WB/ not_IP/not_IH	–	CAC-NM-DND-002	1 vial
17, 20-diOH-pregesterone	Polyclonal	RAB	–	RIA	–	FKA-330	2000 test

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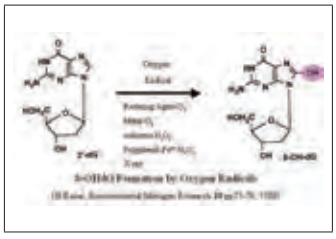
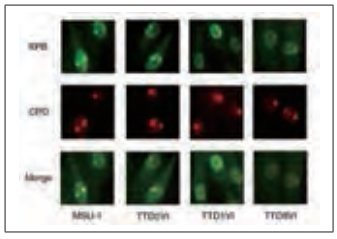
AADAT (Aminoadipate Aminotransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-AADAT-279	100 μℓ
AAF DNA Adducts	Monoclonal AAF-1	MS/IgG1 κ	–	ELISA/IC	–	CAC-NM-MA-001	1 vial
AAO1 (Aldehyde Oxidase 1)	Polyclonal	RAB/IgG	Arabidopsis thaliana/Plant/	WB/IP	–	CAC-SDT-01-AO1	200 μℓ
AAO2 (Aldehyde Oxidase 2)	Polyclonal	RAB/IgG	Arabidopsis thaliana/Plant/	WB/IP	–	CAC-SDT-01-AO2	200 μℓ
AAO3 (Aldehyde Oxidase 3)	Polyclonal	RAB/IgG	Arabidopsis thaliana/Plant/	WB/IP	–	CAC-SDT-01-AO3	200 μℓ
AARS2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1270	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1270PA	100 μg
AARS (Alanyl-tRNA Synthetase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-AARS-283	100 μℓ
AATF (Apoptosis Antagonizing Transcription Factor)	Monoclonal AATF2B6	MS/IgG1	HU	WB/DB	–	CBX-CBX00256	100 μg
AATF/Che-1/Traube	Monoclonal 1B2D8	RAT/IgG2a	HU/MS/RAT	WB/IC	–	CAC-CE-013A	100 μℓ (1 mg/mℓ)

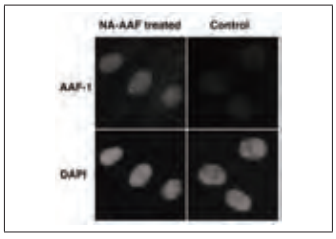


8-OHdG #NNS-MOG-100P-EX

17βHSD type8 #KAL-KR099
Immunohistochemistry / Sample: Human endometrium / Preparation of antibodies and instruction: Dr. Okamura H. at Department of Reproductive Medicine and Surgery, Faculty of Medical and Pharmaceutical Sciences Kumamoto University.

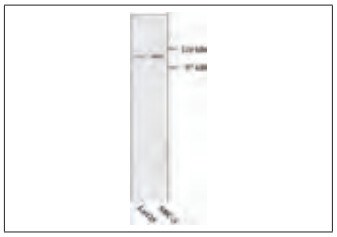


6-4PP #CAC-NM-DND-002
Nishiwaki, Y., *et al.*, J. Invest. Dermatol. 122, 526-532 (2004).

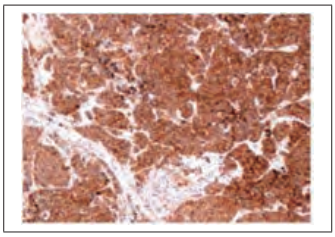


AAF DNA Adducts #CAC-NM-MA-001

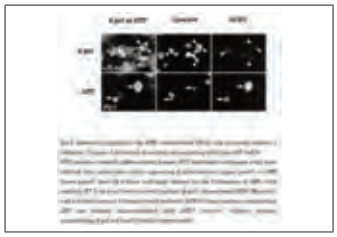
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
ABCA5	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1888AF	50 μg
ABCF1 (ATP-Binding Cassette, Subfamily E, Member 1)	Monoclonal ABC5H06	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00146	100 μg
ABCF2 (ATP-Binding Cassette, Sub-family F (GCN20), Member 2, Nuclear Gene Encoding Mitochondrial Protein)	Monoclonal 2001C1	MS/IgG1	HU/MS/RAT	WB/FC/IP/DB	–	CBX-CBX00412	100 μg
ABLIM1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0059	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0059PA	100 μg
ABLIM3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0843	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0843PA	100 μg
ACAD8 (Acyl-Coenzyme A Dehydrogenase Family, Member 8)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ACAD8-275	100 μℓ
ACBD5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1996	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1996PA	100 μg
ACE3	Polyclonal	RAB	MS	WB/IF/IP	–	BAM-73-006-EX	100 μℓ
Acetyl Histone H3 (Lys9)	Monoclonal MABI0305(CMA305)	MS/IgG2b	HU	ChIP/IB/IC	–	MCA-MABI0005-100-EX	100 μℓ (1 mg/mℓ)
Acetyl Histone H3 (Lys27)	Monoclonal MABI0309(CMA309)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0009-100-EX	100 μℓ (1 mg/mℓ)
Acetyl Histone H3 (Lys9/27)	Monoclonal MABI0310(CMA310)	MS/IgG2a	HU	ChIP/IB/IC	–	MCA-MABI0010-100-EX	100 μℓ (1 mg/mℓ)
Acidic FGF (1-15)	Polyclonal	RAB	BOV	IHC/RIA	–	YII-Y260-EX	50 μℓ
ACIN1 (Apoptotic Chromatin Condensation inducer 1)	Monoclonal 2005C3a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00341	100 μg
ACIN1 (Apoptotic Chromatin Condensation inducer 1)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0670AF	50 μg
ACOX3 (Acyl-Coenzyme A Oxidase 3, Pristanoyl)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ACOX3-526	100 μℓ
ACR (Acrolein)	Monoclonal	MS/IgG1 κ	–	IHC	–	NOF-N213310-EX	100 μg
	Monoclonal	MS/IgG1 κ	–	IHC	–	NOF-N213320-EX	20 μg
ACSBG1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0631	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0631PA	100 μg
ACTB (Actin, β)	Monoclonal ACTBD11B7	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00270	100 μg
ACTH	Polyclonal	RAB	MS/RAT	IHC	–	YII-Y350-EX	50 μℓ
	Monoclonal HATN36	MS/IgG1 κ	–	–	–	YMS-7594	200 μg
	Monoclonal HATC22	MS/IgG1 κ	–	–	–	YMS-7595	200 μg
ACTH (1-23)	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y352-EX	50 μℓ
ACTH (21-39)	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y351-EX	50 μℓ
Actinin-4 Splice Variant	Monoclonal 15H2	MS/IgG1 κ	HU	WB/IHC	–	KAL-KG618	50 μg (0.25 mg/mℓ)
Activated Caspase 3	Polyclonal	RAB	HU/MS/RAT	WB/ELISA	–	BAM-74-102-EX	100 μℓ
ADAM10 (ADAM Metallopeptidase Domain 10)	Monoclonal 2009C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00627	100 μg
ADAMTS4 (ADAM Metallopeptidase with Thrombospondin Type 1 Motif, 4)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ADAMTS4-241	100 μℓ
ADARB1	Monoclonal 2011C3a	MS/IgG1	HU	DB/WB	–	CBX-CBX00714	100 μg
Addicsin	Polyclonal	RAB/IgG	MS	WB/IHC	–	KAL-KR057	25 μg
Adenosine Deaminase 2	Polyclonal	RAB/IgG	CHK	WB	–	KAL-KR081	25 μg
ADHFE1 (Alcohol Dehydrogenase, Iron Containing, 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ADHFE1-094	100 μℓ



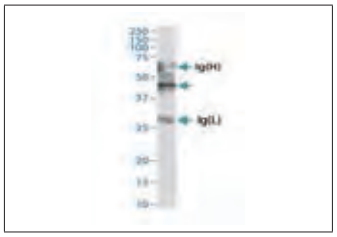
Actinin-4 splice variant #KAL-KG618



Actinin-4 splice variant #KAL-KG618
Immunohistochemistry Sample F small cell lung cancer (paraffin section).

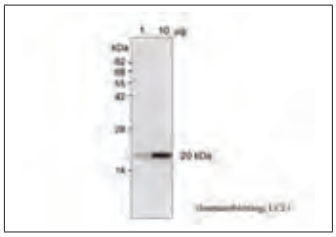


Activated Caspase 3 #BAM-74-102-EX

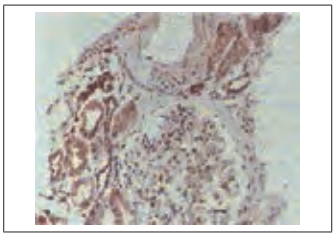


ADAMTS4 (ADAM metallopeptidase with thrombospondin type 1 motif, 4)
#CAC-CNP-ADAMTS4-241

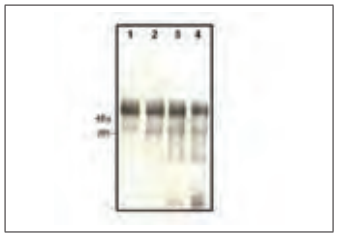
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
AdipoR 1 (Adiponectin Receptor 1)	Polyclonal	RAB	HU/MS	WB	–	KAL-KG114	100 μg (0.25 mg/mℓ)
ADIPOR2 (Adiponectin Receptor 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ADIPOR2-150	100 μℓ
ADNP (Activity-Dependent Neuroprotector homeobox)	Monoclonal 102C1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00561	100 μg
ADP Ribosylation factor (Arf)	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080012	100 μℓ
ADSL (Adenylosuccinate Lyase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ADSL-230	100 μℓ
AEBP2	Monoclonal 2012C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00713	100 μg
AFP	Monoclonal 2051	MS/IgG1	HU	ELISA	–	SIM-2ZHCMA1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 2062	MS/IgG1	HU	ELISA	–	SIM-2ZHCMA2	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 2065	MS/IgG1	HU	ELISA	–	SIM-2ZHCMA3	0.5 mℓ (0.25 mg /0.5 mℓ)
AFP (α-Fetoprotein)	Monoclonal 6D2	MS/IgG2a κ	HU	ELISA	–	LNM-KR-005	0.1 mg (1 mg/mℓ)
	Monoclonal 1D5	MS/IgG1 κ	HU	ELISA	–	LNM-KR-006	0.1 mg (1 mg/mℓ)
	Monoclonal NB-011	MS/IgG1	HU	ELISA	–	NBT-MNB-011	1 mg
	Monoclonal NB-012	MS/IgG1	HU	ELISA	–	NBT-MNB-012	1 mg
	Monoclonal NB-013	MS/IgG1	HU	ELISA	–	NBT-MNB-013	1 mg
	Monoclonal NB-014	MS/IgG1	HU	ELISA	–	NBT-MNB-014	1 mg
	Monoclonal NB-015	MS/IgG1	HU	ELISA	–	NBT-MNB-015	1 mg
	Monoclonal NB-016	MS/IgG2a	HU	ELISA	–	NBT-MNB-016	1 mg
	Monoclonal NB-017	MS/IgG1	HU	ELISA	–	NBT-MNB-017	1 mg
	Polyclonal	GT	HU	–	–	NBT-PA-011	1 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PA-012	1 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PA-014	1 mℓ
	Polyclonal	GT	HU	–	–	NBT-PG-011	5 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PG-012	5 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PG-014	5 mℓ
	Polyclonal	GT	HU	–	–	NBT-PS-011	10 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PS-012	10 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PS-014	10 mℓ
AGE1	Monoclonal 7C1	MS/IgG1 κ	Animal	WB/ELISA	–	KAL-KG132	10 μg
AGE3	Monoclonal 9D8	MS/IgG1	–	WB/ELISA	–	KAL-KG122	10 μg
AGE4	Monoclonal 14B5	MS/IgG1 κ	Animal	WB/ELISA	–	KAL-KG133	10 μg
AGEs	Monoclonal 6D12	MS/IgG1	–	WB/IHC/ELISA	–	KAL-KH001	10 μg
	Monoclonal 6D12	MS/IgG1	–	WB/IHC/ELISA	Biotin	KAL-KH001-01	10 μg
	Monoclonal 6D12	MS/IgG1	Animal	WB/IHC/ELISA	HRP	KAL-KH001-02	20 μg (0.1 mg/ mℓ)
Aggrecan	Monoclonal 6F4	MS	HU	WB/IHC(p)/ ELISA/IP	–	CAC-PRPG-AG-M01	2 mℓ



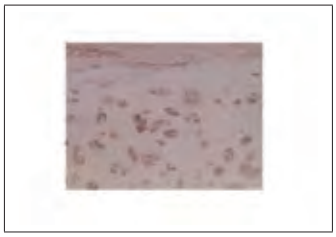
ADP ribosylation factor (Arf)
#COP-COP-080012



AGEs #KAL-KH001

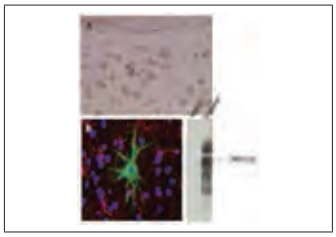


Aggrecan #CAC-PRPG-AG-M01
SDS-PAGE Lane 1 - Chase ABC + Kase I, Lane 2 - Chase ABC + Kase II, Lane 3 - Chase ABC + Kase I + E, Lane 4 - Chase ABC + Kase II + E

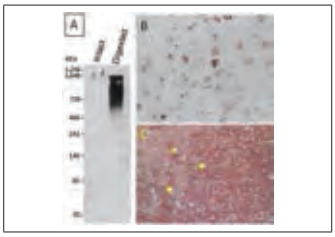


Aggrecan #CAC-PRPG-AG-M01

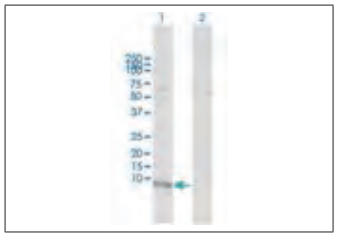
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Aggrecan	Monoclonal 5D3	MS/IgG1	HU	WB/IHC(p)/ ELISA/IP	–	CAC-PRPG-AG-M02	2 mℓ
Aggrecan (5G2)	Monoclonal 5G2	MS/IgG1	HU	WB/IHC/ELISA/ IP	–	CAC-PRPG-AG-M03	2 mℓ
Aggrecan (7B7)	Monoclonal 7B7	MS/IgG1	HU	WB/IHC/ELISA/ IP	–	CAC-PRPG-AG-M04	2 mℓ
AHNAK Nucleoprotein (Desmoyokin)	Monoclonal 2014C3a	MS/IgG1	HU	DB/WB/IC	–	CBX-CBX00351	100 μg
AIM	Monoclonal 11G3 (#12)	RAT/IgG1 κ	MS	WB/ELISA/IC/IP	–	KAL-KO615	50 μg
	Monoclonal 20C1 (#29)	RAT/IgG1 κ	MS	WB/ELISA/IC/IP	–	KAL-KO616	50 μg
	Monoclonal 23B12 (#36)	RAT/IgG2a	MS	WB/IHC/ELISA/ IC/IP	–	KAL-KO617	50 μg
AIM2 (Absent in Melanoma 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-AIM2-153	100 μℓ
Ajuba	Polyclonal	RAB/IgG	HU	IC/IP	–	KAL-KR068	25 μg
AK2 (Adenylate Kinase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AK2-286	100 μℓ
AKAP6 (KIAA0311)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK03110910	50 μg
A Kinase (PRKA) Anchor Protein 7	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AKAP7-387	100 μℓ
A Kinase (PRKA) Anchor Protein 8 (AKAP8)	Monoclonal 2015C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00414	100 μg
AKR1B1 (Caldo-keto Reductase Family 1, Member B1 (Aldose Reductase))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AKR1B1-406	100 μℓ
AKR7A3	Monoclonal 2B8	MS/IgG2b κ	HU/RAT	WB/IHC/ELISA	–	KAL-KC598	50 μg (200 μℓ)
AlaRS	Polyclonal	RAB	HU/MS/HAM	WB	–	BAM-70-600-EX	100 μℓ
Albumin	Monoclonal A1E8	MS/IgG1 κ	HU	ELISA	–	LNM-KR-001	0.1 mg (1 mg/mℓ)
	Monoclonal A5C9	MS/IgG1 κ	HU	ELISA	–	LNM-KR-002	0.1 mg (1 mg/mℓ)
	Monoclonal FU-301	MS/IgG1 κ	HU	ELISA/IP	–	NBT-MFU-301	1 mg
	Monoclonal FU-302	MS/IgG1 κ	HU	ELISA/IP	–	NBT-MFU-302	1 mg
	Monoclonal FU-303	MS/IgG1 κ	HU	ELISA/IP	–	NBT-MFU-303	1 mg
	Monoclonal FU-304	MS/IgG1 κ	HU	ELISA/IP	–	NBT-MFU-304	1 mg
	Polyclonal	GT	HU	–	–	NBT-PA-061	1 mℓ (1 mg/mℓ)
	Polyclonal	RAB	HU	–	–	NBT-PA-062	1 mℓ (1 mg/mℓ)
	Polyclonal	GT	HU	–	–	NBT-PG-061	5 mℓ (2 mg/mℓ)
	Polyclonal	RAB	HU	–	–	NBT-PG-062	5 mℓ (2 mg/mℓ)
	Polyclonal	GT	HU	–	–	NBT-PS-061	10 mℓ (4 mg/mℓ)
	Polyclonal	RAB	HU	–	–	NBT-PS-062	10 mℓ (4 mg/mℓ)
	Monoclonal 4715	MS/IgG1	HU	ELISA	–	SIM-2ZHBAL1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 4761	MS/IgG1	HU	ELISA	–	SIM-2ZHBAL2	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 1D6	MS/IgG2b κ	MS	–	–	YMS-7618	200 μg
	Monoclonal 2F9	RAT/IgG1 κ	MS	–	HRP	YMS-7969	200 μℓ (200 μg/200 μℓ)



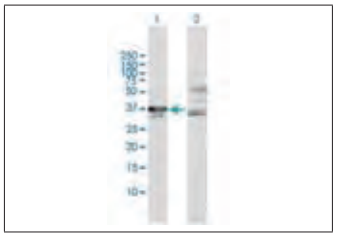
AGGRECAN #CAC-PRPG-AG-M02



Aggrecan (5G2) #CAC-PRPG-AG-M03

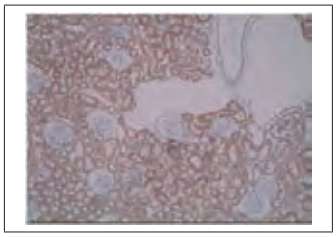


A kinase (PRKA) anchor protein 7 #CAC-CNP-AKAP7-387

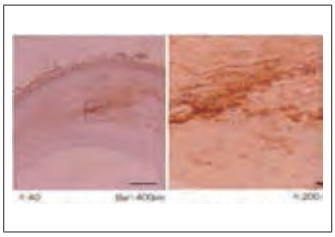


AKR1B1 (caldo-keto reductase family 1, member B1 (aldose reductase)) #CAC-CNP-AKR1B1-406

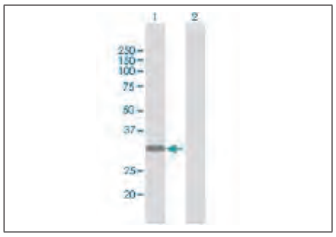
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Aldehyde Oxidase	Polyclonal	RAB/IgG	RAT	WB	–	KAL-KR063	25 μg
ALDH7A1 (Aldehyde Dehydrogenase 7 Family, Member A1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ALDH7A1-225	100 μℓ
ALDH16A1 (Aldehyde Dehydrogenase 16 Family, Member A1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ALDH16A1-344	100 μℓ
Aldosterone	Polyclonal	RAB	HU/BOV/EQ/ MAM/Fish	RIA	–	FKA-428	2000 test
	Polyclonal	RAB/IgG	–	ELISA	–	FKA-428-E	2000 test
ALG2 (Asparagine-linked Glycosylation 2 Homolog (*S. cerevisiae*, α-1,3-Mannosyltransferase))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ALG2-245	100 μℓ
Alkaline Lipase	Polyclonal	RAB/IgG	Ricinus communis	WB	–	COP-COP-080055	100 μℓ
α1 Antitrypsin	Monoclonal S3-1	MS/IgG1	HU	EIA/WB/IHC(f)	–	IKG-KMSLS3-1	100 μg
α1-Microglobulin	Monoclonal AG-001	MS/IgG1	HU	–	–	NBT-MAG-001	1 mg
	Monoclonal AG-002	MS/IgG1	HU	–	–	NBT-MAG-002	1 mg
	Monoclonal AG-003	MS/IgG1	HU	–	–	NBT-MAG-003	1 mg
α1-microglobulin AMG	Monoclonal 9F7	MS/IgG1 κ	HU	ELISA	–	LNM-KR-003	0.1 mg (1 mg/mℓ)
	Monoclonal 12D4	MS/IgG1 κ	HU	ELISA	–	LNM-KR-004	0.1 mg (1 mg/mℓ)
α/β Crystalin	Polyclonal	RAB	BOV/HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-BCRS1R	0.1 mℓ
α Endorphin	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-Y300-EX	50 μℓ
α Interferon	Monoclonal 4E-A1	RAT/IgG1	MS	–	–	YMS-7890	0.5 mℓ (1 mg /0.5 mℓ)
α Synuclein	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-AS1S	0.1 mℓ
	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-AS2S	0.1 mℓ
	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-AS3S	0.1 mℓ
α Synuclein (9 Antibodies Set)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-SET	9×10 μℓ
α Synuclein (1-10)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P01	50 μℓ
α Synuclein (11-20)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P02	50 μℓ
α Synuclein (21-30)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P03	50 μℓ
α Synuclein (31-40)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P04	50 μℓ
α Synuclein (41-50)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P05	50 μℓ
α Synuclein (51-60)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P06	50 μℓ
α Synuclein (61-70)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P07	50 μℓ
α Synuclein (75-91)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P08	50 μℓ
α Synuclein (131-140)	Polyclonal	RAB/IgG	HU	IHC/WB	–	CAC-TIP-SN-P09	50 μℓ
Amelogenin	Polyclonal	RAB	MS/RAT/BOV	WB/IHC	–	HKD-AB01	100 μℓ
AMT (Aminomethyltransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-AMT-031	100 μℓ
AMY1C (Amylase, α 1C (Salivary))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AMY1C-467	100 μℓ
Amyloid β Protein (1-40)	Polyclonal	RAB	HU	IHC/RIA	–	YII-YA010-EX	50 μℓ
Androstenedione	Polyclonal	RAB/IgG	BOV	RIA/EIA	–	CAC-KZ-HS-P15	50 μℓ
	Polyclonal	RAB/IgG	–	RIA	–	FKA-138	2000 test
	Polyclonal	RAB/IgG	–	EIA	–	FKA-138-E	2000 test
Androstenedione-11α-Succ-BSA	Polyclonal	RAB	–	RIA	–	FKA-106	2000 test



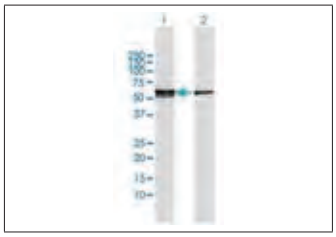
AKR7A3 #KAL-KC598



α1 Antitrypsin #IKG-KMSLS3-1

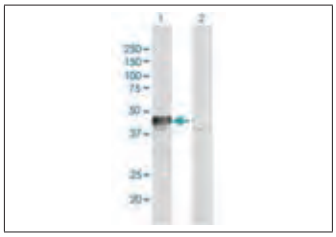


AMT (aminomethyltransferase) #CAC-CNP-AMT-031

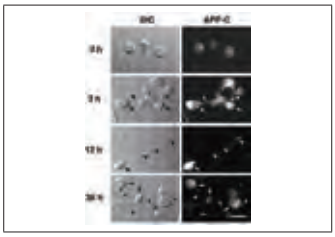


AMY1C (amylase, α 1C (salivary)) #CAC-CNP-AMY1C-467

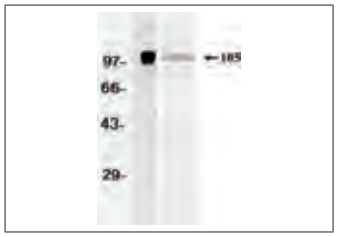
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Androstenedione-11 α-Succ-BSA	Polyclonal	RAB	HU/EQ/BOV/ Fish	EIA	–	FKA-106-E	2000 test
ANGEL1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0759	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0759PA	100 μg
ANKRD11 (Ankyrin Repeat Domain 11, mRNA)	Monoclonal 2022C8a	MS/IgG1	HU/MS	WB/DB	–	CBX-CBX00321	100 μg
ANKS1A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0229	100 μℓ
Annexin 4	Monoclonal No.50	MS/IgG1 κ	HU	ELISA	–	LNM-KR-007	0.1 mg (1 mg/mℓ)
	Monoclonal No.73	MS/IgG1 κ	HU	ELISA	–	LNM-KR-008	0.1 mg (1 mg/mℓ)
Annexin 5	Monoclonal No.23	MS/IgG2b κ	HU	ELISA	–	LNM-KR-009	0.1 mg (1 mg/mℓ)
	Monoclonal No.49	MS/IgG2b κ	HU	ELISA	–	LNM-KR-010	0.1 mg (1 mg/mℓ)
ANP	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y330-EX	50 μℓ
	Polyclonal	RAB/IgG	HU	–	–	YMS-7623	50 μℓ
ANP32A	Polyclonal	RAB	HU	WB	–	PRX-KB7264GNP	100 μℓ
AOC2 (Amine Oxidase, Copper containing 2 (Retina-Specific))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AOC2-265	100 μℓ
AOF2 (Amine Oxidase (Flavin containing) Domain 2)	Monoclonal 2026C5a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00518	100 μg
AP 1	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-CB2RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-CB2RB	0.2 mℓ
AP 2	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-CB3RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/IF/LM	–	ATA-CB-CB3RB	0.2 mℓ
APEX1 (APEX Nuclease (Multifunctional DNA Repair Enzyme) 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-APEX1-468	100 μℓ
	Monoclonal 2027C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00635	100 μg
APH-1a	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR078	25 μg
APOBEC3C (Apolipoprotein B mRNA editing Enzyme, Catalytic Polypeptide-like 3C)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-APOBEC3C-090	100 μℓ
Apolipoprotein AI	Monoclonal 2A6	–	–	–	–	YMS-7697	200 μℓ (200 μg /200 μℓ)
Apolipoprotein B	Monoclonal 1D2	MS/IgG1 κ	HU	–	–	YMS-7649	200 μg
APP (β-Amyloid Precursor Protein)	Polyclonal	RAB	HU/MS/RAT	WB/ELISA	–	BAM-74-104-EX	100 μℓ
	Polyclonal	RAB	HU/MS/RAT	WB	–	BAM-74-106-EX	100 μℓ
	Polyclonal	RAB	HU/MS/RAT	WB/ELISA	–	BAM-74-108-EX	100 μℓ
	Monoclonal 278	MS/IgG	HU	WB/ELISA	–	CAC-YCU-MK-AP01	100 μg
APP δ C31	Polyclonal	RAB	HU/MS/RAT	WB/ELISA	–	BAM-74-110-EX	100 μℓ
APRIN (PDS5, Regulator of Cohesion Maintenance, Homolog B (*S.cerevisiae*) (PDS5B))	Monoclonal 2030D32a	MS/IgG1	HU	WB/DB	–	CBX-CBX00366	100 μg
APRT (Adenine Phosphoribosyltransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-APRT-019	100 μℓ
Aquaporin AtSIP1;1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080031	100 μℓ
Aquaporin AtSIP2;1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080032	100 μℓ
Aquaporin PIP1;1, PIP1;2, PIP1;3	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080023	100 μℓ
	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080025	100 μℓ
Aquaporin PIP2;1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080024	100 μℓ



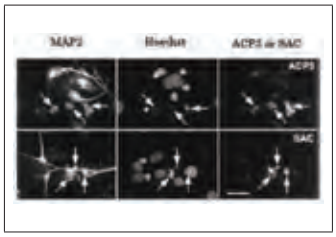
APEX1 (APEX nuclease (multifunctional DNA repair enzyme) 1)
#CAC-CNP-APEX1-468



APP #BAM-74-104-EX
Immunocytochemistry for APP. Mouse dorsal root ganglion neurons were cultured in the presence of nerve growth factor (NGF), fixed at indicated time points, and immunostained for the C-terminus of APP with this antibody.

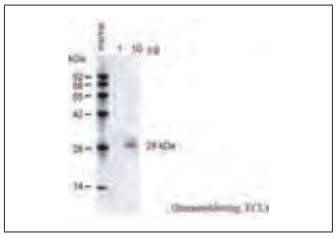


APP (β-amyloid precursor protein)
#CAC-YCU-MK-AP01

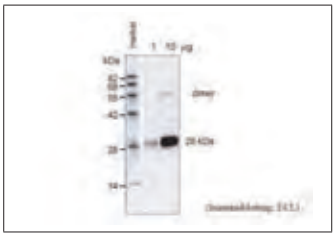


APP δ C31 #BAM-74-110-EX
Immunocytochemical analysis of APPΔC31: Caspase-3 activation and generation of the caspase-cleaved fragment APPΔC31 within neurons induced by serum deprivation.

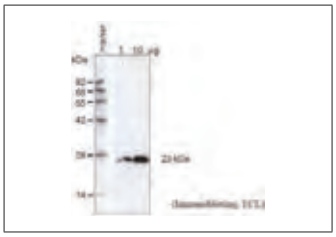
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Aquaporin PIP2;1, PIP2;2, PIP2;3	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080027	100 µℓ
Aquaporin PIP2;2	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080026	100 µℓ
Aquaporin TIP1;1 & TIP1;2 γ	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080028	100 µℓ
	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080029	100 µℓ
Aquaporin TIP2;1 δ	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080030	100 µℓ
AR	Monoclonal H7507	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H7507-00	0.1 mℓ (1 mg/mℓ)
ARC	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0278	100 µℓ
ARG2 (Arginase, Type II)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ARG2-141	100 µℓ
Arginine-Glutamic Acid Dipeptide (RE) Repeats	Monoclonal REREF1H8	MS/IgG2b	HU	WB/DB	–	CBX-CBX00290	100 µg
Arginine Vasopressin	Polyclonal	RAB/IgG	–	–	–	YMS-7626	50 µℓ
ARHGAP25	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0053	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0053PA	100 µg
ARHGAP26	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0621	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0621PA	100 µg
ARHGEF2 (KIAA0651)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK06510910	50 µg
ARHGEF4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1112	100 µℓ
ARHGEF7	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0142	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0142PA	100 µg
ARHGEF9	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0424	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0424PA	100 µg
ARHGEF10 (Rho Guanine Nucleotide Exchange Factor (GEF) 10)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ARHGEF10-332	100 µℓ
ARHGEF12	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0382AF	50 µg
ARHGEF17 (KIAA0337)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK03370910	50 µg
ARHGEF18	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0521AF	50 µg
ARID1A (AT Rich Interactive Domain 1A (SWI- like))	Monoclonal 2035C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00322	100 µg
ARID2 (AT Rich Interactive Domain 2 (ARID, RFX-like))	Monoclonal 2036C1a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00347	100 µg
ARID3A (AT Rich Interactive Domain 3A (BRIGHT-like))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ARID3A-577	100 µℓ
	Monoclonal ARIDE9C11	MS/IgG1	HU	WB/DB	–	CBX-CBX00268	100 µg
ARID4A (AT Rich Interactive Domain 4A (RBP1-like))	Monoclonal 112C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00523	100 µg
ARMC9	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1868	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1868PA	100 µg
ARMCX2 (Armadillo Repeat Containing, X-linked 2)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0512	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0512PA	100 µg
	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ARMCX2-533	100 µℓ
ARNT	Polyclonal	RAB	HU	WB	–	PRX-KB5562GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB5562GNPAF	50 µg
ARNTL2 (Aryl Hydrocarbon Receptor Nuclear Translocator-like 2)	Monoclonal ARNTH6B5	MS/IgG1	HU/MS/RAT	WB/DB/FC/IC	–	CBX-CBX00264	100 µg
ARNTL (Aryl Hydrocarbon Receptor Nuclear Translocator-like)	Monoclonal 621C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00457	100 µg
ASAP1 (KIAA1249)	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK12490505	0.05 mg



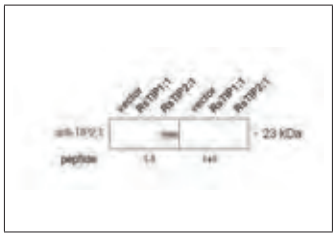
Aquaporin PIP2;1, PIP2;2, PIP2;3 #COP-COP-080027



Aquaporin PIP2;2 #COP-COP-080026

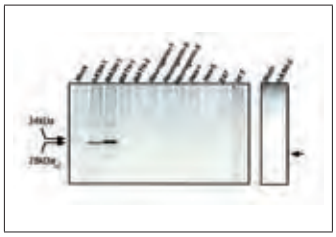


Aquaporin TIP1;1 & TIP1;2 γ #COP-COP-080028

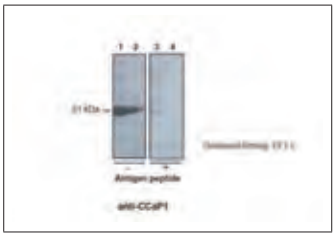


Aquaporin TIP2;1 δ #COP-COP-080030

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Ascorbate Peroxidase	Polyclonal	RAB/IgG	Plant/	WB/IHC	–	CAC-SDT-01-APX	200 µℓ
Asc-type Amino Acid Transporter 1 / Asc-1	Polyclonal	RAB/IgG	MS	WB/IHC	–	KAL-KE027	25 µg
ASH 1	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-003	100 µℓ
ASH1L (ash1 (Absent, Small, or Homeotic)-like (*Drosophila*))	Monoclonal ASH5H03	MS/IgG1	HU	WB/DB	–	CBX-CBX00148	100 µg
ASH 2	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-004	100 µℓ
ASH2L (ash2 (Absent, Small, or Homeotic)-like (*Drosophila*))	Monoclonal 2046D2a	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00359	100 µg
ASMTL (Acetylserotonin O-methyltransferase-Like)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ASMTL-312	100 µℓ
ASTN1 (KIAA0289)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK02890910	50 µg
ASXL1 (Additional Sex Combs Like 1 (*Drosophila*))	Monoclonal 2049C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00342	100 µg
ASXL2 (Additional Sex Combs Like 2 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ASXL2-557	100 µℓ
ATAD3A (ATPase Family, AAA Domain Containing 3A)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ATAD3A-195	100 µℓ
ATCAY	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1872	100 µℓ
AtCCaP1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080019	100 µℓ
ATE1 (Arginyltransferase 1)	Monoclonal 2051C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00593	100 µg
ATF2 (Activating Transcription Factor 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ATF2-476	100 µℓ
	Monoclonal ATF25I062	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00158	100 µg
	Polyclonal	RAB	HU	WB	–	PRX-KB3962GNP	100 µℓ
ATF3 (Activating Transcription Factor 3)	Monoclonal 44C3a	MS/IgG1	HU	DB/WB/IC	–	CBX-CBX00579	100 µg
ATF6 α	Monoclonal 1-7	MS/IgG2a κ	HU	WB/IP	–	BAM-73-500-EX	50 µg
	Monoclonal 37-1	MS/IgG1 κ	HU/MS	WB/IP	–	BAM-73-505-EX	100 µg
ATF7IP (Activating Transcription Factor 7 Interacting Protein)	Monoclonal 2052C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00348	100 µg
ATG2A	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0404AF	50 µg
ATG7	Monoclonal ATG7・2	MS Mono/IgG2b	HU	WB/IP	–	CAC-CTB-AT7-M01	50 µg
AT hook Containing Transcription Factor 1 (AHCTF1)	Monoclonal 2318C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00513	100 µg
ATM (Ataxia Telangiectasia Mutated (Includes complementation groups A, C and D))	Monoclonal 543C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00452	100 µg
AtMRP1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080008	100 µℓ
AtMTP1 (VM)	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080021	100 µℓ
ATP2B4 (ATPase, Ca++ transporting, plasma membrane 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ATP2B4-216	100 µℓ
AtPCaP1	Polyclonal	RAB/IgG	Arabidopsis thaliana	WB	–	COP-COP-080056	100 µℓ
AtPDR8	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080007	100 µℓ
ATPGD1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1394	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1394PA	100 µg
ATP Receptor:P2X4 (370-388)	Polyclonal	RAB	RAT	IHC	–	YII-YP060-EX	50 µℓ
AtTIP1;1	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080018	100 µℓ
Aurora A	Polyclonal	RAB/IgG	HU	WB/IHC	–	KAL-KR051	25 µg (25 µg)
Autotaxin / ENPP2	Polyclonal	RAB	MS	IHC	–	KAL-KM105	25 µg (25 µg /250 µℓ)



ASH 1 #CAC-SK-T01-003



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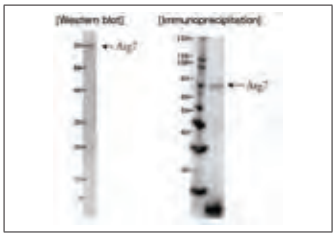
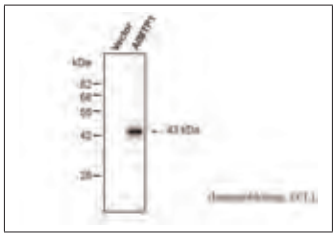


ATG7 #CAC-CTB-AT7-M01

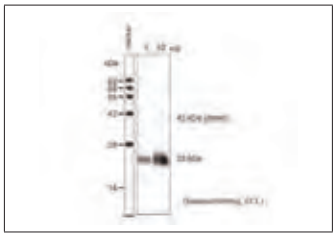


AtMTP1 (VM) #COP-COP-080021

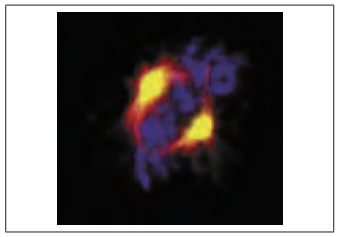
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Autotaxin / ENPP2	Polyclonal	RAB	RAT	WB	–	KAL-KM106	25 μg (250 μℓ)
AXUD1 (AXIN1 up-regulated 1)	Monoclonal 2055E3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00386	100 μg
AZGP1 (α-2-Glycoprotein 1, Zinc-binding)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-AZGP1-165	100 μℓ

B

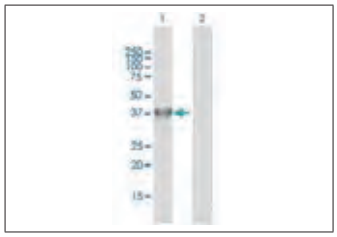
B4GALT3 (UDP-Gal:betaGlcNAc β 1,4-galactosyltransferase, polypeptide 3)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-B4GALT3-293	100 μℓ
BACH1 (BTB and CNC Homology 1, Basic Leucine Zipper Transcription Factor 1)	Monoclonal BACAD04A	MS/IgG1	HU	WB/DB	–	CBX-CBX00244	100 μg
	Polyclonal	RAB	HU	WB	–	PRX-KB3015GNP	100 μℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3015GNPAF	50 μg
BAG5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0873	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0873PA	100 μg
BAHD1 (KIAA0945)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK09450910	50 μg
BAP1 (BRCA1 Associated Protein-1)	Monoclonal 2058C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00442	100 μg
BARD1 (BRCA1 Associated RING Domain 1)	Monoclonal 2059C4a	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00343	100 μg
BAT1 (HLA-B Associated Transcript 1)	Monoclonal 2060C10a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00317	100 μg
BAZ1B (mRNA for Bromodomain Adjacent to Zinc Finger Domain 1B)	Monoclonal BAZ1H4H9	MS/IgG1	HU	WB/IC/FC/DB	–	CBX-CBX00275	100 μg
BBS4 (Bardet-Biedl Syndrome 4)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-BBS4-410	100 μℓ
BBX (Bobby Sox Homolog (*Drosophila*))	Monoclonal 2065C12a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00326	100 μg
BCAS3 (Breast Carcinoma Amplified sequence 3)	Monoclonal 2066C2a	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00327	100 μg
BCAT2 (Branched Chain Aminotransferase 2, Mitochondrial)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-BCAT2-231	100 μℓ
BCCIP (BRCA2 and CDKN1A Interacting protein)	Monoclonal 2067C4a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00706	100 μg
BCL2L2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0271	100 μℓ
BCL2L10 (BCL2-like 10 (Apoptosis facilitator))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-BCL2L10-044	100 μℓ
BCL3 (B-cell CLL/Lymphoma 3)	Monoclonal 2069E2a	MS/IgG1	HU/MS/RAT	WB/DB/IC	–	CBX-CBX00691	100 μg
BCL6	Polyclonal	RAB	HU	WB	–	PRX-KB4594GNP	100 μℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB4594GNPAF	50 μg
BCL6 (B-cell CLL/Lymphoma 6 (Zinc Finger Protein 51))	Monoclonal 116C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00625	100 μg
BCL9 (B-cell CLL/Lymphoma 9)	Monoclonal 2071C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00368	100 μg
BDP1 (B Double Prime 1)	Monoclonal 2073D1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00676	100 μg
β1-Receptor	Monoclonal 2B9	MS/IgG2aκ	HU/RAT	IP/IHC/WB/ELISA	–	CAC-MKM-M05	100 μg
β2-Microglobulin	Monoclonal EMRB6-12	MS/IgG1	HU	WB/IHC	–	HKD-AB47	100 μℓ (1 mg/mℓ)
	Monoclonal BM-010	MS/IgG1	HU	ELISA	–	NBT-MBM-010	1 mg



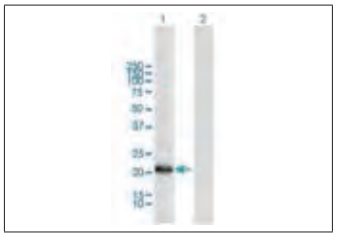
AtTIP1;1 #COP-COP-080018



Aurora A #KAL-KR051

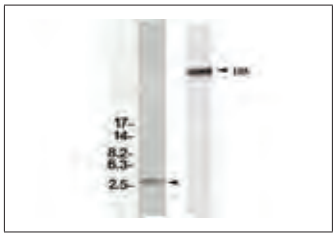


BCAT2 (branched chain aminotransferase 2, mitochondrial) #CAC-CNP-BCAT2-231

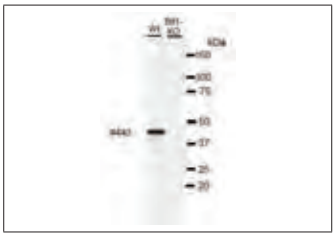


BCL2L10 (BCL2-like 10 (apoptosis facilitator)) #CAC-CNP-BCL2L10-044

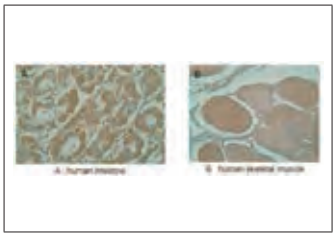
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
β 2-Microglobulin	Monoclonal BM-011	MS/IgG1	HU	ELISA	–	NBT-MBM-011	1 mg
	Monoclonal BM-012	MS/IgG2a	HU	ELISA	–	NBT-MBM-012	1 mg
	Monoclonal BM-013	MS/IgG2a	HU	ELISA	–	NBT-MBM-013	1 mg
	Monoclonal BM-014	MS/IgG2b	HU	ELISA	–	NBT-MBM-014	1 mg
	Polyclonal	GT	HU	–	–	NBT-PG-031	5 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PG-032	5 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PG-033	5 mℓ
	Polyclonal	GT	HU	–	–	NBT-PS-031	10 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PS-032	10 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PS-033	10 mℓ
β 2 Microglobulin (BMG)	Monoclonal No.37	MS/IgG1 κ	HU	ELISA	–	LNM-KR-011	0.1 mg (1 mg/mℓ)
	Monoclonal No.28	MS/IgG1 κ	HU	ELISA	–	LNM-KR-012	0.1 mg (1 mg/mℓ)
β 3 AR (β 3-Adrenergic Receptor)	Polyclonal	RAB	HU/MS	WB	–	KAL-KG115	100 μg (0.25 mg/mℓ)
β -Amyloid	Monoclonal 59	MS/IgG	HU	WB/ELISA	–	CAC-YCU-MK-BA01	100 μg
β Interferon	Monoclonal 7F-D3	RAT/IgG1	MS	–	–	YMS-7891	0.5 mℓ (1 mg)
β -lactoglobulin (CD-1)	Monoclonal CD-1	MS/IgG1	–	ELISA/WB	–	CBN-CH-009	0.1 mg
β -lactoglobulin (CD-2)	Monoclonal CD-2	MS/IgG1	–	ELISA	–	CBN-CH-010	0.1 mg
β Synuclein	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-BS1S	0.1 mℓ
β Tublin	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IF	–	BAM-63-160-EX	100 μg
bFGF	Monoclonal bFM-1	MS/IgG1	HU/BOV/MS/ RAT	Neu/RIA/ not_WB	–	CAC-MKM-M01	100 μg
BGP (C-Terminal Region)	Monoclonal 5D1	MS/IgG1 κ	RAT	–	–	YMS-7613	200 μg
BGP (N-Terminal)	Monoclonal 4C2	MS/IgG1 κ	RAT	–	HRP	YMS-7614	25 μg
BIF1	Monoclonal BIF1-443	MS/IgG2a	HU/MS	WB	–	CAC-CTB-BF-M01-W	50 μg
Biglycan	Monoclonal 905A7	MS/IgG1	HU	IHC(p)/ELISA/IP	–	CAC-PRPG-BG-M01	2 mℓ
BIN1 (Bridging Integrator 1, Transcript Variant 1)	Monoclonal 2076C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00654	100 μg
Bip	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080017	100 μℓ
Bisphenol A	Polyclonal	RAB	–	ELISA	–	FKA-606-E	2000 test
BLM	Polyclonal	RAB	HU	WB	–	BCN-BCN4780	50 μℓ
BLMH (Bleomycin Hydrolase)	Monoclonal 2079C4a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00369	100 μg
Blood Group A	Monoclonal 5336	MS/IgM	HU	Agg.	–	SIM-2ZHBGA1	0.5 mℓ (0.25 mg)
Blood Group A (Non-Secretor)	Monoclonal K7516	MS/IgM	HU	ELISA	–	SIM-2ZHBGA3	0.5 mℓ (0.25 mg)
	Monoclonal K7508	MS/IgG1	HU	IHC/ELISA/FC	–	SIM-2ZHBGA4	0.5 mℓ (0.5 mg/mℓ)
Blood Group A (Secretor)	Monoclonal K7405	MS/IgM	HU	ELISA	–	SIM-2ZHBGA2	0.5 mℓ (0.25 mg)
Blood Group B	Monoclonal 5362B	MS/IgM	HU	Agg.	–	SIM-2ZHBGB1	0.5 mℓ (0.25 mg)



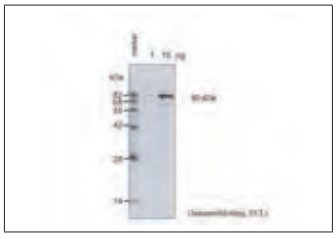
β -Amyloid #CAC-YCU-MK-BA01



BIF1 #CAC-CTB-BF-M01-W

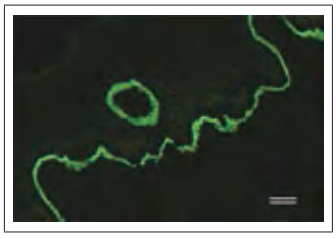


Biglycan #CAC-PRPG-BG-M01

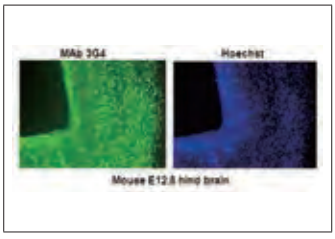


Bip #COP-COP-080017

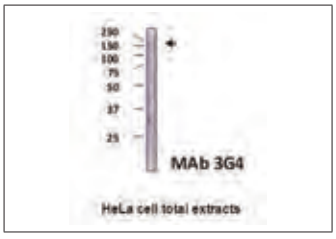
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Blood Group H	Monoclonal 5324	MS/IgM	HU	Agg.	–	SIM-2ZHBGH1	0.5 mℓ (0.25 mg)
Blood Group Le[a]	Monoclonal 4620	MS/IgG1	HU	Agg.	–	SIM-2ZHBGLA	0.5 mℓ (0.25 mg)
Blood Group Le[b]	Monoclonal 5309	MS/IgM	HU	Agg.	–	SIM-2ZHBGLB	0.5 mℓ (0.25 mg)
Blood Group M	Monoclonal 8052	MS/IgG1	HU	Agg.	–	SIM-2ZHBGM1	0.5 mℓ (0.25 mg)
Blood Group N	Monoclonal 5354	MS/IgG1	HU	Agg.	–	SIM-2ZHBGN1	0.5 mℓ (0.25 mg)
BMS1L (BMS1-like, Ribosome Assembly Protein (yeast))	Monoclonal 2081C1a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00377	100 μg
BNAS2	Polyclonal	RAB/IgG	MS	WB/IC/IP	–	KAL-KR093	25 μg
BNC2 (Basonuclin 2)	Monoclonal 2082C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00748	100 μg
BNIP1 (BCL2/Adenovirus E1B 19kDa Interacting Protein 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-BNIP1-051	100 μℓ
BNP	Polyclonal	RAB/IgG	HU	–	–	YMS-7624	50 μℓ
Bombesin	Polyclonal	Guinea Pig	POR/CAN/MKY/GP	IHC/RIA	–	YII-Y170-EX	50 μℓ
Bone Sialoprotein	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-4335	100 μℓ
BPAG1 (BP230)	Monoclonal 279	MS/IgG1 κ	HU/RAT/BOV/RAB/POR	WB/IF	–	CAC-NU-01-BP1	500 μℓ
Brain NOS-1 (998-1024)	Polyclonal	RAB	HU	IHC(f)/RIA/EIA	–	YII-YP050-EX	50 μℓ
BRD1 (Bromodomain Containing 1)	Monoclonal 2086C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00437	100 μg
BRD3 (Bromodomain Containing 3)	Monoclonal 2088C3a	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00328	100 μg
BRF1	Polyclonal	RAB	HU	WB	–	PRX-KB3029GNP	100 μℓ
BRF1 (Homolog, Subunit of RNA Polymerase III Transcription Initiation factor IIIB (*S. cerevisiae*))	Monoclonal BRF1G2A8	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00260	100 μg
Brg1	Polyclonal	RAB	–	–	–	BAM-70-230EX	100 μg
	Monoclonal 3G4	RAT/IgG1	HU/MS/MKY	WB/IC/IHC(f)/ChIP/IP	–	CAC-CE-021A	200 μℓ (0.5 mg/mℓ)
	Monoclonal 5B7	RAT/IgG2a	HU/MS/MKY	WB/IC/IHC(f)/ChIP/IP	–	CAC-CE-021B	100 μℓ (1 mg/mℓ)
BRIP1 (BRCA1 Interacting Protein C-terminal Helicase 1)	Monoclonal 2091C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00370	100 μg
Brm	Polyclonal	RAB/IgG	HU	WB/IP	–	KAL-KR086	25 μg
BRPF1 (Bromodomain and PHD finger containing, 1)	Monoclonal 2093C5a	MS/IgG1	HU/MS	WB/FC/IP/DB	–	CBX-CBX00329	100 μg
BRPF3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1286	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1286PA	100 μg
BRRN1 (Non-SMC Condensin I Complex, Subunit H (NCAPH))	Monoclonal 2094C4_2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00710	100 μg
BRUNOL4 (Bruno-like 4, RNA Binding Protein (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-BRUNOL4-169	100 μℓ
BTAF1 (RNA polymerase II, B-TFIID Transcription Factor-Associated (Mot1 Homolog, *S. cerevisiae*))	Monoclonal BTA3D61	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00139	100 μg
BTBD7	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1525AF	50 μg
BTBD9	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1880	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1880PA	100 μg
BTEB2	Monoclonal 10B3	MS/IgG1 κ	–	–	–	YMS-7620	200 μg



BPAG1 (BP230) #CAC-NU-01-BP1



Brg1 #CAC-CE-021A



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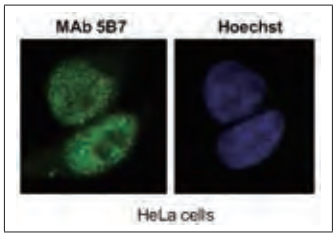


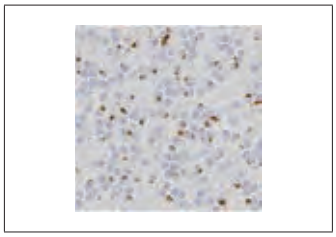
Brg1 #CAC-CE-021B

BT-

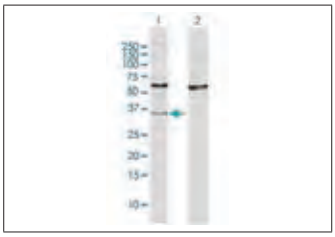
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
BTF3 (Basic Transcription Factor 3)	Monoclonal 628C5a	MS/IgG2b	HU	WB/IC/FC/DB	–	CBX-CBX00430	100 µg
BTG1 (B-cell Translocation Gene 1, anti-Proliferative)	Monoclonal 2095C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00330	100 µg
BUB1B	Monoclonal 2097C2a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00719	100 µg
BUB1 (Budding uninhibited by benzimidazoles 1 homolog (yeast))	Monoclonal 2096C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00349	100 µg
BXDC1 (brix domain containing 1)	Monoclonal 2099C7a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00331	100 µg
BXDC2 (brix domain containing 2)	Monoclonal 2092C1a	MS/IgG1	HU/MS	WB/IC/FC/DB	–	CBX-CBX00357	100 µg

C

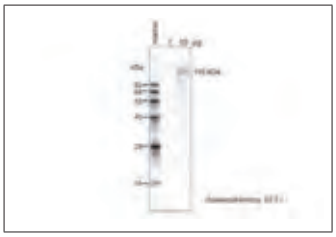
C1orf33 (Chromosome 1 Open Reading Frame 33)	Monoclonal 3323C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00756	100 µg
C1orf71	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0215AF	50 µg
C8orf79	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1456AF	50 µg
C9orf72	Polyclonal	RAB/IgG	HU	ELISA/IHC	–	CAC-TIP-C9-P01	50 µℓ
	Polyclonal	RAB/IgG	HU	ELISA/IHC	–	CAC-TIP-C9-P02	50 µℓ
	Polyclonal	RAB/IgG	HU	ELISA/IHC	–	CAC-TIP-C9-P03	50 µℓ
C9orf95 (Chromosome 9 Open Reading Frame 95)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-C9ORF95-131	100 µℓ
C12orf24 (Chromosome 12 Open Reading Frame 24)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-C12ORF24-368	100 µℓ
C13orf23	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2032	100 µℓ
C14orf21	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2021	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA2021PA	100 µg
C14orf169 (Chromosome 14 Open Reading Frame 169)	Monoclonal 3354C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00509	100 µg
C14orf172 (Chromosome 14 Open Reading Frame 172)	Monoclonal C145I165	MS/IgG1	HU	WB/DB	–	CBX-CBX00197	100 µg
C17orf37 (Chromosome 17 Open Reading Frame 37)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-C17OF37-343	100 µℓ
C20orf6 (ESF1, nucleolar pre-rRNA processing protein, homolog (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ESF1-366	100 µℓ
C20orf42 (Fermitin Family Homolog 1 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FERMT1-315	100 µℓ
C20orf174	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0119GNPAF	50 µg
Ca2ATPase	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080022	100 µℓ
CA19.9	Monoclonal 2B4	MS/IgG1 κ	HU	ELISA	–	LNM-KR-013	0.1 mg (1 mg/mℓ)
	Monoclonal 3C11	MS/IgA	HU	ELISA	–	LNM-KR-014	0.1 mg (1 mg/mℓ)
CACNA2D2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0558	100 µℓ
Cacnb4	Polyclonal	RAB	MS	WB/ELISA/IC/IP	–	KAL-KO455	25 µg (100 µℓ /vial)
CACYBP (Calcyclin Binding Protein, transcript variant1)	Monoclonal 2103C3a	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00435	100 µg
Calcitonin	Polyclonal	RAB	Salmon	EIA	–	FKA-626	2000 test
CALCOCO2 (Calcium Binding and Coiled-Coil Domain 2)	Monoclonal 2623C2_2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00766	100 µg
Calmegin	Polyclonal	RAB	MS	WB/IP	–	BAM-73-034-EX	100 µℓ
Calnexin	Polyclonal	RAB	MS/RAT/HU	WB/IP	–	BAM-73-026-EX	100 µℓ



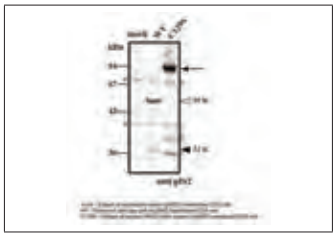
C9orf72 #CAC-TIP-C9-P01



C12orf24 (chromosome 12 open reading frame 24) #CAC-CNP-C12ORF24-368



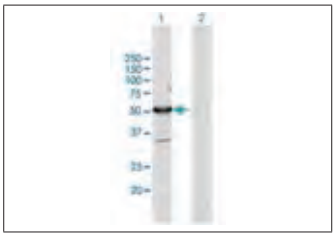
Ca2ATPase #COP-COP-080022



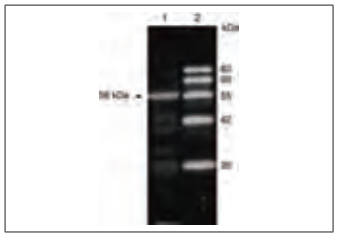
Calpain 3 (p94) #COP-COP-080048

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Calnexin (δ185-520)	Monoclonal 2E9	MS/IgG1	HU	WB	–	KAL-KK054	50 μg
Calpain 3 (p94)	Polyclonal	GT/IgG	HU/MS/RAT	WB/IP	–	COP-COP-080048	100 μℓ
	Polyclonal	GT/IgG	HU/MS/RAT	WB/IP	–	COP-COP-080049	50 μℓ
Calpain 6	Polyclonal	RAB/IgG	HU/MS	WB/IHC	–	KAL-KR084	50 μg (200μℓ)
Calprotectin	Monoclonal No.134	MS/IgG1 κ	HU	ELISA	–	LNM-KR-015	0.1 mg (1 mg/mℓ)
	Monoclonal No.19	MS/IgG1 κ	HU	ELISA	–	LNM-KR-016	0.1 mg (1 mg/mℓ)
Calreticulin	Monoclonal 1-10F	MS/IgG2b	HU	WB/ELISA	–	CAC-TSS-M02	100 μg
	Monoclonal 3-11D	MS/IgM	HU	WB/ELISA	–	CAC-TSS-M03	100 μg
Calreticulin-3/CALR3/Calsperin	Polyclonal	RAB	MS	WB/IP/IHC	–	BAM-73-022-EX	100 μℓ
Calreticulin/CALR	Polyclonal	RAB	MS	WB/IP	–	BAM-73-018-EX	100 μℓ
CaM Kinase II δ1/2/3/4 (CaM Kinase 2 δ1, CaM Kinase 2 δ2, CaM Kinase 2 δ3, CaM Kinase 2 δ4)	Polyclonal	RAB/IgG	MS/RAT	WB/IHC/IB	–	KAL-KY041	200 μg
CAMTA2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0909AF	50 μg
CapG	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR089	25 μg
CAP-H2 (Condensin II subunit)	Monoclonal 5F2G4	RAT/IgG2a	HU/MKY	WB/IC/IP	–	CAC-CE-024A	200 μℓ (0.5 mg/mℓ)
CAPN2 ((m/II) large subunit)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CAPN2-011	100 μℓ
CAPN7	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CAPN7-545	100 μℓ
	Monoclonal 2107C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00355	100 μg
CAR	Monoclonal N4111	MS/IgG1	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-N4111-00	0.1 mℓ (1 mg/mℓ)
Carassius RFamide	Polyclonal	RAB	–	IHC/ELISA	–	YII-Y470-EX	50 μℓ
CARD8 (Caspase Recruitment Domain family, member 8)	Monoclonal 2108C2a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00332	100 μg
Cardiac Myosin Light Chain 1	Monoclonal MLM520	MS/IgG1	HU/RAT/BOV/POR	WB	–	YMS-7887	200 μℓ (200 μg)
CARKL (Carbohydrate kinase-like)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SHPK-272	100 μℓ
CART1 (Cartilage paired-class homeoprotein 1)	Monoclonal 3329D3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00682	100 μg
Casein (CC-1)	Monoclonal CC-1	MS/IgG1	–	ELISA/WB	–	CBN-CH-007	0.1 mg
Casein (CC-2)	Monoclonal CC-2	MS/IgG1	–	ELISA	–	CBN-CH-008	0.1 mg
CASP7 (Caspase 7, apoptosis-related cysteine peptidase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CASP7-116	100 μℓ
Catalase	Polyclonal	RAB/IgG	*Arabidopsis thaliana*	WB/ELISA	–	COP-COP-080057	100 μℓ
Cation Chloride Cotransporter 9 (CCC9)	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR066	25 μg
CBFA2T2 (Core-binding factor, α subunit 2)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0316GNPAF	50 μg
	Monoclonal CBF5I134	MS/IgG1	HU	WB/DB/FC/IC	–	CBX-CBX00150	100 μg
CBFB (Core-binding factor, β subunit)	Monoclonal 344C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00564	100 μg
CBLB (Cas-Br-M (murine) ecotropic retroviral transforming sequence b)	Monoclonal 246C5a	MS/IgG2a	HU/MS	WB/DB	–	CBX-CBX00541	100 μg
CBL (Cas-Br-M (murine) ecotropic retroviral transforming sequence)	Monoclonal 2111C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00443	100 μg

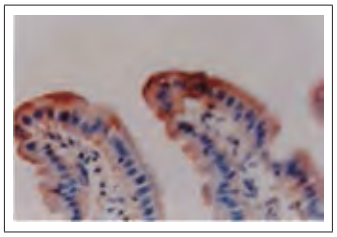
Calreticulin #CAC-TSS-M02



CARKL (carbohydrate kinase-like) #CAC-CNP-SHPK-272

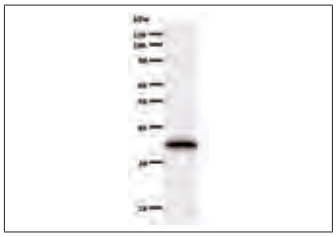


Catalase #COP-COP-080057

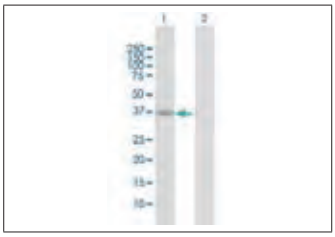


Cation Chloride Cotransporter 9 (CCC9) #KAL-KR066

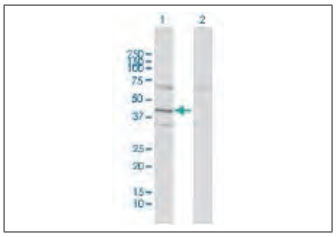
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CBLC (Cas-Br-M (murine) ecotropic retroviral transforming sequence c)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CBLC-367	100 µℓ
CBP (CREB-binding protein)	Monoclonal CBP5I001	MS/IgG1	HU/MS	WB/IC/IP/DB	–	CBX-CBX00161	100 µg
CBX5	Polyclonal	RAB	HU	WB	–	PRX-KB3469GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3469GNPAF	50 µg
CBX7	Polyclonal	RAB	HU	WB	–	PRX-KB9783GNP	100 µℓ
CC2D1A (Coiled-coil and C2 domain containing 1A)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CC2D1A-339	100 µℓ
Ccd1	Polyclonal	RAB	Zebrafish	WB/IC	–	KAL-KM107	25 µg (25 µg /100 µℓ)
CCDC35	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0251AF	50 µg
CCDC85A	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1912AF	50 µg
CCDC132	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1861	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1861PA	100 µg
CCK-8	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-YP030-EX	50 µℓ
CCL14 (Chemokine (C-C motif) ligand 14)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CCL14-058	100 µℓ
CCL15 (Chemokine (C-C motif) ligand 15)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CCL15-039	100 µℓ
CCL18 (Chemokine (C-C motif) ligand 18 (pulmonary and activation-regulated))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CCL18-040	100 µℓ
CCM2 (Cerebral cavernous malformation 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CCM2-170	100 µℓ
CCNA2 (Cyclin A2)	Monoclonal 2112C2a	MS/IgG1	HU/MS/RAT	WB/DB/IC	–	CBX-CBX00639	100 µg
CCNB1 (Cyclin B1)	Monoclonal 2113C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00670	100 µg
CCNB1IP1 (Cyclin B1 interacting protein 1)	Monoclonal 2114C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00750	100 µg
CCNB2 (Cyclin B2)	Monoclonal 2115C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00409	100 µg
CCND1 (Cyclin D1)	Monoclonal 2118C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00794	100 µg
CCND3 (Cyclin D3)	Monoclonal 2120C1a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00672	100 µg
CCNE1 (Cyclin E1)	Monoclonal 2121C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00641	100 µg
CCNF (Cyclin F)	Monoclonal 2123D1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00401	100 µg
CCNJ (Cyclin J)	Monoclonal 2126C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00345	100 µg
CCNT2 (Cyclin T2)	Monoclonal 2128C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00333	100 µg
CCRL2 (Chemokine (C-C motif) receptor-like 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CCRL2-183	100 µℓ
CD1D (CD1d molecule)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CD1D-078	100 µℓ
CD3	Monoclonal NU-T3	MS/IgG2a	HU	IHC/FC	–	KAL-KN141	50 µg (200 µℓ/ vial)
CD3 ε	Monoclonal 1B9-7-1-1	MS/IgG1	CAN	WB	–	CAC-ABS-070001	100 µg
	Monoclonal 5G-6-7-3	MS/IgG1	FEL	WB/ELISA/FC	–	CAC-ABS-070002	100 µg
CD9 / MRP-1	Monoclonal 6D11	MS/IgG2a κ	HU	WB/IHC/FC/IP	–	KAL-KS124	1 vial (200 µℓ)



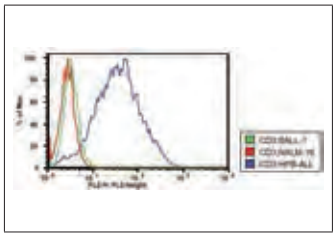
CCNB2 (cyclin B2) #CBX-CBX00409



CCRL2 (Chemokine (C-C motif) receptor-like 2) #CAC-CNP-CCRL2-183

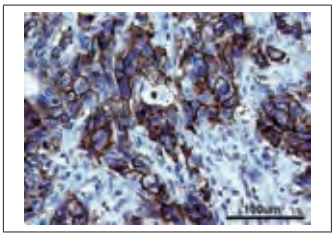


CD1D (CD1d molecule) #CAC-CNP-CD1D-078

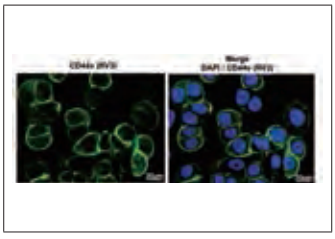


CD3 #KAL-KN141

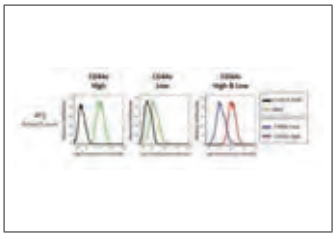
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CD23	Monoclonal 10/3	MS/IgG1 κ	HU	–	–	YMS-7596	200 μg
	Monoclonal 12/2	MS/IgG2b κ	HU	–	HRP	YMS-7597	2.5 μg
CD36	Monoclonal NF189	MS/IgG1	HU	FC	–	KAL-KS017	50 μg
CD40	Monoclonal 5C3	MS/IgG1 κ	HU	IHC/FC	–	BAM-72-030-EX	100 μg
	Monoclonal 5C3	MS/IgG1 κ	HU	IHC/FC	Biotin	BAM-72-031-EX	50 μg
	Monoclonal 5C3	MS	HU	IHC/FC	FITC	BAM-72-032-EX	50 μg
CD44ICD	Polyclonal	RAB	HU	WB/IHC/IC/IF/IP	–	KAL-KO601	200 μg
CD44 v9	Monoclonal RV3	RAT/IgG2a	HU	WB/IHC(p)/IF/ ELISA/FC/IP	–	CAC-LKG-M001	100 μg
	Monoclonal RV3	RAT/IgG2a	HU	WB/IHC(p)/IF/ ELISA/FC/IP	–	CAC-LKG-M003	50 μg
CD44 v10-e16	Monoclonal RM1	RAT/IgG2a	MS	FC	–	CAC-LKG-M002	100 μg
CD52	Polyclonal	RAB	MS	WB	–	BAM-73-030-EX	100 μℓ
CD54 / ICAM-1	Monoclonal YUK11	MS/IgG2a κ	HU	FC/IP	–	KAL-KS125	1 vial (200 μℓ)
CD56	Monoclonal K9BYU	MS/IgG1	CAN	WB	–	CAC-CLI-07001N	100 μg
CD59 / HRF20	Monoclonal YUK1	MS/IgG1 κ	HU	FC/IP	–	KAL-KS127	1 vial (200 μℓ)
CD71 / TFRC	Monoclonal YUK9	MS/IgG1 κ	HU	FC/IP	–	KAL-KS128	1 vial (200 μℓ)
CD98hc / 4F2	Monoclonal WK4	MS/IgG2a κ	HU	FC/IP	–	KAL-KS129	50 μg
CD147 / EMMPRIN	Monoclonal 2G2	MS/IgG1 κ	HU	FC/IP	–	KAL-KS130	50 μg
CD244 (Molecule, natural killer cell receptor 2B4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CD244-437	100 μℓ
CD298	Monoclonal 5G10	MS/IgG2a κ	HU	IHC/FC/IP	–	KAL-KS131	50 μg
CDC2 (Cell division cycle 2, G1 to S and G2 to M)	Monoclonal 2130C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00640	100 μg
CDC2L6	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1028	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1028PA	100 μg
CDC5 (Cell division cycle 5-like (*S. pombe*))	Monoclonal 2136C1a	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00358	100 μg
CDC6 (Cell division cycle 6 homolog (*S. cerevisiae*))	Polyclonal	RAB	–	WB/IF	–	BAM-70-133EX	100 μg
	Monoclonal 2137D1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00364	100 μg
Cdc22	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB	–	BAM-63-011-EX	100 μg
CDC25C (Cell division cycle 25 homolog C (*S. cerevisiae*))	Monoclonal 2131C2a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00387	100 μg
	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDC25C-471	100 μℓ
CDC27 (Cell division cycle 27 homolog (*S. cerevisiae*))	Monoclonal 2132D9a	MS/IgG1	HU	WB/DB	–	CBX-CBX00361	100 μg
CDC34 (Cell division cycle 34 homolog (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDC34-472	100 μℓ
Cdc37	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IF/IP	–	BAM-62-302-EX	100 μℓ
CDC42BPB	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1124	100 μℓ
CDC42EP2 (CDC42 effector protein (Rho GTPase binding) 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDC42EP2-536	100 μℓ
CDC42EP3 (CDC42 effector protein (Rho GTPase binding) 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDC42EP3-537	100 μℓ



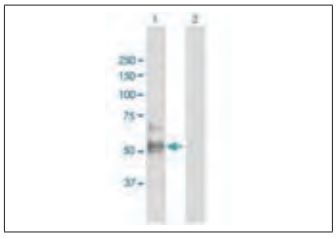
CD44 v9 #CAC-LKG-M001
Immunohistochemistry staining Breast Invasive Ductal Carcinoma with anti-CD44 v9 antibody (clone RV3, 0.2μg/mℓ).



CD44 v9 #CAC-LKG-M001
Immunofluorescence staining of CD44 v (green) in MDA-MB-468 cells with anti-CD44 v9 antibody (RV3, 3μg/mℓ).



CD44 v10-e16 #CAC-LKG-M002
Flow cytometry analysis of CD44 v in Mouse Breast cancer cell line 4T1 with anti-CD44 v10-e16 (RM1, 3μg/mℓ) antibody and PE-labeled anti Rat IgG antibody.

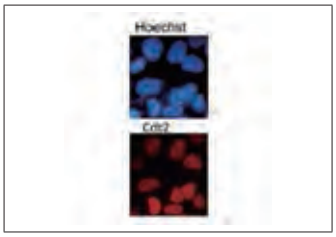


CD244 (molecule, natural killer cell receptor 2B4) #CAC-CNP-CD244-437

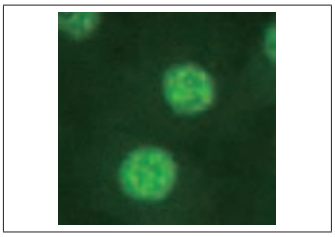
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CDC42EP4 (CDC42 effector protein (Rho GTPase binding) 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDC42EP4-546	100 µℓ
CDC45L (CDC45 cell division cycle 45-like (S. cerevisiae))	Monoclonal 2135C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00334	100 µg
CDCA8 (Cell division cycle associated 8)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CDCA8-556	100 µℓ
CDK2AP1 (Kruppel-like factor 9)	Monoclonal 2140D5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00688	100 µg
CDK7 (Cyclin-dependent kinase 7)	Polyclonal	RAB	HU	WB	–	PRX-KB3201GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3201GNPAF	50 µg
	Monoclonal 2141C4a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00360	100 µg
CDK9 (Cyclin-dependent kinase 9 (CDC2-related kinase))	Monoclonal 2142C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00623	100 µg
CDKN1A (Cyclin-dependent kinase inhibitor 1A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CDKN1A-473	100 µℓ
CDKN1B (Cyclin-dependent kinase inhibitor 1B)	Monoclonal 2144C8a	MS/IgG1	HU	WB/DB	–	CBX-CBX00624	100 µg
CDKN2C (Cyclin-dependent kinase inhibitor 2C)	Monoclonal 2148C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00636	100 µg
CDT2	Polyclonal	RAB	HU/MS	WB/IF/IP	–	BAM-70-115-EX	100 µℓ
CEA (Carcinoembryonic Antigen)	Monoclonal 3519	MS/IgG1	HU	ELISA	–	SIM-2ZHCMC1	0.5 mℓ (0.25 mg)
	Monoclonal 4230	MS/IgG1	HU	ELISA	–	SIM-2ZHCMC2	0.5 mℓ (0.25 mg)
	Monoclonal EB-011	MS/IgG1	HU	ELISA	–	NBT-MEB-011	1 mg
	Monoclonal EB-015	MS/IgG1	HU	ELISA	–	NBT-MEB-015	1 mg
	Monoclonal EB-016	MS/IgG1	HU	ELISA	–	NBT-MEB-016	1 mg
	Monoclonal EB-018	MS/IgG1	HU	ELISA	–	NBT-MEB-018	1 mg
	Monoclonal EB-022	MS/IgG1	HU	ELISA	–	NBT-MEB-022	1 mg
	Monoclonal EB-023	MS/IgG1	HU	ELISA	–	NBT-MEB-023	1 mg
CEBPA (CCAAT/enhancer binding protein (C/EBP), α)	Monoclonal 52D6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00606	100 µg
C/EBP β	Monoclonal 7D2	RAT/IgG2a	MS	WB/IC/IHC(f)	–	CAC-CE-012A	200 µℓ (0.5 mg/mℓ)
CEBPE (CCAAT/enhancer binding protein (C/EBP), ε)	Monoclonal 2154C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00647	100 µg
CEBPG	Polyclonal	RAB	HU	WB	–	PRX-KB9586GNP	100 µℓ
CEBPG (CCAAT/enhancer binding protein (C/EBP), γ)	Monoclonal 2155C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00729	100 µg
CEL	Monoclonal KNH-30	MS/IgG1	–	IHC/ELISA	–	KAL-KH025	50 µg
	Monoclonal KNH-30	MS/IgG1	–	IHC/ELISA	Biotin	KAL-KH025-01	50 µg
	Monoclonal KNH-30	MS/IgG1	–	IHC/ELISA	HRP	KAL-KH025-02	50 µg
CEL-BSA	Monoclonal CEL-SP	MS/IgG1	–	WB/ELISA/IHC	–	CAC-AGE-M02	100 µℓ
CENPC1 (Centromere protein C 1)	Monoclonal 2159C5a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00362	100 µg

CDKN2C (cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4), transcript variant 1)
#CBX-CBX00636

CDT2 #BAM-70-115-EX
Inhibition of Cdt2 protein synthesis by Cdt2 siRNA introduced into HeLa cells. siCont is control siRNA unrelated to Cdt2. siCdt2 is Cdt2 siRNA. Cdt2 is phosphorylated after UV irradiation as shown by the band shift-up in irradiated sample (UV +).

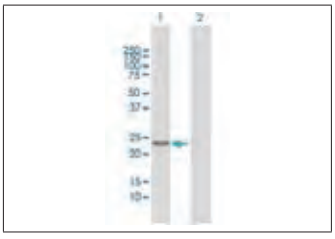


CDT2 #BAM-70-115-EX
Immunofluorescence staining of Cdt2 protein in growing Hela cells with the antibody. Asynchroneously growing HeLa cells were stained with Hoechst 33258 for DNA and with the antibody for Cdt2 protein.

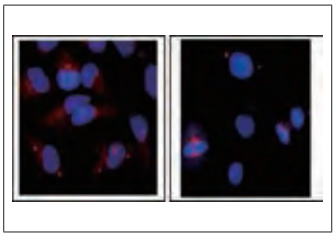


C/EBP β #CAC-CE-012A

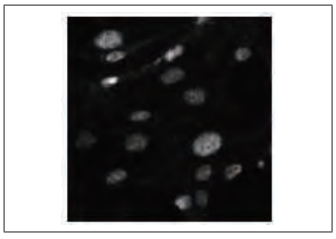
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CENPF (Centromere protein F, 350/400ka (mitosin))	Monoclonal 2161C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00371	100 µg
CENPN (Centromere protein N)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CENPN-398	100 µℓ
CENTB1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0050	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0050PA	100 µg
CENTB5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1716	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1716PA	100 µg
CENTD2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0782	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0782PA	100 µg
Centrin 1	Polyclonal	RAB	HU	WB/IF	–	BAM-70-110-EX	100 µg
CEP290	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0373AF	50 µg
CGI-121	Monoclonal 2165C3a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00742	100 µg
CGRP	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y340-EX	50 µℓ
CHAF1A	Monoclonal 2168C3a	MS/IgG1	HU	DB/WB	–	CBX-CBX00740	100 µg
CHD1	Monoclonal 2F11H5	RAT/IgG2a	HU/MS	WB/IC/IHC(f)	–	CAC-CE-025A	100 µℓ (1 mg/mℓ)
CHD1L (Chromodomain helicase DNA binding protein 1-like)	Monoclonal 2170C3a	MS/IgG1	HU	WB/IC/IP/DB	–	CBX-CBX00363	100 µg
CHD2	Monoclonal 6D2	RAT/IgG2a	HU/MS	WB/IC/IHC(f)	–	CAC-CE-026A	100 µℓ (1 mg/mℓ)
CHD3 (Chromodomain helicase DNA binding protein 3)	Monoclonal 2172C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00402	100 µg
CHD5	Monoclonal 5A10	RAT/IgG2a	HU/MS	WB/IC/IHC(f)	–	CAC-CE-027A	100 µℓ (1 mg/mℓ)
CHD6 (Chromodomain helicase DNA binding protein 6)	Monoclonal 2174C2a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00365	100 µg
CHD8	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1564AF	50 µg
CHEK1 (CHK1 checkpoint homolog (*S. pombe*))	Monoclonal 2178C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00378	100 µg
Chemokine-like Factor 1/ CKLF1	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KR072	25 µg
Cheno Deoxy Cholic acid	Polyclonal	RAB	–	EIA	–	FKA-510-E	2000 test
Cheno Deoxy Cholic acid-3-Sulfate	Polyclonal	RAB	–	EIA	–	FKA-522-E	2000 test
	Polyclonal	RAB	–	RIA	–	FKA-522	2000 test
CHES1 (Checkpoint suppressor 1)	Monoclonal CHESC9H4	MS/IgG1	HU	WB/DB	–	CBX-CBX00265	100 µg
ChGn (Chondroitin β1,4 N-acetylgalactosaminyltransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CHGN-257	100 µℓ
CHIA (Chitinase, acidic)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CHIA-088	100 µℓ
Chinoform	Polyclonal	RAB	–	EIA	–	FKA-624	2000 test
CHKA (Choline kinase α)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CHKA-220	100 µℓ
Cholera Toxin	Polyclonal	RAB	*Vibrio cholerae*	WB/ELISA/IP	–	BAM-64-007-EX	100 µℓ
Cholic Acid	Polyclonal	RAB	HU/BOV/EQ	RIA	–	FKA-502	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-502-E	2000 test
Chondroitin Sulfate A	Monoclonal 2H6	MS/IgM κ	RAT/Animal	WB/ELISA/IP/ IHC(f)/IHC(p)	–	CAC-NU-07-001	200 µℓ (1 mg/mℓ)
Chondromodulin-I	Polyclonal	RAB/IgG	MS	WB	–	CAC-SK-T01-006	100 µℓ
	Monoclonal hCHM-1	MS/IgG2b	HU/MS/RAT/ BOV	WB	–	CAC-TCS-001	100 µg
	Monoclonal hCHM-2	MS/IgG1	HU	WB	–	CAC-TCS-002	100 µg



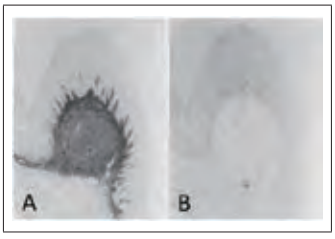
CENPN (centromere protein N)
#CAC-CNP-CENPN-398



Centrin 1 #BAM-70-110-EX
Immunofluorescence staining of Centrin 1 protein in HeLa cells with anti-Centrin 1 antibody. Growing HeLa cells were fixed with 4% paraformaldehyde, and permeabilized with 0.25% Triton X-100. Anti-Centrin 1 antibody was used at 1/100 dilution. As 2nd antibody, goat anti-rabbit IgG conjugated with Alex 488 (red) at 1/1,000 dilution. DNA was stained with DAPI (blue).

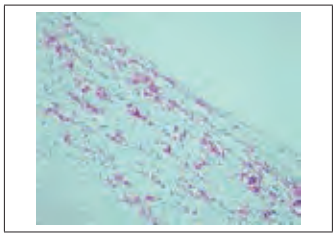


CHD1 #CAC-CE-025A

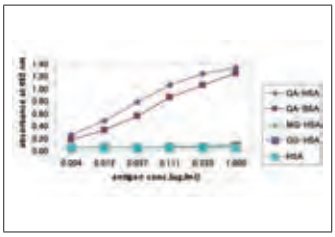


Chondroitin Sulfate A #CAC-NU-07-001

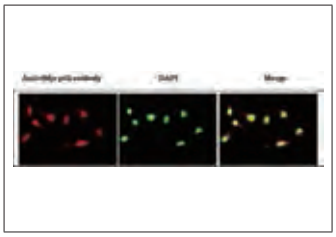
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Chondromodulin-I	Monoclonal hCHM-3	MS/IgG1	HU/MS/RAT/ BOV	WB	–	CAC-TCS-003	100 µg
	Monoclonal hCHM-4	MS/IgG1	HU/MS/RAT/ BOV	WB	–	CAC-TCS-004	100 µg
	Monoclonal hCHM-5	MS/IgG1	HU/MS/RAT/ BOV	IHC(f)	–	CAC-TCS-005	100 µg
	Monoclonal bCHM-6	MS/IgG2a	HU/MS/RAT/ BOV	WB	–	CAC-TCS-006	100 µg
	Monoclonal bCHM-7	MS/IgG2b	HU/MS/RAT/ BOV	WB	–	CAC-TCS-007	100 µg
	Monoclonal bCHM-8	MS/IgG2a	HU/MS/RAT/ BOV	WB	–	CAC-TCS-008	100 µg
	Monoclonal bCHM-9	MS/IgG2a	HU/MS/RAT/ BOV	WB	–	CAC-TCS-009	100 µg
	Monoclonal bCHM-10	MS/IgG2b	HU/MS/RAT/ BOV	WB	–	CAC-TCS-010	100 µg
CHRAC1	Monoclonal 2180C3a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00721	100 µg
Chromogranin A (94-130)	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-Y291-EX	50 µl
Chromogranin A (359-389)	Polyclonal	RAB	HU/RAT/CAN	IHC(f)/RIA	–	YII-Y290-EX	50 µl
Chromogranin A (343-360)	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-Y292-EX	50 µl
Chromogranin A (344-374)	Polyclonal	RAB	HU/RAT	IHC(f)/EIA/RIA	–	YII-Y293-EX	50 µl
CHTF18	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0069AF	50 µg
CIB2 (Calcium and integrin binding family member 2)	Monoclonal CIB2C12B11	MS/IgG1	HU	WB/DB	–	CBX-CBX00287	100 µg
CIBZ	Polyclonal	RAB/IgG	MS	WB	–	KAL-KR103	100 µg
CIP29	Monoclonal 2183C3a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00722	100 µg
CIRH1A (Cirrhosis, autosomal recessive 1A (cirhin))	Monoclonal 2185C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00800	100 µg
Citrullinated Antithrombin III	Monoclonal 3B6B4ii	MS/IgG1	HU	WB/ELISA	–	BCN-BCN4786	50 µl
CIZ1 (CDKN1A interacting zinc finger protein 1)	Monoclonal 2186C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00372	100 µg
CKMT2 (Creatine kinase, mitochondrial 2 (sarcomeric))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CKMT2-083	100 µl
Clathrin	Polyclonal	RAB	RAT/	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-CB1RA	0.1 ml
	Polyclonal	RAB	RAT/	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-CB1RB	0.2 ml
CLEC9A (C-type lectin domain family 9, member A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CLEC9A-163	100 µl
CLEC16A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0350	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0350PA	100 µg
CLINT1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0171AF	50 µg
CLNS1A (Chloride channel, nucleotide-sensitive, 1A)	Monoclonal 2187C2a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00505	100 µg
CLOCK (Clock homolog (mouse))	Monoclonal 648C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00453	100 µg
CLSTN3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0726	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0726PA	100 µg
CLTC	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0034AF	50 µg
CML	Monoclonal CMS-10	MS/IgG1	–	IHC/ELISA	–	KAL-KH011	50 µg
	Monoclonal CMS-10	MS/IgG1	–	IHC/ELISA	Biotin	KAL-KH011-01	50 µg



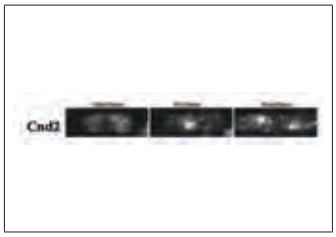
CML #KAL-KH011-01



CML-HAS #CAC-AGE-M01

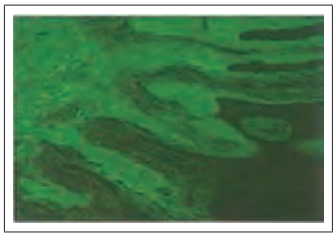


c-Myc, phospho Ser62 #BAM-71-161-EX
Immunofluorescence staining of cMyc phosho-Ser62 in nuclei of HeLa cells.

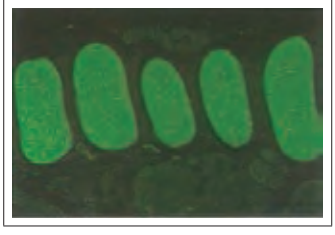


Cnd2 #BAM-63-105-EX
Detection of Cnd2 protein by immunofluorescent staining of *S. pombe* cell.

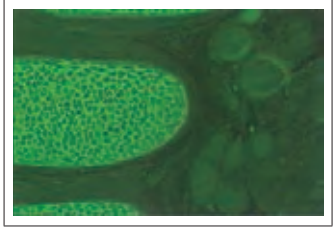
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CML	Monoclonal CMS-10	MS/IgG1	–	IHC/ELISA	HRP	KAL-KH011-02	50 μg
	Monoclonal NF-1G	MS/IgG2a	–	IHC/ELISA	–	KAL-KH024	50 μg
	Monoclonal NF-1G	MS/IgG2a	–	IHC	Biotin	KAL-KH024-01	50 μg
	Monoclonal NF-1G	MS/IgG2a	–	IHC	HRP	KAL-KH024-02	50 μg
CML-HAS	Monoclonal 2G12	MS/IgG1	–	WB/ELISA/IHC	–	CAC-AGE-M01	100 μℓ
CMPK (Cytidylate Kinase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CMPK-281	100 μℓ
c-Myc, phospho Ser62	Monoclonal 33A12E10	MS/IgG2b κ	HU	WB/ELISA	–	BAM-71-161-EX	50 μg (1 mg/mℓ)
Cnd2	Polyclonal	RAB	YST	WB/IF	–	BAM-63-105-EX	100 μℓ
CNKSR2 (KIAA0902)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK09020910	50 μg
CNNM3 (Cyclin M3)	Monoclonal 2190C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00759	100 μg
CNOT2 (CCR4-NOT Transcription Complex, Subunit 2)	Monoclonal 2191C2a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00373	100 μg
CNOT3 (CCR4-NOT Transcription Complex, Subunit 3)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0691	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0691PA	100 μg
	Monoclonal 2192C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00403	100 μg
CNOT6 (CCR4-NOT Transcription Complex, Subunit 6)	Monoclonal 2193C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00556	100 μg
CNOT8 (CCR4-NOT Transcription Complex, Subunit 8)	Monoclonal 255C3a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00804	100 μg
CNP	Polyclonal	RAB/IgG	HU	–	–	YMS-7625	50 μℓ
COIL (Coilin)	Monoclonal 2196C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00803	100 μg
Collagen 1	Polyclonal	RAB	HU/MS/RAT/BOV/POR/GP/Mink	ELISA/IF/WB	–	LSL-LB-1102	100 μℓ
	Polyclonal	RAB	HU/BOV/POR/MKY/GP	ELISA/IF	–	LSL-LB-1190	100 μℓ
	Polyclonal	RAB	HU/BOV/POR/CAN	ELISA/IF	–	LSL-LB-1196	100 μℓ
	Polyclonal	RAB	HU/BOV/POR/SHP/GP	ELISA/IF	–	LSL-LB-1197	100 μℓ
Collagen 2	Polyclonal	RAB	HU/MS/RAT/BOV/GP	ELISA/IF/EIA	–	LSL-LB-1297	100 μℓ
Collagen 3	Polyclonal	RAB	HU/BOV/POR/Mink	ELISA/IF	–	LSL-LB-1300	100 μℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/GP	ELISA/IF	–	LSL-LB-1387	100 μℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/POR	ELISA/IF	–	LSL-LB-1393	100 μℓ
Collagen 4	Monoclonal IV-4H12	MS/IgG1 κ	HU	WB/IHC(p)/IHC(f)/EIA	–	DFK-F-59-EX	1 mℓ (500 μg/mℓ)
	Polyclonal	RAB	HU/MS/RAT/BOV/MKY	ELISA/IF/WB	–	LSL-LB-0445	100 μℓ
	Polyclonal	RAB	MS/RAT/GP/Mink	ELISA/IF/WB	–	LSL-LB-1403	100 μℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/POR/GT/GP/Mink	ELISA/IF	–	LSL-LB-1407	100 μℓ



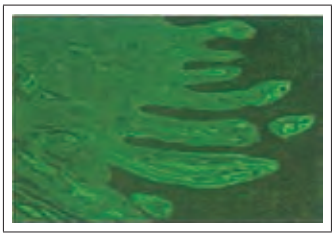
Collagen 1 #LSL-LB-1190
FITC-Immunofluorescence staining of Human gum (4% formalin).



Collagen 2 #LSL-LB-1297
FITC-Immunofluorescence staining of Rat tracheal cartilages and perifocal tissue (4% formalin).

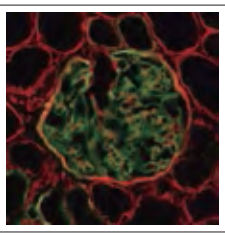


Collagen 2 #LSL-LB-1297

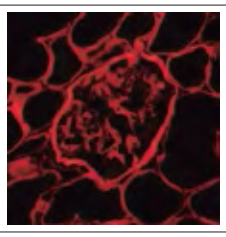


Collagen 3 #LSL-LB-1300
FITC-Immunofluorescence staining of Human gum (4% formalin).

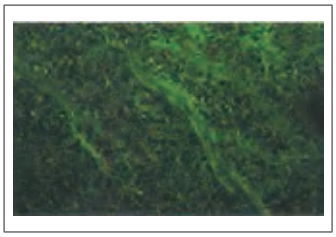
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Collagen 4	Monoclonal H53(rat) & H25(rat)	RAT/Cocktail	HU	IF	FITC/TXRD	SGE-CFT-45325	1 mℓ
Collagen 4 (α5(4)Chain)	Monoclonal H52	RAT/IgG2b κ	HU/RAT/BOV/RAB/CAN/GP	WB/IF	–	SGE-C-452	500 μℓ
Collagen 5	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF	–	LSL-LB-1503	100 μℓ
	Polyclonal	RAB	HU/BOV/POR/GT/GP	ELISA/IF	–	LSL-LB-1597	100 μℓ
Collagen 6	Polyclonal	RAB	HU/MS/RAT/BOV/GP	ELISA/IF	–	LSL-LB-1697	100 μℓ
Collagen 7	Monoclonal BML39	MS/IgG1 κ	HU/BOV/RAB/POR	WB/IF/IP	–	CAC-NU-01-CO7	500 μℓ
	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF	–	LSL-LB-0771	100 μℓ
Collagen 8	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF	–	LSL-LB-0883	100 μℓ
Collagen 10	Polyclonal	RAB	HU/MS/RAT/CHK	ELISA/IF	–	LSL-LB-0092	100 μℓ
Collagen 11	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-1110	100 μℓ
Collagen 12	Monoclonal 378D5	MS Mono	HU	WB/IHC(p)/ELISA/IP	–	CAC-PRPG-CO12-M01	2 mℓ
	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-1200	100 μℓ
Collagen 14	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-1400	100 μℓ
Collagen 15	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF	–	LSL-LB-0903	100 μℓ
	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-1977	100 μℓ
COMP	Monoclonal 484D1	RAT	HU	WB/IHC(p)/ELISA	–	CAC-PRPG-CP-M01	2 mℓ
COMP (490D11)	Monoclonal 490D11	RAT/IgG1	HU	WB/IHC/ELISA	–	CAC-PRPG-CP-M02	2 mℓ
Compd S-6α	Polyclonal	RAB	–	EIA	–	FKA-416-E	2000 test
COMP Fragment	Monoclonal 2117B2	MS	HU	IHC(f)/WB/ELISA	–	CAC-PRPG-CPF-M01	2 mℓ
Complex PSA (Prostate Specific Antigen)	Monoclonal No.68	MS/IgG2a κ	HU	ELISA	–	LNM-KR-033	0.1 mg (1 mg/mℓ)
Coplanar PCB : 118	Monoclonal	MS/IgG1	–	–	–	EBT-ACPM118AS-EX	1 mℓ
COPS2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0379GNPAF	50 μg
Corticosterone	Polyclonal	RAB	–	EIA	–	FKA-420-E	2000 test
Corticosterone (Compd. B)	Polyclonal	RAB	–	RIA	–	FKA-420	2000 test
Cortisol-3	Polyclonal	RAB	–	EIA	–	FKA-404-E	2000 test
Cortisol-3 (Compd. F)	Polyclonal	RAB	–	RIA	–	FKA-404	2000 test
Cortisol-21	Polyclonal	RAB	–	RIA	–	FKA-402	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-402-E	2000 test
Cortisone (Compd. F)	Polyclonal	RAB	–	EIA	–	FKA-408-E	2000 test
Cortol	Polyclonal	RAB	–	RIA	–	FKA-442	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-442-E	2000 test
Cortolone	Polyclonal	RAB	–	RIA	–	FKA-444	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-444-E	2000 test
COUP-TF 1	Monoclonal H8132	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H8132-00	0.1 mℓ (1 mg/mℓ)



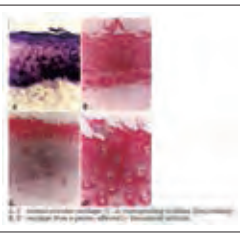
Collagen 4 #SGE-CFT-45325



Collagen 4 #SGE-CFT-45325

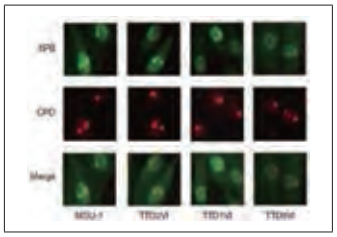


Collagen 12 #LSL-LB-1200
FITC-Immunofluorescence staining of Rat spinal cord frozen section (3% formalin).

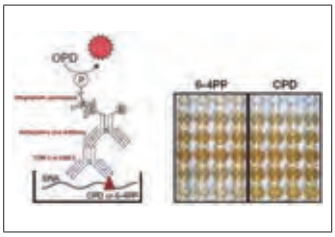


COMP #CAC-PRPG-CP-M01

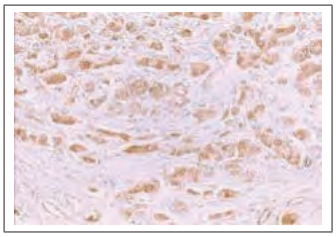
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
COUP-TF 2	Monoclonal H7147	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H7147-00	0.1 mℓ (1 mg/mℓ)
COUP-TF I	Monoclonal H8124	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA	–	PPX-PP-H8124-00	0.1 mℓ (1 mg/mℓ)
COX4NB (COX4 Neighbor)	Monoclonal 2643C6a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00584	100 μg
COX10 (Homolog, Cytochrome c Oxidase Assembly Protein, heme A: Farnesyltransferase (yeast))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-COX10-267	100 μℓ
CPDs	Monoclonal TDM-2	MS/IgG2a κ	HU	ELISA/IC/not_IH/not_WB/not_IP/not_FC	–	CAC-NM-DND-001	1 vial
CPEB3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0940	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0940PA	100 μg
C Peptide I	Polyclonal	RAB	RAT	IHC/RIA/EIA	–	YII-Y221-EX	50 μℓ
	Polyclonal	RAB	MS	IHC	–	YII-Y222-EX	50 μℓ
C Peptide II	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y220-EX	50 μℓ
	Polyclonal	RAB	MS	IHC/IA	–	YII-Y223-EX	50 μℓ
CPNE3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0636	100 μℓ
CPSF2	Monoclonal 2200C3a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00745	100 μg
CPSF4 (Cleavage and Polyadenylation Specific Factor 4)	Monoclonal 2202C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00418	100 μg
CPXCR1 (CPX Chromosome Region, Candidate 1)	Monoclonal 2205C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00415	100 μg
CREB1	Polyclonal	RAB	HU	WB	–	PRX-KB5414GNP	100 μℓ
CREB3 (LZIP, LUMAN, MGC15333, MGC19,cAMP Responsive Element Binding Protein 3)	Monoclonal 2206C2a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00677	100 μg
CREBL2 (cAMP Responsive Element Binding Protein-like 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CREBL2-308	100 μℓ
CRF21	Monoclonal 6-1E	MS/IgG1	HU	WB/IHC	–	CAC-TSS-M01	100 μg
CRF (3-41)	Polyclonal	RAB	HU/MS/RAT	IHC(f)/RIA/EIA	–	YII-Y211-EX	50 μℓ
CRF (24-41)	Polyclonal	RAB	HU/MS/RAT	IHC(f)/RIA/EIA	–	YII-Y210-EX	50 μℓ
CRK (v-crk Sarcoma Virus CT10 Oncogene Homolog (*avian*))	Monoclonal 2210C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00451	100 μg
CRLF3 (Cytokine Receptor-like Factor 3)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CRLF3-369	100 μℓ
CRNKL1 (Crn, Crooked Neck-like 1 (*Drosophila*))	Monoclonal 2212C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00404	100 μg
CROCC	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0445AF	50 μg
CRP (C-Reactive Protein)	Polyclonal	GT	HU	WB	–	ATA-CB-CRPG	0.1 mℓ
	Polyclonal	SHP	HU	WB	–	ATA-CB-CRPS	0.1 mℓ
	Monoclonal CRB-017	MS/IgG1	HU	–	–	NBT-MCR-017	1 mg
	Monoclonal CRB-018	MS/IgG1	HU	–	–	NBT-MCR-018	1 mg
	Monoclonal CRB-019	MS/IgG1	HU	–	–	NBT-MCR-019	1 mg
	Monoclonal CRB-020	MS/IgG2b	HU	–	–	NBT-MCR-020	1 mg
	Monoclonal CRB-023	MS/IgG1	HU	–	–	NBT-MCR-023	1 mg
	Polyclonal	GT	HU	–	–	NBT-PG-021	5 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PG-022	5 mℓ



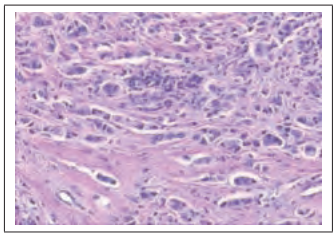
CPDs #CAC-NM-DND-001
in situ Visualization of XPB and CPD 30 min after micropore UV irradiation.



CPDs #CAC-NM-DND-001
A sensitive ELISA for measuring UV-induced DNA damage.

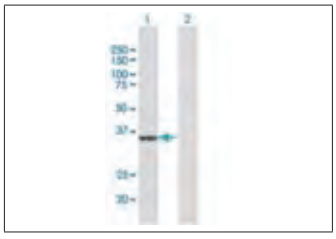


CRF21 #CAC-TSS-M01

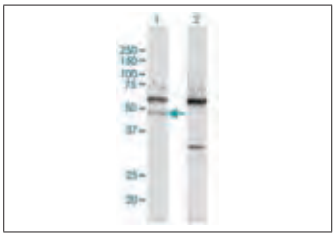


CRF21 #CAC-TSS-M01

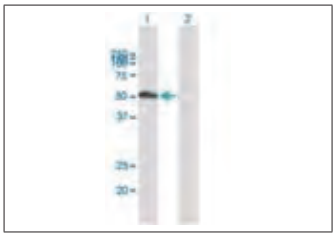
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CRP (C-Reactive Protein)	Polyclonal	SHP	HU	–	–	NBT-PG-024	5 mℓ
	Polyclonal	GT	HU	–	–	NBT-PS-021	10 mℓ
	Polyclonal	RAB	HU	–	–	NBT-PS-022	10 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PS-024	10 mℓ
	Monoclonal	MS/IgG2a	–	IHC	–	NOF-N213630-EX	30 μg
CRSP2 (Cofactor required for Sp1 Transcriptional Activation, Subunit 2)	Monoclonal 2214C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00374	100 μg
CRSP3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1216	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1216PA	100 μg
CRSP6 (Cofactor required for Sp1 Transcriptional Activation, Subunit 6)	Monoclonal 2215C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00375	100 μg
CRSP7 (Cofactor required for Sp1 Transcriptional Activation, Subunit 7)	Monoclonal 2216C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00438	100 μg
CRSP9 (Cofactor required for Sp1 Transcriptional Activation, Subunit 9)	Monoclonal 2217C6a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00731	100 μg
CRY1 (Cryptochrome 1 (Photolyase-like))	Monoclonal 3551C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00783	100 μg
CRY2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0658	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0658PA	100 μg
Cry j-1	Polyclonal	RAB	Plant	ELISA/WB	–	LSL-LB-5201	100 μℓ
Cry j-2	Polyclonal	RAB	Plant	ELISA/WB	–	LSL-LB-5202	100 μℓ
CRYZ (Crystallin, ζ (Quinone Reductase))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CRYZ-477	100 μℓ
CS (1B5)	Monoclonal 1B5	MS/IgG1 κ	ALL	WB/IHC	–	CAC-PRPG-BC-M03	1 mℓ
CS (2B6)	Monoclonal 2B6	MS/IgG1	ALL	WB/IHC/ELISA	–	CAC-PRPG-BC-M02	1 mℓ
CS (3B3)	Monoclonal 3B3	MS/IgM	ALL	IHC/ELISA	–	CAC-PRPG-BC-M04	1 mℓ
CSDE1 (KIAA0885)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK08850910	50 μg
CSE1L (Chromosome Segregation 1-like)	Monoclonal 2218C5a	MS/IgG2a	HU/MS/RAT	WB/DB/IC	–	CBX-CBX00679	100 μg
c-Ski	Monoclonal 9-1	MS/IgG1 κ	HU	IP/WB/ELISA	–	CAC-MKM-M11	100 μg
	Monoclonal 11-1	MS/IgG1 κ	HU	IP/WB/ELISA	–	CAC-MKM-M12	100 μg
	Monoclonal 16-1	MS/IgG1 κ	HU	IP/WB/ELISA	–	CAC-MKM-M13	100 μg
CSRP2BP (CSRP2 Binding Protein, Transcript Variant 1)	Monoclonal 2221C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00444	100 μg
CSTF2T (KIAA0689)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK06890910	50 μg
CTBP1 (C-Terminal Binding Protein 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CTBP1-478	100 μℓ
CTBP2 (C-Terminal Binding Protein 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CTBP2-573	100 μℓ
CTCF (CCCTC-Binding Factor (zinc finger protein))	Monoclonal 252C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00597	100 μg
CTDSP2 (CTD (Carboxy-Terminal Domain, RNA Polymerase II, Polypeptide A) Small Phosphatase 2)	Monoclonal 2230C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00380	100 μg
CTF18 (Chromosome Transmission Fidelity Factor 18 Homolog (*S. cerevisiae*))	Monoclonal 2182C3a	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00367	100 μg
CTNNBL1	Monoclonal 2233C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00743	100 μg
CTNND1 (Catenin (Cadherin-Associated Protein), δ 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CTNND1-140	100 μℓ



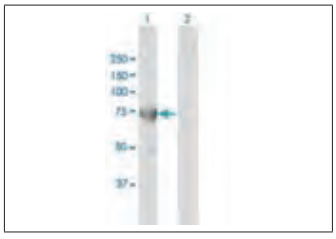
CRYZ #CAC-CNP-CRYZ-477
Western Blot analysis of CRYZ expression in transfected 293T cell line by CRYZ rabbit polyclonal antibody. Lane1: CRYZ transfected lysate (35.20 KDa). Lane2: Non-transfected lysate.



CTBP1 (C-terminal binding protein 1) #CAC-CNP-CTBP1-478



CTBP2 #CAC-CNP-CTBP2-573
Western Blot analysis of CTBP2 expression in transfected 293T cell line by CTBP2 rabbit polyclonal antibody. Lane1: CTBP2 transfected lysate (56.20 KDa). Lane2: Non-transfected lysate.

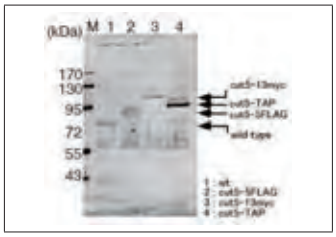


CTNND1 #CAC-CNP-CTNND1-140
Western Blot analysis of CTNND1 expression in transfected 293T cell line by CTNND1 rabbit polyclonal antibody. Lane1: CTNND1 transfected lysate (67.10 KDa). Lane2: Non-transfected lysate.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
CTNND1 (Catenin (Cadherin-Associated Protein), δ 1)	Monoclonal 2234C6a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00381	100 µg
CTPS2 (CTP SYNTHASE II)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CTPS2-400	100 µℓ
CTTNBP2NL	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1433	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1433PA	100 µg
Cubilin	Polyclonal	RAB/IgG	MS/RAT	WB	–	KAL-KR065	25 µg
CUL3 (Cullin 3)	Monoclonal 2236C1a	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00382	100 µg
Cut5/Rad4	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB	–	BAM-63-107-EX	100 µℓ
Cut15	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB	–	BAM-63-113-EX	100 µℓ
CUX1 (Cut-Like Homeobox 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-CUX1-479	100 µℓ
CXADR (Coxsackie Virus and Adenovirus Receptor)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CXADR-407	100 µℓ
CYFIP2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1168	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1168PA	100 µg
CYLD	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0849	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0849PA	100 µg
CYP2D6 (Cytochrome P450, Family 2, subfamily D, Polypeptide 6)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP2D6-211	100 µℓ
CYP4V2 (Cytochrome P450, Family 4, subfamily V, Polypeptide 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP4V2-354	100 µℓ
CYP4X1 (Cytochrome P450, Family 4, subfamily X, Polypeptide 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP4X1-353	100 µℓ
Cyp7a1	Monoclonal 1D9	MS/IgG2b κ	MS	WB/ELISA	–	CAC-ABN-M01-CY	100 µg
CYP20A1 (Cytochrome P450, Family 20, subfamily A, Polypeptide 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP20A1-352	100 µℓ
CYP46A1 (Cytochrome P450, Family 46, subfamily A, Polypeptide 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP46A1-355	100 µℓ
Cystine / Glutamic Acid Transporter (xCT)	Polyclonal	RAB/IgG	HU/MS	IHC(f)/IB	–	KAL-KE021	25 µg
Cytokeratin18	Monoclonal D2C7	MS/IgG2a	HU/MS/RAT/ MKY	WB/IC/IHC(f)	–	CAC-CE-044A	100 µℓ (1 mg/mℓ)

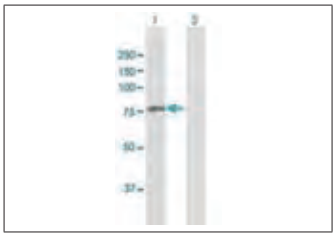
D

D3-3 (Medaka Vitellogenin)	Monoclonal	MS/IgG1 κ	Killifish	WB/ELISA	–	EBT-AVMD3-3-EX	1 mℓ
DAAM2 (Dishevelled-Associated Activator of Morphogenesis 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DAAM2-129	100 µℓ
Dab1	Polyclonal	RAB/IgG	MS	IP	–	KAL-KR080	25 µg
DAGLALPHA	Polyclonal	RAB	HU/MS/RAT	WB/IHC	–	BCN-BCN4789	0.1 mℓ
DAGLBETA	Polyclonal	RAB	HU/MS/RAT	WB/IHC	–	BCN-BCN4791	0.1 mℓ
DAP3 (Death-Associated Protein 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DAP3-523	100 µℓ
DAX1	Monoclonal H7431	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-H7431-00	0.1 mℓ (1 mg/mℓ)
DAZAP1	Monoclonal 2242C2a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00738	100 µg
DBF4 (Homolog (*S. cerevisiae*))	Monoclonal 2047C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00316	100 µg
DBP (Albumin D-box Binding Protein)	Monoclonal DBP5H08	MS/IgG1	HU	WB/DB	–	CBX-CBX00149	100 µg
DBT (Dihydrolipoamide Branched Chain Transacylase E2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DBT-221	100 µℓ
DCA (Deoxycholic Acid)	Polyclonal	RAB	HU/BOV/EQ/ MAM/Fish	RIA	–	FKA-506	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-506-E	2000 test

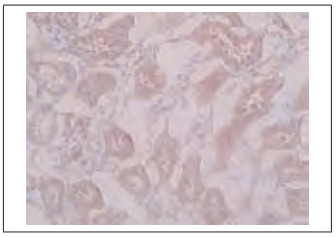


Cut5/Rad4 #BAM-63-107-EX

Cut15 #BAM-63-113-EX



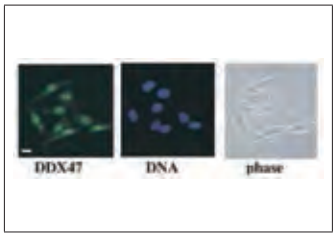
cut-like homeobox 1 #CAC-CNP-CUX1-479



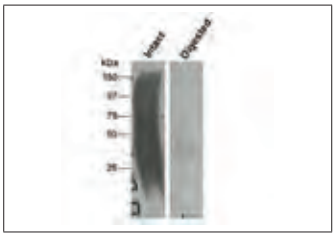
Cystine / Glutamic Acid Transporter (xCT) #KAL-KE021

DC-

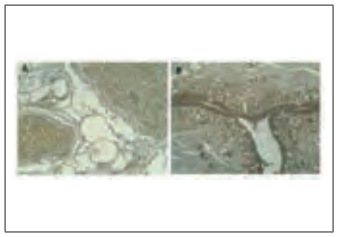
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
dCAMKII	Monoclonal 18	MS/IgG2b	*Drosophila*	WB/IHC	–	CAC-TNL-001-CAM	100 μℓ
DCK (Deoxycytidine kinase)	Monoclonal 2243C2	MS/IgG1	HU	WB/DB	–	CBX-CBX00419	100 μg
DCPS (Decapping enzyme, scavenger)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DCPS-395	100 μℓ
DC-STAMP / FIND	Polyclonal	RAB/IgG	MS	IC	–	KAL-KR104	25 μg
DCTN4 (Dynactin 4)	Monoclonal 2244C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00760	100 μg
Dcun1d4	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG410	25 μg (0.25 mg/mℓ)
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0276	100 μℓ
DDB2 (Damage-specific DNA binding protein 2)	Monoclonal 2246C4a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00405	100 μg
DDEF2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0400AF	50 μg
DDHD1 (Domain containing 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DDHD1-138	100 μℓ
DDHD2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0725	100 μℓ
DDO (D-aspartate oxidase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DDO-528	100 μℓ
DDX3X	Polyclonal	RAB	HU/MS/RAT	WB/IF	–	BAM-70-450-EX	100 μℓ
DDX3X (DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked)	Monoclonal 2253C5a	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00436	100 μg
DDX5 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 5)	Monoclonal 2257C3a	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00460	100 μg
DDX17 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 17)	Monoclonal 2248C2a	MS/IgG1	HU/MS/RAT	WB/DB/IC	–	CBX-CBX00694	100 μg
DDX18	Polyclonal	RAB	HU/MS/RAT	WB/IF	–	BAM-70-453-EX	100 μℓ
DDX27 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 27)	Monoclonal 2251C2a	MS/IgG1	HU/MS	WB/IC/FC/DB	–	CBX-CBX00388	100 μg
DDX39	Monoclonal 2E4	MS/IgG1 κ	HU/RAT	IHC/ELISA	–	KAL-KC570	50 μg (200 μℓ /vial)
DDX39 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 39, transcript variant 2)	Monoclonal 2252C4a	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00389	100 μg
DDX41 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 41)	Monoclonal 2254D3	MS/IgG1	HU	WB/DB	–	CBX-CBX00421	100 μg
DDX47	Polyclonal	RAB	HU/MS/RAT	WB/IF	–	BAM-70-455-EX	100 μℓ
DDX47 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 47)	Monoclonal 2255C2	MS/IgG1	HU	WB/DB	–	CBX-CBX00411	100 μg
DDX48 (Eukaryotic translation initiation factor 4A, isoform 3(EIF4A3))	Monoclonal 2256C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00422	100 μg
DDX50 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 50)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DDX50-098	100 μℓ
	Monoclonal 2258C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00439	100 μg
DEAF1 (Deformed Epidermal Autoregulatory Factor 1(*Drosophila*))	Monoclonal 349C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00598	100 μg
Decorin	Monoclonal 889C7	MS	BOV/HU	WB/IHC(p)/ ELISA	–	CAC-PRPG-DC-M01	2 mℓ
DELGEF (Secretion regulating guanine nucleotide exchange factor (SERGEF))	Monoclonal 2261C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00447	100 μg
Deoxycortisone	Polyclonal	RAB	–	RIA	–	FKA-416	2000 test
DespG-GnRH Type II	Polyclonal	RAB/IgG	CHK/MAM/ Vertebrate	IHC/Neu/RIA	–	CAC-KZ-HS-P04	50 μℓ
Dewar PPs (Dewar Photoproducts)	Monoclonal DEM-1	MS/IgG1a λ	HU	ELISA/IC/ not_FC/not_WB/ not_IP/not_IH	–	CAC-NM-DND-003	1 vial



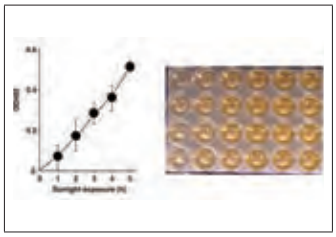
DDX47 #BAM-70-455-EX
HeLa cells were fixed and immunostained with anti-DDX47 antibody followed by FITC-conjugated anti-rabbit IgG secondary antibody. DNA was stained with Hoechst dye.



Decorin #CAC-PRPG-DC-M01
Western blotting: Bovine decorin after SDS-PAGE on 8% gels
Left : Intact, smeared band 50-140 kDa;
Right : Chondroitinase ABC-digested, band at 60-70 kDa.



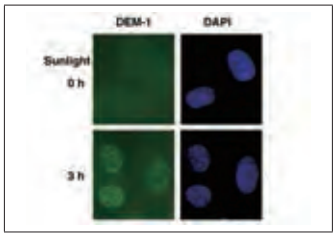
Decorin #CAC-PRPG-DC-M01
Immunohistochemistry
A: Human prostate
B: Human breast



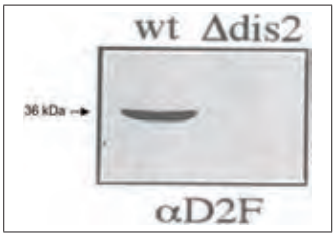
Dewar PPs (Dewar photoproducts)
#CAC-NM-DND-003
Solar UV-induced DewarPPs are detected by ELISA.

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
DEXH (Asp-Glu-X-His) box polypeptide 58	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-DHX58-096	100 µℓ
DFFB (DNA Fragmentation Factor, 40kDa, β polypeptide (caspase-activated DNase))	Monoclonal 2263C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00399	100 µg
DGCR14 (DiGeorge syndrome Critical Region gene 14)	Monoclonal 2264C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00390	100 µg
DHA3 (Dehydroepiandrosterone-3)	Polyclonal	RAB	–	RIA	–	FKA-110	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-110-E	2000 test
DHA (Dehydroepiandrosterone)	Polyclonal	RAB	–	EIA	–	FKA-108-E	2000 test
DHCR24	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0018	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0018PA	100 µg
DHDH (Dihydrodiol Dehydrogenase (dimeric))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-DHDH-549	100 µℓ
DHT (Dihydrotestosterone)	Polyclonal	RAB	–	EIA	–	FKA-112-E	2000 test
DHX9 (DEAH (Asp-Glu-Ala-His) box polypeptide 9)	Monoclonal 2274D5a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00499	100 µg
DHX9/RNA helicase A	Monoclonal 8E3	RAT/IgG1	HU/MS/RAT/ BOV/MKY/HAM	WB/IC	–	CAC-CE-028A	100 µℓ (1 mg/mℓ)
DHX16	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0577AF	50 µg
DHX16 (DEAH (Asp-Glu-Ala-His) box polypeptide 16)	Monoclonal 2268C5_2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00767	100 µg
DHX29 (DEAH (Asp-Glu-Ala-His) box polypeptide 29)	Monoclonal 2269C1	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00423	100 µg
DHX30	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0890	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0890PA	100 µg
DHX34 (KIAA0134)	Polyclonal	RAB/IgG	MS/HU	WB	–	PRX-MK01340910	50 µg
DHX38 (DEAH (Asp-Glu-Ala-His) box polypeptide 38)	Monoclonal 2271C1a	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00391	100 µg
DHX57 (DEAH (Asp-Glu-Ala-Asp/His) box polypeptide 57)	Monoclonal 2273C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00761	100 µg
Dibromo-Tyrosine (DiBrY)	Monoclonal 3A5	MS/IgG1 κ	–	IHC/WB	–	NNS-MBY-020P-EX	20 µg
DICER1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0928AF	50 µg
	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0928AF-EX	10 µg
Diethylstilbestrol	Polyclonal	RAB	–	EIA	–	FKA-602-E	2000 test
Dihydroepiandrosterone-11 α	Polyclonal	RAB	HU/BOV/EQ	RIA	–	FKA-108	2000 test
Dihydrotestosterone-11 α	Polyclonal	RAB	HU/BOV/EQ	RIA	–	FKA-112	2000 test
Dimethyl Histone H3 (Lys4)	Monoclonal MABI0303(CMA303)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0003-100-EX	100 µℓ (1 mg/mℓ)
Dimethyl Histone H3 (Lys9)	Monoclonal MABI0307(CMA307)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0007-100-EX	100 µℓ (1 mg/mℓ)
Dimethyl Histone H3 (Lys27)	Monoclonal MABI0324	MS/IgG2a	HU	ChIP/IB/IC	–	MCA-MABI0324-100-EX	100 µℓ (1 mg/mℓ)
Dimethyl Histone H3 (Lys36)	Monoclonal MABI0332	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0332-100-EX	100 µℓ (1 mg/mℓ)
DIOH Progesterone 17/20	Polyclonal	RAB	–	EIA	–	FKA-330E	2000 test
Dioxin	Monoclonal	MS/IgG1	–	EIA	–	YII-YM010-EX	1 mg
Dipeptidylpeptidase IV	Polyclonal	RAB/IgG	RAT	WB	–	CAC-SK-T01-011	100 µℓ
Dis1	Polyclonal	RAB	*Schizosaccharomyces pombe*	IB/IP	–	BAM-63-117-EX	200 µℓ
Dis2	Polyclonal	RAB	*Schistosoma japonicum*	WB/IP	–	BAM-63-119-EX	100 µℓ
	Monoclonal	RAB	*Schizosaccharomyces pombe*	WB	–	BAM-63-121EX	50 µℓ

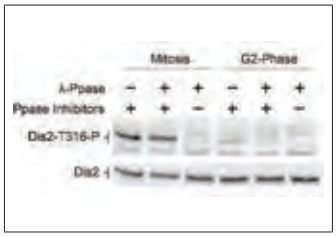


Dewar PPs (Dewar photoproducts)
#CAC-NM-DND-003
Fluorescent images of DewarPPs in normal human fibroblasts.



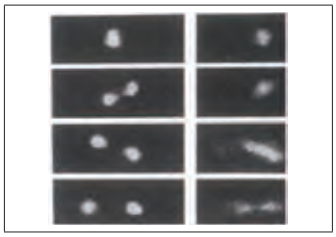
Dis2 #BAM-63-119-EX
Immunoblot of wild-type and ¬dis2 S.pombe cells using anti-dis2 antibody, ΔD2F.
wt: wild type
Δdis2: dis2 deletion mutant

Dis2 #BAM-63-119-EX
Immunoprecipitation of wild-type S. pombe extracts was performed using anti-dis2 antibody, D2F.

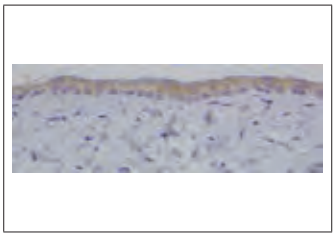


Dis2 #BAM-63-121EX
Identification of Dis2 phosphorylated at T316 by western blotting with the antibody.

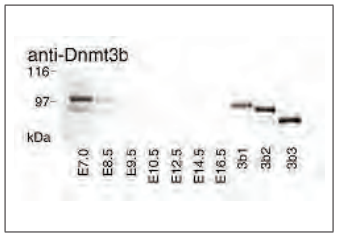
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
DIS3	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IF	–	BAM-63-123EX	100 µℓ
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1008	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1008PA	100 µg
Dityrosine (DT)	Monoclonal 1C3	MS/IgG2a κ	MS	IHC/WB	–	NNS-MDT-020P-EX	20 µg
DIXDC1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1735	100 µℓ
DLAT (Dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DLAT-028	100 µℓ
DLL1 (δ-like 1 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DLL1-219	100 µℓ
DLX4 (Distal-less Homeobox 4)	Monoclonal 350C3a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00659	100 µg
DMAP1 (DNA Methyltransferase 1 Associated Protein 1)	Monoclonal 2277C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00433	100 µg
DMRTA1	Polyclonal	RAB	HU	IB	–	PRX-KB7050GNP	100 µℓ
DMTF1 (Cyclin D binding Myb-like Transcription Factor 1)	Monoclonal DMTF5I250	MS/IgG1	HU	WB/DB	–	CBX-CBX00162	100 µg
DNAH5	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1603AF	50 µg
DNAH6	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1697AF	50 µg
DNAH17	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA3028AF	50 µg
DNA Polymerase 1	Polyclonal	RAB	*Escherichia coli*	WB/IP	–	BAM-61-012EX	100 µℓ
DNA Polymerase 2	Polyclonal	RAB	*Escherichia coli*	WB	–	BAM-61-011-EX	100 µℓ
DNA Polymerase β	Polyclonal	RAB	HU/MS/RAT	WB/IP	–	BAM-70-041-EX	50 µℓ
	Polyclonal	RAB	HU/MS/RAT	WB/IP	–	BAM-70-042-EX	250 µℓ
DNA Polymerase DELTA subunit p66	Monoclonal 2A1C11	MS/IgG2b κ	HU	WB/IP	–	BAM-70-055EX	20 µg
	Monoclonal 2A1C11	MS/IgG2b κ	HU	WB/IP	–	BAM-70-056EX	100 µg
DNA Polymerase eta	Monoclonal 5H10	MS/IgG1 κ	HU	WB/IF	–	BAM-70-070EX	20 µg
	Monoclonal 5H10	MS/IgG1 κ	HU	WB/IF	–	BAM-70-071EX	100 µg
Dnmt3b	Polyclonal	RAB	HU/MS/RAT	WB/IHC/ChIP/IF	–	BAM-70-205-EX	20 µg
	Polyclonal	RAB	HU/MS/RAT	WB/IHC/ChIP/IF	–	BAM-70-206-EX	100 µg
DNMT3B (DNA (cytosine-5-)-Methyltransferase 3 β)	Monoclonal 2280C3a	MS/IgG2b	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00392	100 µg
Dnmt1 (1-248)	Polyclonal	RAB	MS/HU	WB/IF/IP	–	BAM-70-201-EX	50 µg
Dnmt1 (1037-1386)	Polyclonal	RAB	MS/HU	WB/IF/IP	–	BAM-70-203-EX	50 µg
DNP	Monoclonal 2-9(4)	MS/IgE	–	–	–	YMS-7676	100 µg
DNP-Ascaris	Polyclonal	RAT	–	IHC	–	LSL-LB-9009	100 µℓ
DNTTIP1 (Deoxynucleotidyltransferase, Terminal, Interacting Protein 1)	Monoclonal 2281C2a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00448	100 µg
DOC (Deoxycorticosterone)	Polyclonal	RAB	–	EIA	–	FKA-422-E	2000 test
DOCK4 (KIAA0716)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK07160910	50 µg
DOCK7 (Dedicator of Cytokinesis 7)	Monoclonal 3540C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00763	100 µg
DOK1 (Docking protein 1 (downstream of tyrosine kinase 1))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-DOK1-325	100 µℓ
DOR	Monoclonal 1E7	MS/IgG1 κ	HU	WB/FC/IC/IP	–	KAL-KG142	25 µg (100 µℓ /vial)



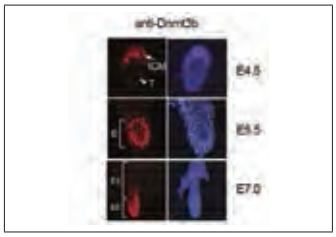
DIS3 #BAM-63-123EX
Localization of the dis3+ gene product by immunofluorescence microscopy. S. pombe cells were fixed and prepared for immunofluorescence microscopy with anti-dis3 antibodies. Left, DAPI stain for chromosomal DNA. Right, anti-Dis3 antibody stain (ref.1).



Dityrosine(DT) #NNS-MDT-020P-EX
Immunohistochemistry: DT staining of mouse skin (Dr. Sugiyama, Tottori Univ.)



Dnmt3b #BAM-70-205-EX
The amounts of Dnmt3b in mouse embryos at the stages of E7.0-E16.5 were examined by Western blotting.

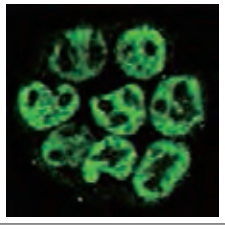


Dnmt3b #BAM-70-205-EX
Expression of Dnmt3b in mouse embryos was examined by immuno-fluorescence staining.

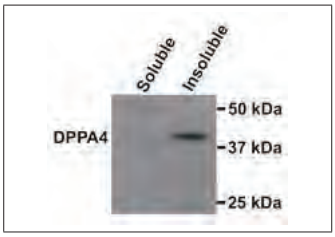
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
DOT1L	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1814AF	50 μg
DPF2	Monoclonal 2283C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00715	100 μg
Dppa4	Polyclonal	RAB/IgG	MS	WB/IC	–	CAC-TMD-PB-DP4	100 μℓ
DR1	Polyclonal	RAB	HU	WB	–	PRX-KB3457GNP	100 μℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3457GNPAF	50 μg
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3457	100 μℓ
DTL (Denticleless homolog (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DTL-377	100 μℓ
DUS4L (Dihydrouridine synthase 4-like (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DUS4L-379	100 μℓ
DUSP4 (Dual Specificity Phosphatase 4)	Monoclonal 2295E1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00491	100 μg
DUSP5 (Dual Specificity Phosphatase 5)	Monoclonal 2296C4a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00482	100 μg
DUSP7 (Dual Specificity Phosphatase 7)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DUSP7-079	100 μℓ
DYKDDDDK	Polyclonal	RAB/IgG1 κ	RAT	WB/ELISA/IP	–	BAM-60-031-EX	100 μℓ
	Monoclonal 2H8	MS Mono	HU/*Chinese Hamster*	WB/IF/FC/IC/IP	–	KAL-KO602-L	1 mg (200 μg×5)
	Monoclonal 2H8	MS Mono/ IgG2a κ	HU/*Chinese Hamster*	WB/IF/FC/IC/IP	–	KAL-KO602-S	5 μg (50 μℓ /vial)
DYNC1H1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0325AF	50 μg
DYNC2H1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1997AF	50 μg
Dynein	Polyclonal	RAB/IgG	POR	WB	–	KAL-KR062	25 μg
DZIP3 (KIAA0675)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK06750910	50 μg

E

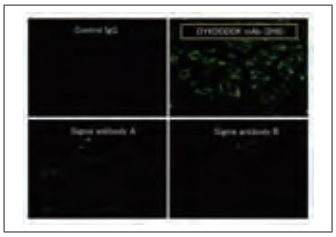
E2F1 (E2F Transcription Factor 1)	Monoclonal 658C2a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00440	100 μg
E2F1, phospho Ser364	Monoclonal 2	MS/IgG2b κ	HU	WB/ELISA	–	BAM-71-151-EX	50 μg (1 mg/mℓ)
E2F2 (E2F Transcription Factor 2)	Monoclonal 2302C4a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00665	100 μg
E2F3 (E2F Transcription Factor 3)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0075AF	50 μg
E2F5 (E2F Transcription Factor 5)	Monoclonal 220D1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00605	100 μg
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0267GNPAF	50 μg
E2F6 (E2F Transcription Factor 6)	Monoclonal E2F6B9E2	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00324	100 μg
EAR2	Monoclonal H9929A	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA	–	PPX-PP-H9929A-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal N2025	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-N2025-00	0.1 mℓ (1 mg/mℓ)
EARS2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1970	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1970PA	100 μg
EBNA2 (EBNA-2 co-activator)	Monoclonal 287C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00707	100 μg
Ecdysone	Polyclonal	RAB	–	EIA	–	FKA-612-E	2000 test
EDD / UBR5	Polyclonal	RAB	HU/MS/RAT/ XEN	WB	–	BAM-70-500EX	20 μg
	Polyclonal	RAB	HU/MS/RAT/ XEN	WB	–	BAM-70-501EX	100 μg
EEA1 (Early Endosome Antigen 1)	Monoclonal 2306C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00630	100 μg



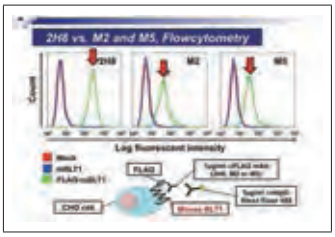
Dppa4 #CAC-TMD-PB-DP4
Conforcal images of ES cells immunostained with anti-DPPA4 antibody.



Dppa4 #CAC-TMD-PB-DP4
Western blot analysis of DPPA4 in chromatin soluble and insoluble fractions.

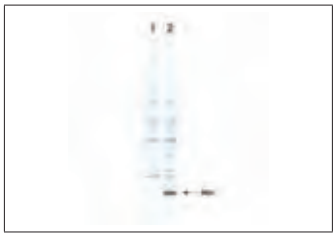


DYKDDDDK #KAL-KO602-S
This cell staining is done in CHO cell by the DYKDDDDK addition to N-terminus of prostaglandin dehydrogenase. (antibody concentration : 1μg/mℓ).

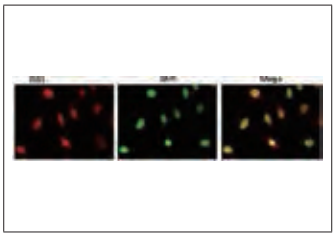


DYKDDDDK #KAL-KO602-S
Flow cytometry analysis of CHO Cells (GPCR (mouse BLT1) stable expression) with anti-FLAG antibody (1μg/mℓ : 2H8, M2, M5) and anti-Alexa488-mouse IgG.

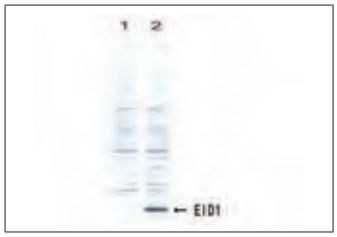
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
EEPD1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1706	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1706PA	100 µg
EFR3A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0143	100 µℓ
EFR3B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0953	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0953PA	100 µg
EFTUD2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0031	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0031PA	100 µg
EGF	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y230-EX	50 µℓ
	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y231-EX	50 µℓ
EGFP	Polyclonal	RAB	–	WB	–	CAC-SU-IZ-P01	100 µℓ
EHBP1L1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0043AF	50 µg
EHMT1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1876AF	50 µg
EHMT1 (Euchromatic Histone-lysine N-methyltransferase 1)	Monoclonal 2312C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00514	100 µg
EID1	Monoclonal 26	MS/IgG2a κ	HU/MS/RAT	WB/ELISA	–	BAM-71-185-EX	50 µg
	Monoclonal 2	MS/IgG2a κ	HU	WB/ELISA	–	BAM-71-190-EX	50 µg
EIF2S1 (Eukaryotic translation Initiation Factor 2, subunit 1 α)	Monoclonal EIF2S1A2B8	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00307	100 µg
EIF3S12 (Eukaryotic translation Initiation Factor 3, subunit 12)	Monoclonal 2313C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00393	100 µg
EIF4A3	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0111AF	50 µg
EIF4ENIF1 (Eukaryotic translation Initiation Factor 4E nuclear import factor 1)	Monoclonal 2314C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00508	100 µg
EIF4H	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0038	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0038PA	100 µg
ELAC1	Monoclonal 2315C6a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00720	100 µg
Elastase 1	Monoclonal 207E10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-017	0.1 mg (1 mg/mℓ)
	Monoclonal 203F4	MS/IgG2b κ	HU	ELISA	–	LNM-KR-018	0.1 mg (1 mg/mℓ)
Elastase-XDP	Monoclonal IF-123	MS/IgG1 κ	HU	ELISA/WB/IHC	–	CAC-MKM-M16	100 µg
Elastin	Polyclonal	RAB	HU/MS/RAT/ BOV	ELISA/IF/WB	–	LSL-LB-2187	100 µℓ
ELF2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0196GNPAF	50 µg
ELF2 (E74-like factor 2 (ets domain transcription factor))	Monoclonal 224C4a	MS/IgG1	HU	DB/WB	–	CBX-CBX00657	100 µg
ELF3 (E74-like factor 3 (ets domain transcription factor, epithelial-specific))	Monoclonal ELF3B10C4	MS/IgG1	HU	WB/DB	–	CBX-CBX00272	100 µg
ELK1	Polyclonal	RAB	HU	WB	–	PRX-KE0937GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KE0937GNPAF	50 µg
ELL2 (Elongation factor, RNA polymerase II, 2)	Monoclonal ELL2A11H2	MS/IgG1	HU	WB/DB	–	CBX-CBX00338	100 µg
ELL (Elongation factor RNA polymerase II)	Monoclonal 2316C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00554	100 µg
Emx2	Polyclonal	RAB	MS	WB/IHC/ELISA/ IC/IF	–	KAL-KO609	50 µg
EndoG	Polyclonal	RAB	MS/RAT	WB	–	BCN-BCN4778	0.1 mℓ
Endothelin-1 (C-terminal Region)	Monoclonal 8H10	MS/IgG1 κ	HU/POR	ELISA	–	YMS-7632	200 µg



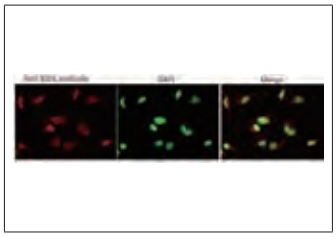
EID1 #BAM-71-185-EX
Identification of the EID1 protein by the monoclonal antibody clone #26 by Western blotting.



EID1 #BAM-71-185-EX
Indirect immunofluorescence staining of EID1 protein by anti-EID1 antibody (clone 26) in HeLa cell.

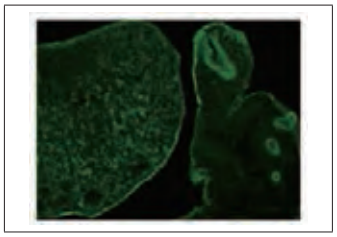


EID1 #BAM-71-190-EX
Identification of the EID1 protein by the monoclonal antibody (clone #2) by Western blotting.

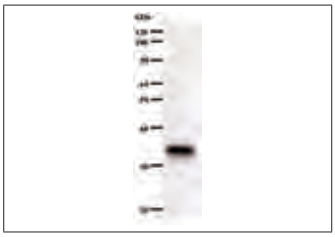


EID1 #BAM-71-190-EX
Indirect immunofluorescence staining of EID1 protein by anti-EID1 antibody (clone 2) in HeLa cell. EID1 protein is localized in nuclei.

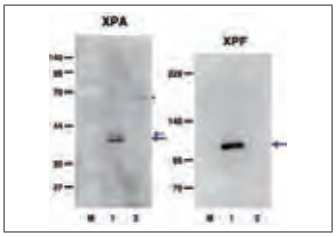
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Endothelin-1 (N-terminal Region)	Monoclonal 1C10	MS/IgG1 κ	HU/POR	EIA	–	YMS-7631	200 μg
Endothelin A Receptor	Monoclonal AH3A8	MS/IgG2a	HU	ELISA	–	SIM-2ZETRA	0.5 mℓ (0.25 mg /0.5 mℓ)
Endothelin B Receptor	Monoclonal BH3H5	MS/IgG1	HU	ELISA	–	SIM-2ZETRB	0.5 mℓ (0.25 mg /0.5 mℓ)
EP300 (E1A binding protein p300)	Monoclonal EP300G12	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00261	100 μg
EPB41L1 / KIAA0338	Polyclonal	RAB/IgG	MS	WB/IHC/IP	–	PRX-MK03380505	0.05 mg
EpCAM	Monoclonal hrk29	MS/IgG1	HU	WB/ELISA/IP/FC	–	CAC-HT-MAB1	50 μg
EPM2A (Epilepsy, Progressive Myoclonus type 2A, Lafora disease (laforin))	Monoclonal 2323C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00503	100 μg
EPM2AIP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0766	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0766PA	100 μg
Equilenine	Polyclonal	RAB	–	RIA	–	FKA-228	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-228-E	2000 test
Equiline	Polyclonal	RAB	–	RIA	–	FKA-230	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-230-E	2000 test
ERALPHA	Monoclonal H4624	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H4624-00	0.1 mℓ (1 mg/mℓ)
ERBB2IP (KIAA1225)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK12250910	50 μg
ER β	Monoclonal PPZ0506	MS/IgG2b	HU	WB/ELISA/IP	–	PPX-PP-PPZ0506-00	0.1 mℓ (1 mg/mℓ)
ERC1	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1081AF	50 μg
ERC2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0378AF	50 μg
ERC2 (KIAA0378) (Cerebellum, Purkinje cell)	Polyclonal	RAB/IgG	MS	IHC	–	PRX-MK03780310	0.1 mg
ERCC1	Monoclonal E1-44	MS/IgG1 κ	HU	WB	–	CAC-KUP-TM-M04	100 μℓ
ERCC1 (Excision Repair Cross-Complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence))	Monoclonal 2326C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00629	100 μg
ERCC3 (Excision Repair Cross-Complementing rodent repair deficiency, complementation group 3 (xeroderma pigmentosum group B complementing))	Monoclonal 2327C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00655	100 μg
ERCC5 (XPG, UVDR, XPGC, COFS3, ERCM2,Excision Repair Cross-Complementing rodent repair deficiency, complementation group 5)	Monoclonal 2328C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00683	100 μg
ERCC6 (Excision Repair Cross-Complementing rodent repair deficiency, complementation group 6)	Monoclonal 553C5a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00638	100 μg
ERCC8 (Excision Repair Cross-Complementing rodent repair deficiency, complementation group 8)	Monoclonal 235C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00617	100 μg
ERR α	Monoclonal H5844	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H5844-00	0.1 mℓ (1 mg/mℓ)
ERR β	Monoclonal H6705	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H6705-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal H6707	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H6707-00	0.1 mℓ (1 mg/mℓ)
ERR γ	Monoclonal H6812	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H6812-00	0.1 mℓ (1 mg/mℓ)



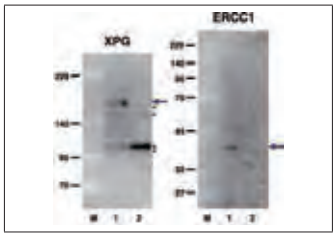
Emx2 #KAL-KO609
Immunofluorescence, Sample: mouse ovary



EP300 (E1A binding protein p300)
#CBX-CBX00261
Western blot analysis of immunized recombinant protein, using anti-EP300 monoclonal antibody.



ERCC1 #CAC-KUP-TM-M04
Left
1 : HeLa
2 : XP3OS (XP-A)
Right
1 : HeLa
2 : XP2YOSV (XP-F)



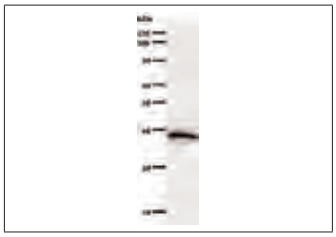
ERCC1 #CAC-KUP-TM-M04
Left
1 : HeLa
2 : XPCS1LV (XP-G)
Right
1 : HeLa
2 : XP2YOSV (XP-F)

ES-

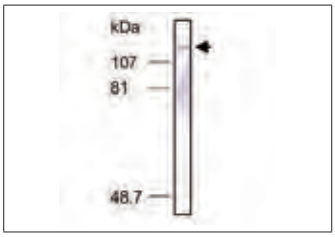
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
ESPL1 (Extra Spindle Pole Bodies Homolog 1)	Monoclonal 2329C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00762	100 μg
Estetrol	Polyclonal	RAB	–	RIA	–	FKA-208	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-208-E	2000 test
Estradiol	Polyclonal	RAB	–	RIA	–	FKA-204	2000 test
Estradiol-3	Polyclonal	RAB	–	RIA	–	FKA-236	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-236-E	2000 test
Estraediol-3-Glucuronide	Polyclonal	RAB	–	EIA	–	FKA-238E	2000 test
Estrogen Receptor α	Polyclonal	RAB/IgG	*Alligator*	WB	–	KAL-KR092	25 μg
Estrone	Polyclonal	RAB	–	RIA	–	FKA-202	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-202-E	2000 test
Estrone-3-CME	Polyclonal	RAB	–	RIA	–	FKA-234	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-234-E	2000 test
Estrone-3-Glucuronide	Polyclonal	RAB	–	RIA	–	FKA-224	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-224-E	2000 test
Estrone-3-Sulfate	Polyclonal	RAB	–	RIA	–	FKA-226	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-226-E	2000 test
Ethynylestradiol- 6-CMO	Polyclonal	RAB	–	RIA	–	FKA-220	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-220-E	2000 test
ETS1 (V-ets Erythroblastosis Virus E26 Oncogene Homolog 1(*avian*))	Monoclonal ETS1B8D7	MS/IgG1	HU	WB/DB	–	CBX-CBX00267	100 μg
ETV1	Polyclonal	RAB	HU	WB	–	PRX-KB3955GNP	100 μℓ
ETV3 (Ets Variant Gene 3)	Monoclonal ETV3F4D10	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00273	100 μg
ETV5 (ERM, Ets Variant Gene 5)	Monoclonal 231C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00690	100 μg
ETV6	Polyclonal	RAB	HU	WB	–	PRX-KB5299GNP	100 μℓ
EVC	Polyclonal	RAB/IgG	RAT/MS	WB/IHC	–	CAC-OUA-P01-A	100 μℓ
EVI1 (Ecotropic Viral Integration Site 1)	Monoclonal 2331C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00643	100 μg
EXOSC2 (Exosome Component 2)	Monoclonal 2334C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00483	100 μg
EXOSC7 (Exosome Component 7)	Monoclonal 2335C2a	MS/IgG1	HU/MS/RAT	WB/FC/DB	–	CBX-CBX00394	100 μg
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0116AF	50 μg
EXOSC8 (Exosome Component 8)	Monoclonal 2336C2b	MS/IgG1	HU	WB/DB	–	CBX-CBX00612	100 μg
EXOSC9 (Exosome Component 9)	Monoclonal 2337C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00566	100 μg
Exportin-5 (XPO5)	Monoclonal 1D11	RAT/IgG	HU	WB/IC	–	CAC-CE-006A	100 μℓ (1 mg/mℓ)
EXTL3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0519	100 μℓ
EZFIT	Monoclonal K9716	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-K9716-00	0.1 mℓ (1 mg/mℓ)

F

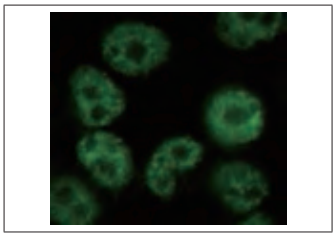
F10-2 (Medaka Vitellogenin)	Monoclonal	MS/IgG1 κ	*Killifish*	WB/ELISA	–	EBT-AVMF10-2-EX	1 mℓ
FABP6 (Fatty Acid Binding Protein 6, Ileal (*gastrotropin*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FABP6-020	100 μℓ
FABP7 (Fatty Acid Binding Protein 7, Brain)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FABP7-358	100 μℓ
FADS2 (Fatty Acid Desaturase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FADS2-530	100 μℓ
FAIML	Polyclonal	RAB	HU/MS/RAT	WB/IHC/IF	–	BCN-BCN4777	0.1 mℓ



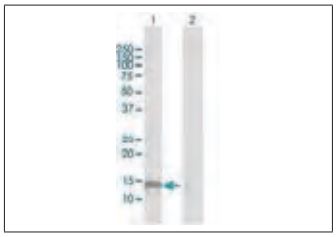
ETS1 (v-ets erythroblastosis virus E26 oncogene homolog 1(avian)) #CBX-CBX00267
Western blot analysis of immunized recombinant protein, using anti-ETS1 monoclonal antibody.



Exportin-5, (XPO5) #CAC-CE-006A
Western blot - Exportin-5 antibody (1D11) HeLa cell nuclear extracts.

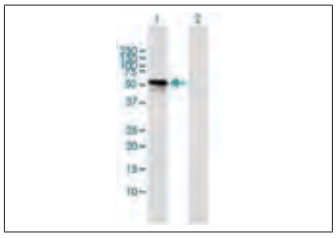


Exportin-5 (XPO5) #CAC-CE-006A
Immunocytochemistry/ Immunofluorescence - Exportin-5 antibody (1D11) HeLa cells.

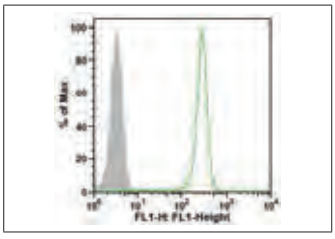


FABP7 (fatty acid binding protein 7, brain) #CAC-CNP-FABP7-358
Western blot analysis of FABP7 expression in transfected 293T cell line by FABP7 rabbit polyclonal antibody.
Lane 1 : FABP7 transfected lysate (14.63 KDa)
Lane 2 : Non-transfected lysate

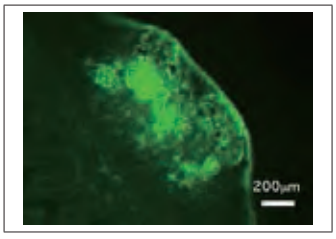
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
FAIMS	Polyclonal	RAB	HU/MS/RAT	WB	–	BCN-BCN4779	0.1 mℓ
FALZ (Bromodomain PHD Finger Transcription Factor (BPTF))	Monoclonal 2343C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00498	100 μg
FAM5B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1747	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1747PA	100 μg
FAM13B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB0031	100 μℓ
FAM20B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0475	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0475PA	100 μg
FAM40A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1761	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1761PA	100 μg
FAM64A (Family with Sequence Similarity 64, Member A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FAM64A-370	100 μℓ
FAM116A	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0229	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MFL0229PA	100 μg
FAM117A (Family with Sequence Similarity 117, Member A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FAM117A-404	100 μℓ
FAM168A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0280	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0280PA	100 μg
FAM169A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0888	100 μℓ
FAM184B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1276	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1276PA	100 μg
FANCA (Fanconi Anemia, Complementation Group A)	Monoclonal 2344C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00609	100 μg
FANCB	Polyclonal	RAB	HU	WB	–	BCN-BCN4782	50 μℓ
FANCE (Fanconi Anemia, Complementation Group E, mRNA)	Monoclonal 2346C5a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00673	100 μg
FANCG (Fanconi Anemia, Complementation Group G)	Monoclonal 2348C4a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00788	100 μg
FANCL	Polyclonal	RAB	HU	WB/IF	–	BCN-BCN4783	50 μℓ
FANCL (Fanconi Anemia, Complementation Group L)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FANCL-075	100 μℓ
FARP2 (FERM, RhoGEF and Pleckstrin domain Protein 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FARP2-127	100 μℓ
FARS2 (Phenylalanyl-tRNA synthetase 2, Mitochondrial)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FARS2-538	100 μℓ
FBL (Fibrillarin)	Monoclonal 2350C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00417	100 μg
FBXL4 (F-box and Leucine-rich Repeat Protein 4)	Monoclonal 2352C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00515	100 μg
FBXO18 (F-box Protein, Helicase, 18, Transcript Variant 1)	Monoclonal 2353C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00616	100 μg
FBXO21	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0875	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0875PA	100 μg
FBXO28	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0483AF	50 μg
FBXO42	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1332	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1332PA	100 μg
FBXW11 (KIAA0696) (Cerebellum, Purkinje and Molecular Layer)	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK06960310	0.1 mg
FcALPHA/MUR	Monoclonal TX57	MS/IgG1 κ	MS	FC/IF/IP/Neu	–	KAL-KO571	50 μg (200 μℓ /vial)
	Monoclonal TX61	MS/IgG1 κ	HU/MS	FC/IF/IP	–	KAL-KO572	50 μg (200 μℓ /vial)
Fc ε RI α	Monoclonal CRA1	MS/IgG2b κ	HU	WB/IHC/FC	–	BAM-72-001-EX	100 μg



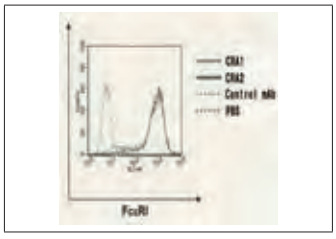
FAM117A (family with sequence similarity 117, member A) #CAC-CNP-FAM117A-404
Western blot analysis of FAM117A expression in transfected 293T cell line by FAM117A rabbit polyclonal antibody.



FcALPHA/MUR #KAL-KO571
Flow cytometry: Mouse FCAMR expressing Ba/F3 cells

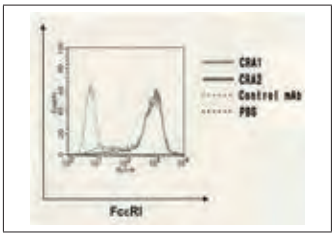


FcALPHA/MUR #KAL-KO572
Immunofluorescence, Mouse peyer's patch.

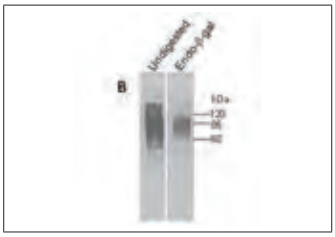


Fc ε RI α #BAM-72-001-EX
FACS analysis of CHO/ α β γ cells (1×10^5) with CRA1 and CRA2 antibodies by indirect-immunostaining method using FITC-labeled secondary antibody.

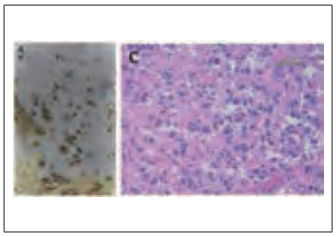
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Fc ε RI α	Monoclonal CRA1	MS/IgG2b κ	HU	WB/IHC/FC	Biotin	BAM-72-003-EX	50 μg
	Monoclonal CRA1	MS/IgG2b κ	HU	IHC/WB/FC	FITC	BAM-72-004-EX	50 μg
	Monoclonal CRA2	MS/IgG1 κ	HU	WB/IHC/FC	–	BAM-72-005-EX	100 μg
	Monoclonal CRA2	MS/IgG1 κ	HU	WB/IHC/FC	Biotin	BAM-72-007-EX	50 μg
	Monoclonal CRA2	MS/IgG1 κ	HU	WB/IHC/FC	FITC	BAM-72-008-EX	50 μg
FCHO1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0290	100 μℓ
FCHSD1	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0007	100 μℓ
FDPS (KIAA1293)	Polyclonal	RAB/IgG	MS	WB/IHC/IP	–	PRX-MK12930505	0.05 mg
FEM1A	Polyclonal	RAB	HU	WB	–	PRX-KB3219GNP	100 μℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3219GNPAF	50 μg
FEN1 (Flap Structure-specific Endonuclease 1)	Monoclonal 2357C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00795	100 μg
FER (fps/fes Related) Tyrosine Kinase (Phosphoprotein NCP94)	Monoclonal 2358C3a	MS/IgG1	HU/MS	WB/IP/DB	–	CBX-CBX00490	100 μg
Ferritin	Monoclonal 5701	MS/IgM	HU	ELISA	–	SIM-2ZHCMF1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 5704	MS/IgM	HU	ELISA	–	SIM-2ZHCMF2	0.5 mℓ (0.25 mg /0.5 mℓ)
FGF Basic	Polyclonal	RAB	BOV	IHC(f)/RIA	–	YII-Y250-EX	50 μℓ
FGF Basic (1-9)	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y251-EX	50 μℓ
Fibrillin	Polyclonal	RAB	HU/MS/RAT/ BOV	ELISA/IF/WB/ IHC	–	LSL-LB-2297	100 μℓ
Fibrinogen	Monoclonal IF-1	MS/IgG1 κ	HU	WB	–	CAC-MKM-M02	100 μg
Fibromodulin	Monoclonal 636B12	MS/IgM	HU	WB/IHC	–	CAC-PRPG-FBM-M01	2 mℓ
Fibronectin	Polyclonal	RAB	HU/MS/RAT/ BOV/GT/GP	ELISA/IF/EIA/ IHC	–	LSL-LB-1027	100 μℓ
Filamin A	Polyclonal	RAB	MS	WB	–	CAC-SU-IZ-P05	100 μℓ
FKBP3 (FK506 Binding Protein 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FKBP3-411	100 μℓ
	Monoclonal 2364C3	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00410	100 μg
FKBP11 (FK506 Binding Protein 11)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FKBP11-206	100 μℓ
Flag	Monoclonal 2H8	MS/IgG2a κ	*HU/Chinese Hamster*	WB/IF/FC/IC/IP	–	KAL-KO602-M	200 μg
FLI1	Polyclonal	RAB	HU	WB	–	PRX-KB5555GNP	100 μℓ
FLJ11184 (Hypothetical Protein FLJ11184)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-C4ORF43-372	100 μℓ
FLJ21908 (RNA Polymerase II Associated Protein 3)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RPAP3-047	100 μℓ
FLJ22662 (Hypothetical Protein FLJ22662)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FLJ22662-303	100 μℓ
FLJ39501 (Cytochrome P450, Family 4, Subfamily F, Polypeptide 22)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CYP4F22-351	100 μℓ
FMNL1 (Formin-like 1)	Monoclonal 2369E4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00540	100 μg
FMNL3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2014	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA2014PA	100 μg
FNBP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0554	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0554PA	100 μg



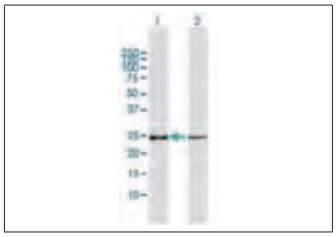
Fc ε RI α #BAM-72-003-EX
FACS analysis of CHO/aby cells (1×10^5) with CRA1 and CRA2 antibodies by indirect-immunostaining using FITC-labeled secondary antibody.



Fibromodulin #CAC-PRPG-FBM-M01
Western blotting of undigested and endo-β-galactosidase-digested human cartilage fibromodulin resolved by SDS-PAGE on 7% gels under reducing conditions.



Fibromodulin #CAC-PRPG-FBM-M01
(A) Immunohistochemical staining of human articular cartilage
(C) Immunohistochemical staining of a leiomyosarcoma lesion

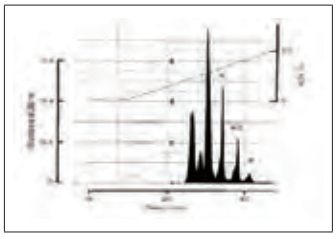


FKBP3 (FK506 binding protein 3, 25kDa) #CAC-CNP-FKBP3-411
Western blot analysis of FKBP3 expression in transfected 293T cell line by FKBP3 rabbit polyclonal antibody.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
FNBP1 (KIAA0554) (Cerebellum, Bergmann glia)	Polyclonal	RAB/IgG	MS	IHC	–	PRX-MK05540310	0.1 mg
FNDC3A	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0970	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0970PA	100 µg
Follistatin	Polyclonal	RAB/IgG	BOV/MS/RAT	WB/IHC/ELISA/ Neu/RIA	–	CAC-KZ-HS-P08	50 µℓ
FOLR1 (Folate Receptor 1 (Adult))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FOLR1-156	100 µℓ
Forskolin	Monoclonal 1A9	MS/IgG1 κ	–	ELISA	–	CAC-KYU-HT-M006	100 µℓ
FOS (V-fos FBJ Murine Osteosarcoma Viral Oncogene Homolog)	Monoclonal 554C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00428	100 µg
FOXH1 (Forkhead Box H1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FOXH1-306	100 µℓ
FOXJ3	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1041AF	50 µg
FOXL2 (Forkhead Box L2)	Monoclonal 262C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00594	100 µg
FOXM1 (Forkhead Box M1)	Monoclonal 263C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00590	100 µg
FOXO	Polyclonal	RAB	*Drosophila*	WB/IP/ChIP	–	CAC-THU-A-DFOXO	100 µℓ
FOXO1A (Forkhead Box O1A (Rhabdomyosarcoma))	Monoclonal 738C3a	MS/IgG1	HU	DB/WB	–	CBX-CBX00660	100 µg
Free κ Chain	Monoclonal 5H11	MS/IgG2b κ	HU	EIA	–	YMS-7641	200 µg
Free λ Chain	Monoclonal 4G7	MS/IgG1 κ	HU	EIA	–	YMS-7642	200 µg
FRG	Polyclonal	RAB/IgG	MS/HU	WB/IP	–	KAL-KR102	100 µg
FRYL (KIAA0826)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK08260910	50 µg
FSD1 (Fibronectin Type III and SPRY Domain containing 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-FSD1-409	100 µℓ
FTSJ2 (FtsJ Homolog 2 (*E. coli*))	Monoclonal 2372C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00614	100 µg
FUCA2 (Fucosidase, α-L- 2, plasma)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FUCA2-268	100 µℓ
FXR	Monoclonal A9033A	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-A9033A-00	0.1 mℓ (1 mg/mℓ)

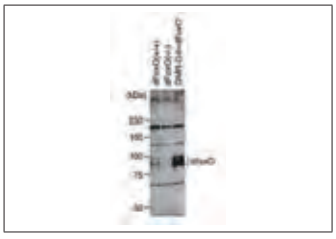
G

G0S2 (G0/G1Switch 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-G0S2-175	100 µℓ
G3BP (GTPase Activating Protein (SH3 domain) Binding Protein 1)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-G3BP1-147	100 µℓ
G5PR	Polyclonal	RAB/IgG	MS	WB/IP	–	KAL-KR058	25 µg
G9a (H3-K9-HMTase)	Monoclonal A8620A	MS/IgG2a	HU/MS	WB/IHC/ELISA/ IP	–	PPX-PP-A8620A-00	0.1 mℓ (1 mg/mℓ)
G10 (Maternal G10 Transcript)	Monoclonal G10E2C3	MS/IgG1	HU	WB/DB	–	CBX-CBX00318	100 µg
GABPA	Polyclonal	RAB	HU	WB	–	PRX-KB3911GNP	100 µℓ
GABPA (GA Binding Protein Transcription Factor, α)	Monoclonal 352C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00589	100 µg
GAL3ST1 (Galactose-3-O-Sulfotransferase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GAL3S1-017	100 µℓ
Gal11p	Polyclonal	RAB	YST	WB	–	BAM-62-001-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-002-EX	250 µℓ
Galanin	Polyclonal	RAB	RAT/POR/Tuna/ HU	IHC/RIA	–	YII-Y180-EX	50 µℓ
Galectin 3	Polyclonal	RAB/IgG	HU	WB	–	KAL-KH040	100 µg
Galanin (1-15)	Polyclonal	RAB	HU/RAT/POR	IHC/RIA	–	YII-Y182-EX	50 µℓ



Follistatin #CAC-KZ-HS-P08
Elution profile on reverse-phase HPLC of the partially purified activin-follistain complex of fraction 2 applied to a Cosmosil $5C_{18}$-AR column (10*250 mm).

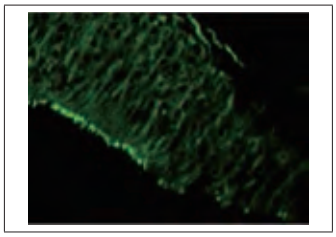
FOLR1 (folate receptor 1 (adult)) #CAC-CNP-FOLR1-156
Western blot analysis of FOLR1 expression in transfected 293T cell line by FOLR1 rabbit polyclonal antibody.



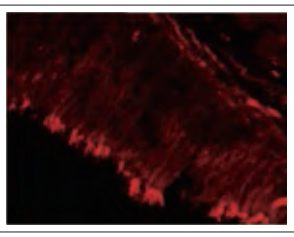
FOXO #CAC-THU-A-DFOXO
Expression of dFoxO in the fly brain lysates was detected with anti dFoxO (1:3000 dilution) combined with the ECL Plus reagent.

FOXO #CAC-THU-A-DFOXO
Endogenous dFoxO from S2 cells was Immunoprecipitated with anti dFoxO.

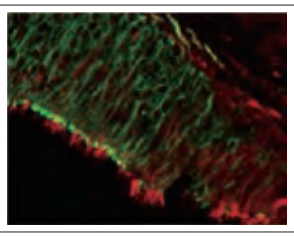
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Galanin (9-30)	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y184-EX	50 µℓ
Galanin (15-29)	Polyclonal	RAB	RAT/HU/POR	IHC/RIA	–	YII-Y183-EX	50 µℓ
Galanin (20-29)	Polyclonal	RAB	RAT/HU	IHC/RIA	–	YII-Y186-EX	50 µℓ
GALE (UDP-Galactose-4-Epimerase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GALE-244	100 µℓ
GALK2 (Galactokinase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GALK2-269	100 µℓ
GALNS (Galactosamine (N-acetyl)-6-sulfate sulfatase (Morquio syndrome, mucopolysaccharidosis type IVA))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GALNS-246	100 µℓ
GALNT3 (UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 3 (GalNAc-T3))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GALNT3-218	100 µℓ
GALNT9 (UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 9 (GalNAc-T9))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GALNT9-276	100 µℓ
GALNT12 (UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 12 (GalNAc-T12))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GALNT12-374	100 µℓ
GALPHA (olf)	Polyclonal	RAB/IgG	XEN	WB/ELISA/IHC	–	COP-COP-080058	100 µℓ
γ Glutamyl Transpeptidase	Monoclonal AGT1	MS/IgG1	HU/MS/RAT	WB/IHC	–	ACE-GGT-AGT1EX	100 µg (1 mg/mℓ)
	Monoclonal AGT3	MS/IgG2a	HU	WB	–	ACE-GGT-AGT3EX	100 µg (1 mg/mℓ)
γ Synuclein	Polyclonal	SHP/IgG	HU	IHC(f)/WB	–	ATA-CB-GS1S	0.1 mℓ
γ Tubulin	Polyclonal	RAB	XEN/HU/MS/RAT	WB/IF	–	BAM-69-001-EX	100 µg
GANAB (glucosidase, α; neutral AB)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GANAB-086	100 µℓ
GAP (28-56)	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-Y312-EX	50 µℓ
GAP (34-56)	Polyclonal	RAB	HU/RAT/POR	IHC/RIA	–	YII-Y311-EX	50 µℓ
GA-pyridine (LDL)	Monoclonal 2A2	MS/IgG1	–	WB/ELISA/IHC	–	CAC-AGE-M03	100 µℓ
GARNL1 (GTPase activating Rap/RanGAP domain-like 1)	Monoclonal 2382C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00512	100 µg
GARNL1 (KIAA0884)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK08840910	50 µg
GAS7	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0394	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0394PA	100 µg
Gastric Mucin	Monoclonal HIK1083	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02101-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal RGM21	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02102-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal RGM22	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02103-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal RGM26	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02104-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal RGM31	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02105-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal RGM42	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-02106-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal PGM34	MS/IgM κ	POR	IHC(p)/ELISA	–	KAN-02107-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal HGM44	MS/IgG1 κ	HU	IHC(p)/ELISA	–	KAN-02108-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal HGM75	MS/IgG1 κ	HU	IHC(p)/ELISA	–	KAN-02109-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal HGM504	MS/IgM κ	HU	IHC(p)/ELISA	–	KAN-02110-96-EX	50 µℓ (100 µg/mℓ)



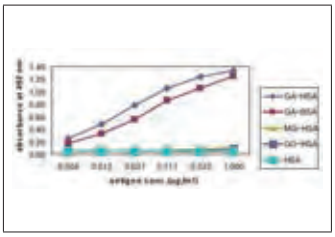
GALPHA(olf) #COP-COP-080058
IHC result for Myoepithelial cell layers of Vomeronasal nerve from *Bufo japonicus formosus* stained with Anti GO monoclonal.



GALPHA(olf) #COP-COP-080058
IHC result for Myoepithelial cell layers of Vomeronasal nerve from *Bufo japonicus formosus* stained with COP-COP-080058.

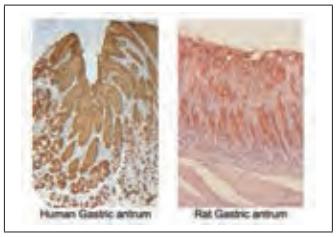


GALPHA(olf) #COP-COP-080058
IHC result for Myoepithelial cell layers of Vomeronasal nerve from *Bufo japonicus formosus* stained with Merge.

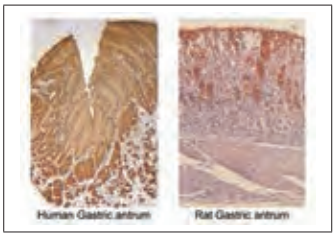


GA-pyridine (LDL) #CAC-AGE-M03
Immunoreactivity of the GA-pyridine (2A2) monoclonal antibody to GA-HAS, GA-BSA, MG-HAS, GO-HSA and HAS.

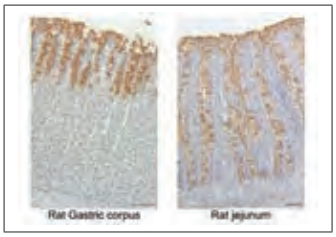
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Gastric Mucin	Monoclonal HGM505	MS/IgG1 κ	HU	IHC(p)/ELISA	–	KAN-02111-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal HGM507	MS/IgM κ	HU	IHC(p)/ELISA	–	KAN-02112-96-EX	50 µℓ (100 µg/mℓ)
	Monoclonal HIK1083	MS/IgM κ	RAT	IHC(p)/ELISA	–	KAN-25503-96-EX	1 mℓ
Gastrin	Polyclonal	RAB	RAT/CAN/HU	IHC/RIA	–	YII-Y111-EX	50 µℓ
Gastrin34 (1-15)	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y110-EX	50 µℓ
GATAD1 (GATA Zinc Finger Domain Containing 1)	Monoclonal 459C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00709	100 µg
	Monoclonal GATA9A1D3	MS/IgG2b	HU/MS	WB/IC/FC/DB	–	CBX-CBX00281	100 µg
GATAD2A (GATA Zinc Finger Domain Containing 2A)	Monoclonal p66aF11A7	MS/IgG1	HU	WB/DB	–	CBX-CBX00309	100 µg
GBE1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GBE1-084	100 µℓ
GCC2 (KIAA0336)	Polyclonal	RAB/IgG	MS	WB/IHC/IP	–	PRX-MK03360310	0.1 mg
GCDH (Glutaryl-Coenzyme A dehydrogenase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GCDH-232	100 µℓ
Gcn5p	Polyclonal	RAB	YST	WB/ELISA	–	BAM-62-003-EX	50 µℓ
	Polyclonal	RAB	YST	WB/ELISA	–	BAM-62-004-EX	250 µℓ
GCNF	Monoclonal H7921	MS/IgG2a	HU	WB/IP	–	PPX-PP-H7921-00	0.1 mℓ (1 mg/mℓ)
GCNT1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GCNT1-222	100 µℓ
GCNT2	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GCNT2-025	100 µℓ
GDCA (Glycodeoxycholic Acid)	Polyclonal	RAB	–	RIA	–	FKA-508	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-508-E	2000 test
GDE5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1434	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1434PA	100 µg
GENA	Monoclonal TRA98	MS/IgG2a	MS	WB/IHC	–	BAM-73-003-EX	50 µg
GFAP	Polyclonal	RAB/IgG	HU/MS/RAT	WB/IHC(p)/IF	–	SML-ROI003-EX	0.2 mℓ
GFI1	Polyclonal	RAB	HU	WB	–	PRX-KB4800GNP	100 µℓ
GFP	Monoclonal 1A5	RAT/IgG1 κ	–	WB/ELISA/IC/IP/ ChIP	–	BAM-60-001-EX	100 µg (1 mg/mℓ)
	Polyclonal	RAB	*Aequorea victoria*	WB/IHC/IF/IP	–	BAM-60-011-EX	100 µℓ
	Polyclonal	GT	MS	IHC/IF	–	FRL-GFP-GO-AF1480-20-EX	20 µg (200 µg/mℓ)
	Polyclonal	GT	MS	IHC/IF	–	FRL-GFP-GO-AF1480-50-EX	50 µg (200 µg/mℓ)
	Polyclonal	RAB	MS	IHC/IF	–	FRL-GFP-RB-AF2020-20-EX	20 µg (200 µg/mℓ)
	Polyclonal	RAB	–	IHC/IF	–	FRL-GFP-RB-AF2020-50-EX	50 µg (200 µg/mℓ)
G glutamyl Transpeptidase	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-010	100 µℓ
Ghrelin	Polyclonal	RAB/IgG	RAT	IHC	–	KAL-KR069	25 µg
GH-RH	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y390-EX	50 µℓ
GIGYF2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0642	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0642PA	100 µg
GINS1 GINS Complex Subunit 1 (Psf1 Homolog)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GINS1-389	100 µℓ



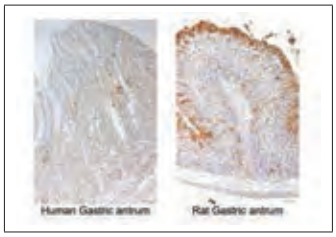
Gastric mucin #KAN-02104-96-EX
Immunohistochemistry



Gastric mucin #KAN-02106-96-EX
Immunohistochemistry

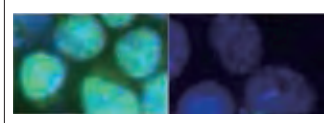


Gastric mucin #KAN-02107-96-EX
Immunohistochemistry

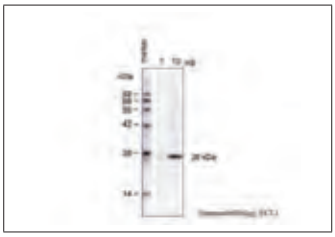


Gastric mucin #KAN-02111-96-EX
Immunohistochemistry

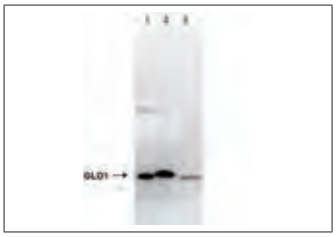
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Ginsenoside Rb1	Monoclonal 9G7	MS/IgG κ	–	ELISA	–	CAC-KYU-HT-M003	100 μℓ
Ginsenoside Re	Monoclonal 4G10	MS/IgG1 κ	–	ELISA	–	CAC-KYU-HT-M008	100 μℓ
GIP	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y101-EX	50 μℓ
	Polyclonal	RAB	RAT/POR	IHC/EIA	–	YII-Y102-EX	50 μℓ
GIP (1-30) OH	Polyclonal	RAB	RAT/POR	IHC/RIA	–	YII-Y100-EX	50 μℓ
GIP (18-42)	Polyclonal	RAB	RAT	IHC(p)/IHC(f)	–	YII-Y103-EX	50 μℓ
GLA (Galactosidase, α)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GLA-592	100 μℓ
GLCA (Glycolithocholic Acid)	Polyclonal	RAB	–	RIA	–	FKA-516	2000 test
GLCE (Glucuronic Acid Epimerase)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-GLCE-363	100 μℓ
Gliadin (CE-1)	Monoclonal CE-1	MS/IgG1	–	ELISA	–	CBN-CH-011	0.1 mg
Gliadin (CE-2)	Monoclonal CE-2	MS/IgG1	–	ELISA	–	CBN-CH-012	0.1 mg
Gliadin (CE-3)	Monoclonal CE-3	MS/IgG1	–	ELISA/WB	–	CBN-CH-013	0.1 mg
Glicentin (1-32)	Polyclonal	RAB	RAT	IHC/EIA/IA	–	YII-Y324-EX	50 μℓ
GLO-1 (Glyoxalase I)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GLO1-408	100 μℓ
GLP-2	Polyclonal	RAB	HU/RAT	IHC/EIA	–	YII-Y322-EX	50 μℓ
	Polyclonal	RAB	MS/RAT/HU	IHC/EIA/IA	–	YII-Y323-EX	50 μℓ
GLP-1 (7-36) Amide	Polyclonal	RAB	HU/RAT	IHC/RIA/EIA	–	YII-Y320-EX	50 μℓ
GLP-2 (14-33)	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y321-EX	50 μℓ
GLP (Eu-HMTase)	Monoclonal B0422	MS/IgG2a	HU/MS	WB/IHC/ELISA/IP	–	PPX-PP-B0422-00	0.1 mℓ (1 mg/mℓ)
Glut2	Polyclonal	RAB/IgG	MS/RAT	IHC/IF	–	CAC-TNL-003-GL2	100 μℓ
Glutathione Peroxidase (GPx 1)	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GP1RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GP1RB	0.2 mℓ
	Polyclonal	SHP	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GP1SA	0.1 mℓ
	Polyclonal	SHP	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GP1SB	0.2 mℓ
Glutathione Peroxidase (GPx P)	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GPPRA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/WB/ELISA/IF/LM	–	ATA-CB-GPPRB	0.2 mℓ
Glutathione S Transferase	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080015	100 μℓ
Glycochenodeoxycholic Acid	Polyclonal	RAB	–	EIA	–	FKA-512-E	2000 test
Glycocholic Acid	Polyclonal	RAB	–	RIA	–	FKA-504	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-504-E	2000 test
Glyco Litho Cholic Acid	Polyclonal	RAB	–	EIA	–	FKA-516-E	2000 test
Glyco Litho Cholic Acid-3-Sulfate	Polyclonal	RAB	–	EIA	–	FKA-520-E	2000 test
Glycophorin A	Monoclonal 5399	MS/IgM	HU	ELISA	–	SIM-2ZHBGPA	0.5 mℓ (0.25 mg /0.5 mℓ)
Glycophorin B	Monoclonal 5362C	MS/IgG3	HU	ELISA	–	SIM-2ZHBGPB	0.5 mℓ (0.25 mg /0.5 mℓ)
Glyoxalase I	Monoclonal 6F10	RAT/IgG2b κ	HU/MS/MKY	WB/ELISA/IC	–	BAM-74-001-EX	100 μg
GM3 (Neu Ac)	Monoclonal M2590	MS/IgM κ	–	–	–	NBT-M101	0.5 mℓ
	Monoclonal M2590	MS/IgM κ	–	–	–	NBT-M102	1 mℓ
GMDS (GDP-mannose 4,6-dehydratase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GMDS-380	100 μℓ



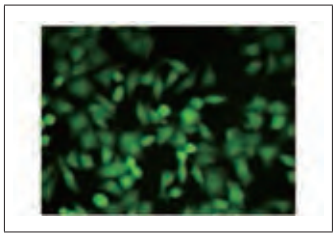
Gonadotropin Releasing Hormone (GnRH) #PPX-PP-B0422-00
Immunohistochemistry
Left: WT mouse ES cell (Positive)
Right: GLP KO mouse ES cell (Negative)



Glutathione S transferase
#COP-COP-080015
Antibody to GST (glutathione S transferase, 212 aa)
Antiserum dilution: 1/1000
Protein sample: *A. thaliana*, crude membrane fraction

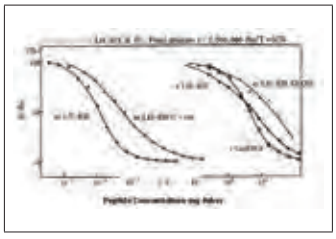


Glyoxalase I #BAM-74-001-EX
Detection of GLO1 protein by Western blotting with antibody 6F10.
Samples are whole cell extracts. Mouse GLO1 shows a single band of 27 kDa while human and simian ones show 29 kDa.

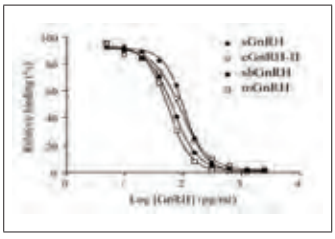


Glyoxalase I (GLO1) #BAM-74-001-EX
Immunofluorescent staining of HeLa cells with antibody 6F10.

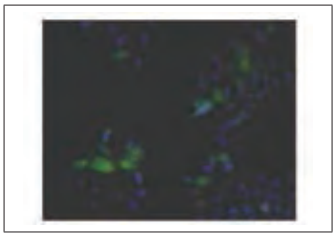
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
GMEB2 (Glucocorticoid Modulatory Element Binding Protein 2)	Monoclonal 364C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00536	100 μg
GMPR2 (Guanosine Monophosphate Reductase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GMPR2-300	100 μℓ
GMPR (Guanosine Monophosphate Reductase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GMPR-487	100 μℓ
GNA11 (Guanine Nucleotide Binding protein (G protein), α 11 (Gq class))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GNA11-053	100 μℓ
GNB1L	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1645	100 μℓ
GNPAT (Glyceronephosphate O-acyltransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GNPAT-034	100 μℓ
GNRH1 (Gonadotropin-Releasing Hormone 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GNRH1-227	100 μℓ
GnRH Type I	Polyclonal	RAB/IgG	HU/MS/RAT/ BOV/SHP	IHC/ELISA/Neu/ RIA	–	CAC-KZ-HS-P01	50 μℓ
GnRH Type II	Polyclonal	RAB/IgG	ALL	IHC/ELISA/Neu/ RIA	–	CAC-KZ-HS-P03	50 μℓ
GNS (Glucosamine (N-acetyl)-6-Sulfatase (Sanfilippo Disease IIID))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GNS-287	100 μℓ
GOLGB1 (Golgi Autoantigen, Golgin Subfamily b, Macrogolgin (with Transmembrane Signal))	Monoclonal 2388C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00516	100 μg
GOSR1 (Golgi SNAP Receptor Complex Member 1)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-GOSR1-015	100 μℓ
gp44 (Mu Phage)	Polyclonal	RAB/IgG	*Escherichia coli*	WB	–	KAL-KR082	25 μg
GPAM (Glycerol-3-Phosphate Acyltransferase, Mitochondrial)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GPAM-018	100 μℓ
GPD1L (Glycerol-3-Phosphate Dehydrogenase 1-like)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GPD1L-336	100 μℓ
GPD1L (KIAA0089)	Polyclonal	RAB/IgG	MS	WB/IP	–	PRX-MK00890310	0.1 mg
GPNMB	Polyclonal	RAB	HU	IHC/FC/ELISA	–	CAC-ICA-TG1-RBP1	50 μℓ
	Polyclonal	RAB	HU/RAT	IHC/FC/ELISA	–	CAC-ICA-TG1-RBP2	50 μℓ
	Polyclonal	RAB	HU/MS/RAT	IHC/FC/ELISA	–	CAC-ICA-TG1-RBP3	50 μℓ
GPR40 (G Protein Coupled Receptor 40)	Monoclonal G16	MS	HU/MS	IF/IC	–	KAL-KG116	25 μg (100 μℓ)
GPR120	Monoclonal 2B6	MS/IgG2a κ	HU	FC/IC	–	KAL-KG138	25 μg (100 μℓ /vial)
G Prptein:Gα i3 (105-127)	Polyclonal	RAB	HU/MS/RAT/ HAM	WB/IHC	–	YII-YP071-EX	50 μℓ
G Prptein:Gα olF (23-38)	Polyclonal	RAB	HU/MS/RAT/ HAM	WB/IHC	–	YII-YP070-EX	50 μℓ
GPS2 (G Protein Pathway Suppressor 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GPS2-489	100 μℓ
GRAMD1B	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1201AF	50 μg
GRAMD1B (KIAA1201) (Cerebellum, Interneuron)	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK12010310	0.1 mg
GRB10	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0207	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0207PA	100 μg
GR Common	Monoclonal H8004	MS/IgG2a	HU/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-H8004-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal H8031	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-H8031-00	0.1 mℓ (1 mg/mℓ)
GRHPR	Monoclonal 7G1	MS/IgG2b κ	HU	WB/ELISA	–	KAL-KC595	50 μg (0.25 mg/mℓ)
	Monoclonal 1H1	MS/IgG1 κ	HU/RAT	WB/IHC/ELISA	–	KAL-KC597	50 μg (200 μℓ)
GRLF1 (Glucocorticoid Receptor DNA Binding Factor 1)	Monoclonal 2389D3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00586	100 μg



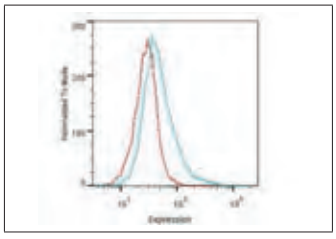
GnRH (Type I) #CAC-KZ-HS-P01



GnRH Type II #CAC-KZ-HS-P03



GPNMB #CAC-ICA-TG1-RBP1
Immunohistochemistry: Hela cells transfected with ICAFectin441 and plasmid encoding human GPNMB were fixed, permeabilized and stained with Rabbit anti-human GPNMB Polyclonal IgG Antibodies diluted 1/100 and Alexa488 goat anti rabbit IgG secondary antibody.



GPNMB #CAC-ICA-TG1-RBP1
Flow cytometry: Untransfected (red) and transfected HeLa cells with ICAFectin441 and plasmid encoding human GPNMB (blue) were stained with Rabbit anti-human GPNMB Polyclonal IgG Antibodies (diluted 1/100) and R-PE goat anti rabbit IgG secondary antibody.

GR-

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Group B *Streptococcus*	Monoclonal 1G-05	MS/IgG2b	*Streptococcus*	WB	–	CAC-SBT-M07	100 μg (1 mg/mℓ)
GRP	Polyclonal	RAB	HU/RAT/BOV/ POR/Frog/CHK/ Tuna	RIA/IHC(f)/ IHC(p)	–	YII-Y160-EX	50 μℓ
GRWD1	Polyclonal	RAB	HU/MS/RAT	WB/IF	–	BAM-70-130EX	100 μg
GRWD1 (KIAA 1942)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1942	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1942PA	100 μg
GST	Polyclonal	RAB	*Schistosoma japonicum*	WB/ELISA/IP	–	BAM-60-021-EX	100 μℓ
GSTA1 (Glutathione S-Transferase A1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GSTA1-228	100 μℓ
GST-GmATG8i	Monoclonal	RAB	*Soybean/ Arabidopsis*	WB/IP	–	CAC-KYU-TY-P01	50 μℓ
GTF2A1 (General Transcription Factor IIA, 1, 19/37kDa, transcript variant 1)	Monoclonal 708C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00454	100 μg
GTF2B (General Transcription Factor IIB, mRNA)	Monoclonal GTF2F7D7	MS/IgG1	HU	WB/DB	–	CBX-CBX00313	100 μg
GTF2E1 (General Transcription Factor IIE, Polypeptide 1)	Monoclonal GTF25I090	MS/IgG1	HU	WB/DB	–	CBX-CBX00165	100 μg
GTF2E2 (General Transcription Factor IIE, Polypeptide 2)	Monoclonal 359C2a	MS/IgG2a	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00546	100 μg
GTF2F1	Polyclonal	RAB	HU	WB	–	PRX-KB9482GNP	100 μℓ
GTF2F2 (General Transcription Factor IIF, Polypeptide 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GTF2F2-217	100 μℓ
GTF2H1 (General Transcription Factor IIH, Polypeptide 1)	Monoclonal 360C5a	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00535	100 μg
GTF2H2 (General Transcription Factor IIH, Polypeptide 2)	Monoclonal GTF2F6A10	MS/IgG1	HU	WB/DB	–	CBX-CBX00302	100 μg
GTF2H4 (General Transcription Factor IIH, Polypeptide 4)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-GTF2H4-361	100 μℓ
	Monoclonal 362C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00547	100 μg
GTF2IRD1 (GTF2I Repeat Domain Containing 1)	Monoclonal GTF5I102	MS/IgG1	HU	WB/IC/ELISA/IP	–	CBX-CBX00190	100 μg
GTF3C2 (General Transcription Factor IIIC, Polypeptide 2)	Monoclonal 2395C2a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00462	100 μg
Gtr2	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB	–	BAM-62-351-EX	100 μℓ
GUK1 (Guanylate Kinase 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-GUK1-292	100 μℓ
GUSB (Glucuronidase, β)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-GUSB-233	100 μℓ

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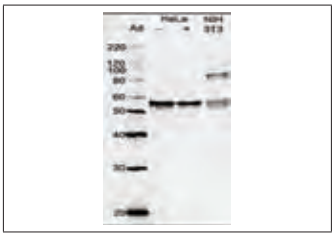
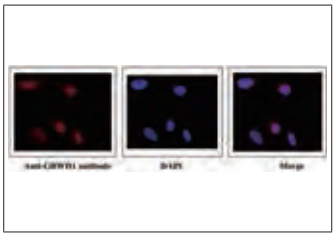
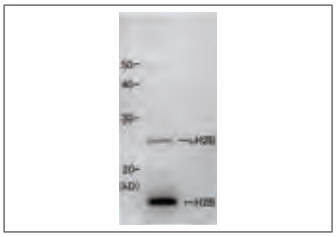
H2B	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP/ChIP	–	BAM-63-125-EX	50 μℓ
Haao (3-Hydroxyanthranilate 3,4-Dioxygenase)	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG408	25 μg (0.25 mg/mℓ)
HABP4 (Hyaluronan Binding Protein 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HABP4-359	100 μℓ
HADHB (Hydroxyacyl-Coenzyme A Dehydrogenase/3-ketoacyl-Coenzyme A Thiolase/enoyl-Coenzyme A Hydratase (Trifunctional Protein), β Subunit)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HADHB-253	100 μℓ
HAO1 ((Hydroxyacid Oxidase (Glycolate Oxidase) 1))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HAO1-282	100 μℓ



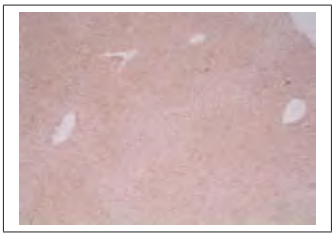
GRWD1 #BAM-70-130EX
Identication of GRWD1 proteins in whole cell lysates by western blotting with anti-GRWD1 antibody.



GRWD1 #BAM-70-130EX
Immunofluorescence staining of GRWD1 protein in HeLa cells.

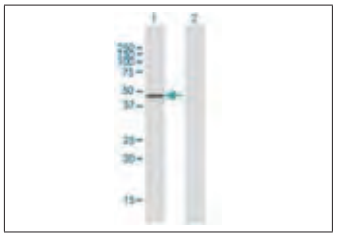


H2B #BAM-63-125-EX
Identification of histone H2B in the crude extract of fission yeast *S. pombe* with this anti body.

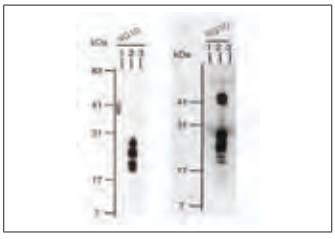


Haao (3-hydroxyanthranilate 3,4-dioxygenase) #KAL-KG408
Immunohistochemistry
Sample: Mouse liver (Polyester wax section)

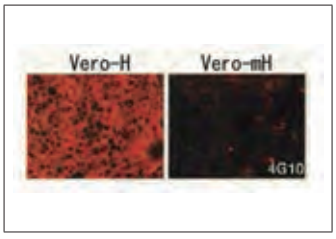
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HAO2 (Hydroxyacid Oxidase 2 (Long Chain))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-HAO2-280	100 µℓ
Haptoglobin	Monoclonal FG-101	MS/IgG2a κ	HU	–	–	NBT-MFG-101	1 mg
	Monoclonal FG-102	MS/IgG2b κ	HU	–	–	NBT-MFG-102	1 mg
	Monoclonal FG-103	MS/IgG1 κ	HU	–	–	NBT-MFG-103	1 mg
HARS (Histidyl-tRNA Synthetase)	Monoclonal HARSA6	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00278	100 µg
HBc Determinant α	Monoclonal 3105	MS/IgG3	HU	WB/ELISA/IP	–	SIM-2ZHC21	0.5 mℓ (0.25 mg /0.5 mℓ)
HBc Determinant β	Monoclonal 3120	MS/IgG2a	HU	WB/ELISA/IP	–	SIM-2ZHC22	0.5 mℓ (0.25 mg /0.5 mℓ)
HBc Determinant C-Terminal	Monoclonal T2212	MS/IgG2a	HU	ELISA	–	SIM-2ZHC23	0.5 mℓ (0.25 mg /0.5 mℓ)
HBe Determinant a	Monoclonal 904	MS/IgG2a	HU	ELISA/WB	–	SIM-2ZHE31	0.5 mℓ (0.25 mg /0.5 mℓ)
HBe Determinant b	Monoclonal 905	MS/IgG1	HU	WB/ELISA/IF	–	SIM-2ZHE32	0.5 mℓ (0.25 mg /0.5 mℓ)
HB-EGF	Monoclonal 4G10	MS/IgG1	HU	WB/IF/IP	–	BAM-71-501-EX	50 µg
	Monoclonal 4G10	MS/IgG1	HU	WB/IF/IP	Biotin	BAM-71-503-EX	50 µg
HBs Determinant a	Monoclonal 824	MS/IgG3	HU	ELISA/IHC	–	SIM-2ZHB11	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 5124A	MS/IgM	HU	ELISA/WB/IHC	–	SIM-2ZHB16	0.5 mℓ (0.25 mg /0.5 mℓ)
HBs Determinant d	Monoclonal 3423	MS/IgG1	HU	ELISA	–	SIM-2ZHB12	0.5 mℓ (0.25 mg /0.5 mℓ)
HBs Determinant r	Monoclonal 313	MS/IgG1	HU	ELISA	–	SIM-2ZHB15	0.5 mℓ (0.25 mg /0.5 mℓ)
HBs Determinant w	Monoclonal 4111	MS/IgG1	HU	ELISA	–	SIM-2ZHB14	0.5 mℓ (0.25 mg /0.5 mℓ)
HBs Determinant y	Monoclonal 3457	MS/IgG1	HU	ELISA	–	SIM-2ZHB13	0.5 mℓ (0.25 mg /0.5 mℓ)
HBV (Hepatitis B Virus) Surface Antigen	Monoclonal HB-021	MS/IgG1 κ	HU	ELISA	–	NBT-MHB-021	1 mg
	Monoclonal HB-022	MS/IgG2a κ	HU	ELISA	–	NBT-MHB-022	1 mg
	Monoclonal HB-023	MS	Virus	ELISA	–	NBT-MHB-023	1 mg
	Monoclonal HB-025	MS/IgG2b κ	HU	ELISA	–	NBT-MHB-025	1 mg
	Monoclonal HB-028	MS/IgG2a κ	HU	ELISA	–	NBT-MHB-028	1 mg
	Monoclonal HB-029	MS	Virus	ELISA	–	NBT-MHB-029	1 mg
	Monoclonal HB-030	MS/IgG2b κ	HU	ELISA	–	NBT-MHB-030	1 mg
HBXIP (Hepatitis B virus×interacting protein)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HBXIP-383	100 µℓ
HCCA2 Protein	Monoclonal 2400C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00603	100 µg
HCCS (Holocytochrome C Synthase (Cytochrome c Heme-Lyase))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HCCS-085	100 µℓ
HCFC2 (Host Cell Factor C2)	Monoclonal 192D3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00532	100 µg



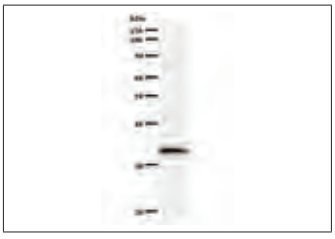
HAO1 ((hydroxyacid oxidase (glycolate oxidase) 1)) #CAC-CNP-HAO1-282
Western blot analysis of HAO1 expression in transfected 293T cell line by HAO1 rabbit polyclonal antibody.



HB-EGF #BAM-71-501-EX
Western blotting. Samples 1. Vero cell extract. 2. Vero cells carrrying human HB-EGF expression vector. 3. Vero cells carrying mouse HB-EGF expression vector.

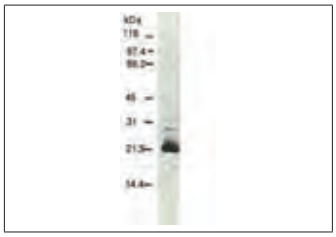


HB-EGF #BAM-71-501-EX
Immuno-cytochemistry: Samples; (Vero-H) Vero cells carrying human HG-EGF expression vector. (Vero-mH) Vero cells carrying mouse HB-EGF expression vector. Cells treated with antibody 4G10, fixed with 4% PFA and reacted with Cys3 conjugated 2nd antibody.

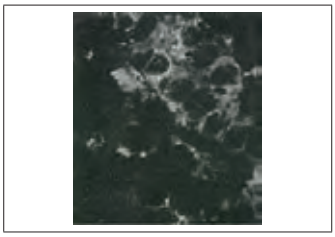


HCCA2 #CBX-CBX00603
Western blot analysis of immunized recombinant protein, using anti-HCCA2 monoclonal antibody.

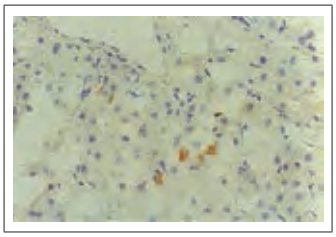
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HCG (Human Chorionic Gonadotropin)	Monoclonal BM-014	MS	HU	–	–	NBT-MCG-031	1 mg
	Monoclonal CG-032	MS	HU	–	–	NBT-MCG-032	1 mg
	Monoclonal CG-033	MS	HU	–	–	NBT-MCG-033	1 mg
	Monoclonal CG-034	MS/IgG1 κ	HU	–	–	NBT-MCG-034	1 mg
	Monoclonal CG-036	MS/IgG1 κ	HU	–	–	NBT-MCG-036	1 mg
	Monoclonal CG-037	MS/IgG1 κ	HU	–	–	NBT-MCG-037	1 mg
	Monoclonal CG-038	MS/IgG1 κ	HU	–	–	NBT-MCG-038	1 mg
	Monoclonal CG-039	MS/IgG1 κ	HU	–	–	NBT-MCG-039	1 mg
	Monoclonal CG-040	MS/IgG1 κ	HU	–	–	NBT-MCG-040	1 mg
HCV core (CP9)	Monoclonal 9380B	MS/IgG1	HU	ELISA	–	SIM-2ZCP9	0.5 mℓ (0.25 mg /0.5 mℓ)
HCV core (CP11)	Monoclonal T9301	MS/IgG2b	HU	ELISA	–	SIM-2ZCP11	0.5 mℓ (0.25 mg /0.5 mℓ)
HCV core (CP14)	Monoclonal K0811B	MS/IgG2b	HU	ELISA	–	SIM-2ZCP14	0.5 mℓ (0.25 mg /0.5 mℓ)
HCV Core protein	Monoclonal H6-29	MS/IgG2a κ	HU	WB/ELISA/IHC/ IF/IP	–	BAM-65-051-EX	20 μg
	Monoclonal H6-29	MS/IgG2a κ	HU	WB/ELISA/IF/IP/ IHC	–	BAM-65-052-EX	100 μg
	Monoclonal H6-29	MS/IgG2a κ	HU	WB/ELISA/IF/IP	Biotin	BAM-65-053-EX	50 μg (0.7 mg/mℓ)
	Monoclonal H6-29	MS/IgG2a κ	HU	IHC/IF/FC	FITC	BAM-65-054-EX	50 μg
HCV NS4a protein	Monoclonal S4-13	MS/IgG2b κ	HU	WB/ELISA/IF	–	BAM-65-056-EX	20 μg
	Monoclonal S4-13	MS/IgG2b κ	HU	WB/ELISA/IF	–	BAM-65-057-EX	100 μg
	Monoclonal S4-13	MS/IgG2b κ	HU	WB/ELISA/IF	Biotin	BAM-65-058-EX	50 μg
	Monoclonal S4-13	MS/IgG2b κ	HU	WB/ELISA/IF	FITC	BAM-65-059-EX	50 μg (1.4 mg/mℓ)
HCV NS5a protein	Monoclonal 8926	MS/IgG2a κ	HU	WB/IF	–	BAM-65-061-EX	20 μg (1 mg/mℓ)
	Monoclonal 8926	MS/IgG2a κ	HU	WB	–	BAM-65-062-EX	100 μg (1 mg/mℓ)
	Monoclonal 8926	MS/IgG2a κ	HU	WB	Biotin	BAM-65-063-EX	50 μg (0.8 mg/mℓ)
	Monoclonal 8926	MS/IgG2a κ	HU	WB	FITC	BAM-65-064-EX	50 μg (1.4 mg/mℓ)
HCV NS5b protein	Monoclonal NS5B-6	MS/IgG2b κ	HU	WB/ELISA	–	BAM-65-066-EX	20 μg
	Monoclonal NS5B-6	MS/IgG2b κ	HU	WB/ELISA	–	BAM-65-067-EX	100 μg
	Monoclonal NS5B-6	MS/IgG2b κ	HU	WB/ELISA	Biotin	BAM-65-068-EX	50 μg (0.7 mg/mℓ)
	Monoclonal NS5B-6	MS/IgG2b κ	HU	WB/ELISA	FITC	BAM-65-069-EX	50 μg (1.3 mg/mℓ)
HDAC1 (Histone Deacetylase 1)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-HDAC1-490	100 μℓ
	Monoclonal 730C6a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00631	100 μg



HCV Core protein #BAM-65-053-EX
Western blotting of HCV core protein.



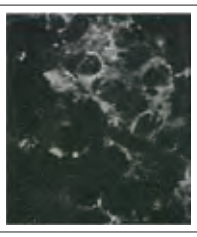
HCV Core protein #BAM-65-053-EX
Detection of HCV core protein by immuno-fluorescence antibody staining.



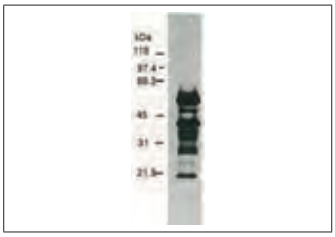
HCV Core protein #BAM-65-053-EX
Immunohistochemical detection of HCV core protein.

HCV NS4a protein #BAM-65-056-EX
Western blotting of HCV NS4A protein.

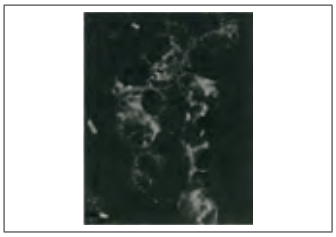
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HDAC4	Polyclonal	RAB	HU	WB	–	PRX-KA0288GNP	100 µℓ
HDAC5	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0600AF	50 µg
HDAC9 (Histone Deacetylase 9)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HDAC9-532	100 µℓ
HDGF (Hepatoma-Derived Growth Factor (high-mobility group protein 1-like))	Monoclonal 26C4a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00572	100 µg
HD (Huntingtin (Huntington Disease))	Monoclonal 2401C1a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00628	100 µg
HDLBP (High Density Lipoprotein Binding Protein (vigilin))	Monoclonal 2404C3a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00587	100 µg
HAND2 (Heart and Neural Crest Derivatives expressed 2)	Monoclonal HAND2C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00651	100 µg
HEL308 (DNA helicase HEL308)	Monoclonal 2406C1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00560	100 µg
Helicobacter pylori	Monoclonal 3F7	MS/IgG1 κ	*Helicobacter pylori*	ELISA	–	LNM-KR-048	0.1 mg
	Monoclonal 84C7	MS/IgG1 κ	*Helicobacter pylori*	ELISA	–	LNM-KR-049	0.1 mg
HEMK1 (HemK Methyltransferase family member 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HEMK1-299	100 µℓ
Hemoglobin	Monoclonal SU-104	MS/IgG1	HU	ELISA	–	NBT-MSU-104	1 mg
	Monoclonal SU-107	MS/IgG1	HU	ELISA	–	NBT-MSU-107	1 mg
	Monoclonal SU-110	MS/IgG1	HU	ELISA	–	NBT-MSU-110	1 mg
	Polyclonal	GT	HU	–	–	NBT-PG-041	5 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PG-043	5 mℓ
	Polyclonal	GT	HU	–	–	NBT-PS-041	10 mℓ
	Polyclonal	SHP	HU	–	–	NBT-PS-043	10 mℓ
	Monoclonal T2007	MS/IgG1	HU	ELISA	–	SIM-2ZHBHB1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 5B6	RAT/IgG2a	MS	ELISA	–	YMS-7575	200 µg
	Monoclonal 7A7	RAT/IgG2a κ	MS	–	HRP	YMS-7971	200 µℓ (200 µg /200 µℓ)
Hexanoyl-Lys(HEL), (N ε hexanoyl-Keyhole limpet hemocyanin)	Monoclonal 5F12	MS/IgG	HU	IHC(p)	–	NNS-MHL-021P-EX	20 µg
Hexestrol	Polyclonal	RAB	–	EIA	–	FKA-604-E	2000 test
HEXIM1 (Hexamethylene bis-acetamide inducible 1)	Monoclonal 2416C2a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00595	100 µg
HEYL (Hairy/enhancer-of-split related with YRPW motif-like)	Monoclonal 3555C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00538	100 µg
HFE2 (Hemochromatosis type 2 (juvenile))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HFE2-596	100 µℓ
HGF (α-chain)	Monoclonal T6912	MS/IgG1	HU	WB/ELISA	–	SIM-2ZCKHH1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal T6942	MS/IgG1	RAT	WB/ELISA	–	SIM-2ZCKRH1	0.5 mℓ (0.25 mg /0.5 mℓ)
HGF (β-chain)	Monoclonal T7156	MS/IgG1	HU	WB/ELISA/IP	–	SIM-2ZCKHH3	0.5 mℓ (0.25 mg /0.5 mℓ)
HGF (reducted α-chain)	Monoclonal K3121	MS/IgG1	HU	WB/ELISA	–	SIM-2ZCKHH2	0.5 mℓ (0.25 mg /0.5 mℓ)
HHEX (Homeobox, Hematopoietically expressed)	Monoclonal HHE5I261	MS/IgG1	HU	WB/ELISA	–	CBX-CBX00224	100 µg
HHV-6	Monoclonal 119	MS	*Herpesvirus*	WB/IF/IC/ELISA/FC/IP	–	BAM-65-200EX	100 µg
HIBADH (3-hydroxyisobutyrate dehydrogenase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HIBADH-271	100 µℓ



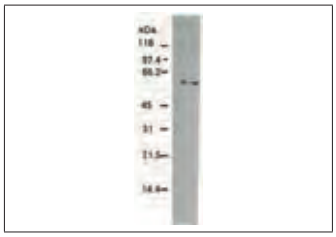
HCV NS4a protein #BAM-65-056-EX
Detection of HCV NS4a protein by immuno-fluorescence antibody staining.



HCV NS5a protein #BAM-65-061-EX
Western blotting of HCV NS5a protein.



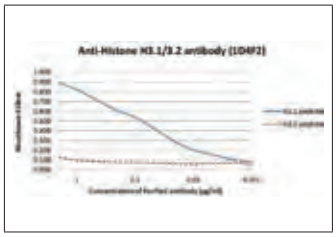
HCV NS5a protein #BAM-65-061-EX
Detection of HCV NS5a protein by immuno-fluorescence antibody staining.



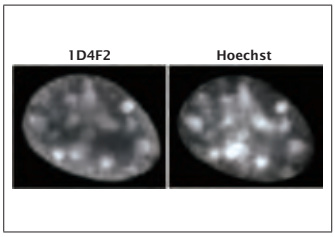
HCV NS5b protein #BAM-65-066-EX
Western blotting of HCV NS5b protein.

HI-

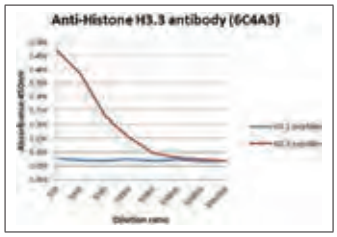
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HIC2	Polyclonal	RAB	HU	WB	–	PRX-KA1020GNP	100 μℓ
HIC2 (KIAA 1020)	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1020AF	50 μg
HIP2 (Huntingtin Interacting Protein 2)	Monoclonal 757C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00408	100 μg
HIRIP3 (HIRA Interacting Protein 3)	Monoclonal 2415C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00555	100 μg
His6 Tag	Polyclonal	RAB	–	WB/ELISA	–	BAM-60-051-EX	100 μℓ
Histone H2B	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP/ChIP	–	BAM-63-126-EX	250 μℓ
Histone H3	Monoclonal MABI0301(CMA301)	MS/IgG2b	HU	ChIP/IB/IC	–	MCA-MABI0001-100-EX	100 μℓ (1 mg/mℓ)
Histone H3 K9Ac	Monoclonal 2G1F9	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB/IC/IHC(f)/ ChIP	–	CAC-CE-037A	200 μℓ (0.5 mg/mℓ)
Histone H3, phospho Ser10	Monoclonal MABI0312(CMA312)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0012-100-EX	100 μℓ (1 mg/mℓ)
Histone H3 S10ph	Monoclonal 6G8B7	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB/IC	–	CAC-CE-034A	100 μℓ (1 mg/mℓ)
Histone H3 T11ph	Monoclonal 6G12C5	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB/IC	–	CAC-CE-035A	100 μℓ (1 mg/mℓ)
Histone H3 T32ph	Monoclonal 6C7G12	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB/IC	–	CAC-CE-036A	100 μℓ (1 mg/mℓ)
Histone H3.1	Monoclonal 1D4F2	MS/IgG2b κ	HU/MS/MKY	WB/IC/ChIP/IP	–	CAC-CE-039B	50 μℓ (1 mg/mℓ)
Histone H3.1/3.2	Monoclonal 6G3C7	RAT/IgG1	HU/MS/RAT/ MKY/HAM	WB	–	CAC-CE-039A	100 μℓ (1 mg/mℓ)
Histone H3.3	Monoclonal 6C4A3	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB	–	CAC-CE-040A	100 μℓ (1 mg/mℓ)
	Monoclonal 4H2D7	RAT/IgG2a λ	HU/MS/MKY	WB/IC/ChIP/IP	–	CAC-CE-040B	50 μℓ (1 mg/mℓ)
Hisx6-tagged tomato SOS3/CBL4	Monoclonal	RAB	Tomato/ Soybean	WB/IP	–	CAC-KYU-TY-P02	50 μℓ
HIV-1 Gag p15	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-011-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-012-EX	250 μℓ
HIV-1 Gag p17	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-008-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-009-EX	250 μℓ
	Polyclonal	Guinea Pig	HIV	WB/ELISA/IP/DB	–	BAM-65-010-EX	50 μℓ
HIV-1 Gag p24	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-004-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-005-EX	250 μℓ
	Polyclonal	Guinea Pig	HIV	WB/ELISA/IP/DB	–	BAM-65-006-EX	50 μℓ
HIV-1 Gag p55	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-013-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-014-EX	250 μℓ
HIV-1 Nef	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-015-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-016-EX	250 μℓ
	Polyclonal	Guinea Pig	HIV	WB/ELISA/IP/DB	–	BAM-65-017-EX	50 μℓ
HIV-1 p24	Polyclonal	RAB	HIV	WB/ELISA/IF/IP	Biotin	BAM-65-021-EX	100 μg
HIV-1 Reverse Transcriptase	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-001-EX	50 μℓ
	Polyclonal	RAB	HIV	WB/ELISA/IP/DB	–	BAM-65-002-EX	250 μℓ
	Polyclonal	Guinea Pig	HIV	WB/ELISA/IP/DB	–	BAM-65-003-EX	50 μℓ
HIVEP1 (Human Immunodeficiency Virus type I Enhancer binding Protein 1)	Monoclonal 2417C2 a	MS/IgG1	HU	WB/DB	–	CBX-CBX00576	100 μg
HIVEP2 (Human Immunodeficiency Virus type I Enhancer binding Protein 2)	Monoclonal 2418C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00671	100 μg
HLA class I-A, B, C	Monoclonal EMR8-5	MS/IgG1	HU	WB/IHC	–	HKD-AB-46	100 μℓ (1 mg/mℓ)



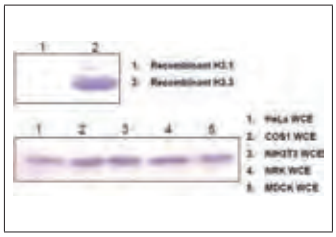
Histone H3.1 #CAC-CE-039B
The composition of Histone H3 variants peptides and the reactivity of Histone H3.1/H3.2 antibody, 1D4F2.



Histone H3.1 #CAC-CE-039B
Immunocytochemical analysis of NIH3T3Cell using Histone H3.1/H3.2 antibody, 1D4F2.



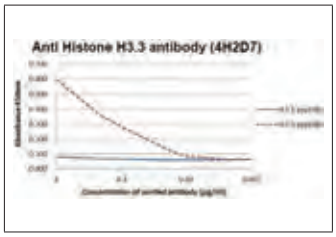
Histone H3.3 #CAC-CE-040A
The composition of Histone H3 variants peptides and the reactivity of Histone H3.3 antibody, 6C4A3.



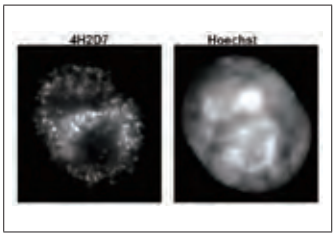
Histone H3.3 #CAC-CE-040A
Western blot analysis of recombinant protein and mammalian cell extracts using Histone H3.3 antibody, 6C4A3.

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

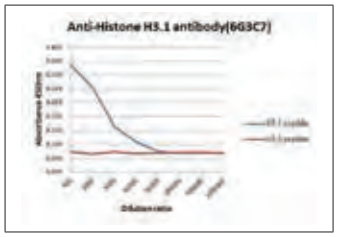
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HLA class I, A, B, C	Monoclonal EMR8-5	MS/IgG1	HU	IHC/WB	Biotin	HKD-AB-46-B	100 µℓ (1 mg/mℓ)
	Monoclonal EMR8-5	MS/IgG1	HU	IHC/WB	FITC	HKD-AB-46-F	100 µℓ (1 mg/mℓ)
	Monoclonal EMR8-5	MS/IgG1	HU	WB/IHC	HRP	HKD-AB-46-H	100 µℓ (1 mg/mℓ)
HLCS (Holocarboxylase Synthetase (biotin-(proprionyl-Coenzyme A-carboxylase (ATP-hydrolysing)) ligase))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-HLCS-242	100 µℓ
Hlxb9	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR077	25 µg
HMBOX1	Monoclonal 195C4a	MS/IgG1	HU	DB/WB	–	CBX-CBX00741	100 µg
HMG2L1 (High-Mobility Group protein 2-like 1)	Monoclonal 2420C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00588	100 µg
HMG20A (High-Mobility Group 20A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HMG20A-313	100 µℓ
	Monoclonal 726C5a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00747	100 µg
	Polyclonal	RAB	HU	WB	–	PRX-KB5656GNP	100 µℓ
HMGA2 (High Mobility Group AT-hook 2)	Monoclonal 2421C6a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00642	100 µg
HMGB1 (High-Mobility Group box 1)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-HMGB1-491	100 µℓ
HMGb3	Polyclonal	RAB/IgG	MS	WB	–	KAL-KR088	25 µg
HMGCR (3-hydroxy-3-methylglutaryl-Coenzyme A reductase)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-HMGCR-161	100 µℓ
HNF4 α7 (Isoforms 7-9)	Monoclonal H6939	MS/IgG1	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H6939-00	0.1 mℓ (1 mg/mℓ)
HNF4 α (Isoforms 1-6)	Monoclonal K9218	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP/Gel Shift	–	PPX-PP-K9218-00	0.1 mℓ (1 mg/mℓ)
HNF4 α (Isoforms1,2,4,5,7and 8)	Monoclonal H1415	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-H1415-00	0.1 mℓ (1 mg/mℓ)
HNF4 γ	Monoclonal B6502A	MS/IgG1	HU/RAT	WB/IHC/ELISA/IP	–	PPX-PP-B6502A-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal N3224	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA	–	PPX-PP-N3224-00	0.1 mℓ (1 mg/mℓ)
hnRNP-U / SAF-A	Polyclonal	RAB	HU/MS/RAT	WB/IF/IP	–	BAM-70-415-EX	100 µℓ
HNRPLL	Monoclonal 2432C3a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00746	100 µg
HOXA3 (Homeobox A3)	Monoclonal 740C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00787	100 µg
HOXA5 (Homeobox A5)	Monoclonal 129C1a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00569	100 µg
HOXA6 (Homeobox A6)	Monoclonal 130C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00712	100 µg
HOXA7 (Homeobox A7)	Monoclonal 743C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00339	100 µg
HOXA9 (Homeobox A9)	Monoclonal HOX5I043	MS/IgG1	HU	WB/ELISA	–	CBX-CBX00187	100 µg
HOXA11 (Homeobox A11)	Monoclonal 739C1a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00429	100 µg
HOXB5 (Homeobox B5)	Monoclonal 133C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00596	100 µg
HOXB7 (Homeobox B7)	Monoclonal 747C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00340	100 µg
HOXC9 (Homeobox C9)	Monoclonal HOXCA6E6	MS/IgG2b	HU	WB/IC/DB	–	CBX-CBX00297	100 µg



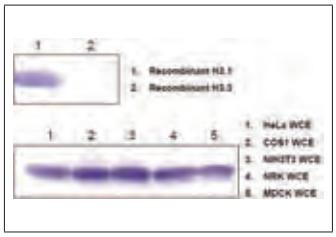
Histone H3.3 #CAC-CE-040B
The composition of Histone H3 variants peptides and the reactivity of Histone H3.3 antibody (4H2D7).



Histone H3.3 #CAC-CE-040B
Immunocytochemical analysis of HeLa Cell using Histone H3.3 antibody (4H2D7).

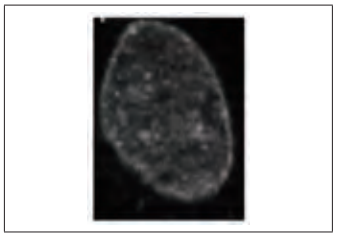


Histone H3.1/3.2 #CAC-CE-039A
The composition of Histone H3 variants peptides and the reactivity using Histone H3.1/H3.2 antibody, 6G3C7.

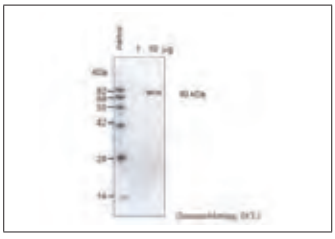


Histone H3.1/3.2 #CAC-CE-039A
Western blot analysis of recombinant protein and mammalian cell extracts using Histone H3.1/H3.2 antibody, 6G3C7.

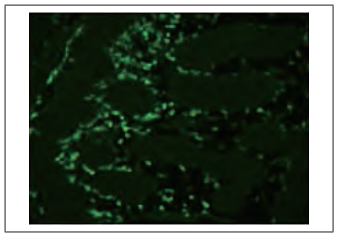
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
HOXC11 (Homeobox C11)	Monoclonal HOX5J232	MS/IgG1	HU	WB/DB	–	CBX-CBX00202	100 μg
HP1 α /CBX5	Polyclonal	RAB/IgG	HU	WB/IF	–	BAM-70-221-EX	50 μg
HP1 β /CBX1	Polyclonal	RAB/IgG	HU/HAM	WB/ChIP	–	BAM-70-223-EX	50 μg
HP1 γ /CBX3	Polyclonal	RAB/IgG	HU/HAM	WB/IP/ChIP	–	BAM-70-225-EX	50 μg
HPS5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1017	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1017PA	100 μg
HP Urease A	Monoclonal K2127B	MS/IgG1	*Helicobacter pylori*	WB/IHC(f)/ELISA	–	SIM-2ZHPUA	0.5 mℓ (0.25 mg /0.5 mℓ)
HP Urease B	Monoclonal K2031B	MS/IgG1	*Helicobacter pylori*	WB/IHC(f)/ELISA	–	SIM-2ZHPUB	0.5 mℓ (0.25 mg /0.5 mℓ)
HRB2 (KRR1, small subunit (SSU) Processome Component, homolog (yeast))	Monoclonal 2437C1a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00578	100 μg
HRG (Histidine-rich Glycoprotein)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-HRG-154	100 μℓ
HR (Hairless Homolog)	Monoclonal 366C2b	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00626	100 μg
HS3ST1 (Heparan Sulfate (Glucosamine) 3-O-sulfotransferase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HS3ST1-255	100 μℓ
HS3ST3A1 (Heparan Sulfate (Glucosamine) 3-O-sulfotransferase 3A1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HS3ST3A1-296	100 μℓ
HSC70	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080016	100 μℓ
Hsd3b	Polyclonal	RAB	MS	WB/IHC/ELISA/ IC/IF	–	KAL-KO607	50 μg
HSD17B8 (Hydroxysteroid (17-β) Dehydrogenase 8)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-HSD17B8-524	100 μℓ
HSF2 (Heat Shock Transcription Factor 2)	Monoclonal 721D1	MS/IgG1	HU	WB/DB	–	CBX-CBX00346	100 μg
HSP90 α	Monoclonal K41116A	MS/IgA2	HU	ELISA/WB	–	SIM-2ZHSP116A	0.4 mℓ (0.4 mg /0.4 mℓ)
	Monoclonal K3720A	MS/IgG1	HU	WB/ELISA	–	SIM-2ZHSP20	0.4 mℓ (0.4 mg /0.4 mℓ)
	Monoclonal K41233	MS/IgG1	HU	WB/ELISA/IHC	–	SIM-2ZHSP3A	0.4 mℓ (0.4 mg /0.4 mℓ)
	Monoclonal K41007	MS/IgG1	HU	WB/ELISA	–	SIM-2ZHSP7A	0.4 mℓ (0.4 mg /0.4 mℓ)
	Monoclonal K41009	MS/IgG2a	HU	ELISA	–	SIM-2ZHSP9A	0.4 mℓ (0.4 mg /0.4 mℓ)
HSP90 β	Monoclonal K3701	MS/IgM	HU	WB/ELISA/IHC	–	SIM-2ZHSP1B	0.4 mℓ (0.4 mg /0.4 mℓ)
	Monoclonal K3725B	MS/IgM	HU	WB/ELISA/IF	–	SIM-2ZHSP5B	0.4 mℓ (0.4 mg /0.4 mℓ)
HSPA1L (Heat Shock 70kDa Protein 1-like)	Monoclonal HSPA1LB4D2	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00295	100 μg
HSPA4 (KIAA4025)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK40250310	0.1 mg
HSpH1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0201	100 μℓ
HTATIP2 (HIV-1 Tat Interactive Protein 2)	Monoclonal 422D2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00789	100 μg
HTATIP (HIV-1 Tat interacting protein)	Monoclonal 2455C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00533	100 μg
	Monoclonal 3557C4a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00567	100 μg
HTR2B (5-Hydroxytryptamine (Serotonin) Receptor 2B)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-HTR2B-566	100 μℓ
Human Helix-loop-helix Zipper Protein (MAX)	Monoclonal 73C5a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00526	100 μg



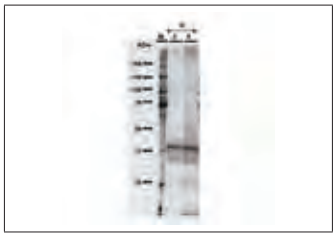
HP1 γ /CBX3 #BAM-70-225-EX
Immunofluorescent staining of HP1 γ in Baby Hamster Kidney cells with this antibody.



HSC70 #COP-COP-080016
Antibody to heat shock cognate protein (HSC70, 651 aa; gene, At5g02500)
Antiserum dilution: 1/500
Protein sample: radish (Raphanus sativa L.Tokinashi-daikon), crude membrane fraction.



Hsd3b #KAL-KO607
Immunofluorescence
Sample: Mouse testis



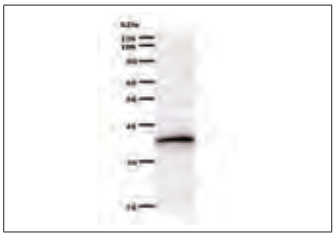
Hsd3b #KAL-KO607
Western blot: Fetal tissue (testis): 1 μg
C: Anti Mouse 3 β -Hsd Polyclonal antibody.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Humanin	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR050	25 μg
	Polyclonal	RAB	HU	IHC/EIA	–	YII-Y440-EX	50 μℓ
Humanin (S14G)	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR061	25 μg
Hyaluronidase	Monoclonal	RAB	HU	WB/IHC	–	CAC-MKM-P01	50 μℓ
Hydroxy-2-nonenal-Protein	Monoclonal 2C12	MS/IgG	–	WB/IHC	–	CAC-N-53000701	30 μg

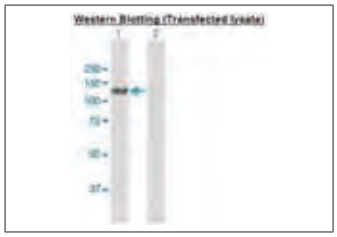
I

Ia Antigen	Monoclonal ISCR3	MS/IgG2b	–	–	–	YMS-7576	200 μg
IARS (Isoleucyl-tRNA Synthetase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IARS-495	100 μℓ
ICC (Cajal)	Monoclonal	RAT/IgG	MS	IHC	–	COP-COP-080052	100 μℓ
ID1 (Inhibitor of DNA Binding 1)	Monoclonal 2456C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00632	100 μg
ID2 (Inhibitor of DNA Binding 2)	Monoclonal 2457C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00525	100 μg
IDH1 (Isocitrate Dehydrogenase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IDH1-381	100 μℓ
IDS (Iduronate 2-Sulfatase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-IDS-247	100 μℓ
IER2 (Immediate Early Response Gene 2 Protein)	Polyclonal	RAB	HU	WB	–	PRX-KB9616GNP	100 μℓ
IFI35 (Interferon-induced Protein 35)	Monoclonal 2461C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00703	100 μg
IFN α	Monoclonal 3001	MS/IgG1	HU	ELISA	–	SIM-2ZCKIA1	0.5 mℓ (0.25 mg /0.5 mℓ)
IFN β	Monoclonal 4008	MS/IgG1	HU	ELISA	–	SIM-2ZCKIB1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal 4020	MS/IgG1	HU	ELISA	–	SIM-2ZCKIB2	0.5 mℓ (0.25 mg /0.5 mℓ)
IFNE1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-IFNE1-095	100 μℓ
IFNG	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IFNG-595	100 μℓ
IFN γ	Monoclonal 3710	MS/IgG1	HU	ELISA	–	SIM-2ZCKIG1	0.5 mℓ (0.25 mg/0.5 mℓ)
	Monoclonal 6008	MS/IgG1	HU	ELISA	–	SIM-2ZCKIG2	0.5 mℓ (0.25 mg/0.5 mℓ)
IFT80 (Intraflagellar Transport 80 Homolog)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1374AF	50 μg
IFT140	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0590AF	50 μg
IgA	Monoclonal IgA-13	MS/IgG2b	HU	ELISA	–	SIM-2ZHIGAW	0.5 mℓ (0.25 mg/0.5 mℓ)
	Monoclonal A2A13	MS/IgG1	HU	ELISA	–	YMS-7584	200 μg
IgA1	Monoclonal 7303B	MS/IgG1	HU	ELISA	–	SIM-2ZHIGA1	0.5 mℓ (0.25 mg/0.5 mℓ)
IgA2	Monoclonal 7311A	MS/IgG1	HU	ELISA	–	SIM-2ZHIGA2	0.5 mℓ (0.25 mg/0.5 mℓ)
IgA Secretory	Monoclonal 5831	MS/IgG1	HU	ELISA	–	SIM-2ZHIGSA	0.5 mℓ (0.25 mg/0.5 mℓ)
IgD	Monoclonal IgD-10	MS/IgG1	HU	ELISA	–	SIM-2ZHIGD1	0.5 mℓ (0.25 mg/0.5 mℓ)
IgE	Monoclonal 23F4	MS/IgG2a κ	HU	ELISA	–	LNM-KR-019	0.1 mg
	Monoclonal 29D10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-020	0.1 mg
	Monoclonal IgE-4	MS/IgG1	HU	ELISA	–	SIM-2ZHIGE1	0.5 mℓ (0.25 mg/0.5 mℓ)

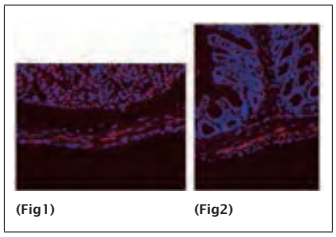
HTATIP2 (HIV-1 Tat interactive protein 2) #CBX-CBX00789
Western blot analysis of immunized recombinant protein, using anti-HTATIP2 monoclonal antibody.



HTATIP (HIV-1 Tat interacting protein, 60kDa, transcript variant 1, mRNA) #CBX-CBX00533
Western blot analysis of immunized recombinant protein, using anti-HTATIP monoclonal antibody.



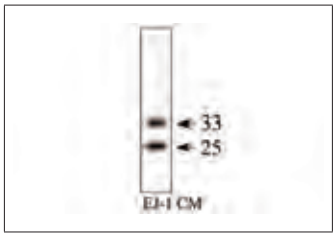
IARS (Isoleucyl-tRNA Synthetase) #CAC-CNP-IARS-495
Western blot analysis of IARS expression in transfected 293T cell line by IARS rabbit polyclonal antibody.



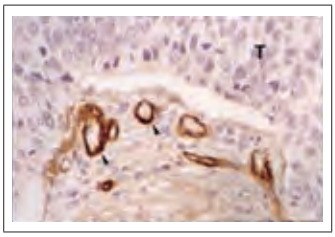
ICC (Cajal) #COP-COP-080052
IHC profile with Anti ICC monoclonal of Mouse stomach (Fig1) and Mouse Colon (Fig2) fixed with 4% paraformaldehyde (2h).

IG-

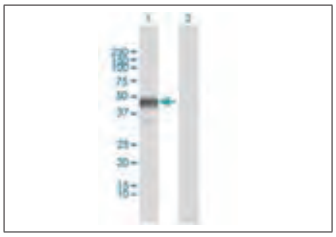
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
IgE	Monoclonal 6H413	MS/IgG1	HU	ELISA	–	YMS-7585	200 μg
	Monoclonal 10H3-3	MS/IgG1	HU	ELISA	HRP	YMS-7586	50 μg
	Monoclonal AREB10	MS/IgG2b	RAT	ELISA	–	YMS-7592	200 μg
	Monoclonal AREB7	MS/IgG1	RAT	ELISA	HRP	YMS-7610	50 μg
	Monoclonal HMK-12	RAT/IgG2a κ	MS	ELISA	Biotin	YMS-7617	100 μg
	Monoclonal 6HD5	RAT/IgG2a κ	MS	ELISA	–	YMS-7627	200 μg
IGF-1 (Insulin-Like Growth Factor 1)	Monoclonal 27E10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-021	0.1 mg (1 mg/mℓ)
	Monoclonal 16G4	MS/IgG1 κ	HU	ELISA	–	LNM-KR-022	0.1 mg (1 mg/mℓ)
IGFBP-rP1	Monoclonal 88	MS/IgG	HU	WB/ELISA/IHC	–	CAC-YCU-MK-TF01	100 μg
IgG	Monoclonal IG-001	MS/IgG1 κ	HU	ELISA	–	NBT-MIG-001	1 mg
	Monoclonal IG-002	MS/IgG1 κ	HU	ELISA	–	NBT-MIG-002	1 mg
	Monoclonal IgG-B-22	MS/IgG2a	HU	ELISA	–	SIM-2ZHIGG1	0.5 mℓ (0.25 mg/0.5 mℓ)
	Monoclonal IgG-19	MS/IgG1	HU	ELISA	–	SIM-2ZHIGG2	0.5 mℓ (0.25 mg/0.5 mℓ)
	Monoclonal 1B9	MS/IgM	HU	ELISA	–	YMS-7558	0.5 mℓ
	Monoclonal 1F913	MS/IgG2a	HU	ELISA	–	YMS-7587	200 μg
	Monoclonal 1F913	MS/IgG2a	HU	ELISA	HRP	YMS-7637	50 μg
IgG3	Monoclonal 5H9-2a	MS/IgG2b	HU	ELISA	HRP	YMS-7635	50 μg
	Monoclonal 5H92a	MS/IgG2b	HU	ELISA	–	YMS-7645	100 μg
IgG4	Monoclonal 5C3	MS/IgG1	HU	ELISA	HRP	YMS-7634	50 μg
	Monoclonal 5C3	MS/IgG1	HU	ELISA	–	YMS-7644	100 μg
IGHMBP2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0138GNPAF	50 μg
IgM	Monoclonal IM-001	MS/IgG1 κ	HU	–	–	NBT-MIM-001	1 mg
	Monoclonal IM-002	MS/IgG1 κ	HU	–	–	NBT-MIM-002	1 mg
	Monoclonal IgM-49	MS/IgG1	HU	ELISA	–	SIM-2ZHIGM1	0.5 mℓ (0.25 mg/0.5 mℓ)
	Monoclonal 2C12-3	MS/IgG2b	HU	ELISA	–	YMS-7588	200 μg
	Monoclonal 2C123	MS/IgG2b	HU	ELISA	HRP	YMS-7638	50 μg
IGSF4B (Cell Adhesion Molecule 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-CADM3-136	100 μℓ
IGSF8	Polyclonal	RAB	MS	WB/IF	–	BAM-73-038-EX	100 μℓ
IHPK1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0263	100 μℓ
IKZF4 (IKAROS Family Zinc Finger 4)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-IKZF4-319	100 μℓ
IL-1 α	Polyclonal	RAB	RAT	WB/ELISA	–	YII-YC010-EX	50 μℓ
	Polyclonal	GT	RAT	WB/ELISA	–	YII-YC011-EX	50 μℓ
IL-1 β	Polyclonal	RAB	RAT	WB/ELISA	–	YII-YC020-EX	50 μℓ
	Polyclonal	GT	RAT	WB/ELISA	–	YII-YC021-EX	50 μℓ



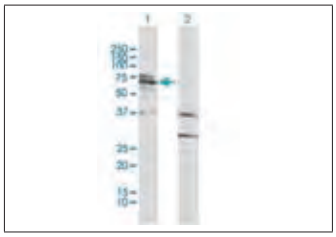
IGFBP-rP1 #CAC-YCU-MK-TF01
Western Blot Analysis for extracted cell culture supernatant of Human Bladder carcinoma Cell Line EJ-1
25kDa : Cleaved form of IGFBP-rP1
33kDa : non- Cleaved form of IGFBP-rP1.



IGFBP-rP1 #CAC-YCU-MK-TF01
Result of Immunohistochemistry for tumor tissue of human Esophagus Cancer (paraffin embedded section).

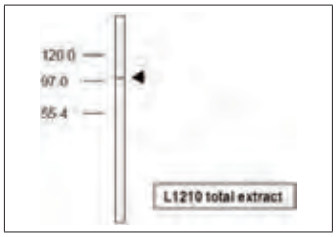


IGSF4B (Cell Adhesion Molecule 3)
#CAC-CNP-CADM3-136
Western blot analysis of CADM3 expression in transfected 293T cell line by CADM3 rabbit polyclonal antibody. Lane 1: CADM3 transfected lysate (43.30kDa). Lane 2: Non-transfected lysate.

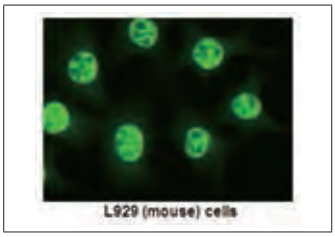


IKZF4 (IKAROS Family Zinc Finger 4)
#CAC-CNP-IKZF4-319
Western blot analysis of IKZF4 transfected 293T cell line by IKZF4 rabbit polyclonal antibody.
Lane 1: IKZF4 transfected lysate (59.70kDa).
Lane 2: Non-transfected lysate.

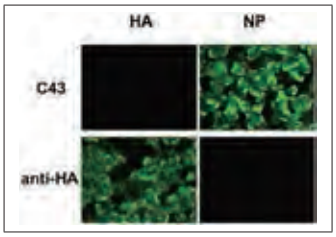
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
IL-1 β	Polyclonal	MS/IgA1	RAT	WB/ELISA	–	YII-YC022-EX	50 µℓ
IL-2	Monoclonal 6512	MS/IgG1	HU	ELISA	–	SIM-2ZCKIL2	0.5 mℓ (0.25 mg/0.5 mℓ)
IL-10RB (IL10 Receptor β)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-IL10RB-151	100 µℓ
IL-13Ra D1 Domain	Monoclonal SS4B	RAT/IgG2a κ	HU	FC	–	CAC-SU-IZ-M03	100 µℓ (0.47 mg/mℓ)
	Monoclonal SS4H	RAT/IgG2b κ	HU	FC	–	CAC-SU-IZ-M04	100 µℓ (0.59 mg/mℓ)
IL-13 Receptor α1	Monoclonal SS12B	RAT	HU	IP/FC	–	CAC-SU-IZ-M05	100 µℓ (1.1 mg/mℓ)
IL-19	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IL19-046	100 µℓ
IL-22	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IL22-130	100 µℓ
IL-32	Polyclonal	RAB	HU	WB/FC	–	CAC-SU-IZ-P02	100 µℓ
IL-F3 (Interleukin Enhancer-Binding Factor 3)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0130GNPAF	50 µg
Immunoglobulin G1	Monoclonal 14G11	RAT/IgG	MS	–	–	YMS-7965	0.5 mℓ (0.5 mg /0.5 mℓ)
	Monoclonal 14G11	RAT/IgG	MS	–	HRP	YMS-7966	200 µℓ (200 µg /200 µℓ)
Immunoglobulin G2a	Monoclonal 7D5	RAT/IgG2a	MS	–	–	YMS-7967	0.5 mℓ (0.5 mg /0.5 mℓ)
	Monoclonal 7D5	RAT/IgG2a	MS	–	HRP	YMS-7968	200 µℓ (200 µg /200 µℓ)
Immunoglobulin κ Chain	Monoclonal 2B6	RAT/IgG1	MS	–	–	YMS-7961	0.5 mℓ (0.5 mg /0.5 mℓ)
	Monoclonal 2B6	RAT/IgG1	MS	–	HRP	YMS-7962	200 µℓ (200 µg /200 µℓ)
Immunoglobulin λ Light Chain	Monoclonal 7G12	RAT/IgG2a	MS	–	–	YMS-7963	0.5 mℓ (0.5 mg /0.5 mℓ)
	Monoclonal 7G12	RAT/IgG2a	MS	–	HRP	YMS-7964	200 µℓ (200 µg /200 µℓ)
Importin 4 (IPO4)	Monoclonal 3C2	RAT/IgG2a	HU/MS/RAT/ MKY/HAM	WB/IC	–	CAC-CE-005A	100 µℓ (1 mg/mℓ)
Importin α3 / Qip1KPNA4	Monoclonal 3D10	RAT/IgG2a κ	–	WB	–	BAM-70-325-EX	200 µg
Indoleamine 2,3 Dioxygenase	Polyclonal	RAB/IgG	MS	WB	–	KAL-KR101	150 µg
Inflammatory Inducing Lactoferrin-Peptide	Monoclonal K2-1B12	MS/IgG2b	HU/BOV	WB	–	CAC-SBT-M02	50 µg (0.5 mg/mℓ)
Influenza A Virus NP	Monoclonal C43	MS/IgG2a	Influenza Virus	WB/ELISA	–	BAM-65-110-EX	100 µg
Influenza A Virus Nucleoprotein	Monoclonal C43	MS Mono	–	WB/IC/IHC	HRP	BAM-65-111EX	50 µg
Inhibin	Polyclonal	RAB/IgG	HU/MS/RAT/ POR/BOV	WB/IHC/ELISA/ Neu/RIA	–	CAC-KZ-HS-P07	50 µℓ
Inhibin (α-Subunit)	Monoclonal	MS	HU/MS/RAT/ POR/BOV	WB/IHC/ELISA	–	CAC-KZ-HS-M01	100 µℓ
	Polyclonal	GT/IgG	HU/MS/RAT/ POR/BOV	WB/IHC/ELISA	–	CAC-KZ-HS-P05	50 µℓ
Inhibin (β A-Subunit)	Monoclonal	MS Mono	HU/MS/RAT/ POR/BOV	WB/IHC/ELISA	–	CAC-KZ-HS-M02	100 µℓ
	Polyclonal	RAB/IgG	HU/MS/RAT/ POR/BOV	WB/IHC/ELISA/ Neu/RIA	–	CAC-KZ-HS-P06	50 µℓ
INI1/BAF47/SNF5/SMARCB1	Monoclonal 2C2	MS/IgG2a	HU/MS	WB/IC/IHC(f)	–	CAC-CE-022A	100 µℓ (1 mg/mℓ)
Initiate Factor 3	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR070	25 µg
Initiation Factor 5	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR079	25 µg
Insulin	Monoclonal 16E9	MS/IgG1 κ	HU	ELISA	–	LNM-KR-023	0.1 mg (1 mg/mℓ)
	Monoclonal 6F7	MS/IgG1 κ	HU	ELISA	–	LNM-KR-024	0.1 mg (1 mg/mℓ)



Importin 4 (IPO4) #CAC-CE-005A
Western blot - Importin4 antibody (3C2) L1210 (mouse) cell total extracts.



Importin 4 (IPO4) #CAC-CE-005A
Importin4 antibody (3C2) L929 (mouse) cells.



Influenza A Virus NP #BAM-65-110-EX
IF assay of s93T cells expressing HA or NP of pandemic (H1N1) 2009 influenza A virus.

Influenza A Virus Nucleoprotein #BAM-65-111EX
Western blotting of MDCK cells infected with H1N1 (A/PuertoRico/8/34), H5N1 (A/duck/HK/342/78), or H5N2 (A/crow/Kyoto/53/04) using C43 antibody.

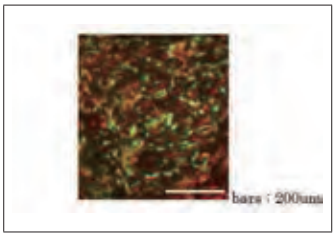
IN-

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Insulin	Monoclonal YO-201	MS/IgG1	HU	ELISA	–	NBT-MYO-201	5 mg
	Monoclonal YO-201	MS/IgG1	HU	ELISA	–	NBT-MYO-201	1 mg
	Monoclonal YO-202	MS/IgG2a	HU	ELISA	–	NBT-MYO-202	1 mg
	Monoclonal YO-203	MS/IgG2a	HU	ELISA	–	NBT-MYO-203	1 mg
	Monoclonal YO-204	MS/IgG2a	HU	ELISA	–	NBT-MYO-204	1 mg
	Monoclonal YO-205	MS/IgG2b	HU	ELISA	–	NBT-MYO-205	1 mg
	Polyclonal	Guinea Pig	HU/POR/RAB	IHC/RIA	–	YII-Y370-EX	50 µl
IPMK	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IPMK-210	100 µl
IPO13	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0724	100 µl
iPS cell (Tic)	Monoclonal R-10G	MS/IgG1	HU	WB/IF/IC	–	CAC-RIT-M001	100 µg
IRF1 (Interferon Regulatory Factor 1)	Monoclonal 762C1a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00652	100 µg
IRF3 (Interferon Regulatory Factor 3)	Monoclonal IRF35I218	MS/IgG1	HU	WB/IC/IP/DB	–	CBX-CBX00167	100 µg
	Polyclonal	RAB	HU	WB	–	PRX-KB5164GNP	100 µl
IRF6 (Interferon Regulatory Factor 6)	Polyclonal	RAB	HU	WB	–	PRX-KB3511GNP	100 µl
IRX3 (Iroquois Homeobox Protein 3)	Monoclonal IRX33B4C1	MS/IgG1	HU	WB/DB	–	CBX-CBX00277	100 µg
IRX5 (Iroquois Homeobox Protein 5)	Monoclonal IRX5C10G5	MS/IgG1	HU	WB/DB	–	CBX-CBX00300	100 µg
ISL2 (ISL LIM Homeobox 2)	Monoclonal 203C5a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00692	100 µg
ISLR2 (Immunoglobulin Superfamily Containing Leucine-rich Repeat 2)	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK14650310	0.1 mg
Isocitrate Lyase	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080036	100 µl
ITGB1BP3 (Integrin β1 Binding Protein 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ITGB1BP3-089	100 µl
ITIH1 (Inter-α (globulin) Inhibitor H1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ITIH1-179	100 µl
ITIH4	Polyclonal	RAT	HU/RAT	IHC/FC/ELISA	–	CAC-ICA-TG2-RTP1	50 µl
	Polyclonal	RAT	HU/RAT	IHC/FC/ELISA	–	CAC-ICA-TG2-RTP2	50 µl
IVD (Isovaleryl Coenzyme A Dehydrogenase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-IVD-029	100 µl
IVNS1ABP (Influenza virus NS1A Binding Protein)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK08500910	50 µg

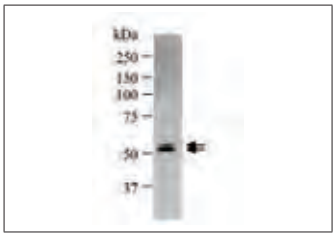
J

JARID1A (Jumonji/ARID Domain-Containing Protein 1A)	Polyclonal	RAB	HU	WB	–	PRX-KB0016GNP	100 µl
JARID1B (Jumonji, AT Rich Interactive Domain 1B (RBP2-like))	Monoclonal JARIA3D4	MS/IgG1	HU	WB/DB	–	CBX-CBX00335	100 µg
JMJD1A (Jumonji Domain Containing 1A)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0742AF	50 µg
JMJD1B (Jumonji Domain Containing 1B)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1082AF	50 µg
JMJD1C (Jumonji Domain Containing 1C)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1380AF	50 µg
JMJD2A (Jumonji Domain Containing 2A)	Monoclonal 3559D5a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00557	100 µg
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0677	100 µl
JMJD2B (Jumonji Domain Containing 2B)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0876AF	50 µg
JUNB (Jun B Proto-oncogene)	Monoclonal 204C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00517	100 µg

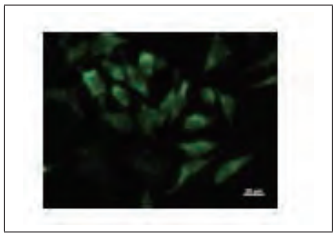
IPMK #CAC-CNP-IPMK-210
Western blot analysis of IPMK expression in transfected 293T cell line by IPMK rabbit polyclonal antibody. Lane 1: IPMK transfected lysate (48.20kDa). Lane 2: Non-transfected lysate.



iPS cell (Tic) #CAC-RIT-M001
Localization of the R-10G and TRA-1-81 epitopes on cultured Tic cells visualized on laser confocal microscopy.



IRF3 (Interferon Regulatory Factor 3)
Detection of human IRF3 by Western blot. Samples: Whole cell lysate (25 µg) from HT1080 cells. [Lot No. IRF35I218-2] Predicted molecular weight: 47 kDa.

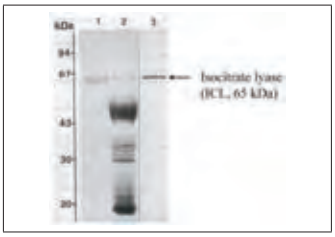


IRF3 (Interferon Regulatory Factor 3) #CBX-CBX00167
HeLa cells were fixed in 2% paraformaldehyde/PBS and then permeabilized in 90% methanol. Cells were stained with anti-IRF3 mAb (shaded) or isotype control (unshaded) followed by Alexa Fluor(R) 488-conjugated goat anti-mouse IgG. [Lot No. IRF35I218-2].

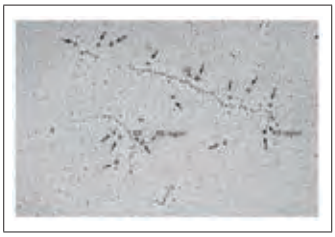
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
JUN (Transcription factor AP-1)	Polyclonal	RAB	HU	WB	–	PRX-KB5556GNP	100 µℓ

K

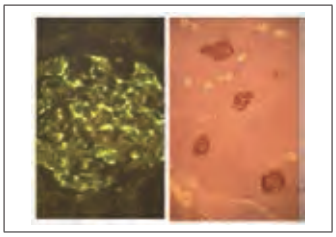
KANK2 (Ankyrin Repeat Domain-containing Protein 25)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1518	100 µℓ
κ Chain	Monoclonal 2G5-14	MS/IgG1	HU	ELISA	–	YMS-7589	200 µg
	Monoclonal 2G5-14	MS/IgG1	HU	ELISA	HRP	YMS-7639	50 µg
κ Light Chain	Monoclonal M21	MS/IgG1	RAT	ELISA	–	YMS-7616	200 µg
KARS (Lysyl-tRNA Synthetase)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0070	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0070PA	100 µg
Karyopherin α4 (Importin α 3) (KPNA4)	Monoclonal 2500D3a	MS/IgG2a	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00485	100 µg
Karyopherin (Importin) β 1 (KPNB1)	Monoclonal 2501C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00406	100 µg
KATNA1 (Katanin p60 (ATPase-containing) subunit A 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-KATNA1-158	100 µℓ
KBTBD2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK14890910	50 µg
KBTBD11	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK07110910	50 µg
KCND2	Polyclonal	RAB/IgG	MS	IHC	–	PRX-MK10440310	0.1 mg
	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1044AF	50 µg
KCNIP4 (Calsenilin-like Protein)	Polyclonal	RAB	HU	WB	–	PRX-KB5158GNP	100 µℓ
KCTD16 (Potassium Channel Tetramerisation Domain Containing 16)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1317	100 µℓ
Keratan Sulfate	Monoclonal 5D4	MS/IgG1	ALL	WB/IHC	–	CAC-PRPG-BC-M01	1 mℓ
	Monoclonal 373E1	RAT/IgM	AV	WB/IHC(p)/ ELISA/FC/IP	–	CAC-PRPG-KS-M01	2 mℓ
Keratin	Polyclonal	RAB	HU/MS/RAT/ BOV/SHP/Mink/ Sea Lion	ELISA/IF	–	LSL-LB-1003	100 µℓ
Keratin 12	Polyclonal	RAB/IgG	HU/MS/RAB	IHC	–	KAL-KR074	25 µg
Keratin 12 (Meesmann Corneal Dystrophy)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-KRT12-120	100 µℓ
KF-1	Polyclonal	RAB/IgG	MS	IC	–	KAL-KR096	25 µg
KHNYN	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0323	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0323PA	100 µg
KIAA0090	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0090	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0090PA	100 µg
KIAA0174	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0174	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0174PA	100 µg
KIAA0196	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0196	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0196PA	100 µg
KIAA0226	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK02260910	50 µg
KIAA0247	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0247	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0247PA	100 µg
KIAA0302 (βSpectrin III)	Polyclonal	RAB/IgG	RAT	IHC	–	PRX-PRX-PBR-1003	0.1 mg
KIAA0338 (Protein 4.1N)	Polyclonal	RAB/IgG	RAT	WB/IHC	–	PRX-PRX-PBR-1002	0.1 mg
KIAA0513	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0513	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0513PA	100 µg
KIAA0556	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0556	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0556PA	100 µg
KIAA0562	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0562AF	50 µg



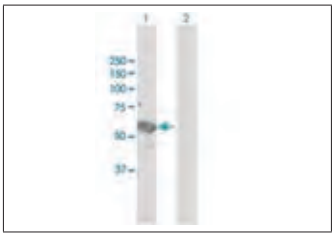
Isocitrate Lyase #COP-COP-080036
SDS-polyacrylamide gel electrophoresis of the purified socitrate lyase (lane 1) and immunoselected protein (lane 2).



Keratan Sulfate #CAC-PRPG-KS-M01
Western blotting of purified human articular cartilage aggrecan resolved prior to and after keratanase II, endo--galactosidase-, or chondroitinase ABC-digestion on SDS-Agarose electrophoresis (left gel) or 3-8% gradient gels.

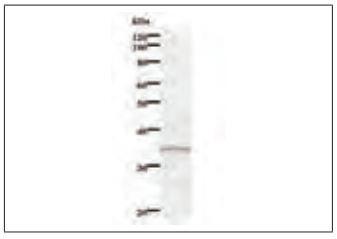


Keratan Sulfate #CAC-PRPG-KS-M01
Left: IHC staining (FITC-conjugated secondary antibodies) with mAb 373E1 of keratan sulfates of the ECM deposited with a glomerule of human kidney (PFA-OCT embedding and cryosectioning). Right: IHC staining of keratan sulfates deposited within Langerhans islands of human adult pancreas (Formalin-paraffin embedding).

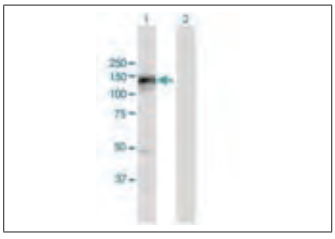


Keratin 12 (Meesmann corneal dystrophy) #CAC-CNP-KRT12-120
Western blot analysis of KRT12 expression in transfected 293T cell line by KRT12 rabbit polyclonal antibody. Lane1: KRT12 transfected lysate (54.34kDa). Lane 2: Non-transfected lysate.

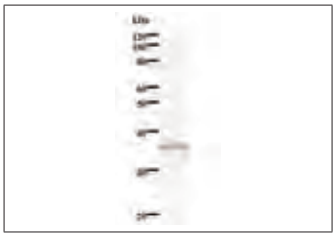
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
KIAA0652	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0652	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0652PA	100 µg
KIAA0863 (ADNP Homeobox 2)	Monoclonal 774C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00790	100 µg
KIAA0907	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0907	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0907PA	100 µg
KIAA0987 (Type II Brain 4.1, Protein 4.1B)	Polyclonal	RAB/IgG	RAT	WB/IHC	–	PRX-PRX-PBR-1001	0.1 mg
KIAA1045 (Heat Shock Cognate 40)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1045	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1045PA	100 µg
KIAA1147	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1147	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1147PA	100 µg
KIAA1191	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1191	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1191PA	100 µg
KIAA1199	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-KIAA1199-208	100 µℓ
KIAA1244 (Heme Binding Protein 2)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1244	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1244PA	100 µg
KIAA1279	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1279	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1279PA	100 µg
KIAA1443	Monoclonal 777C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00791	100 µg
KIAA1549	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1549AF	50 µg
KIAA1715	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1715	100 µℓ
KIAA1949	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1949	100 µℓ
KIDINS220	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK12500310	0.1 mg
KIF1C (Kinesin Family Member 1C)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0706	100 µℓ
KIF2C (Kinesin Family Member 2C)	Monoclonal 2488C3a	MS/IgG1	HU	WB/IC/FC/DB	–	CBX-CBX00446	100 µg
KIF3B (Kinesin Family Member 3B)	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0359AF	50 µg
KIF5C	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK05310505	0.05 mg
KIF17	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK14050310	0.1 mg
KIF21A	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK17080310	0.1 mg
KIF22 (Kinesin Family Member 22)	Monoclonal 2486C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00686	100 µg
KIF26A	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1236AF	50 µg
KIN (Antigenic determinant of recA protein homolog (mouse))	Monoclonal 2490D1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00645	100 µg
Klebsiella pneumoniae	Monoclonal 2K-07	MS/IgG1	*Klebsiella pneumoniae*	WB	–	CAC-SBT-M06	100 µg (1 mg/mℓ)
KLF3 (Kruppel-like Factor 3 (basic))	Monoclonal KLF3B10F1	MS/IgG1	HU	WB/DB	–	CBX-CBX00344	100 µg
KLF11 (Kruppel-like Factor 11)	Monoclonal KLF5J027	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00205	100 µg
KLHL9	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK13540310	0.1 mg
KLHL25	Polyclonal	RAB	HU	WB	–	PRX-KB9611GNP	100 µℓ
KLHL29	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1921AF	50 µg
Klotho	Monoclonal KM2076	RAT Mono/ IgG2a	HU/MS/RAT	WB/IHC	–	KAL-KO603	50 µg
	Monoclonal KM2119	RAT Mono/ IgG2b	HU/MS	WB/IHC	–	KAL-KO604	50 µg
KNTC2 (NDC80 Homolog, Kinetochore Complex Component (*S.cerevisiae*))	Monoclonal 2497C3a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00501	100 µg



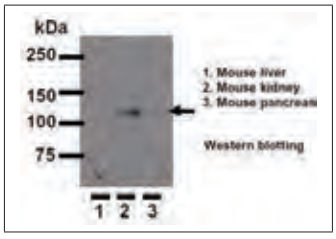
KIAA0863 (ADNP Homeobox 2) #CBX-CBX00790
Western blot analysis of immunized recombinant protein using anti-KIAA0863 monoclonal antibody.



KIAA1199 #CAC-CNP-KIAA1199-208
Western blot analysis of KIAA1199 expression in transfected 293T cell line by KIAA1199 rabbit polyclonal antibody. Lane1: KIAA1199 transfected lysate (110.40kDa). Lane 2: Non-transfected lysate.



KIAA1443 #CBX-CBX00791
Western blot analysis of immunized recombinant protein using anti-KIAA1443 monoclonal antibody.



Klotho #KAL-KO603
Western blotting

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
KOR	Monoclonal 5E3	MS/IgG1 κ	HU	WB/FC/IC/IP	–	KAL-KG139	25 μg (100 μℓ /vial)
KRT34	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-KRT34-126	100 μℓ
KRTHA2	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-KRT32-082	100 μℓ
KRTHA5	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-KRT35-121	100 μℓ

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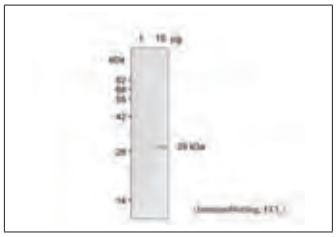
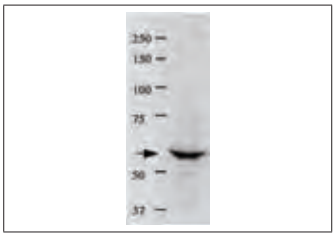
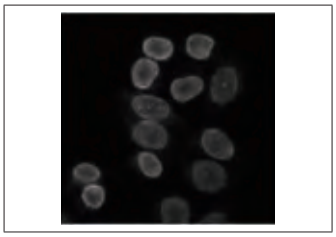
L3MBTL	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0681AF	50 μg
L13, ribosome prot	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080014	100 μℓ
Lactoferrin	Monoclonal 4F-11	MS/IgG2a	HU/BOV	WB	–	CAC-SBT-M01	100 μg (1 mg/mℓ)
	Monoclonal K1223	MS/IgG1	BOV	ELISA	–	SIM-2ZBLF1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal K1232	MS/IgG1	BOV	ELISA	–	SIM-2ZBLF2	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal K1256	MS/IgG1	BOV	ELISA	–	SIM-2ZBLF3	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal K1122	MS/IgG1	HU	ELISA	–	SIM-2ZHLF1	0.5 mℓ (0.25 mg /0.5 mℓ)
λ Chain	Monoclonal A2A5	MS/IgG2a	HU	ELISA	–	YMS-7590	200 μg
	Monoclonal A2A5	MS/IgG2a	HU	ELISA	HRP	YMS-7640	50 μg
Lamin B Receptor	Polyclonal	RAB	HU/MS	WB/IP	–	BAM-70-301-EX	50 μg
Laminin	Polyclonal	RAB	HU/MS/RAT/ BOV/GP	ELISA/IF	–	LSL-LB-1013	100 μℓ
Laminin α3	Monoclonal BM515	MS/IgG1 κ	HU/BOV/RAB	WB/IF/IP	–	CAC-NU-01-LA3	500 μℓ
Laminin α4	Monoclonal 652C4	MS/IgG1	HU	IHC(f)/IP	–	CAC-PRPG-LA4-M01	2 mℓ
Laminin / Nidogen Complexe	Monoclonal 331G3	MS/IgM	HU	IHC(f)/ELISA/IC	–	CAC-PRPG-NDG-M01	2 mℓ
LAMP2 (Lysosomal-associated Membrane Protein 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-LAMP2-173	100 μℓ
LARP5	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0217AF	50 μg
LARP6 (La Ribonucleoprotein Domain Family, Member 6)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-LARP6-188	100 μℓ
Latent TGF-β (LAP Degradate L57)	Polyclonal	RAB/IgG	HU	ELISA	–	CAC-RIK-CP-PT57	100 μℓ
Latent TGF-β (LAP Degradate L59)	Polyclonal	RAB/IgG	HU	ELISA	–	CAC-RIK-CP-PT59	100 μℓ
Latent TGF-β (LAP Degradete K56)	Polyclonal	RAB/IgG	HU	ELISA	–	CAC-RIK-CP-PT56	100 μℓ
LC3	Monoclonal LC3.No.6	MS/IgG2b	HU/MS	WB	–	CAC-CTB-LC3-1-50	50 μg
	Monoclonal LC3-1703	MS/IgG1	HU/MS	IC	–	CAC-CTB-LC3-2-IC	50 μg
LCN2 (Lipocalin 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-LCN2-193	100 μℓ
LCOR	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1795AF	50 μg
LDOC1 (Leucine Zipper, Down-regulated in Cancer 1)	Monoclonal 2507C1a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00449	100 μg
Leprotl1	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG405	25 μg (0.25 mg/mℓ)



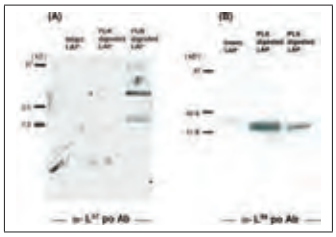
L13, ribosome prot #COP-COP-080014
Antibody to L13 (riobosomal protein L13, 206 aa) Antiserum dilution: 1/1000
Protein sample: A. thaliana, crude membrane fraction.



Lamin B Receptor #BAM-70-301-EX
Identification of LBR in crude extract of HeLa cells by immuno-precipitation followed by Western blotting.

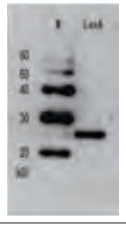


Lamin B Receptor #BAM-70-301-EX
Indirect immuno-fluorescence staining of HeLa cells.

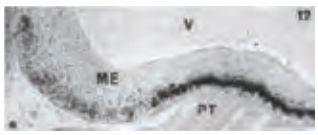


Latent TGF-β (LAP Degradate L57)
#CAC-RIK-CP-PT57
Western Blot. 1/50. Predicted molecular weight: 32 kDa when LAP is cleaved with plasmin.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Leptin	Monoclonal 14C9	MS/IgG1 κ	HU	ELISA	–	LNM-KR-025	0.1 mg (1 mg/mℓ)
	Monoclonal 3D10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-026	0.1 mg (1 mg/mℓ)
	Polyclonal	RAB	RAT	IHC/RIA	–	YII-YC040-EX	50 μℓ
LexA	Polyclonal	RAB	*Escherichia coli*	WB/IP/IHC	–	BAM-61-001-EX	50 μℓ
	Polyclonal	RAB	*Escherichia coli*	WB/IHC/IF/IP/ ChIP	–	BAM-61-002-EX	250 μℓ
LGALS3BP (Lectin, Galactoside-binding, soluble, 3 Binding Protein)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-LGALS3BP-180	100 μℓ
LGR4	Monoclonal 12H6	MS/IgG2a κ	HU	WB/FC	–	KAL-KG137	50 μg (0.25 mg/mℓ)
LHRH	Polyclonal	RAB/IgG	CHK/Quail/ Turkey	IHC/ELISA/Neu/ RIA	–	CAC-KZ-HS-P02	50 μℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/RIA	–	YII-YP010-EX	50 μℓ
LHX2 (LIM Homeobox 2)	Monoclonal LHX2A12G1	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00282	100 μg
LHX4 (LIM Homeobox 4)	Monoclonal LHX4E11E10	MS/IgG1	HU	WB/DB	–	CBX-CBX00319	100 μg
Ligand-gated Ion Channel	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080011	100 μℓ
Lim-1	Polyclonal	RAB	HU/MS/RAT/ CHK	ELISA/IF/WB	–	LSL-LB-7011	100 μℓ
Lim-3	Polyclonal	RAB	HU/MS/RAT/ CHK	ELISA/IF/WB	–	LSL-LB-7033	100 μℓ
LIMA1	Polyclonal	RAB	HU	WB	–	PRX-KB4567GNP	100 μℓ
Lin-28 homolog (*C. elegans*)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-LIN28-342	100 μℓ
Lipopolysaccharide	Monoclonal 4E11	MS/IgG3 κ	Bacteria	WB/ELISA	–	IAT-MAC0002	100 μℓ
	Monoclonal 34G2	MS/IgG3 κ	Bacteria	WB/ELISA	–	IAT-MAC0003	100 μℓ
Litho Cholic Acid	Polyclonal	RAB	–	EIA	–	FKA-514-E	2000 test
Litho Cholic Acid-3-Sulfate	Polyclonal	RAB	–	EIA	–	FKA-518-E	2000 test
Lithocholic Acid (LCA)	Polyclonal	RAB	HU/BOV/EQ	RIA	–	FKA-514	2000 test
Lithocholic Acid Sulfate	Polyclonal	RAB	HU/BOV/EQ	RIA	–	FKA-518	2000 test
LMAN (Lectin, Mannose-binding 2, mRNA)	Monoclonal 264C4a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00644	100 μg
LMO1 (LIM domain only 1 (Rhombotin 1))	Monoclonal 790C2a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00650	100 μg
LMO4	Polyclonal	RAB	HU	WB	–	PRX-KB3107GNP	100 μℓ
LOC399491	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0285AF	50 μg
LPIN2	Monoclonal 2518C6a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00744	100 μg
LRH-1	Monoclonal H2325	MS/IgG3	HU/MS/RAT	WB/ELISA/IP	–	PPX-PP-H2325-00	0.1 mℓ (1mg/mℓ)
	Monoclonal K8801	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-K8801-00	0.1 mℓ (1mg/mℓ)
LRRC8B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0231	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0231PA	100 μg
LRRFIP2 (Leucine Rich Repeat (in FLII) Interacting Protein 2)	Monoclonal 377C3a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00782	100 μg
LRSAM1 (Leucine Rich Repeat and Sterile α Motif containing 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-LRSAM1-139	100 μℓ
LSM5 Homolog	Monoclonal 2525C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00735	100 μg

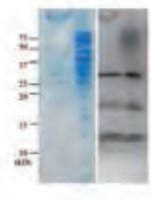


LexA #BAM-61-001-EX
Detection of LexA repressor in the *E. coli* whole cell lysate by this antiserum.



LHRH #CAC-KZ-HS-P02
Chicken Hypothalamus

Ligand-gated ion channel
#COP-COP-080011
Antibody to ligand-gated ion channel (At5g48410, 860 aa)
Antiserum dilution: 1/1000
Protein sample: radish (Raphanus sativus L.), vacuolar membrane.

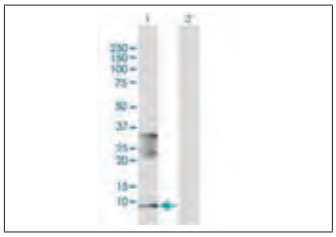


LT toxin #BAM-64-020EX
Detection LT in culture medium and crude extract of ETEC cells by western blotting, using anti-LT antibody.

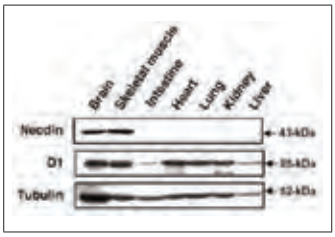
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
LSM8 Homolog, U6 small nuclear RNA associated (*S. cerevisiae*)	Monoclonal 2527C6a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00395	100 µg
LSM10 (U7 small nuclear RNA associated)	Monoclonal 2522C1a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00504	100 µg
LT toxin	Polyclonal	RAB	*Escherichia coli*	WB/IP	–	BAM-64-020EX	100 µℓ
L-type Amino Acid Transporter 1	Monoclonal 4D9	MS/IgM	HU	IHC/WB	–	KAL-KE023	20 µg
	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KE026	25 µg
Luminal CCK-RF	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y380-EX	50 µℓ
LXR α	Monoclonal K8607	MS/IgG2a	HU	WB/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-K8607-00	0.1 mℓ (1 mg/mℓ)
LXR α Ligand Binding Domain	Monoclonal PPZ0412	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-PPZ0412-00	0.1 mℓ (1 mg/mℓ)
LXR β	Monoclonal K8917	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-K8917-00	0.1 mℓ (1 mg/mℓ)
LY6E (Lymphocyte antigen 6 complex, locus E)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-LY6E-594	100 µℓ
LZTS2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1813	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1813PA	100 µg

M

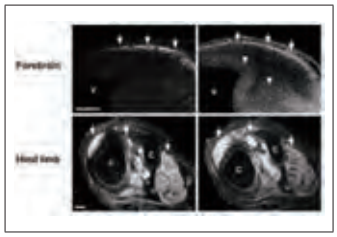
M2-receptor	Monoclonal 1C10	MS/IgG1 κ	HU/RAT	WB/IP/ELISA/IHC	–	CAC-MKM-M07	100 µg
Macrophage, CD68	Monoclonal PM-1K	MS/IgG2b κ	HU/BOV/POR/MKY/GP	IHC	–	KAL-KT117	50 µg (200 µℓ /vial)
Macrophage, Dendritic Cell	Monoclonal RM-4	MS/IgG1	RAT	IHC(p)/IHC(f)	–	KAL-KT014	50 µg
Macrophage, Monocyte	Monoclonal RbM-2	MS/IgG1	RAB	IHC(p)/IHC(f)	–	KAL-KT015	50 µg
Macrophage Scavenger Receptor A	Monoclonal SRA-C6	MS/IgG1	HU	WB/IHC/Neu	–	KAL-KT118	50 µg (200 µℓ /vial)
	Monoclonal SRA-C6	MS/IgG1	HU	WB/IHC/Neu	–	KAL-KT118-S	50 µg (200 µℓ /vial)
Macrophage Surface Antigen	Monoclonal AM-3K	MS/IgG1	HU/BOV/RAB/POR/CAN/GT/MKY/GP/FEL/EQ	IHC	–	KAL-KT013	50 µg
MAD2L1BP	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0110	100 µℓ
MADD	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0358	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0358PA	100 µg
MAGE-D1	Polyclonal	RAB	HU/MS/RAT	WB/IHC	–	BAM-74-112-EX	100 µℓ
MAGE-G1	Polyclonal	RAB	HU/MS/RAT	WB/IP	–	BAM-74-114-EX	100 µℓ
MALT1 (Mucosa Associated Lymphoid Tissue 1)	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR067	25 µg
Mannosidase, α, class 1A, member 1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MAN1A1-243	100 µℓ
Mannosidase, α, class 1A, member 2	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MAN1A2-239	100 µℓ
Mannosidase, α, class 1C, member 1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MAN1C1-226	100 µℓ
Mannosidase, α, class 2B, member 1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MAN2B1-248	100 µℓ
Mannosidase, β A, lysosomal	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MANBA-223	100 µℓ
MAP3K7IP2 (Mitogen-activated protein kinase 7 interacting protein 2)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0733	100 µℓ
MAP7D1 (Microtubule-associated protein 7 domain containing 1)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK11870910	50 µg



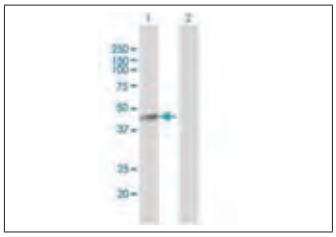
LY6E (Lymphocyte antigen 6 complex, locus E) #CAC-CNP-LY6E-594
Western blot analysis of LY6E expression in transfected 293T cell line by LY6E rabbit polyclonal antibody.



MAGE-D1 #BAM-74-112-EX
Western blot analysis of necdin and MAGE-D1 in mouse embryonal tissues.

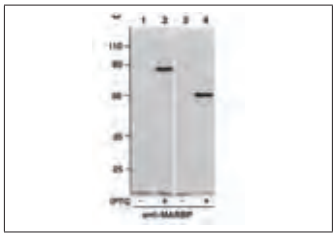


MAGE-D1 #BAM-74-112-EX
Western blot analysis of necdin and MAGE-D1 in mouse embryonal tissues.

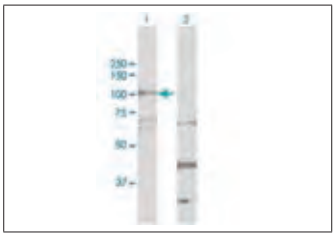


Mannosidase, α, class 1A, member 1 #CAC-CNP-MAN1A1-243
Western blot analysis of MAN1A1 expression in transfected 293T cell line by MAN1A1 rabbit polyclonal antibody. Lane 1: MAN1A1 transfected lysate (40.00kDa). Lane 2: Non-transfected lysate.

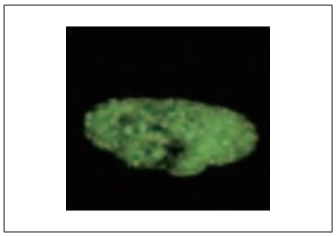
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
MAP7 (Microtubule-associated protein 7)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MAP7-375	100 µℓ
MAPK8IP2 (Mitogen-activated protein kinase 8 interacting protein 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MK8IP2-045	100 µℓ
MAPKAPK2 (Mitogen-activated protein kinase-activated protein kinase 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MKAPK2-066	100 µℓ
MAPKAPK3 (Mitogen-activated protein kinase-activated protein kinase 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MKAPK3-061	100 µℓ
MARBP	Polyclonal	RAB/IgG	Plant	WB	–	COP-COP-080053	100 µℓ
MARCKS	Monoclonal MAR11/2	RAT/IgG2a	RAT	WB	–	KAL-KT042	50 µg
MARS (Methionine-tRNA Synthetase)	Monoclonal MARSD10B4	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00271	100 µg
Mastermind-like 3 (Drosophila) (MAML3)	Monoclonal 797C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00458	100 µg
Matrin 3 (MATR3), transcript variant 1	Monoclonal 2539C3a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00486	100 µg
Matrix Gla Protein	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR083	50 µg
MAX	Polyclonal	RAB	HU	WB	–	PRX-KB3455GNP	100 µℓ
MAX Binding Protein (MNT)	Monoclonal MNTD1C3	MS/IgG1	HU	WB/DB	–	CBX-CBX00306	100 µg
MAX Dimerization Protein 1	Monoclonal MAD1D6H4	MS/IgG2b	HU	WB/DB	–	CBX-CBX00305	100 µg
MAX Gene Associated	Monoclonal MGA6A4H5	MS/IgG1	HU	WB/DB	–	CBX-CBX00269	100 µg
MAZ (MYC-associated zinc finger protein (purine-binding transcription factor))	Monoclonal 75C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00581	100 µg
MBIP, MAP3K12 Binding Inhibitory Protein 1 (MBIP)	Monoclonal 2543C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00708	100 µg
MBTPS1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0091	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0091PA	100 µg
MCM2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0030	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0030PA	100 µg
MCM2 (Minichromosome Maintenance Complex Component 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MCM2-346	100 µℓ
	Monoclonal 2546C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00646	100 µg
MCM6 (Minichromosome Maintenance Complex Component 6)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MCM6-347	100 µℓ
MCM7	Polyclonal	RAB	HU/MS/RAT/HAM	WB/IF/IP	–	BAM-70-120EX	100 µg
MCM9 (Minichromosome Maintenance Complex Component 9)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MCM9-349	100 µℓ
MCM10 (Minichromosome Maintenance Complex Component 10)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MCM10-348	100 µℓ
MDA	Monoclonal 1F83	MS/IgG2a λ	–	IHC	–	NOF-N213530-EX	30 µg
MDC1, NFBD1, KIAA0170	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR087	25 µg
Mdmx	Monoclonal 15	MS/IgG2b κ	HU/MS	WB/ELISA/IP	–	BAM-71-141-EX	50 µg (1 mg/mℓ)
MECR (Mitochondrial trans-2-enoyl-CoA Reductase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MECR-277	100 µℓ
MED24	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0130AF	50 µg
Medaka Vitellogenin	Monoclonal	MS/IgG	Killifish	WB/ELISA	HRP	EBT-MVD33-HRP-EX	0.5 mℓ
MEF	Polyclonal	RAB/IgG	HU	WB	–	KAL-KK053	10 µg
MEF2A	Polyclonal	RAB	HU	WB	–	PRX-KB3473GNP	100 µℓ
MEF2C	Polyclonal	RAB	HU	WB	–	PRX-KB4035GNP	100 µℓ
MEF2D	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKB0022AF	50 µg



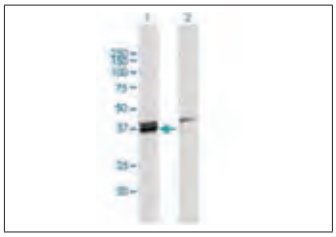
MARBP #COP-COP-080053
Lanes 1 and 2: cell extract of *E. coli* expressing GST-N(MARBP)-His protein (74 kDa).
Lanes 3 and 4: cell extract of *E. coli* expressing GST-C(MARBP)-His protein (50 kDa).



MCM6 (Minichromosome maintenance complex component 6) #CAC-CNP-MCM6-347
Western blot analysis of MCM6 expression in transfected 293T cell line by MCM6 rabbit polyclonal antibody. Lane 1: MCM6 transfected lysate (92.90kDa). Lane 2: Non-transfected lysate.

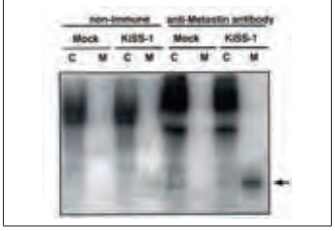


MCM7 #BAM-70-120EX
Immunofluorecence staining and confocal microscopic analysis of MCM7 in G1 phase HeLa cell nucleus by using anti-MCM7 antibody after treatment with protein cross-linking reagent, DSP and chromatin extraction.

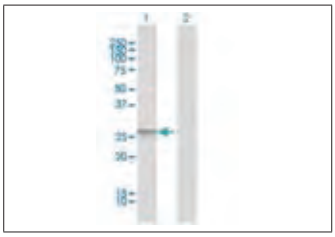


MECR (Mitochondrial trans-2-enoyl-CoA Reductase) #CAC-CNP-MECR-277
Western blot analysis of MECR expression in transfected 293T cell line by MECR rabbit polyclonal antibody. Lane 1: MECR transfected lysate (40.50kDa). Lane 2: Non-transfected lysate.

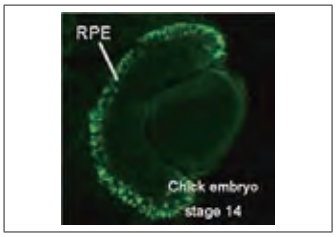
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
MEIS2 (Meis homeobox 2)	Monoclonal 425C2a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00663	100 μg
MESDC2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0081	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0081PA	100 μg
Mestranol (EE2-methyl ether)	Polyclonal	RAB	–	EIA	–	FKA-610	2000 test
Metallothionein	Monoclonal 1A12	MS/IgG1	HU/MS/RAT/ RAB	WB/IB	–	KAL-KA009	100 μg
	Monoclonal 1A12	MS/IgG1	HU/MS/RAT/ RAB	WB/IB	Biotin	KAL-KA009-01	100 μg
METAP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0094	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0094PA	100 μg
Metastin	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-005	100 μl
Met-Enkephalin-Arg^{6}-Gly^{7}-Leu^{8}	Polyclonal	RAB	HU/RAT/BOV/ CAN/MKY/GP/ FEL	IHC/RIA	–	YII-Y140-EX	50 μl
Methylglyoxal	Monoclonal	MS/IgG2a	–	IHC	–	NOF-N213430-EX	30 μg
METTL13	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0859	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0859PA	100 μg
MEX3B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2009	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA2009PA	100 μg
MFAP3L	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0626	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0626PA	100 μg
MFH	Monoclonal A3	MS/IgG1	RAT	WB/IHC(p)/IC	–	KAL-KJ091	50 μg
MFN2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0214	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0214PA	100 μg
MGC4172 (Short-chain Dehydrogenase/ reductase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-DHRS-403	100 μl
MGC10993 (Transmembrane Protein 177)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TMEM177-305	100 μl
MGEA5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0679	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0679PA	100 μg
Mibolerone	Polyclonal	RAB	–	EIA	–	FKA-618	2000 test
MICAL2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0750AF	50 μg
MICALL1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1668	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1668PA	100 μg
MIS12, MIND Kinetochore Complex Component	Monoclonal 2572C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00798	100 μg
Mis13 (c20orf172)	Polyclonal	RAB	HU	WB/IF	–	BAM-70-101-EX	100 μl
Mite Der f1	–	–	–	–	–	LSL-LB-7111	100 μl
Mite Extract	Polyclonal	RAB	–	IHC/IF/ELISA/ WB	–	LSL-LB-5199	100 μl
Mite Group 1	–	RAB	–	ELISA/WB/IHC/ IF	–	LSL-LB-7103	100 μl
Mite Group 2	–	RAB	–	ELISA/WB/IHC/ IF	–	LSL-LB-7204	100 μl
MiTF	Polyclonal	RAB	HU/MS	WB/IHC/IC/ChIP	–	BAM-73-107-EX	100 μl
MLEC	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0152	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0152PA	100 μg
MLF1 (Myeloid Leukemia Factor 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MLF1-412	100 μl
MLLT4	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0114GNPAF	50 μg
MLLT6	Polyclonal	RAB	HU	WB	–	PRX-KB4336GNP	100 μl



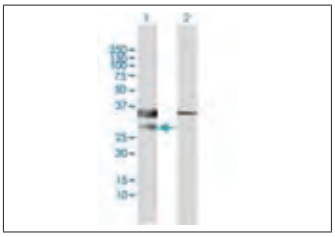
Metastin #CAC-SK-T01-005



MGC10993 (Transmembrane protein 177) #CAC-CNP-TMEM177-305
Western blot analysis of TMEM177 expression in transfected 293T cell line by TMEM177 rabbit polyclonal antibody. Lane 1: TMEM177 transfected lysate (31.02kDa). Lane 2: Non-transfected lysate.

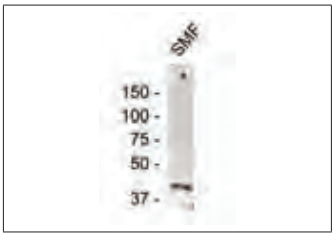


MiTF #BAM-73-107-EX
Immunohistochemical staining of Mitf in chick embryo at stage 14. Embryos were fixed with paraformaldehyde and embedded in OCT compound and sectioned with a cryostat at 8 μm.

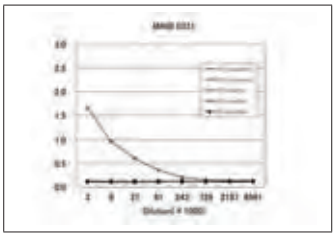


MLF1 (Myeloid Leukemia factor 1) #CAC-CNP-MLF1-412
Western blot analysis of MLF1 expression in transfected 293T cell line by MLF1 rabbit polyclonal antibody. Lane 1: MLF1 transfected lysate (30.60kDa). Lane 2: Non-transfected lysate.

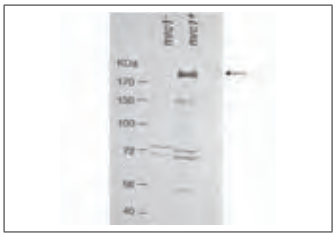
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
MMP-1	Monoclonal 41-1E5	MS/IgG2a κ	HU/RAB	WB/IHC(p)/ IHC(f)	–	DFK-F-67-EX	1 mℓ (500 μg /1 mℓ)
MMP-2	Monoclonal 42-5D11	MS/IgG1 κ	HU/MS/RAT/ BOV/RAB	WB/IHC(p)	–	DFK-F-68-EX	1 mℓ (500 μg /1 mℓ)
	Monoclonal 75-7F7	MS/IgG1 κ	HU/MS/BOV	WB/IHC(p)/ IHC(f)/EIA	–	DFK-F-73-EX	1 mℓ (500 μg /1 mℓ)
MMP-3	Monoclonal 55-2A4	MS/IgG1 κ	HU/RAT/POR/ SHP	WB/IHC(p)/ IHC(f)/EIA	–	DFK-F-66-EX	1 mℓ (500 μg /1 mℓ)
MMP-8	Monoclonal 115-13D2	MS/IgG1 κ	HU	WB/IHC(p)	–	DFK-F-83-EX	1 mℓ (500 μg /1 mℓ)
MMP-9	Monoclonal 56-2A4	MS/IgG1 κ	HU/RAT/RAB/ GP	WB/IHC(p)/ IHC(f)	–	DFK-F-69-EX	1 mℓ (500 μg /1 mℓ)
MMP-13	Monoclonal 181-15A12	MS/IgG1 κ	HU	WB/IHC(p)/EIA	–	DFK-F-89-EX	1 mℓ (500 μg /1 mℓ)
	Monoclonal 181-14G11	MS/IgG1 κ	HU	WB/IHC(p)	–	DFK-F-94-EX	1 mℓ (500 μg /1 mℓ)
MMP20 (Matrix Metallopeptidase 20 (Enamelysin))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MMP20-122	100 μℓ
MOG (Myelin Oligodendrocyte Glycoprotein)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MOG-327	100 μℓ
MOK	Polyclonal	RAB/IgG	MS	WB/IHC	–	KAL-KR085	25 μg
Monocarboxylate Transporter 2 (MCT2)	Polyclonal	RAB	MS	WB	–	CAC-YCU-M-MCT2A	200 μℓ (0.64 mg/mℓ)
Monomethyl Histone H3(Lys4)	Monoclonal MABI0302(CMA302)	MS/IgG2b	HU	IB/IHC/IP	–	MCA-MABI0002-100-EX	100 μℓ (1 mg/mℓ)
Monomethyl Histone H3(Lys9)	Monoclonal MABI0306(CMA306)	MS/IgG2a	HU	IB/IHC/IC	–	MCA-MABI0006-100-EX	100 μℓ (1 mg/mℓ)
Monomethyl Histone H3 (Lys27)	Monoclonal MABI0321	MS/IgG1	HU	IB/IHC/IP	–	MCA-MABI0321-100-EX	100 μℓ (1 mg/mℓ)
Monomethyl Histone H3 (Lys36)	Monoclonal MABI0331	MS/IgG1	HU	IB/IHC/IP	–	MCA-MABI0331-100-EX	100 μℓ (1 mg/mℓ)
MORC2A	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK08520910	50 μg
Morphine	Monoclonal IB1	MS/IgG1 λ	–	ELISA	–	CAC-KYU-HT-M001	100 μℓ
Motilin	Polyclonal	RAB	CAN	IHC/RIA	–	YII-Y120-EX	50 μℓ
	Polyclonal	RAB	HU/POR/CHK/ CAN/EQ	IHC/RIA	–	YII-Y121-EX	50 μℓ
MPP5 (Membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MPP5-133	100 μℓ
MPPE1 (Metallophosphoesterase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MPPE1-401	100 μℓ
MR	Monoclonal H3122	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-H3122-00	0.1 mℓ (1 mg/mℓ)
Mrc1	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP	–	BAM-63-151-EX	50 μℓ
	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP	–	BAM-63-153-EX	250 μℓ
MRE11A	Polyclonal	RAB	HU	WB	–	BCN-BCN4784	50 μℓ
MRPL12	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MRPL12-510	100 μℓ
MRPL13	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MRPL13-563	100 μℓ



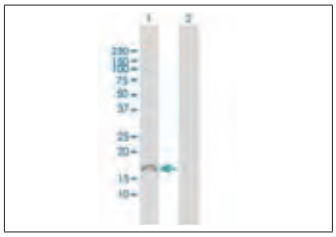
Monocarboxylate Transporter 2 (MCT2)
#CAC-YCU-M-MCT2A
Mouse cerebellum synaptic membrane fraction (SMF) was resolved by electrophoresis, transferred to PVDF and probed with anti-mouse monocarboxylate transporter 2 antibody.



Monomethyl Histone H3 (Lys36)
#MCA-MABI0331-100-EX

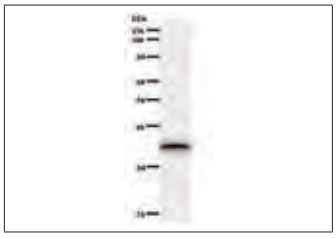


Mrc1 #BAM-63-151-EX
Western blot analysis of Mrc1 in the whole cell extracts.
Lane 1: mrc- strain Lane 2: Wild type strain.

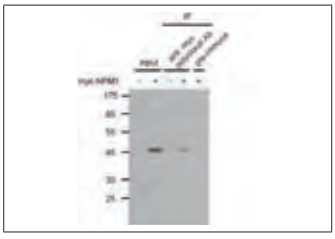


MRPL42 #CAC-CNP-MRPL42-396
Western blot analysis of MRPL42 expression in transfected 293T cell line by MRPL42 rabbit polyclonal antibody. Lane 1: MRPL42 transfected lysate (16.70kDa). Lane 2: Non-transfected lysate.

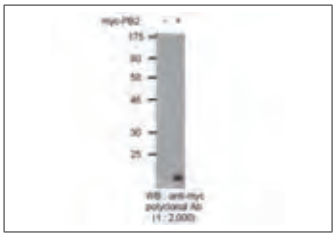
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
MRPL42	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MRPL42-396	100 µℓ
MSR A, CD204	Monoclonal SRA-E5	MS/IgG1	HU/MS/RAT/ BOV/RAB/POR/ CAN/MKY/GP/ FEL/HAM/EQ	WB/IHC(p)	–	KAL-KT022	50 µg
MTA2	Monoclonal 427C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00668	100 µg
MTA3	Monoclonal 428C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00542	100 µg
MTDH (Metadherin)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MTDH-322	100 µℓ
MTMR3	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0371AF	50 µg
MTMR4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0647	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0647PA	100 µg
MTMR6 (Myotubularin Related Protein 6)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MTMR6-064	100 µℓ
MTMR12	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1682	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1682PA	100 µg
MTP18 (Mitochondrial Protein 18 kDa)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-MTP18-073	100 µℓ
Muscarinic Acetylcholine Receptor M1	Polyclonal	RAB	HU/POR	IP	–	CAC-YCU-PS-M1	1 mℓ
Muscarinic Acetylcholine Receptor M2	Polyclonal	RAB	HU/POR	IP	–	CAC-YCU-PS-M2	1 mℓ
Muscarinic Acetylcholine Receptor M3	Polyclonal	RAB	HU/RAT	IP	–	CAC-YCU-PS-M3	1 mℓ
Muscarinic Acetylcholine Receptor M4	Polyclonal	RAB	HU/RAT	IP	–	CAC-YCU-PS-M4	1 mℓ
MUT (Methylmalonyl Coenzyme A Mutase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-MUT-181	100 µℓ
MXI1	Polyclonal	RAB	HU	WB	–	PRX-KB5035GNP	100 µℓ
MXI1 (MAX Interactor 1)	Monoclonal MXI1C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00649	100 µg
MYBL2 (v-myb Myeloblastosis Viral Oncogene Homolog (avian)-like 2)	Monoclonal MYBAD10A	MS/IgG1	HU/MS/RAT	WB/IC/ELISA	–	CBX-CBX00227	100 µg
MYCBP (c-myc binding protein)	Monoclonal 2601C2_2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00737	100 µg
MYCN (v-myc Myelocytomatosis Viral Related Oncogene, Neuroblastoma Derived (avian))	Monoclonal 986C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00356	100 µg
Myc Tag	Polyclonal	RAB	HU	WB/ELISA/IP	–	BAM-60-041-EX	100 µℓ
Myelin Protein Zero	Polyclonal	RAB	MS/RAT/CHK/ HU	IF/WB	–	LSL-LB-3004	100 µℓ
MYH9	Polyclonal	RAB/IgG	MS	WB	–	PRX-MF02790310	0.1 mg
Mylpf	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG409	25 µg (0.25 mg/mℓ)
MYO6	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0389	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0389PA	100 µg
MyoD	Monoclonal 5F11	RAT/IgG2a	MS	WB/IC/IHC(f)/ ChIP	–	CAC-CE-011A	100 µℓ (1 mg/mℓ)
MYOF	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1207	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1207PA	100 µg
Myoglobin	Monoclonal 1C10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-027	0.1 mg (1 mg/mℓ)
	Monoclonal 5D6	MS/IgG2a κ	HU	ELISA	–	LNM-KR-028	0.1 mg (1 mg/mℓ)



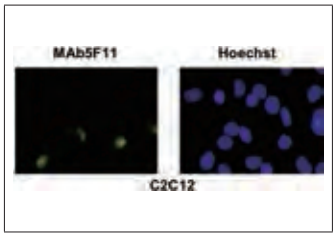
MTA3 #CBX-CBX00542
Western blot analysis of immunized recombinant protein, using anti-MTA3 monoclonal antibody.



Myc tag #BAM-60-041-EX
Detection of Myc-tagged protein with this antibody by Western blotting. (-) Lysate of 293T cells transfected with an empty vector (+) Lysate of 293T cells transfected with the plasmid carrying the Myc-tagged PB2 gene.



Myc tag #BAM-60-041-EX
Immunoprecipitation of Myc-tagged protein with this antibody followed by Western blotting.
-: Lysate of 293T cells transfected with an empty vector
+: Lysate of 293T cells transfected with the plasmid carrying the Myc-tagged NPM1 gene.



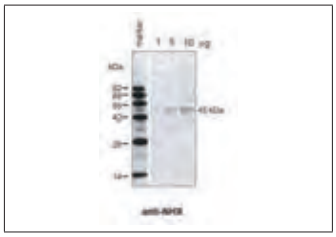
MyoD #CAC-CE-011A
Immunocytochemistry/ Immunofluorescence - MyoD antibody (5F11) C2C12 (mouse) cells.

MY-

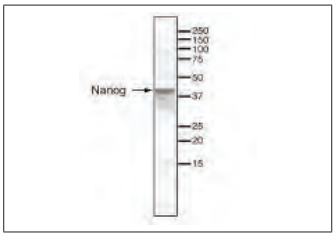
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Myoglobin	Monoclonal KO-001	MS/IgG1 κ	HU	ELISA	–	NBT-MKO-001	1 mg
	Monoclonal KO-002	MS/IgG1 κ	HU	ELISA	–	NBT-MKO-002	1 mg
	Monoclonal KO-021	MS/IgG2b κ	HU	ELISA	–	NBT-MKO-021	1 mg
	Monoclonal KO-022	MS/IgG2b κ	HU	ELISA	–	NBT-MKO-022	1 mg
	Monoclonal KO-023	MS/IgG2b κ	HU	ELISA	–	NBT-MKO-023	1 mg
	Monoclonal KO-024	MS/IgG2b κ	HU	ELISA	–	NBT-MKO-024	1 mg
	Monoclonal KO-025	MS/IgG1	HU	–	–	NBT-MKO-025	1 mg
	Monoclonal KO-026	MS/IgG	HU	ELISA	–	NBT-MKO-026	1 mg
Myosin	Polyclonal	RAB	CHK	ELISA/IF	–	LSL-LB-1074	100 μℓ
MYST4	Monoclonal 2605C1a	MS/IgG2a	HU	DB/WB	–	CBX-CBX00739	100 μg
	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0383AF	50 μg
MYST Histone Acetyltransferase 1	Monoclonal 2603C2a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00696	100 μg
MYST Histone Acetyltransferase 2	Monoclonal 818C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00792	100 μg
MYT1L	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1106AF	50 μg

N

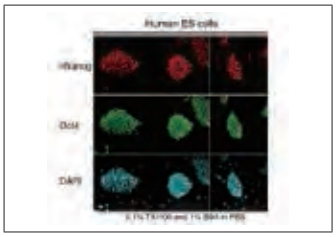
N4BP3 (Nedd4 Binding Protein 3)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0341	100 μℓ
NAB1	Polyclonal	RAB	HU	WB	–	PRX-KB9448GNP	100 μℓ
N-acetylgalactosaminidase, α	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NAGA-229	100 μℓ
Na Channel II (467-485)	Polyclonal	RAB	RAT	IHC(f)	–	YII-Y400-EX	50 μℓ
NADase	Polyclonal	RAB	*Streptococcus*	WB/ELISA/IP/Neu	–	BAM-64-005-EX	50 μℓ
	Polyclonal	RAB	*Streptococcus*	WB/ELISA/IP/Neu	–	BAM-64-006-EX	250 μℓ
NADPH Oxidase Activator 1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NOXA1-184	100 μℓ
Na+/H+ Antiporter	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080020	100 μℓ
Na・K-ATPase	Polyclonal	RAB	MS/RAT/BOV/GP/EQ	ELISA/EIA	–	LSL-LB-6198	100 μℓ
Nanog	Polyclonal	RAB	HU/MS/MKY	WB/IC/IP	–	REC-RCAB0001P	200 μℓ (0.2 mg/mℓ)
	Polyclonal	RAB	HU/MS/MKY	WB/IC/IP	–	REC-RCAB0002P-F	100 μℓ (0.2 mg/mℓ)
	Polyclonal	RAB	HU	WB/IC	–	REC-RCAB0003P	200 μℓ (0.2 mg/mℓ)
	Polyclonal	RAB	HU	WB/IC	–	REC-RCAB0004P-F	100 μℓ (0.2 mg/mℓ)
NAP1L1	Monoclonal 2609C3a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00592	100 μg
NAP1L2	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NAP1L2-309	100 μℓ
NAP1L3	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NAP1L3-497	100 μℓ
NAPE-PLD	Polyclonal	RAB	HU/MS/RAT	WB/IHC/IF	–	BCN-BCN4793	0.1 mℓ



Na+/H+ antiporter #COP-COP-080020
Antibody to Na+/H+ exchanger (NHX, 538 aa, AF106324) Radish (Raphanus sativus L.) taproot crude membrane fraction.



Nanog #REC-RCAB0001P



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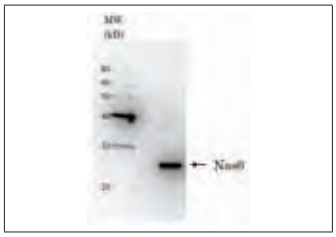
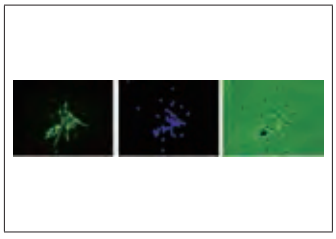
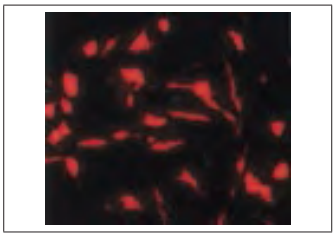


Nas6 #BAM-62-213-EX
Detection of Nas6 in the crude extract of S. cerevisiae by western blotting.

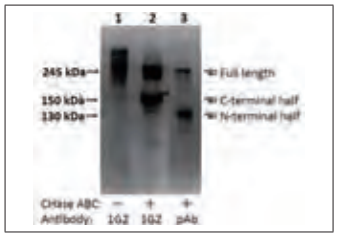
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
NARS (Asparaginyl-tRNA synthetase)	Monoclonal NARS2G5	MS/IgG1	HU/MS	WB/IC/IP/DB	–	CBX-CBX00228	100 µg
Nas6	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-213-EX	100 µℓ
Nascent Polypeptide-associated Complex α Subunit	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NACA-182	100 µℓ
NAV3	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0938AF	50 µg
NBR1	Polyclonal	RAB	MS	WB	–	PRX-MKA0049PA	100 µg
NBS1	Polyclonal	RAB	HU	WB	–	BCN-BCN4781	50 µℓ
NCALD	Polyclonal	RAB	HU	WB	–	PRX-KE0169GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KE0169GNPAF	50 µg
NCAPH	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0074	100 µℓ
NCDN	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0607	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0607PA	100 µg
NCKAP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0587	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0587PA	100 µg
NCK Interacting Protein with SH3 Domain	Monoclonal 2614C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00591	100 µg
NCOR2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0137GNPAF	50 µg
NDRG2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1248AF	50 µg
NDRG4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1180	100 µℓ
Necdin	Polyclonal NC243	RAB	HU/MS/RAT	WB/IHC/IC	–	BAM-74-100-EX	100 µℓ
NEIL3 (Nei Endonuclease VIII-like 3 (*E. coli*))	Monoclonal 2627C1b	MS/IgG1	HU	WB/DB	–	CBX-CBX00571	100 µg
NEIL2 (Nei-like 2 (*E. coli*))	Monoclonal 2626C2a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00604	100 µg
Nephritis-associated Plasmin Receptor	Monoclonal 1F10	MS/IgG2a κ	–	–	FITC	YMS-80041	200 µℓ (200 µg/200 µℓ)
Nestin	Monoclonal 7A3	RAT/IgG2b κ	MS	IHC/IC	–	BAM-73-100EX	100 µg
	Polyclonal	RAB	MS/RAT	WB/IHC/IC	–	BAM-73-105-EX	100 µℓ
NEURL4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1787	100 µℓ
Neurocan	Monoclonal 1G2	MS/IgG1 κ	RAT	WB/ELISA/IP/ IHC(f)/IHC(p)	–	CAC-NU-07-002	200 µℓ (1 mg/mℓ)
Neurocan Peptides	Polyclonal	RAB	MS/RAT	WB/IHC(p)	–	CAC-NU-07-005	200 µℓ
NET1 (Neuroepithelial Cell Transforming Gene 1)	Monoclonal 2633C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00455	100 µg
Neuroglycan C	Monoclonal C1	MS/IgG1 λ	RAT	WB/IP/IHC(f)/ IHC(p)	–	CAC-NU-07-003	200 µℓ (1 mg/mℓ)
Neurotensin	Polyclonal	RAB	HU/RAT/BOV/ MKY	IHC/RIA	–	YII-Y130-EX	50 µℓ
NFIA	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1439AF	50 µg
	Monoclonal 438C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00664	100 µg
NFKB2 (Nuclear factor of κ light polypeptide gene enhancer in B-cells 2)	Monoclonal 444C3a	MS/IgG1	HU	DB/WB	–	CBX-CBX00656	100 µg
NFKBIB	Polyclonal	RAB	HU	WB	–	PRX-KB6482GNP	100 µℓ
NFKBIB (Nuclear factor of κ light polypeptide gene enhancer in B-cells inhibitor)	Monoclonal IKB5I328	MS/IgG1	HU	WB/ELISA	–	CBX-CBX00200	100 µg
NFKBIL2 (Nuclear factor of κ light polypeptide gene enhancer in B-cells inhibitor-like 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NFKBIL2-329	100 µℓ
NFRKB	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0093GNPAF	50 µg
NFRKB (Nuclear Factor related to kappaB Binding Protein)	Monoclonal 445C4a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00531	100 µg



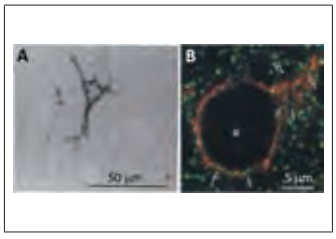
Nestin #BAM-73-100EX
Primary culture of neural progenitor cells from mouse fetal brain stained with 7A3 (Left), stained with Hoechst (Center), and without staing (Right).



Nestin #BAM-73-105-EX
Detection of Nestin in whole extracts of mouse neocortex and neural stem cells by western blotting with anti-Nestin antibody (ST1).



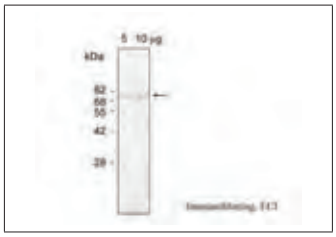
Neurocan #CAC-NU-07-002
Characterization of neurocan peptide pAb and neurocan mAb (clone 1G2) with samples obtained from 10-day-old rat brain.



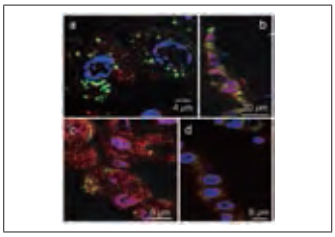
Neurocan peptides #CAC-NU-07-005
Distribution of neurocan in the adult rat cerebral cortex.

NF-

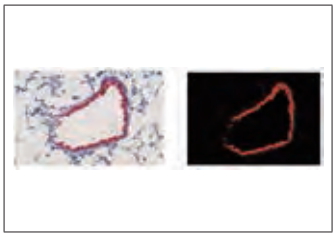
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
NFS1 (Nitrogen fixation 1 homolog (*S. cerevisiae*))	Monoclonal 2635E1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00583	100 μg
NFYB (Nuclear transcription factor Y, β)	Monoclonal NFYBA7	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00280	100 μg
NGFI-A Binding Protein 1 (EGR1 Binding Protein 1)	Monoclonal 2607C2a	MS/IgG1	HU/RAT	WB/IC/DB	–	CBX-CBX00620	100 μg
NGFI-A Binding Protein 2 (EGR1 Binding Protein 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NAB2-496	100 μℓ
NGFI-B α	Monoclonal H1648	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H1648-00	0.1 mℓ (1 mg/mℓ)
NGFI-B β	Monoclonal N1404	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-N1404-00	0.1 mℓ (1 mg/mℓ)
NGFI-B γ	Monoclonal H7833	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H7833-00	0.1 mℓ (1 mg/mℓ)
NGRN (Neugrin, Neurite Outgrowth Associated)	Monoclonal 2634C2a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00781	100 μg
NMNAT1 (Nicotinamide Nucleotide adenylyltransferase 1)	Monoclonal 2642C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00754	100 μg
NAPRT1 (Nicotinate Phosphoribosyltransferase Domain containing 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NAPRT1-171	100 μℓ
NEK4 (NIMA (Never in mitosis gene a)-related Kinase 4)	Monoclonal 2631C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00599	100 μg
NIN	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1565AF	50 μg
NIP7	Monoclonal 2166E2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00730	100 μg
Nitrate Transporter (AJ011604)	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080009	100 μℓ
Nitroguanosine	Monoclonal NO_2G52	MS/IgG1	–	IHC/ELISA	–	CAC-KMU-M01	200 μg
	Polyclonal	RAB	–	IHC/ELISA	–	CAC-KMU-P01	200 μg
Nitrotyrosine	Monoclonal 2H1	MS/IgG1	–	WB	–	KAL-KH036	100 μg
NKX3-1 (Homeobox Protein NKX3.1)	Monoclonal 820C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00467	100 μg
NLGN1 (Neuroligin 1)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1070	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1070PA	100 μg
NLGN3 (Neuroligin 3)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1480	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1480PA	100 μg
NMDA Receptor Regulated 1 (NARG1)	Monoclonal 434C2a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00537	100 μg
Nob1	Polyclonal	RAB/IgG	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-211-EX	100 μℓ
NOD1	Polyclonal	RAB/IgG	POR	WB/IHC/FC	–	CAC-THU-A-NOD1	50 μℓ
NOD2	Polyclonal	RAB/IgG	POR	WB/IHC/FC	–	CAC-THU-A-NOD2	50 μℓ
	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NOD2-038	100 μℓ
N ω -(carboxymethyl) Arginine	Monoclonal 3F5	MS/IgG1	–	WB/IHC/ELISA	–	CAC-AGE-M04	100 μℓ
Non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NME5-260	100 μℓ
Norgesterol	Polyclonal	RAB	–	EIA	–	FKA-622	2000 test
NOSII(77-105)	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-YP051-EX	50 μℓ
NPAT (Nuclear protein, ataxia-telangiectasia locus)	Monoclonal 2648C6a	MS/IgG1	HU	DB/WB	–	CBX-CBX00653	100 μg
NPEPPS (Aminopeptidase Puromycin Sensitive)	Monoclonal 2649C4a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00724	100 μg
NPHP4	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0673AF	50 μg
NPLOC4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1499	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1499PA	100 μg



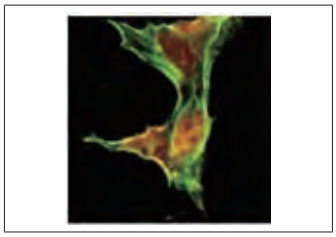
Nitrate transporter (AJ011604)
#COP-COP-080009
Antibody: anti-(nitrate transporter, AJ011604, 577 aa) Antiserum dilution: 1/1000 Protein sample: radish (Raphanus sativus L.) vacuolar membrane.



Nitroguanosine #CAC-KMU-M01
Production of 8-nitroguanine by airway epithelial cell with Idiopathic Fibrosis (IPS).

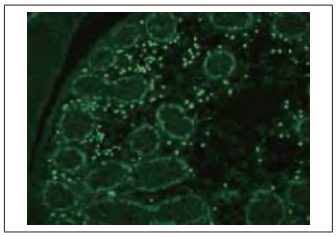


Nitroguanosine #CAC-KMU-P01
Immunostaining example of influenza virus-infected mouse lung epithelial cell.

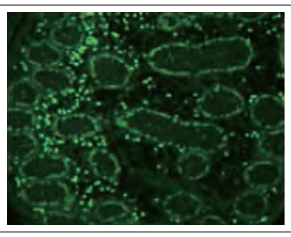


NOD1 #CAC-THU-A-NOD1
Immunofluorescence staining of NOD1 in Porcine NOD1-expressing HEK293 cells with anti Porcine NOD1 antibody.

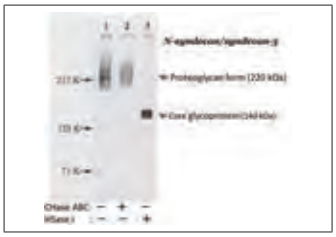
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
NPY	Polyclonal	RAB	HU/MS/RAT/ Tuna	IHC/RIA	–	YII-Y060-EX	50 µℓ
NPY (1-19)	Polyclonal	RAB	HU/MS/RAT	IHC/RIA	–	YII-Y061-EX	50 µℓ
Nr5a1	Monoclonal 1B1F10	RAT/IgG2a κ	MS	WB/IHC/IF/IC/ ELISA	–	KAL-KO610	50 µg (0.25 mg/mℓ , 200 µℓ /vial)
	Polyclonal	RAB	BOV/MS	ELISA/WB/IHC/ IC/IP/IF	–	KAL-KO611	50 µg (200 µℓ)
NRXN3 (Neurexin 3)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0743	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0743PA	100 µg
NSFL1 (p97) Cofactor (p47)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NSFL1C-189	100 µℓ
N-sulfoglucosamine Sulfohydrolase (sulfamidase) (SGSH)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SGSH-250	100 µℓ
N-syndecan	Polyclonal	RAB	MS/RAT	WB/IHC(p)	–	CAC-NU-07-004	100 µℓ
NTH1, OCTS3,nth Endonuclease III-like 1	Monoclonal 2660C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00685	100 µg
NUAK1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0537	100 µℓ
NCBP1 (Nuclear Cap Binding Protein subunit 2)	Monoclonal 2613C3a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00753	100 µg
NFE2L2 (Nuclear Factor (Erythroid-derived 2)-like 2)	Monoclonal 437C2a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00543	100 µg
NFIB (Nuclear Factor I/B)	Monoclonal NFI5I299	MS/IgG1	HU	WB/IP/DB	–	CBX-CBX00154	100 µg
NFIC (Nuclear Factor I/C (CCAAT-binding transcription factor))	Monoclonal 440C4a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00562	100 µg
NFATC3 (Nuclear Factor of activated T-cells, cytoplasmic,calcineurin-dependent 3)	Monoclonal 442C2a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00544	100 µg
NPLOC4 (Nuclear Protein localization 4 homolog (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-NPLOC4-176	100 µℓ
NRBF2 (Nuclear Receptor Binding factor 2)	Monoclonal 2654C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00601	100 µg
NSD1 (Nuclear Receptor Binding SET Domain Protein 1)	Monoclonal 2658C1a	MS/IgG2b	HU	DB/WB	–	CBX-CBX00666	100 µg
NCOA1 (Nuclear Receptor Coactivator 1)	Monoclonal 3532C6a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00648	100 µg
NCOA2 (Nuclear Receptor Coactivator 2)	Monoclonal 2615C1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00522	100 µg
NCOA3 (Nuclear Receptor Coactivator 3)	Monoclonal 2616C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00521	100 µg
NRIP1 (Nuclear Receptor Interacting Protein 1)	Monoclonal 2656C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00471	100 µg
NR1H3 (Nuclear Receptor Subfamily 1, Group H, Member 3)	Monoclonal NR1HB11D6	MS/IgG1	HU	WB/DB	–	CBX-CBX00286	100 µg
NR2C1 (Nuclear Receptor Subfamily 2, Group C, Member 1)	Monoclonal 449C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00574	100 µg
NR2F1 (Nuclear Receptor Subfamily 2, Group F, Member 1)	Monoclonal 451C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00314	100 µg
NR4A1 (Nuclear Receptor Subfamily 4, Group A, Member 1)	Monoclonal NR4AB9G12	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00289	100 µg
NR4A2 (Nuclear Receptor Subfamily 4, Group A, Member 2)	Monoclonal 447C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00545	100 µg
Nucleobindin 2	Polyclonal	RAB	HU/MS/RAT	WB/IHC/IC/ChIP	–	BAM-73-109-EX	100 µℓ
NUDT5 (Nudix (Nucleoside Diphosphate Linked Moiety X)-type Motif 5)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NUDT5-600	100 µℓ



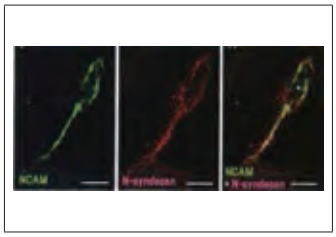
Nr5a1 #KAL-KO610
IF sample: mouse testis



NR5A1 #KAL-KO611
IF sample: mouse testis



N-syndecan #CAC-NU-07-004
Characterization of the polyclonal anti-N-syndecan antiserum.



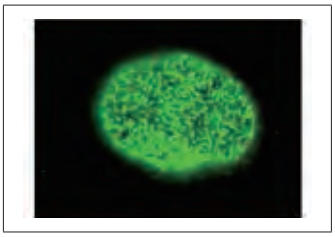
N-syndecan #CAC-NU-07-004
Comparative localization of immunoreactivity for N-syndecan in the developing rat (16days) vomeronasal system.

NU-

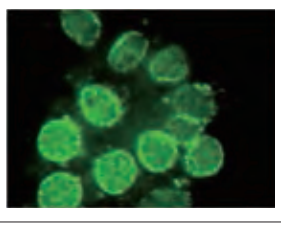
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
NUDT21 (Nudix (Nucleoside Diphosphate linked Moiety X)-type motif 21)	Monoclonal 2203C3	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00413	100 μg
Nuf2	Polyclonal	RAB	HU/CHK	WB/IF	–	BAM-70-107-EX	100 μℓ
NUFIP1 (Nuclear fragile X Mental Retardation Protein Interacting Protein 1)	Monoclonal 2662C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00610	100 μg
Nup62	Monoclonal	RAT Mono/ IgG1 κ	HU/MKY	WB/IHC/IF/ ELISA	–	BAM-70-305EX	200 μg
Nup62/p62	Monoclonal 8A12	RAT/IgG2a	HU/MS	WB/IC	–	CAC-CE-008A	100 μℓ (1 mg/mℓ)
NUP93	Monoclonal 3332C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00489	100 μg
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0095	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0095PA	100 μg
Nup98	Monoclonal 2H10	MS/IgG2c κ	HU/MS/RAT	WB/ELISA/DB	–	BAM-70-310-EX	200 μg
	Monoclonal 13C2	MS/IgG1 κ	HU/ *Tetrahymena*	WB/IF/IC	–	BAM-70-345EX	100 μg
	Monoclonal 21A10	MS/IgG1 κ	HU/ *Tetrahymena*	IF/IC/WB	–	BAM-70-346EX	100 μg
	Monoclonal 13C2+21A10	MS/IgG1 κ	HU/ *Tetrahymena*	WB/IF/IC	–	BAM-70-347EX	50+50 μg
Nup153	Monoclonal R4C8	RAT/IgG2a κ	HU/MS/RAT/ MKY	WB/ELISA	–	BAM-70-315-EX	200 μg
	Monoclonal 7F9E12	RAT/IgG2a	HU	WB/IC	–	CAC-CE-010A	100 μℓ (1 mg/mℓ)
NUP155	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0791	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0791PA	100 μg
NUPL1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0410	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0410PA	100 μg
NXT1 (NTF2-like Export Factor 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-NXT1-285	100 μℓ

O

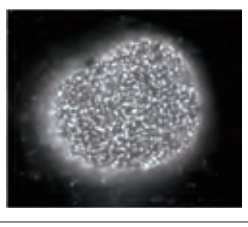
OAT1	Polyclonal	RAB	HU	IHC	–	KAL-KE038	25 μg
OAT2	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KE031	25 μg
OAT3	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KE032	25 μg
	Polyclonal	RAB/IgG	RAT	IHC	–	KAL-KE035	25 μg
OAT4	Polyclonal	RAB/IgG	HU	IHC	–	KAL-KE033	20 μg
OAT (Ornithine Aminotransferase (Gyrate Atrophy))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-OAT-413	100 μℓ
Obestatin	Polyclonal	RAB	MS/RAT	IHC/EIA	–	YII-Y460-EX	50 μℓ
	Polyclonal	RAB	HU	IHC	–	YII-Y461EX	50 μℓ
Oct4/POU5F1	Monoclonal 1C10	RAT/IgG2a	MS	WB/IC	–	CAC-CE-052A	100 μℓ (1 mg/mℓ)
OIP5 (Opa Interacting Protein 5)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-OIP5-392	100 μℓ
Opalin	Polyclonal	RAB/IgG	MS/RAT	WB/IHC/IP	–	CAC-RIK-B-OP	100 μg
OPB	Polyclonal	RAB/IgG	Wheat	WB	–	CAC-SK-T01-007	100 μℓ
OPTN	Polyclonal	RAB	HU	WB	–	PRX-KB9422GNP	100 μℓ
Orexin A	Polyclonal	RAB/IgG	HU/MS/RAT/ BOV	IHC/EIA	–	YII-Y450-EX	50 μℓ
Orexin B	Polyclonal	RAB/IgG	MS/RAT	IHC/EIA	–	YII-Y451-EX	50 μℓ
Organic Cation Transporter 3 (OCT3)	Polyclonal	RAB/IgG	RAT	IHC	–	KAL-KR071	25 μg
ORC6L (Origin recognition complex, subunit 6-like (yeast))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-ORC6L-547	100 μℓ



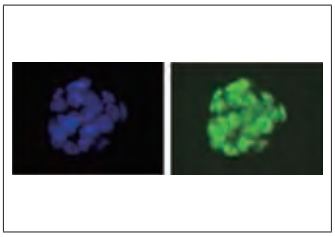
Nup62 #BAM-70-305EX
Detection of Nup62 in membrane fraction of HeLa cells by Western blotting with the antibody 2A.
Sample is the nuclear membrane fraction of HeLa cells.



Nup98 #BAM-70-310-EX
Immunofluorescent staining of rat neuron with antibody 2H10.



Nup153 #BAM-70-315-EX
Immunofluorescent staining of HeLa cells with antibody R4C8.



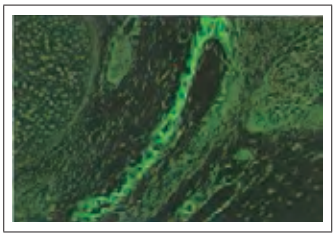
Oct4/POU5F1 #CAC-CE-052A
Immunocytochemistry/
Immunofluorescence - Oct4 /Pou5f1 antibody (1C10) (blue) DAPI, (green) Oct4 mouse ES cells.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
ORC6L (Origin recognition complex, subunit 6 like (yeast))	Monoclonal 2679C2b	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00613	100 μg
Orphanin FQ/Nociceptin	Polyclonal	RAB	RAT	IHC(f)/RIA	–	YII-Y430-EX	50 μℓ
OSBPL2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0772	100 μℓ
OSBPL3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0704	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0704PA	100 μg
OSBPL10 (Oxysterol binding protein-like 10)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-OSBPL10-386	100 μℓ
OSBPL11	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3224	100 μℓ
OsPIP1s	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080041	100 μℓ
OsPIP1;3	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080040	100 μℓ
OsPIP2;1	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080042	100 μℓ
OsPIP2;3	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080043	100 μℓ
OsPIP2;5	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080044	100 μℓ
Osteocalcin	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-4005	100 μℓ (100 μℓ)
Osteonectin	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-4115	100 μℓ (100 μℓ)
Osteopontin	Polyclonal	RAB	HU/MS/RAT/BOV	ELISA/IF/WB	–	LSL-LB-4225	100 μℓ (100 μℓ)
OsTIP2;1	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080045	100 μℓ
OsTIP2;2-C	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080047	100 μℓ
OsTIP2;2-N	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080046	100 μℓ
OTUD4 (KIAA1046)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK10460910	50 μg
Ovalbumin	Monoclonal CA-1	MS/IgG1	CHK	ELISA/WB	–	CBN-CH-001	0.1 mg
	Monoclonal CA-2	MS/IgG1	CHK	ELISA/WB	–	CBN-CH-002	0.1 mg
	Monoclonal CA-3	MS/IgG1	CHK	ELISA	–	CBN-CH-003	0.1 mg
OVOL1	Monoclonal 460C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00716	100 μg
Ovomucoid	Monoclonal CB-1	MS/IgG1	CHK	ELISA	–	CBN-CH-004	0.1 mg
	Monoclonal CB-2	MS/IgG1	CHK	ELISA	–	CBN-CH-006	0.1 mg
OXA1L (Oxidase (cytochrome c) Assembly 1-like)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-OXA1L-049	100 μℓ
Oxidized-α1 Antitrypsin	Monoclonal 3F4	MS/IgG1	HU	EIA/WB	–	IKG-KMSL3F4	100 μg (0.5 mg/mℓ)

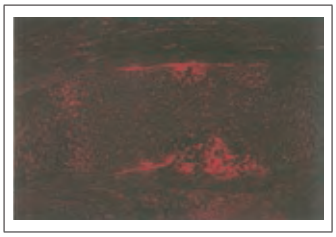
P

P2RX1 (Purinergic receptor P2X, ligand-gated ion channel, 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-P2RX1-143	100 μℓ
p53	Monoclonal 17B6	MS/IgG1 κ	HU	WB/ELISA	–	BAM-71-113-EX	50 μg (1 mg/mℓ)
	Monoclonal 36	MS/IgG1 κ	HU	WB/IHC(p)/ELISA	–	BAM-71-115-EX	50 μg (1 mg/mℓ)
	Monoclonal 18	MS/IgG2b κ	HU	WB/IHC(p)/ELISA	–	BAM-71-117-EX	50 μg (1 mg/mℓ)
	Monoclonal 10E5	MS/IgG1 κ	HU	WB/ELISA/IP	–	BAM-71-131-EX	50 μg (1 mg/mℓ)
	Monoclonal 2B7E4	MS/IgG1 κ	HU	WB/ELISA	–	BAM-71-133-EX	50 μg (1 mg/mℓ)
PDRG1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PDRG1-559	100 μℓ

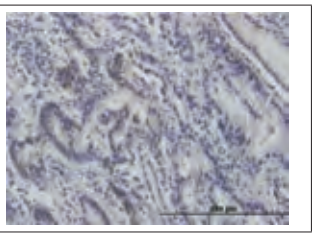
OsPIP1;3 #COP-COP-080040
Yeast cells expressing each isoform.



Osteocalcin #LSL-LB-4005
HTC-immunofluorescent staining of vivipary 16 days Rat mandibular (4% formalin).

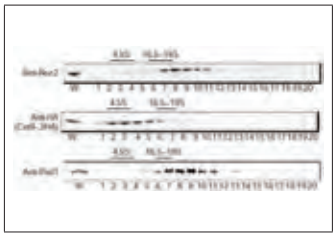


Osteopontin #LSL-LB-4225
Rodamine-Immunofluorescent staining of vivipary 18 days Rat lower limb (4% formalin).



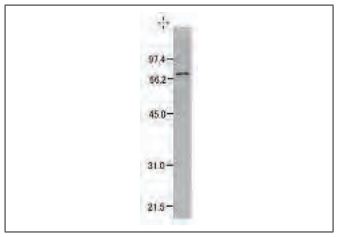
p53 #BAM-71-115-EX
Kinetics of phosphorylation of p53 at Ser46 after UV-irradiation.
Samples of MCF7 cells (human beast cancer cell line) were taken at the indicated times after UV-irradiation at 20 J/㎡ and analyzed by western blotting with anti-p53 p-S46 antibody (#36) and anti-p53 antibody (non BioAcademia).

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
P140 (KIAA1684)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK16840910	50 µg
PACAP27	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y050-EX	50 µl (50 µl)
PACAP38	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y040-EX	50 µl (50 µl)
PACAP (1-15)	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y042-EX	50 µl (50 µl)
PACAP	Polyclonal	RAB/IgG	–	WB	–	CAC-SK-T01-012	100 µl
PACAP38 (22-38)	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y041-EX	50 µl (50 µl)
PACAP27 (13-27)	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y051-EX	50 µl (50 µl)
PACE4 HomoB domain	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-001	100 µl
PACE4 Propeptide	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-002	100 µl
PACSIN1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1379	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1379PA	100 µg
Pad	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP	–	BAM-63-133-EX	100 µl
PAD 2	Polyclonal	RAB/IgG	HU	WB/IHC(p)	–	SML-ROI002-EX	0.1 ml (0.1 ml)
PAG	Monoclonal 120	MS/IgG3 κ	HU/RAT	IHC/ELISA	–	KAL-KO579	200 µl (0.25 mg/ml)
PAIP2B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1155	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1155PA	100 µg
PAK4	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK11420910	50 µg
Paladin (KIAA1274)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK12740310	0.1 mg
PALB2	Polyclonal	RAB	HU	WB	–	BCN-BCN4785	50 µl
PALLD	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0992	100 µl
PALM2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0920	100 µl
Pancreastatin (33-51)	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y090-EX	50 µl (50 µl)
PANK1 (Pantothenate Kinase 1)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-PANK1-364	100 µl
PAP	Monoclonal 7412	MS/IgG1	HU	ELISA	–	SIM-2ZHCMP1	0.5 ml (250 µg /0.5 ml)
	Monoclonal 7432	MS/IgG1	HU	ELISA	–	SIM-2ZHCMP2	0.5 ml (250 µg /0.5 ml)
PARP4 (Poly (ADP-ribose) Polymerase family, member 4)	Monoclonal 2695C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00733	100 µg
PATZ1	Polyclonal	RAB	HU	WB	–	PRX-KB3020GNP	100 µl
PAX3 (Paired Box Gene 3 (Waardenburg syndrome 1))	Monoclonal 6288D4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00528	100 µg
PAX6 (Paired Box Gene 6)	Monoclonal PAX5I326	MS/IgG1	HU	WB/ELISA/IC	–	CBX-CBX00220	100 µg
PAX7 (Paired Box Gene 7)	Monoclonal 6290C1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00634	100 µg
PAX8 (Paired Box Gene 8)	Monoclonal PAX8R1	MS/IgG1	HU/MS/RAT	WB/IC/FC/IP/DB	–	CBX-CBX00285	100 µg
PBX1 (Pre-B-cell Leukemia Transcription factor 1)	Polyclonal	RAB	HU	WB	–	PRX-KB4019GNP	100 µl
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB4019GNPAF	50 µg
PCDHGA12	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0588	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0588PA	100 µg
PCGF4 (BMI1 Polycomb Ring Finger Oncogene)	Monoclonal 2704C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00487	100 µg

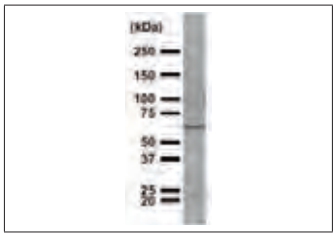


Pad #BAM-63-133-EX
Fractions from sucrose gradient centrifugation of wild type S. pombe cells containing integrated Cut8-3HA were immunoblotted using antibodies Nuc2, Pad1 and HA.

PAD 2 #SML-ROI002-EX
Hippocampus of Alzheimer's Disease stained with PAD2 antibody (ROI002) at 1:300 dilution and developed by 3,3' diaminobenzidine. Dentate gyrus and stratum radiatum of CA1 and CA2 areas stained.

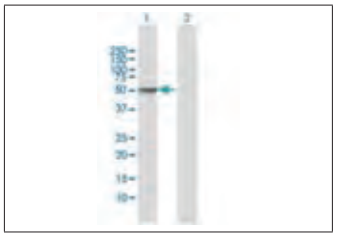


PAD 2 #SML-ROI002-EX
Western blot analysis. Lane : Human brain tissue extract. PAD2 antibody (ROI002) at 1:1,000 dilution used.

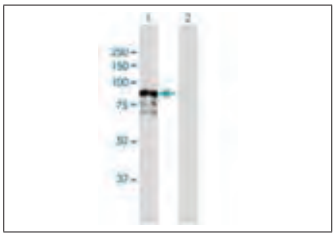


PAG #KAL-KO579
Western blot analysis. Rat brain lysate.

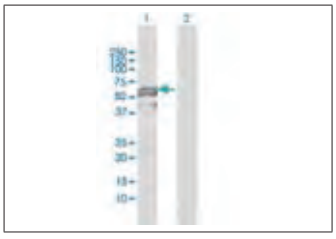
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
PCID2 (PCI Domain Containing 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PCID2-397	100 µℓ
PCNA	Polyclonal	RAB	HU/MS/RAT/MAM	WB/ELISA/IF/IP	–	BAM-70-080-EX	100 µℓ
PCNP (PEST Proteolytic Signal Containing Nuclear Protein)	Monoclonal 2707C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00667	100 µg
PCNT	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0402AF	50 µg
PDCD1 (Programmed Cell Death 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PDCD1-499	100 µℓ
PDCD2 (Programmed Cell Death 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PDCD2-500	100 µℓ
PDCD4 (Programmed Cell Death 4 (Neoplastic Transformation Inhibitor))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PDCD4-548	100 µℓ
PDCD11 (KIAA0185)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK01850910	50 µg
PDCD11 (Programmed Cell Death 11)	Monoclonal 158C1a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00751	100 µg
PDE4A (Phosphodiesterase 4A, cAMP-specific (phosphodiesterase E2 dunce homolog, *Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PDE4A-234	100 µℓ
PDE4DIP (KIAA0454)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK04540910	50 µg
PDHX (Pyruvate Dehydrogenase Complex, Component X)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PDHX-525	100 µℓ
PDILT	Polyclonal	RAB	MS	WB/IP/IHC(f)	–	BAM-73-051-EX	100 µℓ
PDP2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1348	100 µℓ
PDX1	Polyclonal	RAB/IgG	MS	IHC	–	KAL-KR059	25 µg (0.25 mg/mℓ, 100 µℓ)
PDXDC1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0251	100 µℓ
PDXK (Pyridoxal (Pyridoxine, Vitamin B6) Kinase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PDXK-252	100 µℓ
PDZ and LIM domain 2 (Mystique)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PDLIM2-177	100 µℓ
PDZRN3	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1095AF	50 µg
PECI (Peroxisomal D3,D2-enoyl-CoA Isomerase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PECI-037	100 µℓ
PEDF	Monoclonal 14K	MS/IgG1	HU	WB	–	KAL-KM037	50 µg (0.25 mg/mℓ, 200 µℓ)
Pentosidine	Monoclonal PEN-12	MS/IgG1	–	IHC/ELISA	–	KAL-KH012	50 µg (0.25 mg/mℓ, 200 µℓ)
	Monoclonal PEN-12	MS/IgG1	–	IHC/ELISA	Biotin	KAL-KH012-01	50 µg (0.25 mg/mℓ, 200 µℓ)
	Monoclonal PEN-12	MS/IgG1	–	IHC/ELISA	HRP	KAL-KH012-02	50 µg (0.25 mg/mℓ, 200 µℓ)
Pepsinogen 1	Monoclonal 2F5	MS/IgG2a κ	HU	ELISA	–	LNM-KR-029	0.1 mg (1 mg/mℓ)
	Monoclonal 7G3	MS/IgG1 κ	HU	ELISA	–	LNM-KR-030	0.1 mg (1 mg/mℓ)
Pepsinogen 2	Monoclonal 10E11	MS/IgG1 κ	HU	ELISA	–	LNM-KR-031	0.1 mg (1 mg/mℓ)
	Monoclonal 2D5	MS/IgG1 κ	HU	ELISA	–	LNM-KR-032	0.1 mg (1 mg/mℓ)
PER1 (Period Homolog 1 (*Drosophila*))	Monoclonal 2715C2	MS/IgG1	HU	WB/DB	–	CBX-CBX00424	100 µg
PERIOD1	Polyclonal	RAB/IgG	HU	WB/IHC	–	KAL-KI044	200 µg (1 mg/mℓ)
	Polyclonal	RAB/IgG	RAT	WB/IHC	–	KAL-KI047	200 µg (1 mg/mℓ)
PERIOD2	Polyclonal	RAB/IgG	HU	WB	–	KAL-KI045	200 µg (1 mg/mℓ)



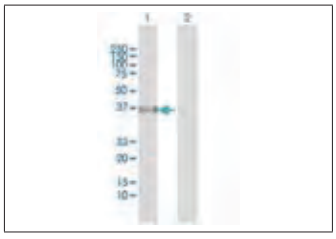
PDCD4 (Programmed cell death 4 (neoplastic transformation inhibitor)) #CAC-CNP-PDCD4-548
Western blot analysis of PDCD4 expression in transfected 293T cell line by PDCD4 rabbit polyclonal antibody. Lane 1: PDCD4 transfected lysate (51.80kDa). Lane 2: Non-transfected lysate.



PDE4A (Phosphodiesterase 4A, cAMP-specific (phosphodiesterase E2 dunce homolog, Drosophila)) #CAC-CNP-PDE4A-234
Western blot analysis of PDE4A expression in transfected 293T cell line by PDE4A rabbit polyclonal antibody. Lane 1: PDE4A transfected lysate (72.20kDa). Lane 2: Non-transfected lysate.



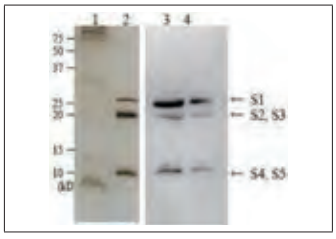
PDHX (Pyruvate dehydrogenase complex, component X) #CAC-CNP-PDHX-525
Western blot analysis of PDHX expression in transfected 293T cell line by PDHX rabbit polyclonal antibody. Lane 1: PDHX transfected lysate (54.10kDa). Lane 2: Non-transfected lysate.



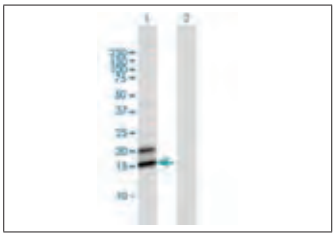
PDZ and LIM domain 2 (mystique) #CAC-CNP-PDLIM2-177
Western blot analysis of PDLIM2 expression in transfected 293T cell line by PDLIM2 rabbit polyclonal antibody. Lane 1: PDLIM2 transfected lysate (37.50kDa). Lane 2: Non-transfected lysate.

PE-

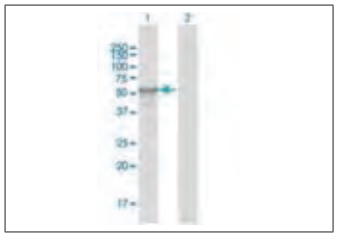
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
PERIOD3	Polyclonal	RAB/IgG	HU	WB/IHC	–	KAL-KI046	200 μg (1 mg/mℓ)
	Polyclonal	RAB/IgG	RAT	WB/IHC	–	KAL-KI048	200 μg (1 mg/mℓ)
Peroxiredoxin 1	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P1RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P1RB	0.2 mℓ
Peroxiredoxin 2	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P2RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P2RB	0.2 mℓ
Peroxiredoxin 4	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P4RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P4RB	0.2 mℓ
Peroxiredoxin 6	Polyclonal	RAB	HU/RAT	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P6RA	0.1 mℓ
	Polyclonal	RAB	HU/RAT/MS	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P6RB	0.2 mℓ
	Polyclonal	SHP	HU/RAT/MS	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P6SA	0.1 mℓ
	Polyclonal	SHP	HU/RAT/MS	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-P6SB	0.2 mℓ
PPARA (Peroxisome Proliferator-Activated receptor α)	Monoclonal 467D1a	MS/IgG1	HU	DB/WB	–	CBX-CBX00675	100 μg
Pertussis Toxin	Polyclonal	RAB	–	WB/ELISA/DB/ IP/Neu	–	BAM-64-030EX	100 μℓ
PF-4	Monoclonal 2D6B	MS/IgG1 κ	HU	WB/IP	–	CAC-MKM-M14	100 μg
	Monoclonal 10E6	MS/IgG1 κ	HU	WB/IP	–	CAC-MKM-M15	100 μg
PFAS	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0361	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0361PA	100 μg
PFDN4 (Prefoldin Subunit 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PFDN4-382	100 μℓ
PFKFB1 (6-phosphofructo-2-kinase/ fructose-2,6-biphosphatase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PFKFB1-270	100 μℓ
PFKFB2 (6-phosphofructo-2-kinase/ fructose-2,6-biphosphatase 2)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-PFKFB2-362	100 μℓ
PGDS (Prostaglandin D2 Synthase, Hematopoietic)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PGDS-111	100 μℓ
PGLYRP3	Polyclonal	RAB/IgG	POR	WB/IHC/ELISA	–	COP-COP-080060	100 μℓ
PGLYRP4	Polyclonal	RAB/IgG	POR	WB/IHC/ELISA	–	COP-COP-080061	100 μℓ
PH-4 (Hypoxia-inducible Factor Prolyl 4-hydroxylase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PH4-012	100 μℓ
PHF1 (PHD Finger 1)	Monoclonal 864C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00687	100 μg
PHF6	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1823AF	50 μg
PHF8	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1111	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1111PA	100 μg
PHF10 (PHD Finger Protein 10)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-PHF10-196	100 μℓ
PHF16	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0215AF	50 μg
PHI	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y020-EX	50 μℓ
	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y022-EX	50 μℓ



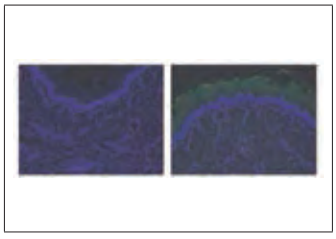
Pertussis Toxin #BAM-64-030EX
Detection of perussis toxin in culture medium of Bordetera pertussis strain Tohama by Western blotting using anti-perussis toxin antibody.



PFDN4 (Prefoldin subunit 4)
#CAC-CNP-PFDN4-382
Western blot analysis of PFDN4 expression in transfected 293T cell line by PFDN4 rabbit polyclonal antibody. Lane 1: PFDN4 transfected lysate (15.30kDa). Lane 2: Non-transfected lysate.

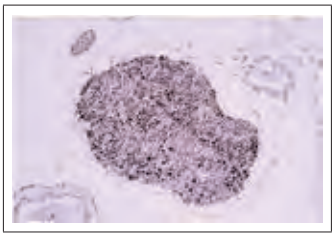


PFKFB1 (6-phosphofructo-2-kinase/ fructose-2,6-biphosphatase 1)
#CAC-CNP-PFKFB1-270
Western blot analysis of PFKFB1 expression in transfected 293T cell line by PFKFB1 rabbit polyclonal antibody. Lane 1: PFKFB1 transfected lysate (54.70kDa). Lane 2: Non-transfected lysate.

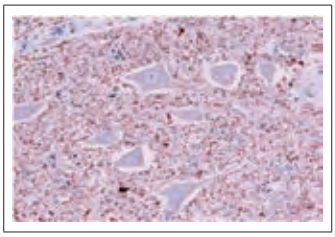


PGLYRP3 #COP-COP-080060
Immunohistochemical staining in the longitudinal section of porcine esophagus with anti-porcine PGLYRP3 antisera [Cat#COP-080060] (green).

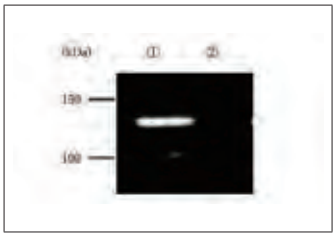
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
PHI (13-27)	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y021-EX	50 µℓ
PHLDA3	Monoclonal 4B6	MS/IgG2b κ	HU	WB	–	BAM-71-195-EX	100 µg
PHLPP	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0606AF	50 µg
PPAP2A (Phosphatidic Acid phosphatase Type 2A)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PPAP2A-030	100 µℓ
PIP5K1B (Phosphatidylinositol-4-phosphate 5-kinase, type I, β)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PIP5K1B-527	100 µℓ
Phospho Histone H2B (Ser14)	Monoclonal MABI0251	MS/IgG1	HU	ChIP/IB/IHC	–	MCA-MABI0251-100-EX	100 µℓ (1 mg/mℓ)
PLCG2 (Phospholipase C, γ 2) (phosphatidylinositol-specific)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PLCG2-597	100 µℓ
Phospholipid Scrambrase 2	Polyclonal	RAB/IgG	MS	WB	–	KAL-KR097	25 µg (0.25 mg/mℓ, 400 µℓ)
Phospho-Neurofilament H M	Monoclonal NFP-1D	MS/IgM	HU	IHC	–	CAC-GU01-M02AS-A	50 µℓ
Phospho-p35 (Ser8)	Polyclonal	RAB/IgG	HU/MS/RAT	WB	–	CAC-SDT-02-P35	100 µℓ
PAICS (Phosphoribosylaminoimidazole carboxylase, phosphoribosylaminoimidazole succinocarboxamide synthetase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PAICS-391	100 µℓ
PYGL (Phosphorylase, glycogen; liver (Hers disease, glycogen storage disease type VI))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PYGL-026	100 µℓ
PSAT1 (Phosphoserine Aminotransferase 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PSAT1-552	100 µℓ
Phospho-Tau (Ser416)	Polyclonal	RAB/IgG	HU/RAT	IHC	–	KAL-KR076	25 µg (0.25 mg/mℓ, 100 µℓ)
Phospho-TRPV 1 (Ser800)	Polyclonal	RAB	MS/RAT	WB	–	KAL-KM112	25 µg (0.25 mg/mℓ, 100 µℓ)
Phototropin 1	Polyclonal	RAB/IgG	*Arabidopsis thaliana*	WB	–	KAL-KR095	25 µg (0.25 mg/mℓ, 100 µℓ)
Phototropin 2	Polyclonal	RAB/IgG	*Arabidopsis thaliana*	WB	–	KAL-KR090	25 µg (0.25 mg/mℓ, 100 µℓ)
PHTF1	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0260GNPAF	50 µg
PIM1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PIM1-501	100 µℓ
PIP5K1C	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0589	100 µℓ
PIP2;7	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080005	100 µℓ
PIR	Monoclonal 2740C2	MS/IgG2b	HU	WB/FC/IP/DB	–	CBX-CBX00425	100 µg
PITRM1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1104	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1104PA	100 µg
PKNOX1	Polyclonal	RAB	HU	WB	–	PRX-KB4325GNP	100 µℓ
PKNOX2	Polyclonal	RAB	HU	WB	–	PRX-KB8291GNP	100 µℓ
PLA1A (Phospholipase A1 Member A)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PLA1A-187	100 µℓ
Plasma Membrane H+-ATPase (AHA)	Polyclonal	RAB/IgG	–	WB/ELISA	–	COP-COP-080006	100 µℓ
PAFAH2 (Platelet-Activating Factor Acetylhydrolase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PAFAH2-101	100 µℓ
PLCB1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0581	100 µℓ
PLEKHG4	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0068	100 µℓ
PLEKHM1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0356	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0356PA	100 µg
PLK3 (Polo-like Kinase 3 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PLK3-324	100 µℓ
PLOD2 (Procollagen-lysine, 2-oxoglutarate 5-dioxygenase 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PLOD2-021	100 µℓ
Plumbagin	Monoclonal 3A3	MS/IgG1 κ	–	ELISA	–	CAC-KYU-HT-M005	100 µℓ
PLXNB1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0407	100 µℓ



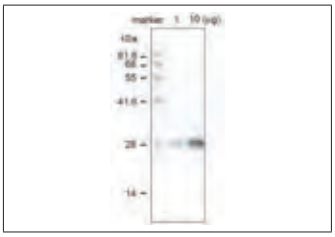
Phospho-Neurofilament H M
#CAC-GU01-M02AS-A
Result of Immunohistochemistry with NFP-1D for Posterior Root of Human Spinal Nerve.



Phospho-Neurofilament H M
#CAC-GU01-M02AS-A
Result of Immunohistochemistry with NFP-1D for Anterior Root of Human Spinal Cord.

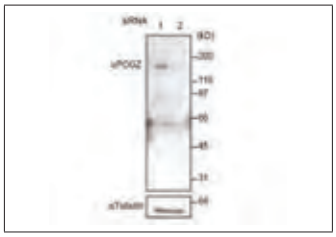


Phototropin 1 #KAL-KR095
Western Blotting. Sample: Arabdopsis leaves. Lane 1: Wild type. Lane 2: Deletion Mutant for phot1/phot2.

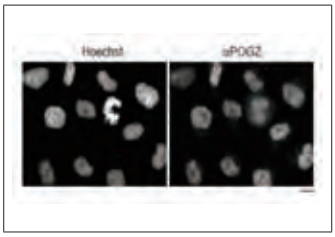


PIP2;7 #COP-COP-080005
Antibody: anti-(PIP2;7 or PIP3a) Protein sample: A. thaliana, crude membrane fraction.

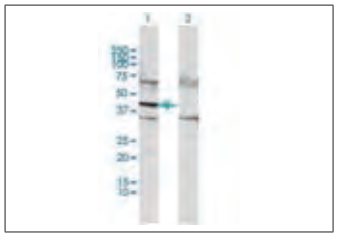
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
PLXNB1	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0407PA	100 μg
PMIS2	Polyclonal	RAB	MS	WB	–	BAM-73-055-EX	100 μℓ
PML (Promyelocytic Leukemia)	Monoclonal 880C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00801	100 μg
	Polyclonal	RAB	HU	WB	–	PRX-KB4394GNP	100 μℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB4394GNPAF	50 μg
PMVK (Phosphomevalonate Kinase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PMVK-302	100 μℓ
PNKD	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1184	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1184PA	100 μg
PNLIP (Pancreatic Lipase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PNLIP-237	100 μℓ
PNPLA7	Polyclonal	RAB	MS	WB	–	PRX-MFL0415	100 μℓ
PNPT1 (Polyribonucleotide Nucleotidyl Transferase 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PNPT1-022	100 μℓ
PNR	Monoclonal H7223	MS/IgG2a	HU/RAT	WB/IHC/ELISA	–	PPX-PP-H7223-00	0.1 mℓ (1 mg/mℓ)
Podocalyxin	Polyclonal	RAB/IgG	RAT	WB/IF	–	KAL-KR064	25 μg
Podoplanin	Monoclonal 7B10	MS/IgG1 κ	HU	WB/FC	–	LNM-KR-050	0.1 mg (1 mg/mℓ)
POGZ	Polyclonal	RAB	HU/MS	WB/IF/IP	–	BAM-70-112-EX	100 μℓ
POLD3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0039	100 μℓ
POLR2B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3683	100 μℓ
POLR3H	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1665	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1665PA	100 μg
POLA2 (Polymerase (DNA directed), α 2)	Monoclonal 2759C3a	MS/IgG2b	HU	WB/IC/DB	–	CBX-CBX00618	100 μg
POLD1 (Polymerase (DNA directed), δ 1)	Monoclonal 2761C6a	MS/IgG2a	HU/RAT	WB/DB/IC	–	CBX-CBX00559	100 μg
POLD2 (Polymerase (DNA directed), δ 2)	Monoclonal 2762C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00463	100 μg
POLDIP2 (Polymerase (DNA-directed), δ Interacting protein 2)	Monoclonal 2765C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00764	100 μg
POLE (Polymerase (DNA directed), ε)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-POLE-240	100 μℓ
POLS (Polymerase (DNA directed) σ (POLS))	Monoclonal 2794C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00470	100 μg
POLR2F (Polymerase (RNA) II (DNA directed) polypeptide F)	Monoclonal 2780C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00407	100 μg
POLR2G (Polymerase (RNA) II (DNA directed) polypeptide G)	Monoclonal 2781C2a	MS/IgG1	HU/MS/RAT	WB/FC/DB	–	CBX-CBX00469	100 μg
POLR2I (Polymerase (RNA) II (DNA directed) polypeptide I)	Monoclonal 140C1a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00785	100 μg
POLR3C (Polymerase (RNA) III (DNA directed) polypeptide C)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-POLR3C-297	100 μℓ
POLR3E (Polymerase (RNA) III (DNA directed) polypeptide E)	Monoclonal 2791C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00765	100 μg
POLR3F (Polymerase (RNA) III (DNA directed) polypeptide F)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-POLR3F-298	100 μℓ
POLR3K (Polymerase (RNA) III (DNA directed) polypeptide K)	Monoclonal 141D3a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00771	100 μg
POLR1D (Polymerase (RNA) I polypeptide D)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-POLR1D-036	100 μℓ
	Monoclonal 2774C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00468	100 μg
PON1	Monoclonal 4C2	MS	HU	WB	–	CAC-ABN-M02-HP	100 μg
	Monoclonal	MS	MS	WB	–	CAC-ABN-M03-MP	100 μg



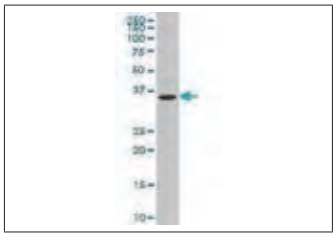
POGZ #BAM-70-112-EX
Western blot of POGZ. Lane 1: Crude extract of HeLa cells transfected with control siRNA. Lane 2: Crude extract of HeLa cells transfected with POGZ specific siRNA.



POGZ #BAM-70-112-EX
Western blot of POGZ. Lane 1: Crude extract of HeLa cells transfected with control siRNA Lane 2: Crude extract of HeLa cells transfected with POGZ siRNA The antibody was used at 1/1,000.



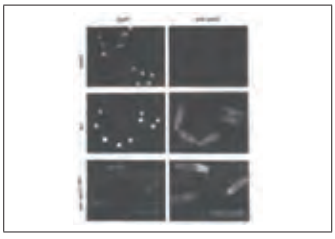
Polymerase (DNA directed), ε
#CAC-CNP-POLE-240
Western blot analysis of POLE expression in transfected 293T cell line by POLE rabbit polyclonal antibody. Lane 1: POLE transfected lysate (41.50kDa). Lane 2: Non-transfected lysate.



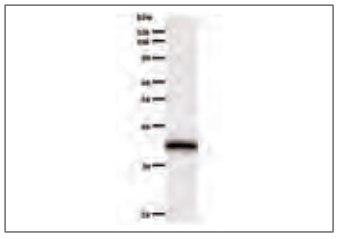
PON1 #CAC-ABN-M02-HP
Primary antibody: Anti human PON1 monoclonal. Antibody (×1,000)
Secondary antibody: Goat anti-mouse IgG-HRP (×2,500).

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
POR (P450 (cytochrome) Oxidoreductase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-POR-310	100 μℓ
POU2F1 (POU class 2 Homeobox 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-POU2F1-590	100 μℓ
POU2F1 (POU domain, class 2, transcription factor 1)	Monoclonal POU5I097	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00155	100 μg
POU2F2 (POU class 2 Homeobox 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-POU2F2-561	100 μℓ
PP (18-36)	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y080-EX	50 μℓ
Ppa2	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IF/IP	–	BAM-63-135-EX	100 μℓ
PPARA	Polyclonal	RAB	HU	WB	–	PRX-KB9549GNP	100 μℓ
PPAR α	Monoclonal H0723	MS/IgG2a	HU/MS	WB/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-H0723-00	0.1 mℓ (1mg/mℓ)
PPAR δ	Monoclonal K9436	MS/IgG2a	HU	WB/ELISA/Gel Shift	–	PPX-PP-K9436-00	0.1 mℓ (1mg/mℓ)
PPAR γ	Polyclonal	RAB	HU/MS	WB	–	KAL-KG113	100 μg (0.25 mg/mℓ)
PPAR γ 2	Monoclonal K8450B	MS/IgG2a	HU/MS	WB/ELISA/Gel Shift	–	PPX-PP-K8450B-00	0.1 mℓ (1mg/mℓ)
PPAR (γ) common	Monoclonal A3409A	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-A3409A-00	0.1 mℓ (1mg/mℓ)
	Monoclonal K8713	MS/IgG2a	HU/MS	WB/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-K8713-00	0.1 mℓ (1mg/mℓ)
PPARGC1A (Peroxisome Proliferative Activated Receptor, γ,coactivator 1, α)	Monoclonal PPARAH6	MS/IgG1	HU	WB/DB	–	CBX-CBX00279	100 μg
PPAT (Phosphoribosyl Pyrophosphate Amidotransferase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PPAT-144	100 μℓ
PPFIA3 (KIAA0654)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK06540310	0.1 mg
PPFIBP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1230	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1230PA	100 μg
PPP1R13L (Protein Phosphatase 1, Regulatory (inhibitor) Subunit 13-like)	Monoclonal 2808C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00519	100 μg
PPP2R2B (Protein Phosphatase 2 (formerly 2A), Regulatory Subunit B, β isoform)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PPP2R2B-055	100 μℓ
PPT1 (Palmitoyl-protein thioesterase 1 (ceroid-lipofuscinosis, neuronal 1, infantile))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PPT1-236	100 μℓ
PPT2 (Palmitoyl-Protein Thioesterase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PPT2-035	100 μℓ
PR	Monoclonal H5344	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H5344-00	0.1 mℓ (1 mg/mℓ)
PR common	Monoclonal A9621A	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-A9621A-00	0.1 mℓ (1 mg/mℓ)
Pre-B-cell Leukemia Homeobox 1 (PBX1)	Monoclonal 146C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00633	100 μg
Pre-B-cell Leukemia Transcription Factor 2	Monoclonal 156C1_2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00695	100 μg
Prednisolone-21 Succinatednisolone-21 Succinate	Polyclonal	RAB	–	EIA	–	FKA-628E	2000 test
Pregnanediol-3-Glucuronide	Polyclonal	RAB/IgG	–	EIA	–	FKA-334-E	2000 test
	Polyclonal	RAB	–	RIA	–	FKA-338	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-338-E	2000 test
Pregnenolone	Polyclonal	RAB	–	RIA	–	FKA-314	2000 test
Pregnenolone-3	Polyclonal	RAB	–	RIA	–	FKA-316	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-316-E	2000 test

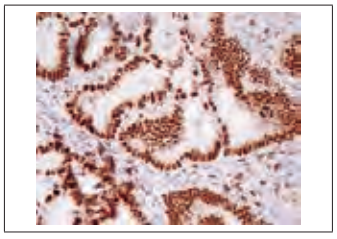
Ppa2 #BAM-63-135-EX
Identification of Ppa1 and Ppa2 proteins. An immunoblot with anti-ppa2 antibody is shown.



Ppa2 #BAM-63-135-EX
Identification of Ppa1 and Ppa2 proteins. An immunoblot with anti-ppa2 antibody is shown.

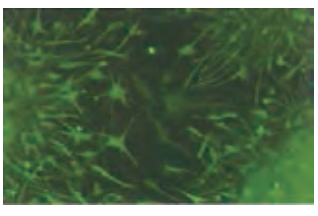


PPARGC1A (Peroxisome proliferative activated receptor, γ,coactivator 1, α) #CBX-CBX00279
Western blot analysis of immunized recombinant protein, using anti-PPARGC1A monoclonal antibody.

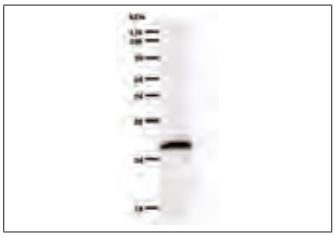


PR common #PPX-PP-A9621A-00
HumanEndometrial cancer paraffin section.

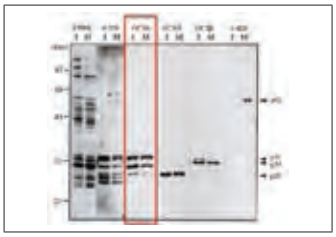
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Prei4 (Preimplantation Protein 4)	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG406	25 μg (0.25 mg/mℓ)
PREPL	Polyclonal	RAB	HU	WB	–	PRX-MKA0436	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0436PA	100 μg
Preprogalanin (89-124)	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y185-EX	50 μℓ
Preprorenin	Polyclonal	RAB	HU/RAT	IHC(f)/EIA	–	YII-Y191-EX	50 μℓ
Preprorenin (21-64)	Polyclonal	RAB	HU	IHC(f)/RIA	–	YII-Y190-EX	50 μℓ
Pre S1	Monoclonal T0606	MS/IgG1	HU	ELISA/IP/WB	–	SIM-2ZPS41	0.5 mℓ (0.25 mg /0.5 mℓ)
Pre-S1,mono-1	Monoclonal	MS/IgG1 κ	HU	WB/ELISA	–	BEC-BCLAB01	100 μg
Pre-S1,mono-2	Monoclonal	MS/IgG1 κ	HU	WB/ELISA	–	BEC-BCLAB02	100 μg
Pre S2	Monoclonal 5520	MS/IgG1	HU	WB/ELISA	–	SIM-2ZPS42	0.5 mℓ (0.25 mg /0.5 mℓ)
Prion	Monoclonal 2C5-5	MS/IgG1 κ	HU	WB/ELISA	–	BAM-65-901-EX	50 μg
	Monoclonal 2C5-5	MS/IgG1 κ	HU	WB/ELISA	–	BAM-65-902-EX	250 μg
	Monoclonal 7A1	MS/IgG1 κ	HU	WB/ELISA	–	BAM-65-903-EX	50 μg
	Monoclonal 7A1	MS/IgG1 κ	HU	WB/ELISA	–	BAM-65-904-EX	250 μg
	Polyclonal	RAB	HU/MS/RAT/ BOV/SHP	ELISA/IF/WB	–	LSL-LB-3117	100 μℓ
	Polyclonal	RAB	HU/MS/RAT/ BOV/SHP	ELISA/IF/WB	–	LSL-LB-3227	100 μℓ
PRKAG1 (Protein Kinase, AMP-Activated, γ 1 Non-catalytic subunit)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PRKAG1-452	100 μℓ
PRMT6 (Protein arginine methyltransferase 6)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PRMT6-032	100 μℓ
PRMT7 (Protein arginine methyltransferase 7)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PRMT7-093	100 μℓ
Progesterone	Polyclonal	RAB/IgG	HU/MS/RAT/ BOV/CHK	RIA/EIA	–	CAC-KZ-HS-P13	50 μℓ
Progesterone-3	Polyclonal	RAB	–	RIA	–	FKA-302	2000 test
	Polyclonal	RAB/IgG	–	EIA	–	FKA-302-E	2000 test
Progesterone-11 α	Polyclonal	RAB	–	RIA	–	FKA-304	2000 test
PROGESTERONE (P)	Polyclonal	RAB/IgG	–	EIA	–	FKA-304-E	2000 test
Prohibitin1 (PHB1)	Monoclonal 1G5C1	RAT/IgG2b	HU/MS/RAT/ MKY	WB/IHC	–	CAC-CE-049A	100 μℓ (1 mg/mℓ)
Prohibitin2 (PHB2)	Monoclonal 7F8B3	RAT/IgG2a	HU/MS/RAT/ MKY	WB/IC/IHC(f)	–	CAC-CE-050A	100 μℓ (1 mg/mℓ)
ProLH-RH (1-26)	Polyclonal	RAB	HU/RAT/POR	IHC(f)/RIA	–	YII-Y310-EX	50 μℓ
Proliferation-associated 2G4 (PA2GA)	Monoclonal PA2GF5F8	MS/IgG1	HU	WB/DB	–	CBX-CBX00312	100 μg
Prolyl 4-hydroxylase, β polypeptide	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-P4HB-155	100 μℓ
Propionyl Coenzyme A carboxylase, β polypeptide	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PCCB-016	100 μℓ
Prorenin	Polyclonal	RAB	HU	EIA/IHC(f)	–	YII-Y192-EX	50 μℓ
Protein 4.1G	Polyclonal	RAB/IgG	RAT	WB/IHC	–	PRX-PRX-PBR-1004	0.1 mg
PRMT2 (Protein arginine methyltransferase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PRMT2-027	100 μℓ
	Monoclonal 2439C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00577	100 μg
PRKAR1A (Protein kinase, cAMP-dependent, regulatory, type I, α)	Monoclonal 3546C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00524	100 μg



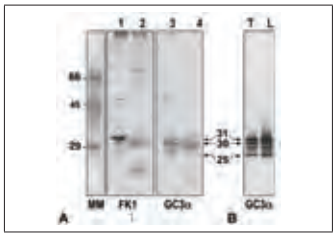
Prion
#LSL-LB-3227



PSMB5 (Proteasome (prosome, macropain) 26S subunit, ATPase, 5)
#CBX-CBX00450

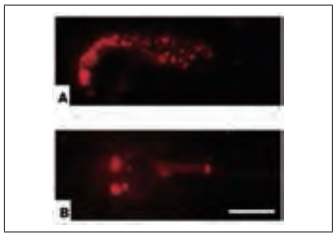


Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M01

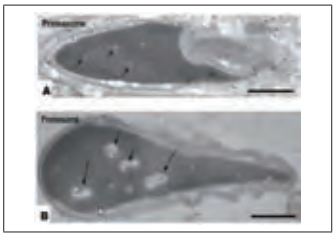


Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M01
Western blot analysis

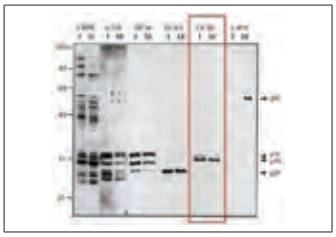
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Protein kinase C and casein kinase substrate in neurons 2 (PACSIN2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PACSIN2-128	100 µℓ
PRKRA (Protein kinase, interferon-inducible double stranded RNA dependent activator)	Monoclonal 2830C1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00619	100 µg
PRPF8 (PRP8 pre-mRNA processing factor 8 homolog (*S.cerevisiae*))	Monoclonal 2834C1a	MS/IgG1	HU/MS/RAT	WB/IC/FC/DB	–	CBX-CBX00434	100 µg
PSA	Monoclonal No.79	MS/IgG1 κ	HU	ELISA	–	LNM-KR-035	0.1 mg (1 mg/mℓ)
	Polyclonal	RAB	HU	EIA/IHC(p)	–	YII-Y480-EX	50 µℓ
PSA (Free-PSA)	Monoclonal 2E2	MS/IgG1 κ	HU	ELISA	–	LNM-KR-034	0.1 mg (1 mg/mℓ)
Pseudomonas spp.	Monoclonal 1C-04	MS/IgG2b	*Pseudomonas aeruginosa*	WB	–	CAC-SBT-M05	100 µg (1 mg/mℓ)
Pseudouridylate Synthase 1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PUS1-304	100 µℓ
Psm1	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP	–	BAM-63-137-EX	100 µℓ
PSMB4 (Proteasome (prosome, macropain) subunit, β type, 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PSMB4-384	100 µℓ
PSMB5 (Proteasome (prosome, macropain) 26S subunit, ATPase, 5)	Monoclonal 2837C4a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00450	100 µg
PSMC5	Polyclonal	RAB	HU	WB	–	PRX-KB6588GNP	100 µℓ
PSRC1 (Proline/serine-rich coiled-coil 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PSRC1-321	100 µℓ
PTCD3 (Pentatricopeptide repeat domain 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PTCD3-378	100 µℓ
PTH (1-15)	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y421-EX	50 µℓ
PTH (1-34) NH2	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y420-EX	50 µℓ
PTH (2-34)	Monoclonal 8A2	MS/IgG1 κ	RAT	–	–	YMS-7667	200 µg
PTH (C-terminal Region)	Monoclonal 5A7	MS/IgG1 κ	HU	–	–	YMS-7648	200 µg
PTH (M-Region)	Monoclonal 6D7	MS/IgG1 κ	HU	–	–	YMS-7643	200 µg
PTHrP (1-34)-NH2	Polyclonal	RAB	HU/MS/RAT/CAN	IHC/RIA	–	YII-Y201-EX	50 µℓ
PTHrP (15-34)-NH2	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-Y202-EX	50 µℓ
PTPRN2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0387AF	50 µg
PTX3	Monoclonal PPJ0069	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-PPJ0069-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ1272	MS/IgG1	HU	WB/ELISA	–	PPX-PP-PPZ1272-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ17105	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-PPZ17105-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ17115	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-PPZ17115-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ1773	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-PPZ1773-00	0.1 mℓ (1 mg/mℓ)
PUM1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0099	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0099PA	100 µg
PUM2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0235AF	50 µg
Purified 20S proteasome purified from goldfish ovary (GC 3 α)	Monoclonal GC3 α	MS/IgG1	YST/Fish/Frog/RAT/HU/Plant	IEM/WB/IHC	–	CAC-SZU-PS-M01	100 µℓ (1 mg/mℓ)
	Monoclonal GC3 β	MS/IgG2a	Fish/Frog/RAT/HU/Plant	WB	–	CAC-SZU-PS-M02	100 µℓ (1 mg/mℓ)
	Monoclonal GC4/5	MS/IgG2b	YST/Fish/Frog/RAT/HU/Plant	WB	–	CAC-SZU-PS-M03	100 µℓ (1 mg/mℓ)
Putative homeodomain transcription factor 1 (PHTF1)	Monoclonal PHTF1R8	MS/IgG1	HU	WB/DB	–	CBX-CBX00288	100 µg



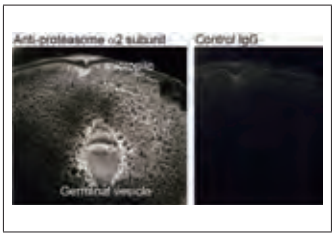
Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M01
Immunofluorescence staining of rat epididymal sperm and human ejaculated sperm. (A) Smear preparation of rat sperm. (B) Human ejaculated sperm. Bar = 5 µm.



Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M01
Immunoelectronmicroscopic localization of proteasome.



Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M02
Immunoblotting of the purified 26S proteasomes.



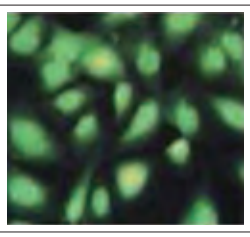
Purified 20S proteasome purified from goldfish ovary
#CAC-SZU-PS-M03
Immunoelectronmicroscopic localization of proteasome α2 subunit.

PW-

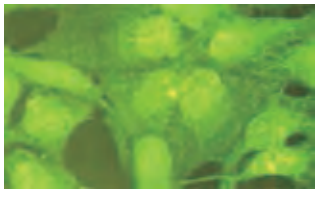
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
PWP1 homolog (*S. cerevisiae*)	Monoclonal 2851C5a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00397	100 μg
PWP2H (PWP2 periodic tryptophan protein homolog (yeast))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-PWP2-402	100 μl
PXR-2	Monoclonal H0502	MS/IgG2b	HU	WB/ELISA	–	PPX-PP-H0502-00	0.1 ml (1 mg/ml)
PXR common	Monoclonal H4417	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H4417-00	0.1 ml (1 mg/ml)
Pygopus homolog 2 (*Drosophila*) (PYGO2)	Monoclonal PYGAD53A	MS/IgG1	HU	WB/ELISA/DB	–	CBX-CBX00240	100 μg
Pyrophosphatase (inorganic) 2	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PPA2-274	100 μl
Pyrraline	Monoclonal H12	MS/IgG1	–	IHC/ELISA	–	KAL-KH010	20 μg
	Monoclonal H12	MS/IgG1	–	IHC/ELISA	Biotin	KAL-KH010-01	20 μg
	Monoclonal H12	MS/IgG1	Animal	IHC/ELISA	HRP	KAL-KH010-02	20 μg
PYCR2 (Pyrroline-5-carboxylate reductase family, member 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-PYCR2-137	100 μl
PYY	Polyclonal	RAB	RAT/POR	IHC/RIA	–	YII-Y070-EX	50 μl
	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y072-EX	50 μl

R

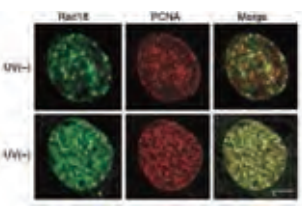
R3HDM1 (KIAA0029)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK00290910	50 μg
R-2323	Polyclonal	RAB	–	EIA	–	FKA-620	2000 test
RAB3GAP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0066	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0066PA	100 μg
RAB3GAP2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0839	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0839PA	100 μg
RAB6B	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3715	100 μl
RAB6IP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1091	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1091PA	100 μg
RAB11FIP3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0665	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0665PA	100 μg
RAB11FIP5	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0857	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0857PA	100 μg
RAB13, member RAS oncogene family	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAB13-013	100 μl
RAB27B, member RAS oncogene family	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAB27B-330	100 μl
RAB37, member RAS oncogene family	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAB37-192	100 μl
RABGAP1L	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0471	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0471PA	100 μg
RAD1 homolog (*S. pombe*)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAD1-502	100 μl
Rad6	Polyclonal	RAB	HU/MS/RAT/HAM	WB/IF/IP	–	BAM-70-020-EX	100 μg
Rad18	Polyclonal	RAB	HU	WB/IF/IP	–	BAM-70-023-EX	100 μg
	Polyclonal	RAB	MS	WB/IHC/IF/IP	–	BAM-70-025-EX	100 μg
Rad21	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB	–	BAM-63-139-EX	50 μl
	Polyclonal	RAB	HU/MS/HAM	WB/IF	–	BAM-70-105EX	50 μg
Rad22/Rad52	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/ELISA/IP/IF	–	BAM-63-003-EX	50 μg
RAD23B (P58, HR23B, HHR23B,RAD23 homolog B)	Monoclonal 2857D7a	MS/IgG1	HU	WB/DB	–	CBX-CBX00678	100 μg



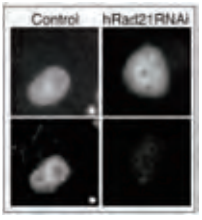
Rad6
#BAM-70-020-EX
Western blot analysis of Rad6 in the whole cell extracts of HeLa cell (10 mg) with anti-Rad6.



Rad18
#BAM-70-023-EX
Indirect immunofluorescence staining of Rad18 protein in GM637 cells. Rad18 protein is stained as yellow dots in nuclei.



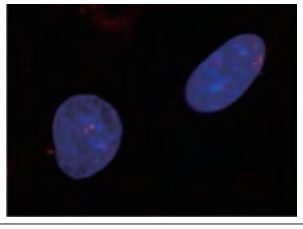
Rad18
#BAM-70-023-EX
Identification of Rad18 protein in crude extract of A549 cells by Western blotting. The lower thick band is native Rad18 and the upper thin band is mono-ubiquitinated Rad18 protein.



Rad21
#BAM-70-105EX
Immunofluorescence staining of Rad21.

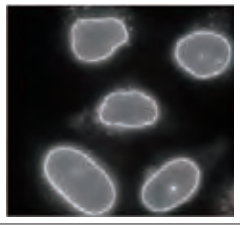
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
RAD23B (RAD23 homolog B (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAD23B-505	100 µℓ
Rad51	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IF/IP/ChIP	–	BAM-62-101-EX	50 µℓ
	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IF/IP/ChIP	–	BAM-62-102-EX	250 µℓ
	Polyclonal	RAB	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-001-EX	50 µℓ
	Polyclonal	RAB	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-002-EX	250 µℓ
	Polyclonal	Chicken	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-003-EX	50 µℓ
	Polyclonal	Chicken	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-004-EX	250 µℓ
	Polyclonal	Chicken	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-005EX	100 µg
	Polyclonal	Chicken	HU/MS/RAT/CHK	IP/ChIP	Agarose	BAM-70-007-EX	100 µℓ
	Polyclonal	Chicken/IgY	HU/MS/RAT/CHK	WB/ELISA/IF/IP	–	BAM-70-009EX	50 µg
	Polyclonal	RAB	HU/MS/RAT/CHK	WB/ELISA/IF/IP/ChIP	–	BAM-70-011-EX	20 µg
	Polyclonal	RAB	HU/MS/RAT/CHK	WB/ELISA/IF/IP/ChIP	–	BAM-70-012-EX	100 µg
RAD51-like 1 (*S. cerevisiae*)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAD51L1-506	100 µℓ
Rad52	Polyclonal	RAB/IgG	HU/MS/RAT/MAM	WB/IP	–	BAM-70-015-EX	50 µg
Rad60	Polyclonal	RAB	YST	WB	–	BAM-63-009-EX	50 µℓ
RADIL	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1849	100 µℓ
RagA	Polyclonal	RAB	HU/MAM/Xenopus	WB	–	BAM-71-020-EX	100 µℓ
RAGE	Monoclonal 1C5	MS/IgG1κ	HU	WB/ELISA/FC/IC	–	KAL-KG134	50 µg
	Polyclonal	RAB/IgG	HU	WB/IHC	–	KAL-KH039	100 µg
RALGPS1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0351	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0351PA	100 µg
Ran	Monoclonal 1D6C10	RAT/IgG2a	HU/MS/RAT/MKY	WB/IC	–	CAC-CE-007A	100 µℓ (1 mg/mℓ)
RANBP1 (RAN Binding Protein 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RANBP1-307	100 µℓ
RanBP2	Polyclonal	RAB	HU	WB/IP	–	BAM-71-003-EX	50 µℓ
	Polyclonal	RAB	HU	WB/IP	–	BAM-71-004-EX	250 µℓ
RanBPM	Polyclonal	RAB	HU	WB/IHC(p)/IP	–	BAM-71-001-EX	50 µℓ
	Polyclonal	RAB	HU	WB/IHC(p)/IP	–	BAM-71-002-EX	250 µℓ
RAP1GAP	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0474	100 µℓ
RAPGEF2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0313	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0313PA	100 µg
RAPGEF3 (Rap Guanine Nucleotide Exchange Factor (GEF) 3)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RAPGEF3-110	100 µℓ
RAR α	Monoclonal H1920	MS/IgG1	HU	WB/ELISA/IP	–	PPX-PP-H1920-00	0.1 mℓ (1 mg/mℓ)
RAR β	Monoclonal H4338	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H4338-00	0.1 mℓ (1 mg/mℓ)
RAR γ	Monoclonal H5620	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H5620-00	0.1 mℓ (1 mg/mℓ)

Rad51
#BAM-62-102-EX
Western blotting of the crude cell extract of S. cerevisiae wild-type strain (left lane) and Rad51 deletion mutant (right lane) using this antibody.



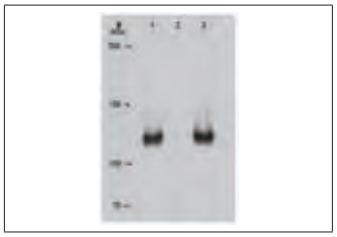
Rad51
#BAM-70-002-EX
Detection of Rad51 foc: formation induced by DNA damage.

Rad51
#BAM-70-009EX
SDS-PAGE (without Et-SH) analysis of purified IgY.

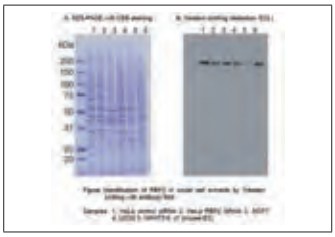


RanBP2
#BAM-71-004-EX
Para formaldehyde fixed HeLa cells stained with a anti RanBP2 cDNA.

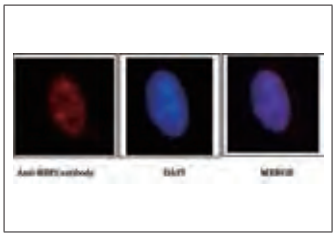
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
RAMP1 (Receptor (G protein-coupled) activity modifying protein 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RAMP1-333	100 µℓ
RAR-related orphan receptor C	Monoclonal 162C2a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00582	100 µg
RASGRP3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0846	100 µℓ
RHOB (Ras homolog gene family, member B)	Monoclonal 2916C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00474	100 µg
RRAGC (Ras-related GTP Binding C)	Monoclonal 2938C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00732	100 µg
Rattin-24	Polyclonal	RAB	RAT	IHC/EIA	–	YII-Y441-EX	50 µℓ
RB	Monoclonal 28B5	MS/IgG2a κ	HU	WB/ELISA	–	BAM-71-171-EX	50 µg (1 mg/mℓ)
	Monoclonal 24A7	MS/IgG1 κ	HU	WB/ELISA	–	BAM-71-173-EX	50 µg (1 mg/mℓ)
RB1CC1 (KIAA0203)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK02030910	50 µg
rBAT	Polyclonal	RAB/IgG	RAT	WB/IHC	–	KAL-KE030	25 µg
RB (901-928)	Polyclonal	RAB	HU/RAT	IHC(f)/RIA	–	YII-Y280-EX	50 µℓ
RBBP4 (Retinoblastoma Binding Protein 4)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RBBP4-507	100 µℓ
RBBP5	Polyclonal	RAB	HU	WB	–	PRX-KB9771GNP	100 µℓ
RBL2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0132GNPAF	50 µg
RBP2/JARID1A	Monoclonal 9A6	MS/IgG2a κ	HU/MS	WB	–	BAM-71-175-EX	50 µg
	Monoclonal 18E8	MS/IgG2a κ	HU/MS	WB/FC	–	BAM-71-177-EX	50 µg
RBP-Jk	Monoclonal K0043	RAT/IgG1	MS	IHC/ELISA/IP/ WB/ChIP	–	SIM-2ZRBP1	0.5 mℓ (0.25 mg /0.5 mℓ)
	Monoclonal T6709	RAT/IgG2a	MS	WB/IHC/ELISA	–	SIM-2ZRBP2	2 mℓ
	Monoclonal T6719	RAT/IgG2a	MS	WB/ELISA	–	SIM-2ZRBP3	2 mℓ
RBPSUH (Recombining Binding Protein suppressor of hairless (*Drosophila*))	Monoclonal RPBS3D18	MS/IgG1	HU	WB/DB	–	CBX-CBX00283	100 µg
RCH2, SRP1, IPOA5, NPI-1,karyopherin α 1	Monoclonal 2498C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00680	100 µg
RCN3	Polyclonal	RAB/IgG	HU	WB	–	CAC-SK-T01-013	100 µℓ
RCOR1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0071AF	50 µg
RD19	Polyclonal	RAB/IgG	Wheat	WB	–	CAC-SK-T01-008	100 µℓ
RecA	Polyclonal	RAB	*Escherichia coli*	WB/ELISA/IF/IP/ ChIP	–	BAM-61-003-EX	50 µg
	Polyclonal	RAB	*Escherichia coli*	WB/ELISA/IF/IP/ ChIP	–	BAM-61-004-EX	250 µg
Recombinant PTX3 [18-381a.a.]	Monoclonal PPZ1228	MS/IgG2b	HU	WB/IHC/ELISA/ IP	–	PPX-PP-PPZ1228-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ1723	MS/IgG2b	HU	WB/ELISA	–	PPX-PP-PPZ1723-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal PPZ1724	MS/IgG2a	HU	WB/ELISA	–	PPX-PP-PPZ1724-00	0.1 mℓ (1 mg/mℓ)
RELA (v-rel reticuloendotheliosis viral oncogene homolog A,nuclear factor of κ light polypeptide gene enhancer in B-cells 3, p65 (*avian*))	Monoclonal 340C1a	MS/IgG1	HU/RAT	WB/IC/DB	–	CBX-CBX00563	100 µg
Replication protein A1 (RPA1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RPA1-509	100 µℓ
	Monoclonal RPA15I373	MS/IgG1	HU	WB/DB	–	CBX-CBX00172	100 µg
Replication protein A2 (RPA2)	Monoclonal 2927C5	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00427	100 µg
Replication protein A4 (RPA4)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RPA4-551	100 µℓ



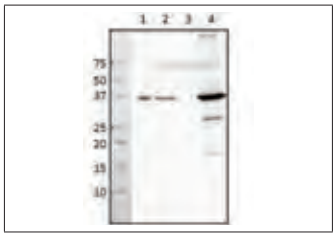
RB
#BAM-71-171-EX
Specificity of the monoclonal antibody (28B5) to the phosphorylated Rb at Ser795 as demonstrated by Western blotting.



RBP2/JARID1A
#BAM-71-175-EX
Identification of RBP2 in crude cell extracts by Western blotting with antibody 9A6.



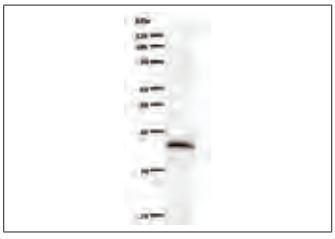
RBP2/JARID1A
#BAM-71-177-EX
Immunofluorescence staining of HeLa cell with anti-RBP" antibody.



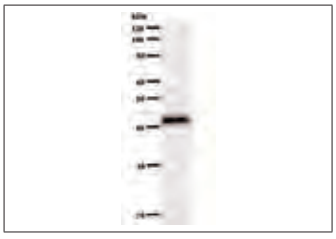
RecA
#BAM-61-003-EX
Western blot analysis of RecA protein in crude extract of *E. coli*.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Reticulon 3	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RTN3-204	100 µℓ
Retinoblastoma 1 (including Osteosarcoma) (RB1)	Monoclonal RB1AD56A	MS/IgG1	HU	WB/ELISA/DB/IC	–	CBX-CBX00248	100 µg
Retinoic acid receptor, γ (RARG)	Monoclonal 167C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00325	100 µg
REVERB α	Monoclonal A8740A	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-A8740A-00	0.1 mℓ (1 mg/mℓ)
REVERB β	Monoclonal H2729	MS/IgG3	HU/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H2729-00	0.1 mℓ (1 mg/mℓ)
REXO2 (RNA Exonuclease 2 Homolog (*S. cerevisiae*))	Monoclonal 2276D6a	MS/IgG2a	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00548	100 µg
REXO1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1138AF	50 µg
RFTN1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0084	100 µℓ
RFXAP (Regulatory Factor X-associated Protein)	Monoclonal RFXAD55A	MS/IgG1	HU/MS	WB/ELISA/DB	–	CBX-CBX00241	100 µg
RGAG4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2001	100 µℓ
RGL1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0959	100 µℓ
RGNEF	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1998	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1998PA	100 µg
RGP1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0258	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0258PA	100 µg
RHOBTB1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0740	100 µℓ
RHOBTB3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0878	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0878PA	100 µg
Rhodopsin	Polyclonal	RAB	Frog/Squid	ELISA/IF	–	LSL-LB-5509	100 µℓ
	Polyclonal	RAB	*Drosophila*/Insect	ELISA/IF/WB	–	LSL-LB-5533	100 µℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/CHK/Frog/Vertebrate	ELISA/IF/WB	–	LSL-LB-5555	100 µℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/CHK/Frog	ELISA/IF	–	LSL-LB-5597	100 µℓ
Rhp51p	Polyclonal	RAB	YST	WB/ELISA/IP/IF	–	BAM-63-001-EX	50 µℓ
	Polyclonal	RAB	YST	WB/ELISA/IP/IF	–	BAM-63-002-EX	250 µℓ
Rhp55/Rad55	Polyclonal	RAB	YST	WB	–	BAM-63-005-EX	50 µℓ
Rhp57/Rad57	Polyclonal	RAB	YST	WB/IP	–	BAM-63-007-EX	50 µℓ
Ribophorin II	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RPN2-033	100 µℓ
RIG-I	Monoclonal SS1A	RAT/IgG2aκ	MS	WB	–	CAC-SU-IZ-M02	100 µℓ (3.4 mg/mℓ)
Rims1	Polyclonal	RAB	MS	WB/ELISA/IP	–	KAL-KO454	25 µg (100 µℓ /vial)
RIMS3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0237	100 µℓ
RNA Polymerase 2, CTD Ser2ph	Monoclonal 3E7C7	RAT/IgG2a	HU/MS/RAT/MKY/HAM	WB/IC/ChIP	–	CAC-CE-030A	100 µℓ (1 mg/mℓ)
RNA Polymerase 2, CTD Ser5ph	Monoclonal 1H4B6	RAT/IgG2b	HU/MS/RAT/MKY/HAM	WB/IC/ChIP	–	CAC-CE-031A	100 µℓ (1 mg/mℓ)
RNF8 (Ring Finger Protein 8)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RNF8-023	100 µℓ
RNF25 (Ring Finger Protein 25)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RNF25-149	100 µℓ
RNF111 (Ring Finger Protein 111)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RNF111-338	100 µℓ
RNF10	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0262	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0262PA	100 µg
RNF31	Polyclonal	RAB/IgG	MS	WB	–	PRX-MFL0217AF	50 µg

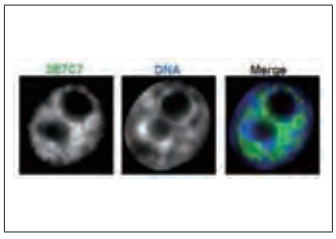
Receptor (G protein-coupled) activity modifying protein 1
#CAC-CNP-RAMP1-333
Western Blotting (Transfected lysate)



RELA (v-rel reticuloendotheliosis viral oncogene homolog A,nuclear factor of κ light polypeptide gene enhancer in B-cells 3, p65 (avian)) #CBX-CBX00563
Western Blotting analysis of immunized recombinant protein carrying 50-200 amino acids.

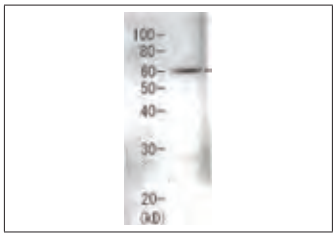


RFXAP (Regulatory factor X-associated protein)
#CBX-CBX00241
Western Blotting analysis of immunized recombinant protein, using anti-RFXAP monoclonal antibody.

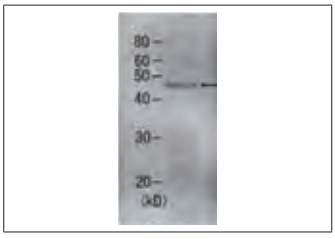


RNA polymerase 2, CTD Ser2ph
#CAC-CE-030A
Immunocytochemical analysis of HeLa Cell using RNA polymerase 2, CTD Ser2ph antibody, 3E7C7.

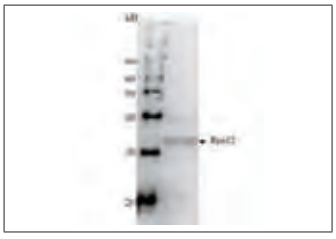
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
RNF40	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0661AF	50 μg
RNF44	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1100	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1100PA	100 μg
RNF157	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1917	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1917PA	100 μg
RNMT (KIAA0398)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK03980910	50 μg
Rnq1	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB	–	BAM-62-301-EX	100 μℓ
ROCK2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0619	100 μℓ
ROR α	Monoclonal H3910	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H3910-00	0.1 mℓ (1 mg/mℓ)
ROR β	Monoclonal N7927	MS/IgG2b	HU	WB/ELISA	–	PPX-PP-N7927-00	0.1 mℓ (1 mg/mℓ)
ROR Common	Monoclonal H3925	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H3925-00	0.1 mℓ (1 mg/mℓ)
ROR γ	Monoclonal H6437	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H6437-00	0.1 mℓ (1 mg/mℓ)
RPAP1 (KIAA1403)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK14030910	50 μg
Rpn3	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-201-EX	100 μℓ
Rpn5	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-203-EX	100 μℓ
Rpn7	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-205-EX	100 μℓ
Rpn9	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-207-EX	100 μℓ
Rpn12	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-209EX	50 μℓ
RPP30 (Ribonuclease P/MRP 30kDa subunit)	Monoclonal 2931D5a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00465	100 μg
RPS6KA2 (Ribosomal Protein S6 Kinase, Polypeptide 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-RPS6KA2-235	100 μℓ
RRBP 1 / KIAA1398	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK13980310	0.1 mg
RREB1	Monoclonal 2939C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00717	100 μg
RRM2 / RNR-R2	Polyclonal	RAB	HU/MS/RAT/Xenopus	WB	–	BAM-70-050-EX	100 μg
RRS1 Ribosome Biogenesis Regulator Homolog (*S. cerevisiae*)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-RRS1-393	100 μℓ
RUFY2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1537	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1537PA	100 μg
RUFY3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0871	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0871PA	100 μg
RUNX1 (Runt-Related Transcription Factor 1 (acute myeloid leukemia 1; aml1 oncogene))	Monoclonal RUNXA3B6	MS/IgG1	HU	WB/DB	–	CBX-CBX00311	100 μg
RUNX3 (Runt-Related Transcription Factor 3)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-RUNX3-470	100 μℓ
	Monoclonal 6821C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00622	100 μg
RuvA	Polyclonal	RAB	*Escherichia coli*	WB/ELISA/IP	–	BAM-61-005-EX	100 μℓ
RuvB	Polyclonal	RAB	*Escherichia coli*	WB/ELISA/IP	–	BAM-61-007-EX	100 μℓ
RUVBL1 (RuvB-Like 1 (*E. coli*))	Monoclonal 2943C1a	MS/IgG2b	HU	WB/IC/FC/DB	–	CBX-CBX00431	100 μg
RUVBL2 (RuvB-Like 2 (*E. coli*))	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-RUVBL2-365	100 μℓ



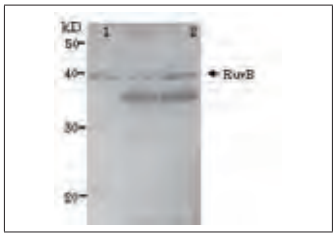
Rpn3
#BAM-62-201-EX
Detection of Rpn3 (60kDa) in the crude extract of S. cerevisiae by Western blotting using this antibody.



Rpn7
#BAM-62-205-EX
Detection of Rpn7 (49kDa) in the crude extract of S. cerevisiae by Western blotting using this antibody.



Rpn12
#BAM-62-209EX
Detection of Rpn1 2 (32kD) in the crude extract of S. cerevisiae by W estern blotting using this antibody.

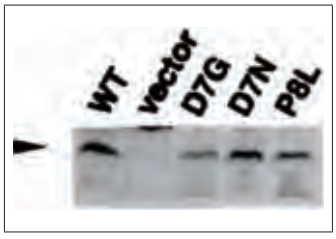


RuvB
#BAM-61-007-EX
Detection of RuvB (37kD) protein by Western blotting usingthis antibody.

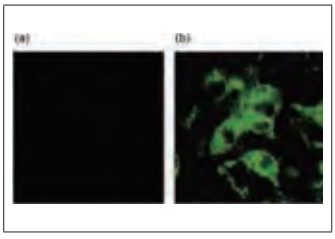
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
RuvC	Polyclonal	RAB	*Escherichia coli*	WB	–	BAM-61-009-EX	100 µℓ
RXR α	Monoclonal K8508	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP/Gel Shift/ChIP	–	PPX-PP-K8508-00	0.1 mℓ (1 mg/mℓ)
RXR β	Monoclonal H7341	MS/IgG2a	HU/RAT	WB/ELISA/IP	–	PPX-PP-H7341-00	0.1 mℓ (1 mg/mℓ)
RXR γ	Monoclonal H3210	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H3210-00	0.1 mℓ (1 mg/mℓ)

S

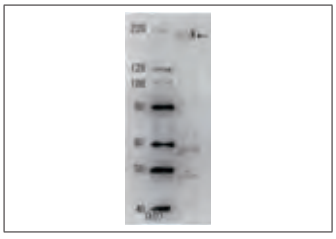
S14, Ribosomal Protein	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080013	100 µℓ
S19, Ribosomal Protein	Polyclonal	RAB/IgG	HU	WB/IHC/ELISA/IB	–	KAL-KY008	100 µg
S100A8	Monoclonal 2H6	MS Mono/IgG1 κ	RAT	WB/IHC	–	YMS-80083	0.2 mg
S100A9	Monoclonal 15E9	MS Mono/IgG1 κ	RAT	WB/IHC	–	YMS-80086	0.2 mg
S100 β (41-60)	Polyclonal	RAB	HU/MS/RAT	WB/IHC	–	YII-YP080-EX	50 µℓ
S100 β (74-92)	Polyclonal	RAB	HU/MS/RAT	WB/IHC	–	YII-YP081-EX	50 µℓ
S-100 Protein	Polyclonal	RAB	HU/MS/RAT/BOV/GT/Eel	ELISA/EIA	–	LSL-LB-9197	100 µℓ
SALL1	Monoclonal K9814	MS/IgG2a	HU/MS	WB/IHC/ELISA/IP	–	PPX-PP-K9814-00	0.1 mℓ (1 mg/mℓ)
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0111GNPAF	50 µg
Sall4	Monoclonal PPZ0601	MS/IgG2a	MS	WB/IHC/ELISA/IP	–	PPX-PP-PPZ0601-00	0.1 mℓ (1 mg/mℓ)
Salvinorin A	Monoclonal IC1	MS/IgG2b λ	–	ELISA	–	CAC-KYU-HT-M004	100 µℓ
SAMHD1 (SAM Domain and HD Domain 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SAMHD1-394	100 µℓ
SAP18	Polyclonal	RAB	HU	WB	–	PRX-KB8109GNP	100 µℓ
SARS	Monoclonal 3A2	MS/IgG2b κ	Virus	WB/ELISA	–	BAM-65-101-EX	50 µg
	Monoclonal 3A2	MS/IgG2b κ	Virus	WB/ELISA	–	BAM-65-102-EX	250 µg
SATB1	Monoclonal 3548D4_2a	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00723	100 µg
SATB2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1034AF	50 µg
SATB Family Member 2 (SATB2)	Monoclonal SATBA4B10	MS/IgG1	HU/MS	WB/IC/IP/DB	–	CBX-CBX00263	100 µg
SBP2, DKFZp686C09169,SECIS Binding Protein 2 (SECISBP2)	Monoclonal 2957C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00674	100 µg
SCAND1 (SCAN Domain Containing 1, Transcript variant 1)	Monoclonal SCANH7G4	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00398	100 µg
SCAP	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0199	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0199PA	100 µg
SCARF1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0149AF	50 µg
SCCA	Polyclonal	RAB	HU	WB/IHC	–	CAC-SU-IZ-P04	100 µℓ
SCCA1	Monoclonal SS6A	RAT/IgG2b κ	HU	IP/ELISA	–	CAC-SU-IZ-M07	100 µℓ (0.3 mg/mℓ)
	Monoclonal SS6C	RAT/IgG2a κ	HU	IP/ELISA	–	CAC-SU-IZ-M08	100 µℓ (0.72 mg/mℓ)
SCCA2	Monoclonal SS8J	RAT/IgG2b κ	HU	IP/ELISA	–	CAC-SU-IZ-M01	100 µℓ (0.54 mg/mℓ)
Schwann Cell Peripheral Myelin	Monoclonal Schwann/2E	MS/IgM	HU/MS/RAT	IHC	–	CAC-GU01-M01AS-A	50 µℓ
SCMH1	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0209GNPAF	50 µg
SCRIB	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK01470910	50 µg



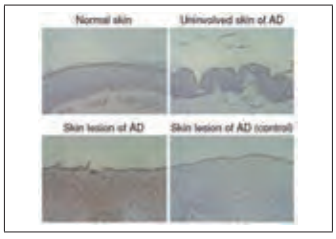
RuvC
#BAM-61-009-EX
Detection of RuvC (19kD) proteins in the cell extracts of 01-011 *E.coli*.



SARS
#BAM-65-101-EX
Identification of the spike antigen in the SARS virus infected cells by indirect immunostaining with 3A2 antibody
(a) Uninfected Vero E6 cells. (b) SARS virus infected Vero E6 cells.

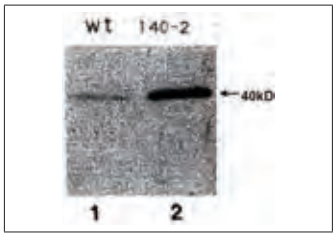


SARS
#BAM-65-102-EX
Identification of the spike glycoprotein in the crude extract of the SARS virus infected cells by Western blotting using 3A2 antibody at 10,000 fold dilution.

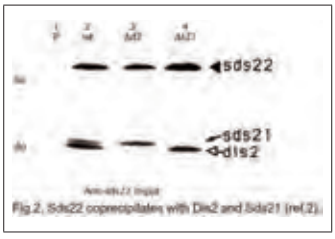


SCCA
#CAC-SU-IZ-P04
Immunohistochemical staining of squamous cell carcinoma antigen (SCCA) in atopic dermatitis (AD) skin, and involved skin of AD patients with or without 200-fold diluted anti-SCCA monoclonal antibody is depicted.

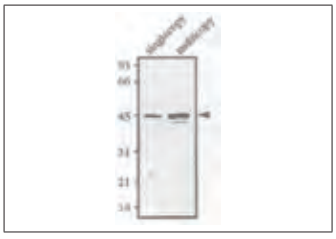
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
SCML2 (Sex Comb on Midleg-like 2 (*Drosophila*))	Monoclonal SCMAD14A	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00230	100 μg
SCRN1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0193	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0193PA	100 μg
SCYE1 (Small inducible cytokine subfamily E, member 1 (Endothelial monocyte-activating))	Monoclonal 284D2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00534	100 μg
SDP-35	Monoclonal 2200D12	MS/IgG1	HU	–	–	CAC-PRPG-SDP-M01	2 mℓ
SDPR (Serum deprivation response (Phosphatidylserine binding protein))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SDPR-167	100 μℓ
Sds22	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IF/IP	–	BAM-63-141-EX	100 μℓ
Sds23	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-63-143-EX	100 μℓ
SEC13 Homolog (*S. cerevisiae*)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SEC13-201	100 μℓ
SEC14L2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1186	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1186PA	100 μg
SEC16A (KIAA0310)	Polyclonal	RAB	MS	WB	–	PRX-MKA0310	100 μℓ
Secretin	Polyclonal	RAB	HU/RAT/MKY	IHC/RIA	–	YII-Y030-EX	50 μℓ
	Polyclonal	RAB	HU/RAT/POR	IHC/RIA	–	YII-Y031-EX	50 μℓ
	Polyclonal	RAB	RAT	IHC/RIA	–	YII-Y032-EX	50 μℓ
SCLY (Selenocysteine Lyase)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SCLY-555	100 μℓ
Sema4b	Monoclonal TK-2	RAT/IgM	MS	ELISA/FC/IP	–	KAL-KO599	25 μg (100 μℓ)
	Monoclonal SK-3	MS/IgG1 κ	HU/MS	ELISA/FC/IP	–	KAL-KO453	25 μg (100 μℓ /vial)
Semaphorin 3B	Polyclonal	RAB/IgG	HU/MS	WB/IHC/IP	–	KAL-KR100	100 μg
Semaphorin 4A	Monoclonal HIAT-2	MS/IgG1 κ	HU/MS	ELISA/FC/IP	–	KAL-KO401	25 μg (0.25 mg/mℓ)
Semaphorin 7A	Monoclonal SKK-7	MS/IgG1 κ	HU/MS	ELISA/FC/IP	–	KAL-KO402	25 μg (0.25 mg/mℓ)
SENP2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1331	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1331PA	100 μg
Sepetin5 (CDCrel-1)	Polyclonal	RAB/IgG	MS	WB/IHC	–	CAC-SDT-02-SP5	100 μℓ
SEPT6	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0128AF	50 μg
SEPT8	Polyclonal	RAB/IgG	MS	WB/IHC	–	PRX-MK02020505	0.05 mg
Septin 11	Monoclonal 998C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00768	100 μg
SERTAD2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0127	100 μℓ
Serum Albumin	Polyclonal	RAB/IgG	RAT	WB	–	CAC-SK-T01-009	100 μℓ
Seryl-tRNA Synthetase 2, Mitochondrial (SARS2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SARS2-148	100 μℓ
Sestrin 2	Monoclonal 2965C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00725	100 μg
SETD2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1732AF	50 μg
SETD7	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1717	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1717PA	100 μg
SETDB1	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0067AF	50 μg
SET Domain Containing (Lysine Methyltransferase) 7	Monoclonal 2967C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00797	100 μg
SF-1	Monoclonal N1665	MS/IgG1	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-N1665-00	0.1 mℓ (1 mg/mℓ)
SF3B3	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0017	100 μℓ



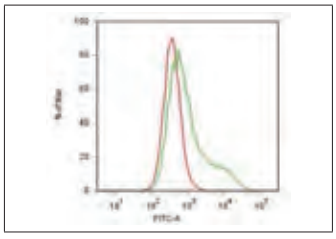
Sds22
#BAM-63-141-EX
Immunoblot with anti-Sds22 antiserum of yeast extracts from (1) wild type strain HM123, (2) sds::ura4+ deletion mutant carrying pHR140-2.



Sds22
#BAM-63-141-EX
Sds22 coprecipitates with Dis2 and Sds21.

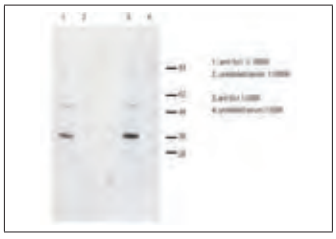


Sds23
#BAM-63-143-EX
Identification of Sds23 protein.

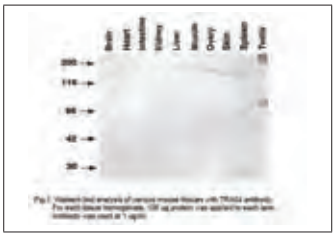


Sema4b
#KAL-KO599
[FCM] COS cell expressing mouse Sema4b.

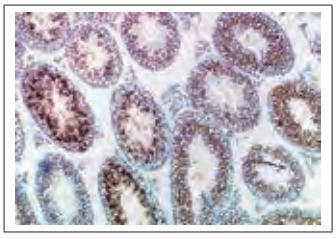
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
SF3B3	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0017PA	100 μg
SGSM3	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0006	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MFL0006PA	100 μg
SH2B1	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1299AF	50 μg
SH3BP5L	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1720	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1720PA	100 μg
SH3-domain Binding Protein 4	Monoclonal 2992C1a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00752	100 μg
SH3GLB2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1848	100 μℓ
SHOC2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0862	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0862PA	100 μg
SHP	Monoclonal N7519	MS/IgG1	HU	WB/ELISA	–	PPX-PP-N7519-00	0.1 mℓ (1 mg/mℓ)
SHP 1	Polyclonal	RAB/IgG	RAT	WB/IHC/IP	–	CAC-TNL-002-SH1	100 μℓ
	Polyclonal	RAB/IgG	RAT	WB/IHC/IP	–	CAC-TNL-002-SH2	100 μℓ
Shugoshin 1	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IF	–	BAM-63-154-EX	100 μℓ (0.2 mg/mℓ)
	Polyclonal	RAB/IgG	MS	WB/IHC/IP/ChIP	–	PRX-MK11220801	0.05 mg
Siah1	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR055	25 μg
Siah2	Polyclonal	RAB/IgG	HU	WB	–	KAL-KR056	25 μg
Signal Transducer and Activator of Transcription 3 (Acute-Phase Response Factor) (STAT3)	Monoclonal STAAD22A	MS/IgG1	HU/MS/RAT	WB/IC/FC/ ELISA/IP	–	CBX-CBX00237	100 μg
Signal Transducer and Activator of transcription 5B (STAT5B)	Monoclonal STAT2C321	MS/IgG1	HU	WB/DB	–	CBX-CBX00284	100 μg
Signal Transducer and Activator of Transcription 6, interleukin-4 induced (STAT6)	Monoclonal STAAD23A	MS/IgG1	HU	WB/IC/FC/ELISA	–	CBX-CBX00238	100 μg
SIRP β	Monoclonal	RAB	MS	WB	–	CAC-GU02-P01AF-A	50 μℓ
SIRT5 (Sirtuin (silent mating type information regulation 2 homolog) 5 (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SIRT5-087	100 μℓ
SIRT7 (Sirtuin (silent mating type information regulation 2 homolog) 7 (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SIRT7-092	100 μℓ
Sis1(Dnaj)	Polyclonal	RAB/IgG	YST	WB/IP	–	COP-COP-080051	100 μℓ
SLA	Monoclonal TRA54	RAT	MS/RAT	WB/IHC/IEM	–	BAM-73-001-EX	50 μg
	Monoclonal TRA54	MS	MS	WB/IHC/IEM	–	BAM-73-002-EX	250 μg
SLAIN2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1458AF	50 μg
SLC2A4RG, SLC2A4 regulator (SLC2A4RG)	Monoclonal 186C1a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00704	100 μg
SLC16A1 (Solute carrier family 16, member 1 (monocarboxylic acid transporter 1))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SLC16A1-162	100 μℓ
SLC25A19	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG404	25 μg (0.25 mg/mℓ)
SLC30A9 (Solute carrier family 30 (zinc transporter), member 9)	Monoclonal 919C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00385	100 μg
SLO	Polyclonal	RAB	–	WB/ELISA/IP/ Neu	–	BAM-64-001-EX	50 μℓ
	Polyclonal	RAB	–	WB/ELISA/IP/ Neu	–	BAM-64-002-EX	250 μℓ
SM1	Monoclonal 3F8	MS/IgG1 κ	HU	–	–	YMS-7599	200 μℓ
	Monoclonal 1C10	MS/IgG2b κ	RAB	–	–	YMS-7600	200 μℓ
SM2	Monoclonal 1G12	MS/IgG1 κ	–	–	–	YMS-7601	200 μℓ



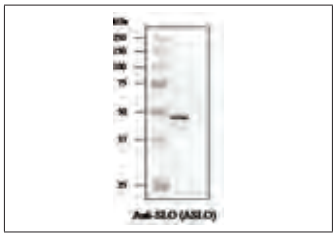
Sis1(Dnaj)
#COP-COP-080051



SLA
#BAM-73-001-EX
Western blot analysis of various mouse tissues with TRA54 antibody.

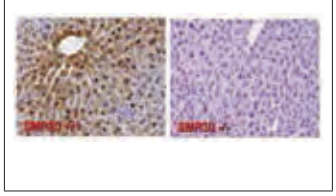


SLA
#BAM-73-002-EX
Immunohistochemical staining of mouse testicular cross-section with TRA54 antibody.

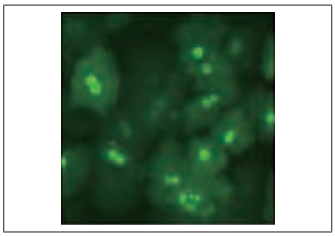


SLO
#BAM-64-001-EX
Western blot analysis of concentrated culture supernatant of GAS strain Sa with the anti-SLO antibody.

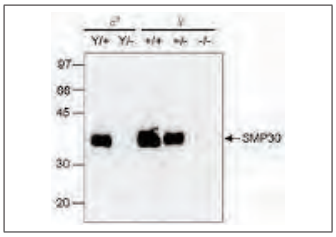
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
SMAD1	Polyclonal	RAB	HU	WB	–	PRX-KB5319GNP	100 µℓ
SMAD4	Polyclonal	RAB	HU	WB	–	PRX-KB5682GNP	100 µℓ
SMAD9	Polyclonal	RAB	HU	WB	–	PRX-KB4489GNP	100 µℓ
SMAD1 (SMAD Family Member 1)	Monoclonal 913C1b	MS/IgG1	HU/MS/RAT	WB/FC/IP/DB	–	CBX-CBX00479	100 µg
SMAD4 (SMAD Family Member 4)	Monoclonal 188C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00621	100 µg
SMARCC2	Polyclonal	RAB	HU	WB	–	PRX-KB4171GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB4171GNPAF	50 µg
SMEK1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA2010	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA2010PA	100 µg
SMemb	Monoclonal 3H2	MS/IgG2b κ	–	–	–	YMS-7602	200 µℓ
SMG5	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1089AF	50 µg
SMG7	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0250	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0250PA	100 µg
Smooth Muscle Myosin Heavy Chain (SM1)	Monoclonal KM3669	RAT/IgG2a	MS/HU	WB/IHC	–	YMS-80058	100 µg (200 µℓ)
SMP 30	Polyclonal	RAB/IgG	HU/MS/RAT	WB/IHC(p)/IF	–	SML-ROI001-EX	0.1 mℓ
SMURF1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1625	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1625PA	100 µg
SNAPC1 (Small Nuclear RNA Activating Complex, Polypeptide 1)	Monoclonal 3025C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00615	100 µg
SNAPC4 (Small Nuclear RNA Activating Complex, Polypeptide 4)	Monoclonal SNAAD17A	MS/IgG1	HU	WB/ELISA	–	CBX-CBX00233	100 µg
SNAPC5 (Small Nuclear RNA Activating Complex, Polypeptide 5)	Monoclonal 918C5a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00727	100 µg
SND1	Polyclonal	RAB	HU	WB	–	PRX-KB4563GNP	100 µℓ
SNF2 (Histone Linker PHD RING Helicase)	Monoclonal 2994C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00755	100 µg
Sno	Monoclonal 1-1	MS/IgG1 λ	HU	IP/WB/ELISA	–	CAC-MKM-M08	100 µg
	Monoclonal 3'-1	MS/IgG1 λ	HU	IP/WB/ELISA	–	CAC-MKM-M09	100 µg
	Monoclonal 1-4	MS/IgG1 κ	HU	IP/WB/ELISA	–	CAC-MKM-M10	100 µg
SNPH	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0374	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0374PA	100 µg
SNRPD1 (Small Nuclear Ribonucleoprotein D1)	Monoclonal 3032C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00611	100 µg
SNRPD3 (Small Nuclear Ribonucleoprotein D3)	Monoclonal 3034C5a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00802	100 µg
SNX9 (Sorting Nexin 9)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SNX9-356	100 µℓ
SNX17	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0064	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0064PA	100 µg
SOD1	Polyclonal	RAB/IgG	HU	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-SOD1RA	0.1 mℓ
	Polyclonal	RAB/IgG	HU	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-SOD1RB	0.2 mℓ
SOD3	Polyclonal	RAB/IgG	HU	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-SOD3RA	0.1 mℓ
	Polyclonal	RAB/IgG	HU	IHC(f)/IHC(p)/ WB/ELISA/IF/LM	–	ATA-CB-SOD3RB	0.2 mℓ
Somatostatin	Polyclonal	RAB	HU/RAT	IHC(f)/RIA	–	YII-YP020-EX	50 µℓ
SON	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1019AF	50 µg
SORBS1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1296	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1296PA	100 µg



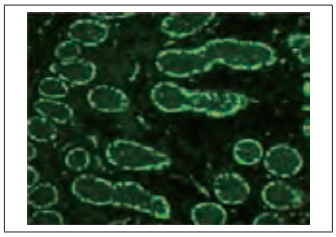
SMP 30
#SML-ROI001-EX
[Immunohistochemical staining]
Mouse liver stained with SMP30 antibody (ROI001) at 1:300 dilution and developed by 3,3' diaminobenzidine.



SMP 30
#SML-ROI001-EX
[Immunofluorescence staining]
Primary cultured mouse hepatocytes stained with SMP30 antibody (ROI001) at 1:200 dilutions.

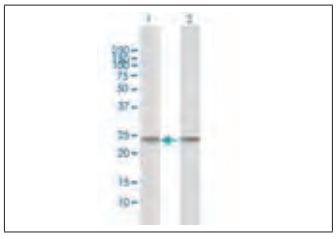


SMP 30
#SML-ROI001-EX
Western blot analysis

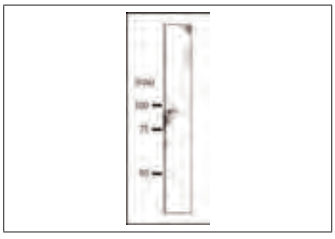


Sox9
#KAL-KO608
IF Sample: mouse testis.

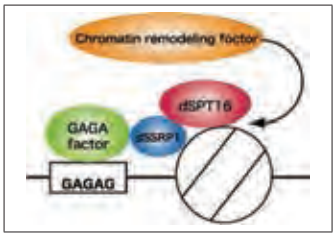
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
SOX4 (SRY (Sex Determining Region Y)-box 4)	Monoclonal 154C4a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00658	100 µg
SOX5 (SRY (Sex Determining Region Y)-box 5)	Monoclonal 7031C6a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00780	100 µg
SOX6 (SRY (Sex Determining Region Y)-box 6)	Monoclonal 155C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00778	100 µg
SOX9 (SRY (Sex Determining Region Y)-box 9)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SOX9-077	100 µℓ
SOX12 (SRY (Sex Determining Region Y)-box 12)	Monoclonal 86C2a	MS/IgG2a	HU	WB/IC/DB	–	CBX-CBX00550	100 µg
Sox9	Polyclonal	RAB	MS	WB/IHC/ELISA/ IC/IF	–	KAL-KO608	50 µg
SOX13	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0270GNPAF	50 µg
Sp1 Transcription Factor	Monoclonal SP15H09	MS/IgG1	HU	WB/IC/FC/DB	–	CBX-CBX00145	100 µg
SPACA1	Polyclonal	RAB	MS	WB/IF	–	BAM-73-062-EX	100 µℓ
SPAST	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1083	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1083PA	100 µg
SP-D	Monoclonal 10H11	MS/IgG1 κ	HU	–	–	YMS-7608	200 µℓ
Spermatogenesis and Oogenesis Specific Basic Helix-loop-helix 2 (SOHLH2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SOHLH2-371	100 µℓ
SPESP1	Polyclonal	RAB	MS	WB/IF	–	BAM-73-065-EX	100 µℓ
SPG20	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0610	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0610PA	100 µg
Sphingosine-1-phosphate lyase 1 (SGPL1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SGPL1-261	100 µℓ
SPOCK2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0275	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0275PA	100 µg
Sporamin	Polyclonal	RAB/IgG	Sweet potato	WB	–	COP-COP-080054	100 µℓ
SPRED1 (Sprouty-Related, EVH1 Domain Containing 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SPRED1-134	100 µℓ
SPRY2 (Sprouty Homolog 2 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SPRY2-109	100 µℓ
Spt3p	Polyclonal	RAB	YST	WB	–	BAM-62-005-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-006-EX	250 µℓ
SPT16	Polyclonal	RAB/IgG	*Drosophila*	WB/ELISA/IHC/ IP/ChIP	–	CAC-NIG-L1-SHA2	100 µℓ
SPTLC2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0526	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0526PA	100 µg
SQN-5	Polyclonal	RAB	MS	WB/IHC	–	CAC-SU-IZ-P03	100 µℓ
Srb4p	Polyclonal	RAB	YST	WB	–	BAM-62-007-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-008-EX	250 µℓ
SRPK2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3384	100 µℓ
SSNA1 (Sjogren Syndrome Nuclear Autoantigen 1)	Monoclonal 3053C6a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00769	100 µg
SSRP1	Polyclonal	RAB/IgG	*Drosophila*	WB/ELISA/IHC/ IP/ChIP	–	CAC-NIG-L1-SHA1	100 µℓ
SSX2IP	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0923	100 µℓ
STAMBPL1 (STAM Binding Protein-like 1)	Monoclonal 2020C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00736	100 µg
Staphylococcus Aureus	Monoclonal 1F-05	MS/IgG2b	*Staphylococcus aureus*	WB	–	CAC-SBT-M04	100 µg (1 mg/mℓ)



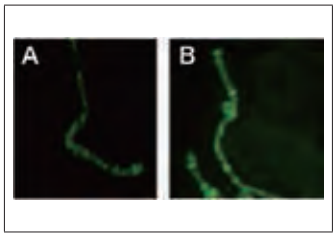
Spermatogenesis and oogenesis specific basic helix-loop-helix 2
#CAC-CNP-SOHLH2-371
Western Blotting (Transfected lysate).



Srb4p
#BAM-62-008-EX
Detection of Srb4p in crude extract of *S. cerevisiae* strain BY4741 (10 µg) by Western blotting using the Srb4p antibody.

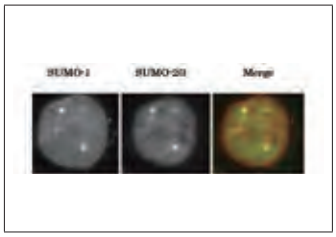


SSRP1
#CAC-NIG-L1-SHA1
dSSRP1 and dSPT16 are a Drosophila counterpart of the FACT [Facilitates Chromatin Transcription] subunit.

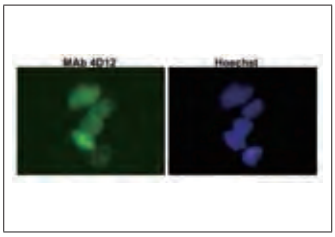


SSRP1
#CAC-NIG-L1-SHA1
Immunostaining of a polytene chromosome (anti dSSRP1 antibody).

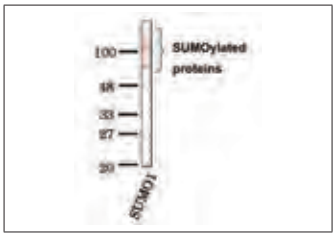
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Staphylococcus spp.	Monoclonal 2D-07	MS/IgG2a	HU	WB	–	CAC-SBT-M03	100 µg (1 mg/mℓ)
STARD8	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0189	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0189PA	100 µg
STAT1	Polyclonal	RAB	HU	WB	–	PRX-KB3682GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3682GNPAF	50 µg
STAT3	Polyclonal	RAB	HU	WB	–	PRX-KB5090GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB5090GNPAF	50 µg
STAT6	Polyclonal	RAB	HU	WB	–	PRX-KB4980GNP	100 µℓ
STK3, Serine/Threonine Kinase 3 (STE20 Homolog, Yeast)	Monoclonal 3067C3a	MS/IgG2b	HU/MS/RAT	WB/DB/IC	–	CBX-CBX00681	100 µg
STK17A (Serine/Threonine Kinase 17a (Apoptosis-inducing))	Monoclonal 3064C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00608	100 µg
STK38L	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0965	100 µℓ
STK38L (Serine/Threonine Kinase 38 like)	Monoclonal 3563C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00770	100 µg
STOML2 (Stomatin (EPB72)-like 2)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-STOML2-415	100 µℓ
STON1 (Stonin 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-STON1-266	100 µℓ
STS1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1959	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1959PA	100 µg
Sua7p	Polyclonal	RAB	YST	WB	–	BAM-62-009-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-010-EX	250 µℓ
SUB1	Polyclonal	RAB	HU	WB	–	PRX-KB4150GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB4150GNPAF	50 µg
Substance P	Polyclonal	RAB	HU/RAT/CAN/GP	IHC/RIA	–	YII-Y150-EX	50 µℓ
SUDS3	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0052	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MFL0052PA	100 µg
SULF1 (Sulfatase 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SULF1-316	100 µℓ
SulfFP1, Sulf 1	Polyclonal	RAB	RAT	WB	–	KAL-KM108	50 µg (50 µg /200 µℓ)
SulfFP2, Sulf-2	Polyclonal	RAB	RAT	IHC/IC	–	KAL-KM109	25 µg (25 µg /100 µℓ)
	Polyclonal	RAB	RAT	WB/IC	–	KAL-KM110	25 µg (25 µg /100 µℓ)
SULT2B1 (Sulfotransferase Family, Cytosolic, 2B, Member 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SULT2B1-224	100 µℓ
SUMO1	Monoclonal 4D12	RAT/IgG2a	–	WB/IHC/IF	–	BAM-70-653-EX	100 µg
	Monoclonal 4D12	RAT	HU	WB/IHC/IF	Biotin	BAM-70-654EX	50 µg
	Monoclonal 4D12	RAT	HU	IHC/IF	FITC	BAM-70-655EX	50 µg
SUMO1 Activating Enzyme Subunit 1	Monoclonal 2946C4a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00693	100 µg
SUMO2 and SUMO3	Monoclonal 3H12	RAT/IgG2a	HU/MS/RAT/MKY	WB/IC/IHC(f)	–	CAC-CE-042A	100 µℓ (1 mg/mℓ)
SUMO 2/3	Monoclonal	RAT Mono/IgG2a κ	HU/Simian/MS/HAM/RAT	WB/IC/IHC(f)/ELISA	–	BAM-70-657-EX	100 µg
Sup35/PSI+	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB	–	BAM-62-300-EX	100 µℓ
SUPT4H1 (Suppressor of Ty 4 Homolog 1 (*S. cerevisiae*))	Monoclonal 3079C1a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00488	100 µg



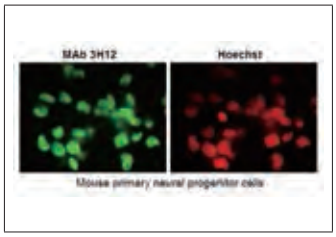
SUMO1
#BAM-70-653-EX
SUMO-1 colocalizes with SUMO2/3 as revealed by indirect immunofluorescence staing of C-33A cells (human cervix carcinoma).



SUMO1
#BAM-70-654EX
Immunofluorescence staining of SUMO-1 with the antibody 4D12 in the mouse primary culture neurons.



SUMO1
#BAM-70-655EX
Detection of SUMO-1 by Western blotting with the antibody 4D12.



SUMO2 and SUMO3
#CAC-CE-042A
Immunocytochemistry/ Immunofluorescence - SUMO2/3 antibody (3H12) Mouse primary culture neuron.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Surfactant Protein B	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-SFTPB-593	100 µℓ
Surfactant Protein D	Monoclonal 12A2	MS Mono/IgG1	RAT	WB/ELISA	–	YMS-80073	0.2 mg
	Monoclonal 5F4	MS	RAT	–	–	YMS-80075	0.2 mg
SUZ12	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0160AF	50 µg
Swi6	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP/ChIP	–	BAM-63-101-EX	50 µℓ
	Polyclonal	RAB	*Schizosaccharomyces pombe*	WB/IP/ChIP	–	BAM-63-102-EX	250 µℓ
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 (SMARCA4)	Monoclonal SMAR9G1F9	MS/IgG1	HU	WB/DB	–	CBX-CBX00276	100 µg
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5 (SMARCA5)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-SMARCA5-043	100 µℓ
SYBU	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1472AF	50 µg
SYNJ1	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK09100910	50 µg
Syntaxin 11	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-STX11-014	100 µℓ
Syntaxin 12	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-STX12-010	100 µℓ
Synthetic peptide derived from C-terminal region of human DDB1	Monoclonal 43233-3-1	MS/IgG1 κ	–	WB/IF/IP	–	CAC-KUP-TM-M05	100 µℓ

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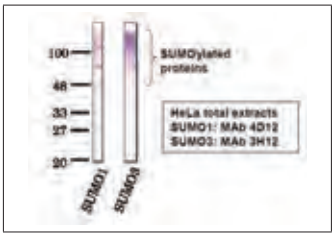
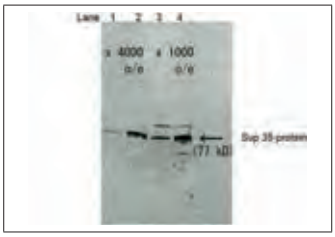
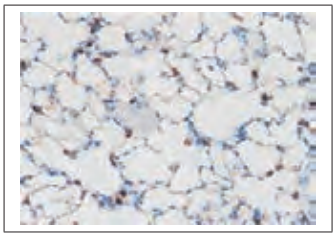
TADA3L	Monoclonal TADAD25A	MS/IgG1	HU/MS/RAT	WB/IC/ELISA	–	CBX-CBX00239	100 µg
	Polyclonal	RAB	HU	WB	–	PRX-KB8170GNP	100 µℓ
TAF1B (TATA box binding protein (TBP)-associated factor)	Monoclonal 938C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00705	100 µg
TAF4	Monoclonal 305C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00684	100 µg
TAF4B (TAF4b RNA polymerase II, TATA box binding protein (TBP)-associated factor)	Monoclonal TAFAD26A	MS/IgG1	HU	WB/ELISA/IC	–	CBX-CBX00246	100 µg
Taf4p	Polyclonal	RAB	YST	WB	–	BAM-62-011-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-012-EX	250 µℓ
TAF5-like RNA polymerase II, p300/CBP-associated factor (PCAF)-associated factor	Monoclonal 935C5a	MS/IgG2a	HU	WB/DB	–	CBX-CBX00772	100 µg
TAF5 RNA polymerase II, TATA box binding protein (TBP)-associated factor	Monoclonal TAF5D6E11	MS/IgG1	HU	WB/DB	–	CBX-CBX00323	100 µg
Taf6p	Polyclonal	RAB	YST	WB	–	BAM-62-013-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-014-EX	250 µℓ
TAF6 (RNA polymerase II, TATA box binding protein (TBP)-associated factor)	Monoclonal 585D4a	MS/IgG1	HU/RAT	WB/IC/IP/DB	–	CBX-CBX00353	100 µg
TAF7	Polyclonal	RAB	HU	WB	–	PRX-KB5274GNP	100 µℓ
TAF9L	Monoclonal 3365C4a	MS/IgG2b	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00495	100 µg
Taf10p	Polyclonal	RAB	YST	WB	–	BAM-62-015-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-016-EX	250 µℓ
Taf11p	Polyclonal	RAB	YST	WB	–	BAM-62-017-EX	50 µℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-018-EX	250 µℓ



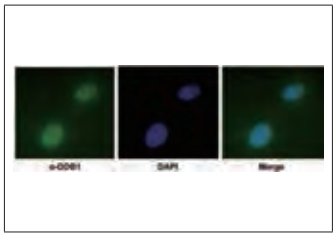
SUMO2 and SUMO3
#CAC-CE-042A
Western blot - SUMO1 antibody (4D12) and SUMO3 antibody (3H12) HeLa cell total extracts.



Sup35/PSI+
#BAM-62-300-EX
Identification of Sup35 protein in crude extracts of S. cerevisiae by western blotting with anti-Sup35 antibody.

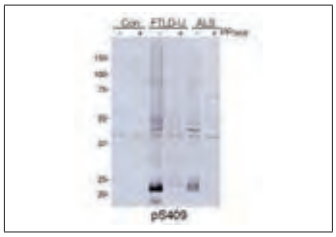


Surfactant Protein D
#YMS-80075

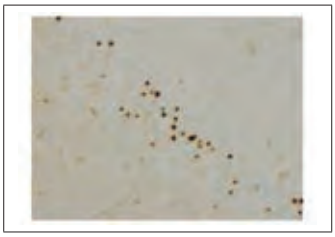


Synthetic peptide derived from C-terminal region of human DDB1
#CAC-KUP-TM-M05
Immunofluorescence of U2OS cells with DDB1 mAb [Clone : 43233-3-1].

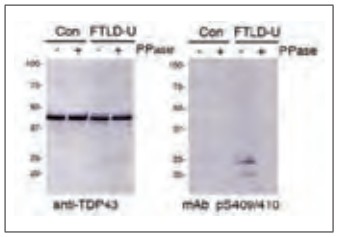
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
TAF13 (RNA polymerase II, TATA box binding protein (TBP)-associated factor)	Monoclonal 304C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00573	100 μg
TAF15 (RNA polymerase II, TATA box binding protein (TBP)-associated factor)	Monoclonal TAF15B11A6	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00296	100 μg
TAGLN2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0120	100 μl
Taq DNA polymerase	–	–	–	–	–	TYB-TCP-101	100 μl
	–	–	–	–	–	TYB-TCP-101X5	1 set (100 μl /vial×5)
Tau	Polyclonal	RAB	HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-TAURA	0.1 ml
	Polyclonal	RAB	HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-TAURB	0.2 ml
	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-TAUSA	0.1 ml
	Polyclonal	SHP	HU	IHC(f)/IHC(p)/ IF/LM	–	ATA-CB-TAUSB	0.2 ml
TAX1BP1 (Tax1 (human T-cell leukemia virus type I) binding protein 1)	Monoclonal 3098C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00496	100 μg
TBC1D1	Polyclonal	RAB	MS	WB	–	PRX-MKA1108	100 μl
TBC1D4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0603	100 μl
TBC1D9	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0882	100 μl
TBC1D12	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0608	100 μl
TBC1D14	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1322	100 μl
TBC1D24	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1171	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1171PA	100 μg
TBC1D30	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0984	100 μl
TBCE (Tubulin folding cofactor E)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TBCE-385	100 μl
TBP (TATA box binding protein)	Monoclonal TBPB8A9	MS/IgG2b	HU	WB/DB/IC	–	CBX-CBX00310	100 μg
TCEA1 (Transcription elongation factor A (SII), 1)	Monoclonal TCEAD3A4	MS/IgG1	HU	WB/DB	–	CBX-CBX00303	100 μg
TCEA3 (Transcription elongation factor A (SII), 3)	Monoclonal TCE5I551	MS/IgG1	HU	WB/ELISA	–	CBX-CBX00195	100 μg
TCERG1 (Transcription elongation regulator 1)	Monoclonal TCEAD79A	MS/IgG1	HU/MS/RAT	WB/IC/ELISA	–	CBX-CBX00242	100 μg
TCF8 (Zinc finger E-box binding homeobox 1 (ZEB1))	Monoclonal 416A7H10	MS/IgG1	HU	WB/DB	–	CBX-CBX00502	100 μg
TDO2 (Tryptophan 2,3-dioxygenase)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TDO2-314	100 μl
TDP-43, phospho Ser409	Polyclonal	RAB/IgG	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-P03	100 μl
TDP-43, phospho Ser410	Polyclonal	RAB/IgG	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-P04	100 μl
TDP-43, phospho Ser409/410	Monoclonal 11-9	MS/IgG1	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-M01	50 μl
TDP-43, phospho Ser409/410-1	Polyclonal	RAB/IgG	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-P01	100 μl
TDP-43, phospho Ser409/410-2	Polyclonal	RAB/IgG	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-P02	100 μl
TDP-43, phospho Ser403/404	Polyclonal	RAB/IgG	HU	WB/ELISA/IHC	–	CAC-TIP-PTD-P05	100 μl
TDP-43 (3-12)	Polyclonal	RAB/IgG	HU/RAT	WB/ELISA/IHC	–	CAC-TIP-TD-P07	100 μl
TDP-43 (405-414)	Polyclonal	RAB/IgG	HU/RAT	WB/ELISA/IHC	–	CAC-TIP-TD-P09	100 μl
TEAD1	Polyclonal	RAB	HU	WB	–	PRX-KE0932GNP	100 μl
TEAD3	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0108GNPAF	50 μg
TEAD1 (TEA Domain Family Member 1)	Monoclonal 403C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00565	100 μg



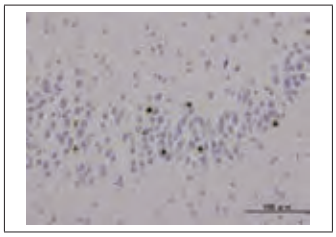
TDP-43, phospho Ser409
#CAC-TIP-PTD-P03
Immunoblot analyses with pAb pS409.



TDP-43, phospho Ser409
#CAC-TIP-PTD-P03
Immunohistochemistry of TDP-43 lesions.

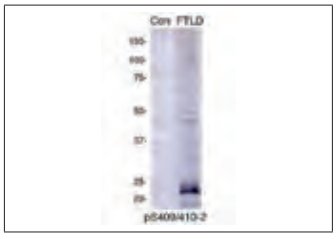


TDP-43, phospho Ser409/410
#CAC-TIP-PTD-M01
Immunoblot analyses with mAb pS409/410 (11-9).

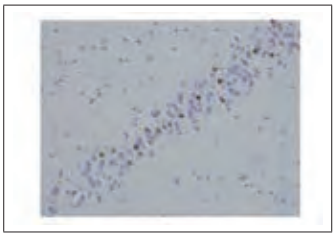


TDP-43, phospho Ser409/410
#CAC-TIP-PTD-M01
Immunohistochemistry of TDP-43 lesions.

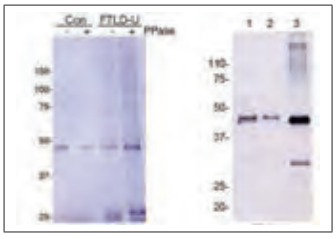
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
TEAD2 (TEA domain family member 2)	Monoclonal 404C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00553	100 μg
TEF	Polyclonal	RAB	HU	WB	–	PRX-KB9348GNP	100 μℓ
Tem1	Polyclonal	RAB	*Saccharomyces cerevisiae*	WB/IP	–	BAM-62-215-EX	100 μℓ
Tensin 2	Polyclonal	RAB	HU	WB/IHC	–	KAL-KR111	50 μg (50 μg /200 μℓ)
Testosterone	Polyclonal	RAB/IgG	HU/MS/RAT/ BOV/CHK	RIA/EIA	–	CAC-KZ-HS-P14	50 μℓ
Testosterone-3 (E)	Polyclonal	RAB	–	RIA	–	FKA-102	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-102-E	2000 test
Testosterone-11 α	Polyclonal	RAB	–	RIA	–	FKA-104	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-104-E	2000 test
TEV	Polyclonal	RAB/IgG	Virus	WB/ELISA/IHC	–	COP-COP-080059	100 μℓ
TEX2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1738	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1738PA	100 μg
TFE3	Polyclonal	RAB	HU	WB	–	PRX-KB3144GNP	100 μℓ
Tfg2p	Polyclonal	RAB	YST	WB	–	BAM-62-019-EX	50 μℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-020-EX	250 μℓ
TFIID subunit1	Polyclonal	RAB	–	–	–	BAM-70-457EX	100 μℓ
TGF-α	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y240-EX	50 μℓ
TGF-β1	Polyclonal	RAB	HU	IHC/RIA	–	YII-Y241-EX	50 μℓ
TGFBI (Transforming growth factor, β-induced)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TGFBI-202	100 μℓ
TGIF (TGFB-induced factor (TALE family homeobox))	Monoclonal 946C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00400	100 μg
TH-aldosterone	Polyclonal	RAB	–	RIA	–	FKA-440	2000 test
Thebaine	Monoclonal 5F7	MS/IgG2b λ	–	ELISA	–	CAC-KYU-HT-M002	100 μℓ
THE (Tetrahydrocotisone)	Polyclonal	RAB	–	RIA	–	FKA-436	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-436-E	2000 test
THF (Tetrahydrocortisol)	Polyclonal	RAB	–	RIA	–	FKA-434	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-434-E	2000 test
THOC1 (THO complex 1)	Monoclonal 3121C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00549	100 μg
THRA (Thyroid hormone receptor, α (erythroblastic leukemia viral (v-erb-a) oncogene homolog, avian))	Monoclonal 948C3a	MS/IgG1	HU	DB/WB	–	CBX-CBX00637	100 μg
Threonyl-tRNA synthetase (TARS)	Monoclonal TARSF8H3	MS/IgG2a	HU	WB/IC/FC/DB	–	CBX-CBX00336	100 μg
THS (Terahydrodeoxycortisone)	Polyclonal	RAB	–	RIA	–	FKA-438	2000 test
	Polyclonal	RAB	–	EIA	–	FKA-438-E	2000 test
Thymidine Glycol	Monoclonal	MS	–	IHC	–	NNS-MTG100P-EX	100 μg
Thyroglobulin	Monoclonal 19B7	MS/IgG2a κ	HU	ELISA	–	LNM-KR-040	0.1 mg (1 mg/mℓ)
	Monoclonal 7C8	MS/IgG1 κ	HU	ELISA	–	LNM-KR-041	0.1 mg (1 mg/mℓ)
Thyroid stimulating hormone	Monoclonal 3F10	MS/IgG2a κ	HU	ELISA	–	LNM-KR-046	0.1 mg (1 mg/mℓ)
	Monoclonal 9G11	MS/IgG1 κ	HU	ELISA	–	LNM-KR-047	0.1 mg (1 mg/mℓ)
Thyroid stimulating hormone receptor	Monoclonal 3A6	MS/IgG2a κ	HU	FC	–	KAL-KG136	50 μg (0.25 mg/mℓ)



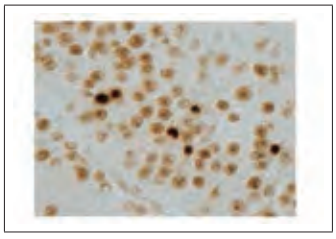
TDP-43, phospho Ser409/410-2
#CAC-TIP-PTD-P02
Immunoblot analyses with pAb pS409/410-2.



TDP-43, phospho Ser409/410-2
#CAC-TIP-PTD-P02
Immunohistochemistry of TDP-43 lesions.



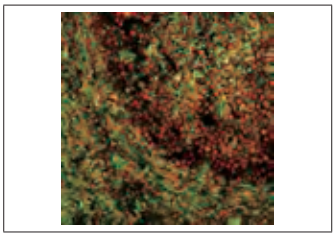
TDP-43 (405-414)
#CAC-TIP-TD-P09
Immunoblot analyses with pAb TDP43-C(405-414)
Lane 1. rat brain extract
Lane 2. rat spinal cord extract
Lane 3. recombinant humanTDP-43.



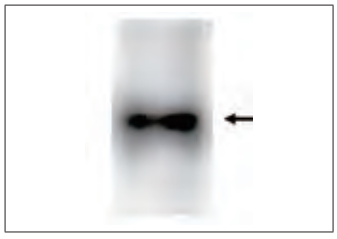
TDP-43 (405-414)
#CAC-TIP-TD-P09
Immunohistochemistry of Nuclei and NCIs in dentate gyrus of FTLD-U.

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Thyroxine Binding Globulin	Monoclonal 20F9	MS/IgG1 κ	HU	ELISA	–	LNM-KR-038	0.1 mg (1 mg/mℓ)
	Monoclonal 6F4	MS/IgG1 κ	HU	ELISA	–	LNM-KR-039	0.1 mg (1 mg/mℓ)
TIMELESS	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0081GNPAF	50 μg
TIMP-1	Monoclonal 7-6C1	MS/IgG1 κ	BOV/HU/RAT	IHC(p)/WB/EIA	–	DFK-F-23-EX	1 mℓ (500 μg)
	Monoclonal 147-6D11	MS/IgG1 κ	HU	IHC(p)/WB	–	DFK-F-26-EX	1 mℓ (500 μg)
TIMP-2	Monoclonal 67-4H11	MS/IgG1 κ	HU/MS/RAT/ BOV/RAB/GP	IHC(p)/IHC(f)/ WB/EIA	–	DFK-F-70-EX	1 mℓ (500 μg)
TIRAP (Toll-interleukin 1 receptor (TIR) domain containing adaptor protein)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TIRAP-119	100 μℓ
TLN1 / KIAA1027	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK10270310	0.1 mg
TLR2	Polyclonal	RAB/IgG	POR	WB/IHC/ELISA/ IP/FC	–	CAC-THU-A-TLR2	50 μℓ
TLR9	Polyclonal	RAB/IgG	POR	WB/IHC/ELISA/ IP/FC	–	CAC-THU-A-TLR9	50 μℓ
TLX	Monoclonal H6506	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H6506-00	0.1 mℓ (1 mg/mℓ)
	Monoclonal H6510	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/ IP	–	PPX-PP-H6510-00	0.1 mℓ (1 mg/mℓ)
TMCC2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0481	100 μℓ
TMEM126B	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TMEM126B-399	100 μℓ
TNF-α	Polyclonal	RAB	RAT	WB/ELISA	–	YII-YC030-EX	50 μℓ
	Polyclonal	GT	RAT	WB/ELISA	–	YII-YC031-EX	50 μℓ
	Polyclonal	MS	RAT	WB/ELISA	–	YII-YC032-EX	50 μℓ
TNNT1 (Troponin T type 1 (skeletal, slow))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TNNT1-311	100 μℓ
TNP-Ascaris	Polyclonal	RAT	–	IHC/IF	–	LSL-LB-8109	100 μℓ
TNPO3 (Transportin 3)	Monoclonal 3152C2a	MS/IgG2b	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00492	100 μg
TNRC4	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB7008GNPAF	50 μg
TNRC4 (ELAV-type RNA-binding protein 1)	Polyclonal	RAB	HU	WB	–	PRX-KB7008GNP	100 μℓ
TNXB	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0156GNPAF	50 μg
Toa1p	Polyclonal	RAB	YST	WB	–	BAM-62-021-EX	50 μℓ
	Polyclonal	RAB	YST	WB	–	BAM-62-022-EX	250 μℓ
TOB2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1663	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1663PA	100 μg
TOE1 (Target of EGR1, member 1 (nuclear))	Monoclonal 3154C2a	MS/IgG1	HU	WB/FC/IP/DB	–	CBX-CBX00480	100 μg
TOMM70A	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0719AF	50 μg
Total Glucagon	Polyclonal	RAB	HU/RAT	IHC/RIA	–	YII-YP040-EX	50 μℓ
Total-PSA	Monoclonal 4D10	MS/IgG1 κ	HU	ELISA	–	LNM-KR-036	0.1 mg (1 mg/mℓ)
	Monoclonal No.56	MS/IgG2a κ	HU	ELISA	–	LNM-KR-037	0.1 mg (1 mg/mℓ)
TP53I3 (Tumor protein p53 inducible protein 3)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TP53I3-531	100 μℓ
TP53 (Tumor protein p53 (Li-Fraumeni syndrome))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TP53-517	100 μℓ
TP (Thromboxane A2 Receptor)	Polyclonal	MS	MS	ELISA/IF	–	KAL-KO578	100 μℓ (0.25 mg/mℓ)
TPX2 (Microtubule-associated, homolog (*Xenopus laevis*))	Monoclonal 3164C6a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00456	100 μg

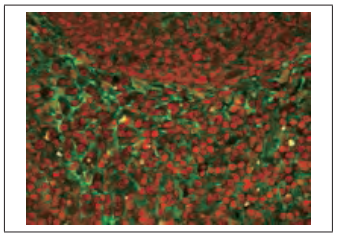
TLR2
#CAC-THU-A-TLR2
Western blot analysis of TLR2 protein expressed in mesenteric lymph nodes of adult porcine.
Predicted molecular weight: 87kDa.



TLR2
#CAC-THU-A-TLR2
Localization of TLR2 in longitudinal section of mesenteric lymph nodes of adult porcine. Green: TLR2, Red: nuclei.

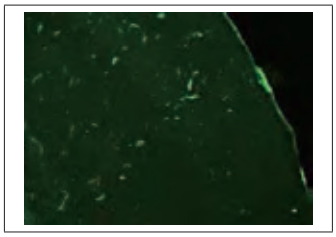


TLR9
#CAC-THU-A-TLR9
Western blot analysis of TLR9 protein expressed in mesenteric lymph nodes of adult porcine.
Predicted molecular weight: 113kDa.

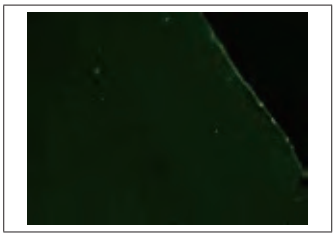


TLR9
#CAC-THU-A-TLR9
Localization of TLR9 in longitudinal section of peyer's patches of adult porcine.
Green: TLR9, Red: nuclei.

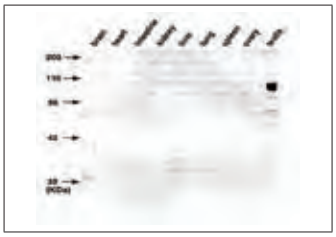
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
TR2 (Testicular orphan receptor 2)	Monoclonal H0037	MS/IgG2b	HU	WB/ELISA/IP	–	PPX-PP-H0037-00	0.1 mℓ (1 mg/mℓ)
TR4 (Testicular orphan receptor 4)	Monoclonal H0107B	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H0107B-00	0.1 mℓ (1 mg/mℓ)
TRA98	Monoclonal TRA98	MS/IgG2a	MS	WB/IHC	–	BAM-73-004-EX	250 μg
TRAFD1 (TRAF-type zinc finger domain containing 1)	Monoclonal 2368C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00774	100 μg
TRALPHA (TR α)	Monoclonal H2804	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA	–	PPX-PP-H2804-00	0.1 mℓ (1 mg/mℓ)
Transaldolase 1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TALDO1-238	100 μℓ
Transcription factor A, mitochondrial (TFAM)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TFAM-598	100 μℓ
Transcription factor AP-2 α (activating enhancer binding protein 2 α) (TFAP2A)	Monoclonal 959C2a	MS/IgG1	HU/MS	WB/FC/DB	–	CBX-CBX00315	100 μg
Transcription factor AP-2 γ (activating enhancer binding protein 2 γ) (TFAP2C)	Monoclonal AP25H01	MS/IgG1	HU	WB/DB	–	CBX-CBX00137	100 μg
Transcription factor AP-4 (activating enhancer binding protein 4) (TFAP4)	Monoclonal 961C5a	MS/IgG1	HU	WB/DB	–	CBX-CBX00354	100 μg
Transcription factor Dp-2 (E2F dimerization partner 2) (TFDP2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TFDP2-514	100 μℓ
	Monoclonal TFD5I455	MS/IgG1	HU	WB/DB	–	CBX-CBX00192	100 μg
Transcription factor EB (TFEB)	Monoclonal 319C2a	MS/IgG1	HU	DB/WB	–	CBX-CBX00662	100 μg
Transferrin	Monoclonal 6E6	MS/IgG1 κ	HU	ELISA	–	LNM-KR-042	0.1 mg (1 mg/mℓ)
	Monoclonal 7B2	MS/IgG1 κ	HU	ELISA	–	LNM-KR-043	0.1 mg (1 mg/mℓ)
	Monoclonal TH-001	MS/IgG1 κ	HU	–	–	NBT-MTH-001	1 mg
	Monoclonal TH-002	MS/IgG1 κ	HU	–	–	NBT-MTH-002	1 mg
	Monoclonal TH-003	MS/IgG1 κ	HU	–	–	NBT-MTH-003	1 mg
	Monoclonal TH-004	MS/IgG1 κ	HU	–	–	NBT-MTH-004	1 mg
	Monoclonal TH-005	MS/IgG1 κ	HU	–	–	NBT-MTH-005	1 mg
	Monoclonal TH-006	MS	HU	–	–	NBT-MTH-006	1 mg
	Monoclonal TH-007	MS	HU	–	–	NBT-MTH-007	1 mg
	Monoclonal 10C3	MS/IgG2b κ	MS	–	–	YMS-7619	200 μg
	Monoclonal 1H10	RAT/IgG1 κ	MS	–	HRP	YMS-7970	200 μℓ (200 μg)
Transferrin Receptor	Monoclonal No.57	MS/IgG1 κ	HU	ELISA	–	LNM-KR-044	0.1 mg (1 mg/mℓ)
	Monoclonal No.143	MS/IgG1 κ	HU	ELISA	–	LNM-KR-045	0.1 mg (1 mg/mℓ)
TRAP1 (TNF receptor-associated protein 1)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TRAP1-414	100 μℓ
TRBETA1 (TR β 1)	Monoclonal H3825A	MS/IgG2a	HU	WB/ELISA/IP	–	PPX-PP-H3825A-00	0.1 mℓ (1 mg/mℓ)
Treg	Monoclonal TH6	RAT	MS	FC/IP	–	REC-RCAB010M-F	100 μℓ (1 mg/mℓ)



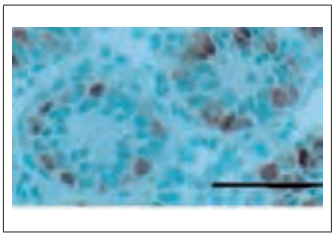
TP (Thromboxane A2 Receptor)
#KAL-KO578
Immunofluorescence
Mouse Cerebral cortex tissue.



TP (Thromboxane A2 Receptor)
#KAL-KO578
Immunofluorescence
TP deficient mouse Cerebral cortex tissue.

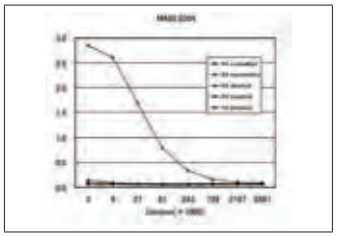


TRA98 (clone TRA98)
#BAM-73-004-EX
Western blot analysis with TRA98 of various mouse tissues.

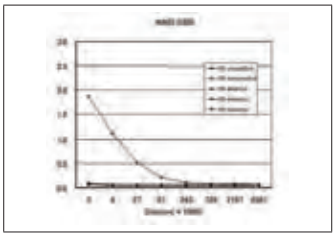


TRA98 (clone TRA98)
#BAM-73-004-EX
Immunohistochemical staining of a 7-day-old testis with germ cell-specific antibody, TRA98.

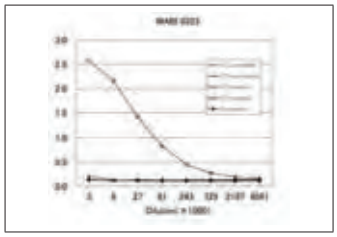
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Treg	Monoclonal TH6	RAT	MS	FC/IP	Biotin	REC-RCAB010M-FB	100 µℓ (1 mg/mℓ)
	Monoclonal TH6	RAT	MS	FC/IP	FITC	REC-RCAB010M-FF	100 µℓ (1 mg/mℓ)
	Monoclonal 12A5	RAT	MS	WB/FC/IP	–	REC-RCAB011M-F	100 µℓ (1 mg/mℓ)
	Monoclonal 12A5	RAT	MS	WB/FC/IP	Biotin	REC-RCAB011M-FB	100 µℓ (1 mg/mℓ)
	Monoclonal 12A5	RAT	MS	WB/FC/IP	FITC	REC-RCAB011M-FF	100 µℓ (1 mg/mℓ)
TRH Toxin	Polyclonal	RAB	*Vibrio*	WB/ELISA/IP	–	BAM-64-015EX	100 µg
TRIM3 (Tripartite motif-containing protein 3)	Polyclonal	RAB	HU	WB	–	PRX-KB5705GNP	100 µℓ
TRIM14 (Tripartite motif-containing 14)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TRIM14-388	100 µℓ
TRIM22 (Tripartite motif-containing 22)	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-TRIM22-157	100 µℓ
TRIM25 (Tripartite motif-containing 25)	Polyclonal	RAB	HU	WB	–	PRX-KB3493GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB3493GNPAF	50 µg
TRIM28 (Tripartite motif-containing 28)	Monoclonal TRI5I093	MS/IgG1	HU/MS	WB/IC/DB	–	CBX-CBX00157	100 µg
	Polyclonal	RAB	HU	WB	–	PRX-KB7016GNP	100 µℓ
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KB7016GNPAF	50 µg
TRIM33 (Tripartite motif-containing 33)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK11130310	0.1 mg
TRIM35 (Tripartite motif-containing 35)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1098	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1098PA	100 µg
TRIM37 (Tripartite motif-containing 37)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0898AF	50 µg
TRIM69 (Tripartite motif-containing 69)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0153GNPAF	50 µg
TRIM72 (Tripartite motif-containing 72)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TRIM72-164	100 µℓ
Trimethyl Histone H3 (Lys4)	Monoclonal MABI0304(CMA304)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0004-100-EX	100 µℓ (1 mg/mℓ)
Trimethyl Histone H3 (Lys9)	Monoclonal MABI0308(CMA308)	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0008-100-EX	100 µℓ (1 mg/mℓ)
Trimethyl Histone H3 (Lys27)	Monoclonal MABI0323	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0323-100-EX	100 µℓ (1 mg/mℓ)
Trimethyl Histone H3 (Lys36)	Monoclonal MABI0333	MS/IgG1	HU	ChIP/IB/IC	–	MCA-MABI0333-100-EX	100 µℓ (1 mg/mℓ)
TRIOBP (TRIO and F-actin Binding Protein)	Monoclonal 2438C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00600	100 µg
TRIP13 (Thyroid hormone receptor interactor 13)	Monoclonal 3175D1	MS/IgG2a	HU	WB/DB	–	CBX-CBX00420	100 µg
Tropomyosin	Polyclonal	RAB	BOV/CHK	ELISA/IF/WB	–	LSL-LB-1084	100 µℓ
Troponin I	Monoclonal TI-701	MS/IgG2b κ	HU	–	–	NBT-MTI-701	1 mg
	Monoclonal TI-703	MS/IgG2b κ	HU	–	–	NBT-MTI-703	1 mg
	Monoclonal TI-704	MS/IgG2b κ	HU	–	–	NBT-MTI-704	1 mg
	Monoclonal TI-708	MS/IgG1 κ	HU	–	–	NBT-MTI-708	1 mg
	Monoclonal TI-710	MS/IgG2b κ	HU	–	–	NBT-MTI-710	1 mg
	Monoclonal TI-711	MS/IgG1 κ	HU	–	–	NBT-MTI-711	1 mg
Troponin T	Monoclonal TT-502	MS/IgG2a κ	HU	ELISA	–	NBT-MTT-502	1 mg



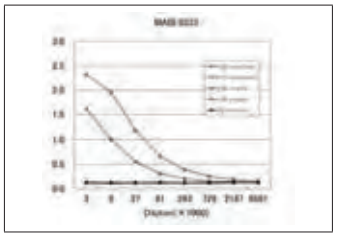
Trimethyl Histone H3(Lys4)
#MCA-MABI0004-100-EX



Trimethyl Histone H3(Lys9)
#MCA-MABI0008-100-EX

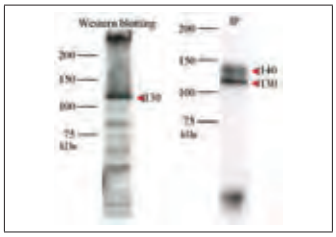


Trimethyl Histone H3 (Lys27)
#MCA-MABI0323-100-EX

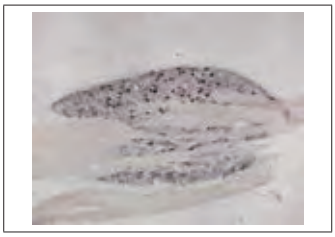


Trimethyl Histone H3 (Lys36)
#MCA-MABI0333-100-EX

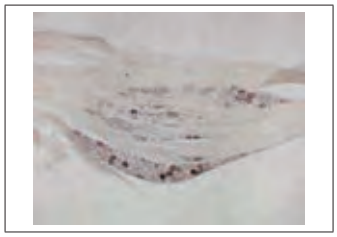
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Troponin T	Monoclonal TT-503	MS/IgG2a κ	HU	ELISA	–	NBT-MTT-503	1 mg
	Monoclonal TT-504	MS/IgG2a κ	HU	ELISA	–	NBT-MTT-504	1 mg
	Monoclonal TT-509	MS/IgG2a κ	HU	ELISA	–	NBT-MTT-509	1 mg
TRPA 1	Polyclonal	RAB	MS	WB/IP	–	KAL-KM120	50 μg (0.25 mg/mℓ)
Trpc3	Polyclonal	RAB	MS	WB/ELISA	–	KAL-KO456	25 μg (100 μℓ /vial)
	Polyclonal	RAB	MS/RAT	ELISA	–	KAL-KO457	25 μg (100 μℓ /vial)
Trpc5	Polyclonal	RAB	MS/BOV	WB/ELISA	–	KAL-KO458	25 μg (100 μℓ /vial)
	Polyclonal	RAB	MS	ELISA	–	KAL-KO459	25 μg (100 μℓ /vial)
Trpc6	Polyclonal	RAB	MS/RAB	IHC/ELISA/IC	–	KAL-KO460	25 μg (100 μℓ /vial)
Trpm1	Polyclonal	RAB	MS	WB/ELISA	–	KAL-KO461	25 μg (100 μℓ /vial)
Trpm2	Polyclonal	RAB	MS	ELISA/IC	–	KAL-KO462	25 μg (100 μℓ /vial)
	Polyclonal	RAB	HU/MS/RAT	WB/IHC/ELISA/IC	–	KAL-KO463	25 μg (100 μℓ /vial)
Trpm7	Polyclonal	RAB	HU/MS	ELISA	–	KAL-KO464	25 μg (100 μℓ /vial)
TRPV1, VR1	Polyclonal	RAB/IgG	RAT	IHC	–	KAL-KM018	5 μg
TRPV2, VRL1	Polyclonal	RAB/IgG	RAT	IHC	–	KAL-KM019	5 μg
TRPV 4 (TRP vanilloid 4)	Polyclonal	RAB	MS	WB	–	KAL-KM119	25 μg (0.25 mg / mℓ)
TSC1 (Hamartin)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK02430310	0.1 mg
TSNAX (Translin-associated factor X)	Monoclonal 3179C2a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00568	100 μg
TSPYL4	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0721AF	50 μg
TSPYL5	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1750AF	50 μg
TTC7A (Tetratricopeptide repeat domain 7A)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1140	100 μℓ
TTC35 (Tetratricopeptide repeat domain 35)	Monoclonal 3342C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00585	100 μg
TTLL12 (Tubulin tyrosine ligase-like family, member 12)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0153	100 μℓ
TUBB1, Tubulin, β 1	Monoclonal 600C2a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00711	100 μg
TUBD1, Tubulin, δ 1	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TUBD1-091	100 μℓ
	Monoclonal 3183C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00481	100 μg
TUBG1, Tubulin, γ 1	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TUBG1-060	100 μℓ
TUBGCP2, Tubulin, γ complex associated protein 2	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-TUBGCP2-135	100 μℓ
TULP4 (Tubby like protein 4)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1397	100 μℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1397PA	100 μg
Tumor necrosis factor, α-induced protein 8-like 2 (TNFAIP8L2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-TNFAIP8L2-190	100 μℓ
TUPLE1 (TUP1-like enhancer of split gene 1)	Monoclonal 374C6a	MS/IgG2a	HU	WB/DB/IC	–	CBX-CBX00669	100 μg



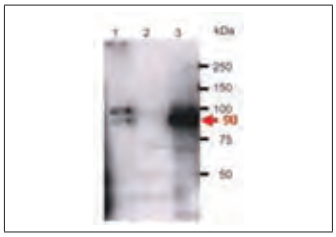
TRPA 1
#KAL-KM120
Sample: HEK293 cells overexpressing mouse TRPA1 (cell membrane fraction)
Left: Western blotting
Right: Immunoprecipitation



TRPV1, VR1
#KAL-KM018
Dorsal root ganglion (DRG) of lumbar region (normal rat), 308m of thickness.



TRPV2, VRL1
#KAL-KM019
Dorsal root ganglion (DRG) of lumbar region (normal rat), 308m of thickness.

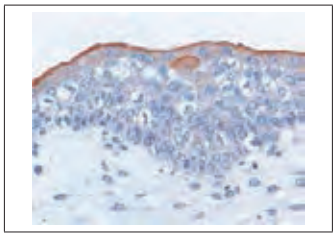


TRPV 4 (TRP vanilloid 4)
#KAL-KM119
Western blotting
Lane 1: choroid plexus (Wild type mouse)
Lane 2: choroid plexus (TRPV4 knockout mouse)
Lane 3: rat TRPV4 overexpressed in HEK293 cells

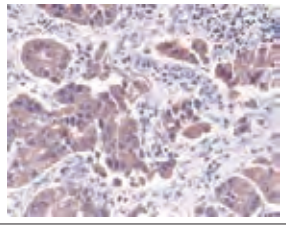
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
TWIST (Twist homolog 1 (acrocephalosyndactyly 3; Saethre-Chotzen syndrome) (*Drosophila*))	Monoclonal Twist2C1a	MS/IgG1	HU/MS/RAT	WB/DB/FC/IC	–	CBX-CBX00383	100 μg

U

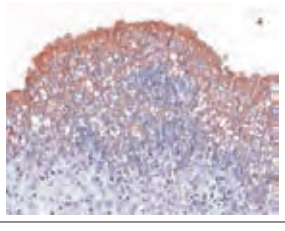
U1 snRNP C (U1C)	Monoclonal 4H12	RAT/IgG2a κ	HU/MS/MKY	WB/IHC/IF/IP	–	BAM-70-400-EX	100 μg
UBA2 (Ubiquitin-like modifier activating enzyme 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-UBA2-390	100 μl
UBE2A (Ubiquitin-conjugating enzyme E2A (RAD6 homolog)gene)	Monoclonal 2782C5	MS/IgG2a	HU	WB/DB	–	CBX-CBX00426	100 μg
UBE3C (Ubiquitin protein ligase E3C)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-UBE3C-068	100 μl
UBE4A (Ubiquitination factor E4A)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0126	100 μl
Ubinuclein 1 (UBN1)	Monoclonal UBN1G12	MS/IgG1	HU	WB/DB	–	CBX-CBX00274	100 μg
Ubiquitin, Chain	Monoclonal FK1	MS/IgM	–	WB/ELISA	–	NBT-MFK-001	0.5 mg
	Monoclonal FK1	MS/IgM	–	WB/ELISA	–	NBT-MFK-002	1 mg
	Monoclonal FK2	MS/IgG1	–	WB/ELISA	–	NBT-MFK-003	0.5 mg
	Monoclonal FK2	MS/IgG1	–	WB/ELISA	–	NBT-MFK-004	1 mg
UBR5	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0896AF	50 μg
UBXD7	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0794	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0794PA	100 μg
UBXD8	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0887	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0887PA	100 μg
UCK2 (Uridine-cytidine Kinase 2)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-UCK2-251	100 μl
ULK1	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0722	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0722PA	100 μg
UNK	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1753	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1753PA	100 μg
Upstream binding protein 1 (LBP-1a)	Monoclonal 327C1a	MS/IgG1	HU	WB/IC/DB	–	CBX-CBX00551	100 μg
URG4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1507	100 μl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1507PA	100 μg
Urocortin	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y361-EX	50 μl
Urocortin 2	Polyclonal	RAB	RAT	IHC/EIA	–	YII-Y365-EX	50 μl
Urocortin (3-40)	Polyclonal	RAB	MS/RAT	IHC/RIA	–	YII-Y360-EX	50 μl
Urocotin 1	Polyclonal	RAB/IgG	MS/RAT	IHC/EIA	–	YII-Y362-EX	50 μl
Urocotin 2	Polyclonal	RAB/IgG	MS	IHC/EIA	–	YII-Y363-EX	50 μl
Urocotin 3	Polyclonal	RAB/IgG	MS	IHC/EIA	–	YII-Y364-EX	50 μl
Uroplakin Ia	Polyclonal	RAB	HU	WB/IHC	–	CAC-TSS-P01	100 μl
URP2 (Fermitin family homolog 3 (*Drosophila*))	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-FERMT3-152	100 μl
Urso Deoxy Cholic acid	Polyclonal	RAB	–	EIA	–	FKA-524-E	2000 test
USF2 gene	Monoclonal USF2E12D9	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00320	100 μg
	Monoclonal 328C3a	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00580	100 μg
USP5 (Ubiquitin specific peptidase 5)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKB3523	100 μl
USP11 (Ubiquitin specific peptidase 11)	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG403	25 μg (0.25 mg/ml)
USP18 (Ubiquitin specific peptidase 18)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-USP18-334	100 μl



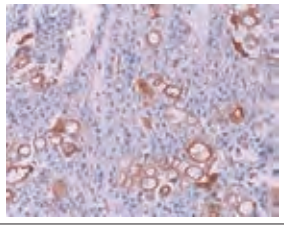
Uroplakin Ia
#CAC-TSS-P01
Urothelial cancer
superficial pattern (×40)



Uroplakin Ia
#CAC-TSS-P01
Urothelial cancer
cytoplasmic p. (×40)



Uroplakin Ia
#CAC-TSS-P01
Urothelial cancer
intercellular p. (×20)

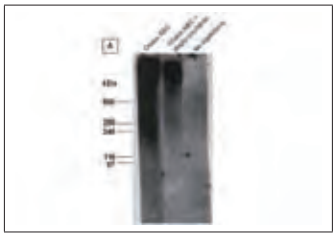


Uroplakin Ia
#CAC-TSS-P01
Urothelial cancer
micro luminal p. (×20)

Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
USP19 (Ubiquitin specific peptidase 19)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0891	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0891PA	100 µg
UTP3, small subunit (SSU) processome component, homolog (*S. cerevisiae*)	Monoclonal 2950C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00507	100 µg
UTP11L	Monoclonal 2167C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00773	100 µg
UTP18	Monoclonal 3223C3a	MS/IgG2b	HU	WB/DB	–	CBX-CBX00775	100 µg

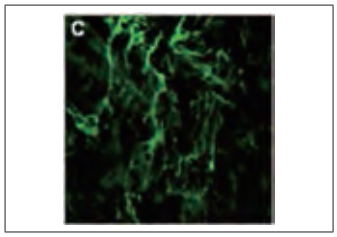
V

VARS1	Monoclonal VARSA7E6	MS/IgG1	HU	WB/DB	–	CBX-CBX00301	100 µg
VARS2	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1885	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1885PA	100 µg
V-ATPase, A	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080038	100 µℓ
V-ATPase A Subunit	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080003	100 µℓ
V-ATPase c Subunit	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080004	100 µℓ
V-ATPase Subunit a	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080002	100 µℓ
V-ATPase Subunit D	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080033	100 µℓ
V-ATPase Subunit E	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080034	100 µℓ
V-ATPase Subunit H	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080035	100 µℓ
VAX2 (Ventral anterior Homeobox 2)	Monoclonal VAX2A8F12	MS/IgG1	HU/MS	WB/IC/DB	–	CBX-CBX00308	100 µg
VCAM1 (Vascular Cell Adhesion Molecule 1)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-VCAM1-599	100 µℓ
VDR	Monoclonal H4537	MS/IgG2a	HU/MS/RAT	WB/IHC/ELISA/IP	–	PPX-PP-H4537-00	0.1 mℓ (1 mg/mℓ)
Vero Toxin1 / Shiga Toxin	Polyclonal	RAB	–	WB/ELISA/IP	–	BAM-64-025EX	100 µℓ
Versican/CSPG2	Monoclonal 5C12	MS/IgM	HU	WB/IHC(f)/ELISA	–	CAC-PRPG-VS-M01	2 mℓ
	Monoclonal 2B3	MS/IgM	HU/BOV	WB/ELISA/IHC	–	CAC-PRPG-VS-M03	2 mℓ
	Monoclonal 6B10	MS/IgG2a	HU/BOV	WB/ELISA/IHC	–	CAC-PRPG-VS-M04	2 mℓ
	Monoclonal 4C5	MS/IgM	HU	WB/IHC(f)/ELISA	–	CAC-PRPG-VS-M02	2 mℓ
VGLL3 (Vestigial-like 3 (*Drosophila*))	Polyclonal	RAB/IgG	HU	IP	–	CAC-CNP-VGLL3-200	100 µℓ
VGLL4	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0121	100 µℓ
Vimentin	Polyclonal	RAB	HU/MS/RAT/CHK	ELISA/IF/WB	–	LSL-LB-3010	100 µℓ
VIP (Vasoactive Intestinal Peptide)	Polyclonal	RAB	HU/RAT/POR	IHC/RIA	–	YII-Y010-EX	50 µℓ
Vitamin D (1,25-dihydroxyvitamin D3) receptor	Monoclonal 333C6a	MS/IgG1	HU	WB/DB	–	CBX-CBX00552	100 µg
Vitellogenin	Monoclonal 1G2	MS/IgG1	*Cyprinus carpis*	WB/ELISA	–	KAL-KH004	100 µg
	Monoclonal 3E11	MS/IgG1	Fish	ELISA/IB	–	KAL-KH005	100 µg
	Monoclonal 3C1	MS/IgG1	*Killifish*	ELISA/IB	–	KAL-KH006	100 µg
	Monoclonal 5A4	MS/IgG1	Fish	ELISA/IB	–	KAL-KH007	100 µg
Vitronectin	Polyclonal	RAB	BOV	ELISA/IF/WB	–	LSL-LB-2007	100 µℓ
	Polyclonal	RAB	HU/MS/RAT/BOV/POR/CAN/SHP/GT	ELISA/IF/WB	–	LSL-LB-2096	100 µℓ
V-PPase	Polyclonal	RAB/IgG	–	WB	–	COP-COP-080001	100 µℓ
Vpr peptide	Monoclonal 8D1	MS/IgG2a κ	–	WB/FC/IP	–	CAC-NCG-M01	100 µℓ (1 mg/mℓ)

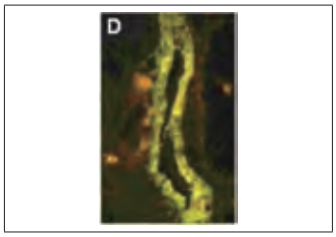


Versican/CSPG2 #CAC-PRPG-VS-M01
Immunoblotting of intact versican (mixture of V1 and V2 isoforms) prior to (Intact) and after combined chondroitinase ABC (Chase ABC) and endo- -galactosidase-digestion (Digested) form. The proteoglycan was resolved by SDS-PAGE under reducing conditions on 3-8% linear gradient gels (MW, HiMark Unstained Protein Standard).

Versican [CSPG2] (5C12)
#CAC-PRPG-VS-M01
Immunohistochemistry on human normal urinary bladder.



Versican [CSPG2] (5C12)
#CAC-PRPG-VS-M01
Immunostaining of versican in the matrix deposited *in vitro* of human microvascular endothelial cells after TNF stimulation.



Versican [CSPG2] (5C12)
#CAC-PRPG-VS-M01
Immunostaining of versican lining the wall of a larger vein in human kidney (PFA-fixed frozen section).

VP-

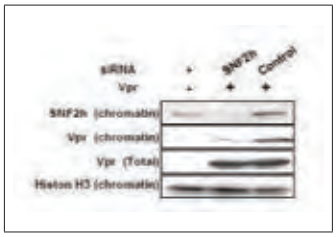
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
Vpr peptide	Monoclonal 8D1	MS/IgG2a κ	—	WB/FC/IP	—	CAC-NCG-M01	50 µℓ (1 mg/mℓ)
VPS8 (Vacuolar Protein Sorting-Associated Protein 8 Homolog)	Polyclonal	RAB/IgG	HU/MS	WB	—	PRX-MKA0804AF	50 µg
VPS18 (Vacuolar Protein Sorting 18 Homolog (*S. cerevisiae*))	Polyclonal	RAB	HU/MS	WB	—	PRX-MKA1475	100 µℓ
VPS39 (Vacuolar Protein Sorting 39 Homolog (*S. cerevisiae*))	Polyclonal	RAB/IgG	HU	WB	—	CAC-CNP-VPS39-185	100 µℓ
	Polyclonal	RAB	HU/MS	WB	—	PRX-MKA0770	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	—	PRX-MKA0770PA	100 µg
VRK1	Monoclonal 5D1	MS/IgG1 κ	HU	WB/ELISA/IHC/IF/IP	—	BAM-71-600-EX	100 µg
VTI1B (Vesicle Transport Through Interaction With t-SNAREs Homolog 1B (yeast))	Polyclonal	RAB/IgG	HU	WB	—	CAC-CNP-VTI1B-081	100 µℓ

W

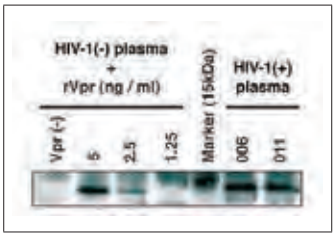
WARS2 (Tryptophanyl tRNA Synthetase 2, Mitochondrial)	Polyclonal	RAB/IgG	HU	WB/IP	—	CAC-CNP-WARS2-534	100 µℓ
WDR19	Polyclonal	RAB	MS	—	—	PRX-MKA1638	100 µℓ
WDR20 (WD Repeat Domain 20)	Polyclonal	RAB/IgG	HU	WB	—	CAC-CNP-WDR20-117	100 µℓ
WDR37	Polyclonal	RAB	HU/MS	WB	—	PRX-MKA0982	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	—	PRX-MKA0982PA	100 µg
WDR43	Polyclonal	RAB	HU/MS	WB	—	PRX-MKA0007	100 µℓ
WDR45L	Polyclonal	MS Poly	MS	IHC/ELISA	—	CAC-ICA-TG3-MSP1	50 µℓ
WDR48	Polyclonal	RAB	HU/MS	WB	—	PRX-MKA1449	100 µℓ
	Polyclonal	RAB/IgG	HU/MS	WB	—	PRX-MKA1449PA	100 µg
WEE1	Polyclonal	RAB	HU/MS	WB	—	PRX-MKB3098	100 µℓ
Whole Length of Human γ-tubulin 1 Protein	Monoclonal E39	MS/IgG1 λ	—	IC/WB/ELISA	—	CAC-NM-MA-003	100 µℓ
WHRN (Autosomal Recessive Deafness Type 31 Protein)	Polyclonal	RAB/IgG	HU/MS	WB	—	PRX-MKA1526AF	50 µg
WNT1 Inducible Signaling Pathway Protein 2	Polyclonal	RAB/IgG	HU	IP	—	CAC-CNP-WISP2-145	100 µℓ
WRN	Polyclonal	RAB	HU	WB	—	BCN-BCN4787	50 µℓ
WTIP (Wilms Tumor 1 Interacting Protein)	Polyclonal	RAB/IgG	HU	WB	—	CAC-CNP-WTIP-009	100 µℓ
WWTR1 (WW Domain-Containing Transcription Regulator Protein 1)	Polyclonal	RAB	HU	WB	—	PRX-KB5651GNP	100 µℓ

X

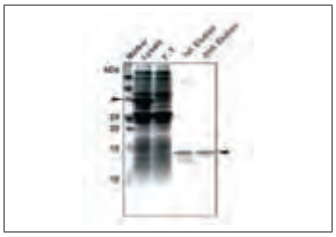
XBP1 (X-box Binding Protein 1)	Monoclonal XBP1H6E5	MS/IgG1	HU	WB/DB	—	CBX-CBX00292	100 µg
XPA binding protein 1, GTPase	Polyclonal	RAB/IgG	HU	WB	—	CAC-CNP-GPN1-542	100 µℓ
XPA (Xeroderma Pigmentosum Group A)	Monoclonal 5F12	MS/IgG2b	HU	WB	—	BAM-70-031-EX	50 µg
	Monoclonal 5F12	MS/IgG2b	HU	WB	—	BAM-70-032-EX	250 µg
	Monoclonal A-2	MS	HU	WB	—	CAC-KUP-TM-M01	100 µℓ
XPF (Xeroderma Pigmentosum Group F)	Monoclonal 19-16	MS/IgG1 κ	HU/MS	WB/IF	—	CAC-KUP-TM-M02	100 µℓ
XPG (Xeroderma Pigmentosum Group G)	Monoclonal G-26	MS/IgG1 κ	HU	WB	—	CAC-KUP-TM-M03	100 µℓ



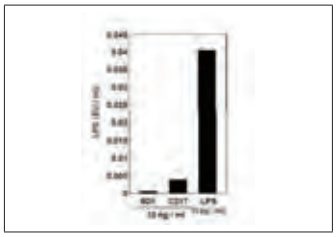
Vpr peptide
#CAC-NCG-M01
Western blotting with 8D1 antibody using whole cell extracts of Chromatin fraction.



Vpr peptide
#CAC-NCG-M01
Detection (or IP-WB analysis) of Vpr in plasma of HIV-1-positive patients.



Vpr peptide
#CAC-NCG-M01
LPS-free Vpr protein purification using a glutathione column and an affinity column with anti-Vpr antibody (8D1), 1st. Elution: Glutathione column, 2nd. Elution: 8D1 affinity column.



Vpr peptide
#CAC-NCG-M01
LPS-free Vpr protein purification using a glutathione column and an affinity column with anti-Vpr antibody (8D1), 8D1: anti-Vpr monoclonal antibody Cat#CAC-NCG-M01, C217: anti-Vpr monoclonal antibody.

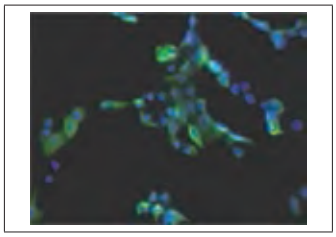
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
XPO5 (Exportin 5)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK12910310	0.1 mg
XPOT (Exportin, tRNA (nuclear export receptor for tRNAs))	Monoclonal 3236C1a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00432	100 µg
XRCC5 (X-ray repair complementing defective repair in Chinese hamster cells 5)	Monoclonal 3241C1a	MS/IgG1	HU	WB/IC/FC/IP/DB	–	CBX-CBX00445	100 µg
XRCC6 (X-ray repair complementing defective repair in Chinese hamster cells 6)	Polyclonal	RAB/IgG	HU	WB/IP	–	CAC-CNP-XRCC6-486	100 µl
	Monoclonal 995C1b	MS/IgG1	HU	WB/DB	–	CBX-CBX00441	100 µg
XTP1	Monoclonal 2191H11	MS/IgG1	HU	–	–	CAC-PRPG-XTP-M01	2 ml

Y

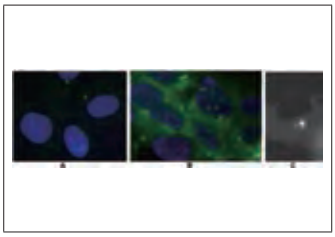
YARS2 (Tyrosyl-tRNA Synthetase 2, Mitochondrial)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-YARS2-284	100 µl
YARS (Tyrosyl-tRNA Synthetase)	Monoclonal YAR5H08	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00147	100 µg
YBX2	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0240GNPAF	50 µg
Ydj1(Dnaj)	Polyclonal	RAB/IgG	YST	WB/IP	–	COP-COP-080050	100 µl
YEATS2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1197AF	50 µg
YEATS4 (YEATS Domain containing 4)	Monoclonal YEATB1A8	MS/IgG1	HU	WB/DB	–	CBX-CBX00352	100 µg
YWHAG (Tyrosine 3-monooxygenase/ tryptophan 5-monooxygenase activation protein, γ polypeptide)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-YWHAG-521	100 µl
YY1	Monoclonal 3248C3a	MS/IgG2b	HU/MS/RAT	WB/DB	–	CBX-CBX00661	100 µg
	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0182GNPAF	50 µg

Z

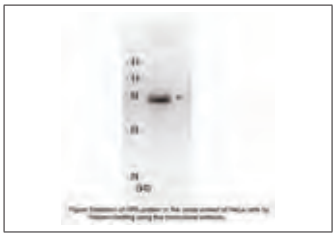
ZBTB1	Polyclonal	RAB	HU	WB	–	PRX-KA0997GNP	100 µl
ZBTB6	Polyclonal	RAB	HU	WB	–	PRX-KB9672GNP	100 µl
ZBTB7B	Polyclonal	RAB	HU	WB	–	PRX-KB7052GNP	100 µl
ZBTB11	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0212GNPAF	50 µg
ZBTB16	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0126GNPAF	50 µg
ZBTB24	Polyclonal	RAB	HU	WB	–	PRX-KA0441GNP	100 µl
ZBTB34	Polyclonal	RAB	HU	WB	–	PRX-KA1993GNP	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1993AF	50 µg
ZBTB39 (Zinc Finger And BTB Domain Containing 39)	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0352AF	50 µg
ZBTB43	Polyclonal	RAB	HU	WB	–	PRX-KA0414GNP	100 µl
	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0414	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0414PA	100 µg
ZC3H7B	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1031AF	50 µg
ZCCHC11 (Zinc Finger, CCHC Domain containing 11)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ZCCHC11-205	100 µl
	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0191AF	50 µg
ZFAND5	Polyclonal	RAB	HU	WB	–	PRX-KB7270GNP	100 µl
ZFP36L1 (Zinc Finger Protein 36, C3H type-like 1)	Monoclonal 3415C2b	MS/IgG1	HU	WB/DB	–	CBX-CBX00484	100 µg
ZFP90 (KIAA1954)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK19540910	50 µg
ZFP292 / KIAA0530	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK05300910	50 µg



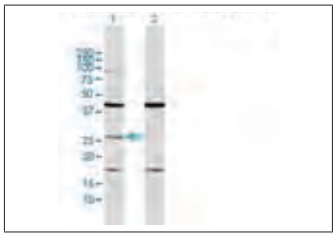
WDR45L #CAC-ICA-TG3-MSP1
Immunohistochemistry: Hela cells transfected with plasmid encoding mouse WDR45L were fixed, permeabilized and stained with Rabbit anti- mouse WDR45L Polyclonal Antibodies diluted 1/100 and Alexa488 goat anti mouse IgG secondary antibody. Nuclei were counterstained with DAPI.



Whole length of human γ-tubulin 1 protein #CAC-NM-MA-003
Monoclonal antibody (E39) recognizes γ-tubulin located at the centrosomes.

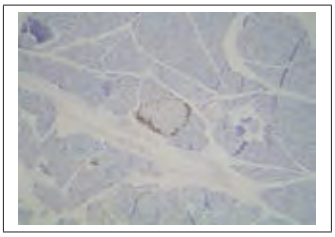


XPA (Xeroderma Pigmentosum Group A) #BAM-70-032-EX
Detection of XPA protein in the crude extract of HeLa cells by Western blotting using this monoclonal antibody.

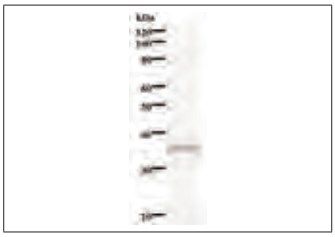


YWHAG (Tyrosine 3-monooxygenase/ tryptophan 5-monooxygenase activation protein, γ polypeptide) #CAC-CNP-YWHAG-521
Western Blotting (Transfected lysate).

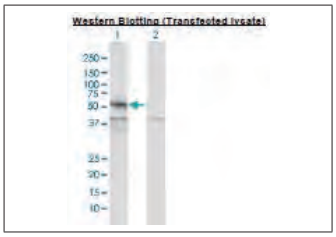
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
ZFP644 (KIAA1221)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK12210910	50 μg
ZFR2	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1086AF	50 μg
ZFYVE1 (Zinc Finger, FYVE Domain containing 1)	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA1589AF	50 μg
ZFYVE9 (Zinc Finger, FYVE Domain containing 9)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ZFYVE9-146	100 μℓ
ZFYVE16	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0305AF	50 μg
ZGPAT	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA1847	100 μℓ
ZHX2	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0854AF	50 μg
ZHX3	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0395AF	50 μg
ZMAT2 (Zinc Finger, matrin type 2)	Monoclonal 3324C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00776	100 μg
Zmat4 (Zinc Finger matrin type 4)	Polyclonal	RAB	MS	IHC(p)	–	KAL-KG407	25 μg (0.25 mg/mℓ)
ZNF3 (Zinc Finger Protein 3)	Monoclonal 3405C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00466	100 μg
	Monoclonal 3405C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00777	100 μg
ZNF7 (Zinc Finger Protein 7)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0101GNPAF	50 μg
ZNF19 (Zinc Finger Protein 19)	Monoclonal 3409D2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00558	100 μg
ZNF35 (Zinc Finger Protein 35)	Monoclonal 3413C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00476	100 μg
ZNF37A (Zinc Finger Protein 37aA)	Monoclonal ZNF3A11A9	MS/IgG1	HU	WB/DB	–	CBX-CBX00299	100 μg
ZNF38 (Zinc Finger and SCAN Domain containing 21)	Monoclonal 3418F1a	MS/IgG2b	HU	WB/IC/DB	–	CBX-CBX00575	100 μg
ZNF44 (Zinc Finger Protein 44)	Monoclonal 3421C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00477	100 μg
ZNF75 (Zinc Finger Protein 75D)	Monoclonal 3424C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00726	100 μg
ZNF76 (Zinc Finger Protein 76)	Monoclonal 3425C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00497	100 μg
ZNF81 (Zinc Finger Protein 81)	Monoclonal 3426C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00472	100 μg
ZNF83 (Zinc Finger Protein 83)	Monoclonal 3427C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00757	100 μg
ZNF92 (Zinc Finger Protein 92)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ZNF92-118	100 μℓ
ZNF96 (Zinc Finger Protein 96)	Monoclonal 3430C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00779	100 μg
ZNF131 (Zinc Finger Protein 131)	Monoclonal 3431C3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00749	100 μg
ZNF136 (Zinc Finger Protein 136)	Monoclonal ZNF1H5D11	MS/IgG2b	HU	WB/DB	–	CBX-CBX00298	100 μg
ZNF161 (Vascular Endothelial Zinc Finger 1 (VEZF1))	Monoclonal ZNF5J141	MS/IgG1	HU/MS/RAT	WB/IC/DB	–	CBX-CBX00215	100 μg
ZNF174 (Zinc Finger Protein 174)	Monoclonal 3441C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00500	100 μg
ZNF192 (Zinc Finger Protein 192)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0164GNPAF	50 μg
ZNF202 (Zinc Finger Protein 202)	Polyclonal	RAB	HU	WB	–	PRX-KB3009GNP	100 μℓ
ZNF217 (Zinc Finger Protein 217)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0090GNPAF	50 μg
ZNF238 (Zinc Finger Protein 238)	Polyclonal	RAB	HU	WB	–	PRX-KB4680GNP	100 μℓ
ZNF250 (Zinc Finger Protein 250)	Polyclonal	RAB	HU	WB	–	PRX-KB3061GNP	100 μℓ
ZNF253 (Zinc Finger Protein 253)	Polyclonal	RAB/IgG	HU	WB	–	CAC-CNP-ZNF253-373	100 μℓ



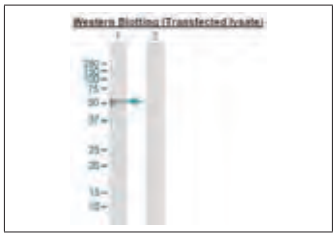
Zmat4 (Zinc finger matrin type 4)
#KAL-KG407



ZNF3 (Zinc finger protein 3)
#CBX-CBX00777
Western blot analysis of immunized recombinant protein, using anti-ZNF3 monoclonal antibody.

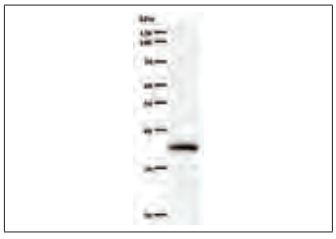


ZNF92 (Zinc Finger Protein 92)
#CAC-CNP-ZNF92-118
Western Blotting (Transfected lysate).

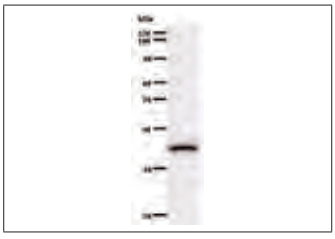


ZNF253 (Zinc Finger Protein 253)
#CAC-CNP-ZNF253-373
Western blot analysis of ZNF253 expression in transfected 293T cell line by ZNF253 rabbit polyclonal antibody.

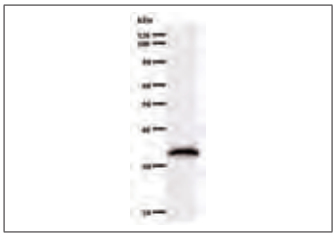
Antigen	Clonality	Host/Isotype	Cross Reactivity	Applications	Conjugation	Cat. #	Size
ZNF281 (Zinc Finger Protein 281)	Monoclonal 148C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00530	100 µg
ZNF313 (Zinc Finger Protein 114)	Monoclonal 3347C1a	MS/IgG1	HU	WB/DB	–	CBX-CBX00758	100 µg
ZNF354A (Zinc Finger Protein 354A)	Monoclonal 149C1a	MS/IgG1	HU/MS/RAT	WB/DB	–	CBX-CBX00529	100 µg
ZNF354C (Zinc Finger Protein 354C)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA4218AF	50 µg
ZNF365 (Zinc Finger Protein 365)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0844	100 µl
ZNF384 (Zinc Finger Protein 384)	Monoclonal 3545C5a	MS/IgG1	HU	WB/DB/IC	–	CBX-CBX00539	100 µg
ZNF410 (Zinc Finger Protein 410)	Monoclonal 3343C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00728	100 µg
ZNF423 (Zinc Finger Protein 423)	Polyclonal	RAB	HU/MS	WB	–	PRX-MKA0760	100 µl
	Polyclonal	RAB/IgG	HU/MS	WB	–	PRX-MKA0760PA	100 µg
ZNF498 (Zinc Finger Protein 498)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0097GNPAF	50 µg
ZNF509 (Zinc Finger Protein 509)	Monoclonal 3502C2a	MS/IgG1	HU	WB/DB	–	CBX-CBX00473	100 µg
ZNF512B (Zinc Finger Protein 512B)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA1196AF	50 µg
ZNF521 (Zinc Finger Protein 521)	Polyclonal	RAB	HU	WB	–	PRX-FL0107GNP	100 µl
ZNF544 (Zinc Finger Protein 544)	Monoclonal 3359C4a	MS/IgG1	HU	WB/DB	–	CBX-CBX00510	100 µg
ZNF589 (Zinc Finger Protein 589)	Polyclonal	RAB	HU	WB	–	PRX-KB4343GNP	100 µl
ZNF596 (Zinc Finger Protein 596)	Monoclonal 3302D3a	MS/IgG1	HU	WB/DB	–	CBX-CBX00494	100 µg
ZNF711 (Zinc Finger Protein 711)	Polyclonal	RAB/IgG	HU	WB	–	PRX-KD0127GNPAF	50 µg
ZNF862 (Zinc Finger Protein 862)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MKA0543AF	50 µg
ZSCAN12 (Zinc Finger Protein 12)	Polyclonal	RAB/IgG	MS	WB	–	PRX-MK04260910	50 µg
ZSCAN18 (Zinc Finger Protein 18)	Polyclonal	RAB	HU	WB	–	PRX-KB8132GNP	100 µl
ZSWIM4	Polyclonal	RAB	HU/MS	WB	–	PRX-MFL0044	100 µl
ZW10 (Kinetochore associated, homolog (*Drosophila*))	Monoclonal 3363C4a	MS/IgG1	HU/MS/RAT	WB/IC/IP/DB	–	CBX-CBX00511	100 µg



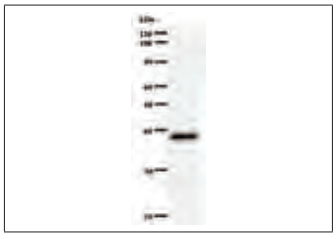
ZNF354A (Zinc Finger Protein 354A)
#CBX-CBX00529
Western blot analysis of immunized recombinant protein, using anti-ZNF354A monoclonal antibody.



ZNF544 (Zinc Finger Protein 544)
#CBX-CBX00510
Western blot analysis of immunized recombinant protein, using anti-ZNF544A monoclonal antibody.



ZNF596 (Zinc Finger Protein 596)
#CBX-CBX00494
Western blot analysis of immunized recombinant protein, using anti-ZNF596A monoclonal antibody.



ZW10 (Kinetochore associated, homolog (*Drosophila*)) #CBX-CBX00511
Western blot analysis of immunized recombinant protein, using anti-ZW10 monoclonal antibody.

Monoclonal Antibodies against DNA Damage

Powerful tools for studying DNA damage and its biological effects

Monoclonal antibodies against UV-induced DNA Damage

Anti Cyclobutane Pyrimidine Dimers (CPDs) [Clone : TDM-2]
Anti (6-4) photoproducts (6-4PPs) [Clone : 64M-2]
Anti Dewar photoproducts (DewarPPs) [Clone : DEM-1]

Prolonged exposure to solar UV radiation may result in acute and chronic health effects to the skin, eye, and immune system, including skin cancers. These harmful effects are suggested to be closely related to DNA damage. The major types of DNA damage induced by solar UV radiation are cyclobutane pyrimidine dimers (CPDs), (6-4) photoproducts (6-4PPs), and Dewar photoproducts (DewarPPs), which are formed between adjacent pyrimidine nucleotides on the same strand of DNA. These helix-distorting DNA lesions are repaired exclusively by a nucleotide excision repair system in humans. Mori *et al.* have developed and characterized monoclonal antibodies specific for CPDs and for 6-4PPs (1). Matsunaga *et. al.* have established and characterized monoclonal antibodies against DewarPPs (2). These antibodies enable one to quantitate photoproducts in DNA purified from cultured cells or from the skin epidermis using an enzyme-linked immunosorbent assay (ELISA) and to visualize and measure photoproducts in DNA in cultured cells or the skin using indirect immunofluorescence. Thus, this technology will contribute to understanding the molecular mechanisms of cellular responses to UV light and DNA damage in many research fields including cancer research, photobiology, dermatology, ophthalmology, immunology, and cosmetology.

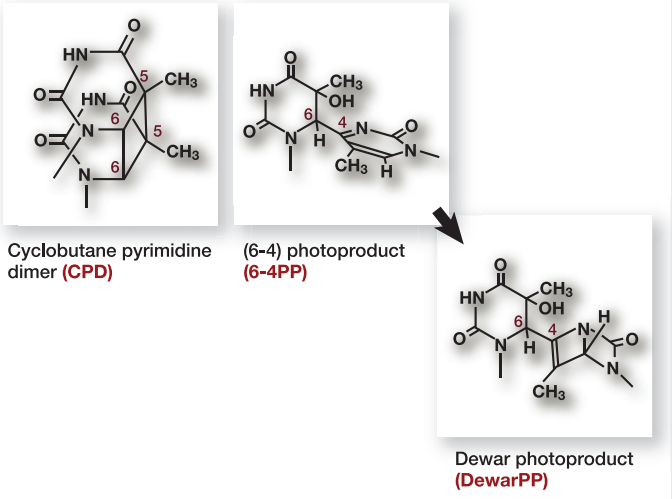
Features

- Highly specific for the target lesion
- Research applications include ELISA, IF and IHC
- Useful for research in DNA damage and repair
- Allows visualization of the DNA repair process
- Applicable to a broad range of research fields including cancer research, photobiology, dermatology, ophthalmology, immunology, and cosmetology

(1) Toshio Mori, Misa Nakane, Tsuyoshi Hattori, Tsukasa Matsunaga, Makoto Ihara, Osamu Nikaido, Simultaneous establishment of monoclonal antibodies specific for either cyclobutane pyrimidine dimer or (6-4) photoproduct from the same mouse immunized with ultraviolet-irradiated DNA. *Photochem. Photobiol.*, 54: 225-232 (1991).

(2) Tsukasa Matsunaga, Yuri Hatakeyama, Michi Ohta, Toshio Mori and Osamu Nikaido, Establishment and characterization of a monoclonal antibody recognizing the Dewar isomers of (6-4) photoproducts. *Photochem. Photobiol.*, 57: 934-940 (1993).

UV-induced major DNA damage



Cyclobutane pyrimidine dimer **(CPD)**

(6-4) photoproduct **(6-4PP)**

Dewar photoproduct **(DewarPP)**

Description	Host	Clone	Application	Cat. No.	Quantity
Anti CPDs	Mouse	TDM-2	ELISA / IC	CAC-NM-DND-001	1 vial
Anti 6-4PPs	Mouse	64M-2	ELISA / IC	CAC-NM-DND-002	1 vial
Anti DewarPPs	Mouse	DEM-1	ELISA / IC	CAC-NM-DND-003	1 vial

COSMO BIO CO., LTD.

Detection and Measurement

DNA-Damage Markers - 8-OHdG Check ELISA KIT

Intended Use

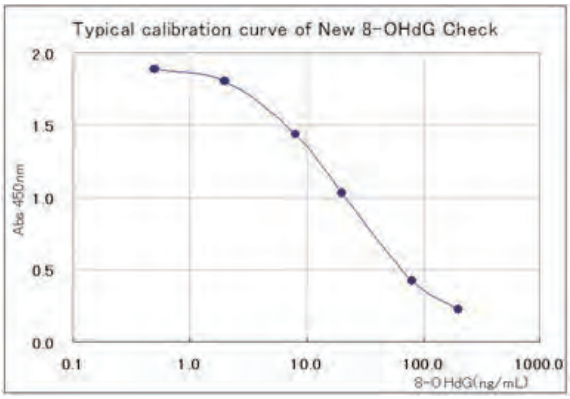
This product is an 8-OHdG ELISA kit utilizing anti 8-OHdG monoclonal antibody (clone N45.1 Cat# NNS-MOG-020P-EX) which is highly specific for 8-OHdG. We provide two types of 8-OHdG ELISA kits with different assay ranges. The new 8-OHdG Check ELISA is suitable for urine and serum samples from animal and human. If you are planning to measure 8-OHdG in human serum, tissue, cultured cells, we recommend to use Highly Sensitive 8-OHdG Check ELISA.

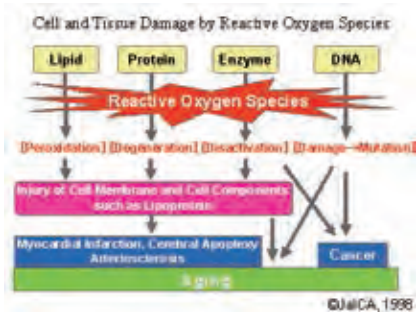
8-hydroxy-2'-deoxyguanosine (8-OHdG) is a product of oxidatively damaged DNA formed by hydroxy radical, singlet oxygen and direct photodynamic action. 8-OHdG can be detected in tissue, serum, urine and other biomaterials. New 8-OHdG Check is a competitive enzyme-linked immunosorbent assay (ELISA) utilising monoclonal antibody (clone N45.1) which is highly specific for DNA damage and does not cross react with RNA oxidation products such as 8-hydroxy-guanine and 8-hydroxy-guanosine.

This product is suitable for detection of 8-OHdG in urine and other biomaterials from human and animals.

Composition

- 8-OHdG Microtiter Plate : Precoated with 8-OHdG (12 × 8wells, split type) : 1 plate
- Primary Antibody : Anti 8-OHdG antibody, powder : 1 vial
- Primary Antibody Solution : 1 vial (6 mℓ)
- Secondary Antibody : HRP-anti mouse antibody, powder : 1 vial
- Secondary Antibody Solution : 1 vial (12 mℓ)
- Chromatic Solution : 3,3',5,5'-tetramethylbenzidine : 1 vial (0.25 mℓ)
- Diluting Solution : H_2O_2 containing buffer : 1 vial (12 mℓ)
- Washing Solution (5x) : 2 vials (26 mℓ×2)
- Reaction Terminating Solution : 1M Phosphoric acid : 1 vial (12 mℓ)
- Standard 8-OHdG Solution : Purified 8-OHdG (0.5, 2, 8, 20, 80, 200 ng/mℓ) : 1 vial each
- Plate Seal : 2 sheets





Reference

- H. Kasai, P.F.Crain, Y.Kuchino, S.Nishimura, A.Ootsuyama and H.Tanooka : Formation of 8-hydroxyguaine moiety in cellular DNA by agents producing oxygen radicals and evidence for its repair. Carcinogenesis 7(11), p1849-1851 (1986)
- R.G.Cutler: Antioxidants and aging. Am J Clin Nutr 50,p373S-379S (1991)
- S. Toyokuni, T. Tanaka, Y.Hattori, Y,Nishiyama, A.Yoshida, K.Uchida, H.Hiai, H.Ochi and T.Osawa: Quantitative immunohistochemical determination of 8-hydroxy-2'deoxyguanosine by a monoclonal antibody N45.1: Its application to ferric nitrilotriacetate-induced renal carcinogenesis model. Lab Invest 76(3), p365-374 (1997)
- Saito S, Yamauchi H, Hasui Y, Kurashige J, Ochi H, Yoshida K: Quantitative determination of urinary 8-hydroxydeoxyguanosine (8-OH-dg) by using ELISA. Res Commun Mol Pathol Pharmacol 107(1-2), p39-44 (2000)
- Nagayoshi Y, Kawano H, Hokamaki J, Miyamoto S, Kojima S, Shimomura H, Tsujita K, Sakamoto T, Yoshimura M, Ogawa H: Urinary 8-hydroxy-2'-deoxyguanosine levels increase after reperfusion in acute myocardial infarction and may predict subsequent cardiac events. Am J Cardiol. 95(4), p514-517 (2005)
- Morillas-Ruiz J, Zafrilla P, Almar M, Cuevas MJ, Lopez FJ, Abellan P, Villegas JA, Gonzalez-Gallego J: The effects of an antioxidant-supplemented beverage on exercise-induced oxidative stress: results from a placebo-controlled double-blind study in cyclists. Eur J Appl Physiol 95(5-6),p543-549(2005)
- Someya T, Kaneko K, Yamada T, Yamashiro Y: Effect ofanovelfree radical scavenger, edaravone, on puromycin aminonucleoside induced nephrosis in rats. Pediatr Nephrol 20(10),p1430-1434 (2005)
- Shiihara T, Kato M, Ichiyama T, Takahashi Y, Tanuma N, Miyata R, Hayasaka K: Acute encephalopathy with refractory status epilepticus: Bilateral mesial temporal and claustral lesions, associated with a peripheral marker of oxidative DNA damage. J Neurol Sci 250(1-2),p159-161(2006)
- J. Cell Biol., Aug 2009; 186: 509 - 523.

Description	Antigen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
8-OHdG Check ELISA kit	8-OHdG/ 8-oxo-dG	Animal	Serum, Urine	0.5 - 200 ng/mℓ	Competitive	NNS-KOG-200SE-EX	96 well
Highly Sensitive 8-OHdG Check ELISA kit	8-OHdG/ 8-oxo-dG		Serum, Urine, Tissue, Cultured cells	0.125 - 10 ng/mℓ	Competitive	NNS-KOG-HS10E-EX	96 well

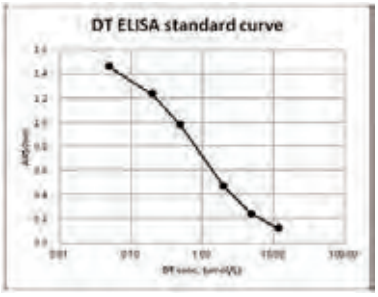
Protein Damage Markers - Dityrosine (DT) ELISA kit

Intended Use

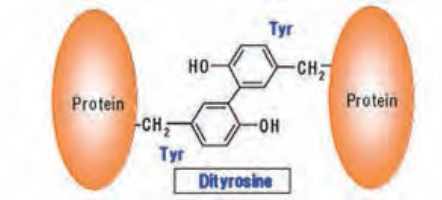
Dityrosine is one of the specific biomarkers for protein oxidation. This DT ELISA kit is designed for quantitative measurement of DT especially in urine samples.

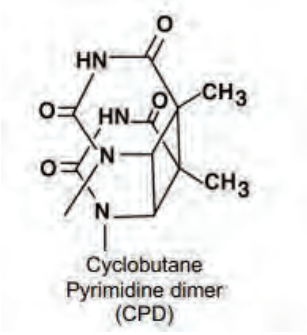
Tyrosine is one of the major targets of protein oxidation, and until today various tyrosine derivatives such as nitrotyrosine, dityrosine and halogenated tyrosine depending on the type of free radicals. DT is a tyrosine dimer derived from tyrosyl radicals which is formed by reactive oxygen species (ROS), metal-catalyzed oxidation, ultraviolet irradiation, and peroxidases. DT have been found in atherosclerotic lesions, and lipofuscin of pyramidal neurons of aged human brains.

Recently, dityrosine is reported to exist also in urine samples. It is expected that DT may be a novel protein oxdation marker,which is non-invasively detectable.

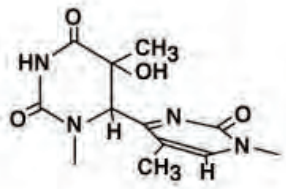


A standard curve example

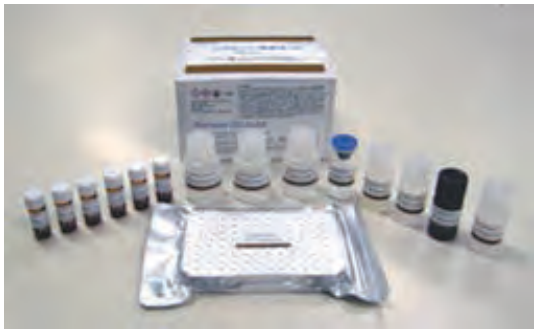




Cyclobutane Pyrimidine dimer (CPD)



(6-4)photoproduct (6-4PP)



Composition

- DT Microtiter Plate Precoated with DT (8× 12 wells, split type) : 1 plate
- Primary Antibody Anti DT monoclonal antibody (ready to use) : 1 vial (7 mℓ)
- Secondary Antibody HRPconjugated antimouse antibody : 1 vial
- Secondary Antibody Solution Phosphate Buffered Saline : 1 vial (12 mℓ)
- TMB Substrate Chromogen (ready to use) : 1 vial (12 mℓ)
- Stop Solution 1.96% Sulfuric acid (ready to use) : 1 vial (12 mℓ)
- Washing Solution (x5) Concentrated wash buffer : 3 vials (25 mℓ×3)
- DT Standards DT standards (ready to use) : 1 vial each (0.5 mℓ)
- Plate seal : 2 sheets

Reference

Kato Y, Wu X, Naito M, Nomura H, Kitamoto N, Osawa T. Immunochemical detection of protein dityrosine in atherosclerotic lesion of apo-E-deficient mice using a novel monoclonal antibody. Biochem Biophys Res Commun. 275(1), p11-15 (2000).

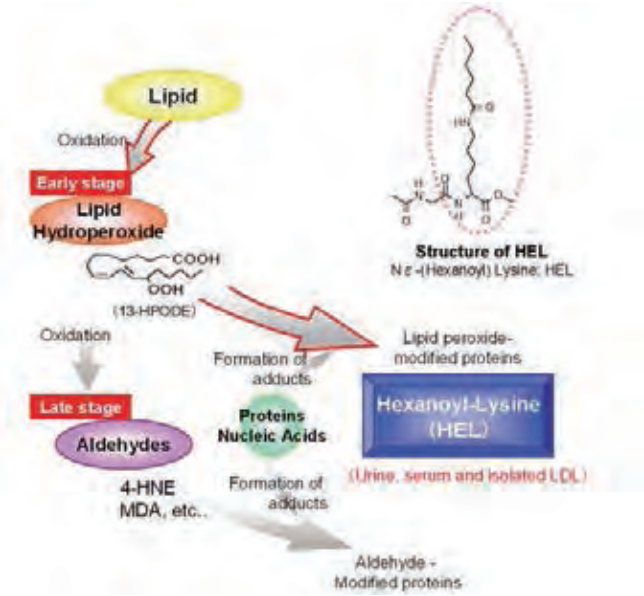
Description	Antigen	Immunogen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
Dityrosine (DT) ELISA kit	Dityrosine	Human	Human	Urine	0.05 - 12 μmol/ℓ	Competitive	NNS-KDT-010E-EX	96 well

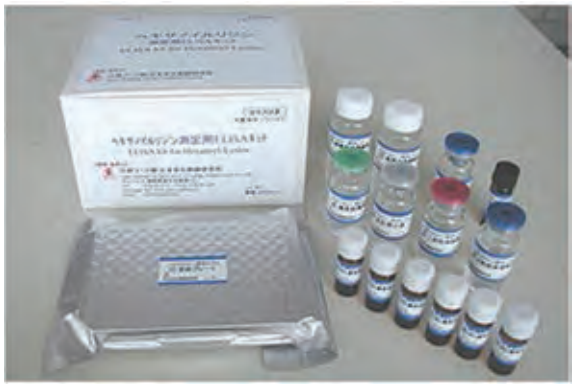
Lipid Peroxide Markers - Hexanoyl-Lys (HEL) ELISA kit

Intended Use

HEL may be a useful biomarker for initial stage of lipid peroxidation. Monoclonal antibodies. This HEL ELISA kit can be applied to urine, serum and cultured cells form human and animal.

Oxidative damage of lipids caused by reactive oxygen species (ROS) play an important role in some diseases, lesion of cell functions and aging. Aldehydes such as malondialdehyde (MDA) and 4-hydroxy-2-nonenal (4-HNE) have been reported as one of the advanced lipid peroxidation products. But recently in the earlier stage of lipid peroxidation, 13-hydroperoxyoctadecanoic acid (13-HPODE) is found to be covalently bound to proteins (1). Hexanoyl-Lysine adduct (HEL) is a novel lipid hydroperoxide-modified lysine residues. HEL is formed by oxidative modification by oxidized ω-6 fatty acids such as linoleic acid or arachidonic acid. HEL may be a useful biomarker for initial stage of lipid peroxidation. Monoclonal antibodies and ELISA kit have been developed, and HEL can be detected in oxidatively modified LDL, in human atherosclerotic lesions, human urine and serum. It is also reported that HEL is formed in rat muscle during exercise, and the formation is prohibited by antioxidants such as flavonoids.





Composition

- HEL Microtiter Plate Precoated with HEL (8×12 wells, Split Type) : 1 Plate
- Primary Antibody Monoclonal Antibody specific for HEL : 1 Vial (7 mℓ)
- Secondary Antibody HRP-Conjugated Anti Mouse IgG Antibody : 1 Vial
- Secondary Antibody Buffer Phosphate Buffered Saline : 1 Vial (12 mℓ)
- Chromogen 3,3',5,5'-Tetramethylbenzidine : 1 Vial (250 μℓ)
- Chromogen Buffer Hydrogen Peroxide/ Citrate-Phosphate Buffer : 1 Vial (12 mℓ)
- Washing Buffer (5X) Concentrated Phosphate Buffered Saline : 2 Vials (25 mℓ × 2)
- Stop Solution 1M Phosphoric acid : 1 Vial (12 mℓ)
- Standard A-F Bz-Gly-Hexanoyl-Lys : 1 Vial each (500 μℓ)
- Plate Seal Adhesive seal to prevent evaporation : 2 Sheets

Reference

1. N. Nakayama, *et al*., Prediction of prognosis in LEC rats with fulminant hepatitis. ACTA HEPATOLOGICA JAPONICA 31: 363-369, 1994
2. Yamada A, *et al*., Rapid and sensitive enzyme-linked immunosorbent assay for measurement of HGF in rat and human tissues. Biomedical Research 16 (2): 105-114, 1995.

Description	Antigen	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
Hexanoyl-Lys(HEL) ELISA kit	Hexanoyl-lysine (HEL)	Urine, Serum, Culture Supernatant	2 - 700 nmol/ℓ	Competitive	NNS-KHL-700E-EX	96 well

Various Biomarkers

Antigen	Cross Reactivity	Composition								Applicable sample	Sensitivity	Measurement Range	Supplementary	Cat. No.	Size
		Antibody	Plate	Coating	Control	Standard	Labeling	Substrate	Others						
α-Fibrinogen	Human	●	●	●		●	●	●	●	Plasma(EDTA), Culture medium	0.43 ng/mℓ	2.73-175 ng/mℓ	Competitive	KAL-KG612	1 kit
Aldosterone	Canine	●	●	●		●	●	●	●	Serum, Plasma			Sandwich	ENC-ERKC2002	1 kit
	Sheep												Sandwich	ENC-ERKO5002	1 kit
	Human/ Primates/ Monkey												Sandwich	ENC-ERKP6002	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	serum, plasma			Sandwich	ENC-ERKR7002	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma			Sandwich	ENC-ERKS8002	1 kit
α Melanocyte Stimulating Hormone	All Species/ Equine	●	●	●		●	●	●	●				Sandwich	ENC-ERKE3003	1 kit
Apoptosis Inhibitor of Macrophage (hAIM)	Human													KAL-KK901	1 kit
Chromogranin A	Human	●	●	●		●	●	●	●	Plasma, Urine, Saliva		0.14 - 33.33 pmℓ/mℓ	Competitive	YII-YK070-EX	1 kit
Corticosterone	Mouse/Rat	●	●	●		●	●	●	●	Plasma, Serum, Urine, Culture Supernatant		0.21 - 50 ng/mℓ	Competitive	YII-YK240-EX	1 kit
	Sheep												Sandwich	ENC-ERKO5004	1 kit
	Canine												Sandwich	ENC-ERKC2004	1 kit
	Equine										5 pg/mℓ		Sandwich	ENC-ERKE3005	1 kit
	Feline												Sandwich	ENC-ERKF4004	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.1 ng/mℓ		Sandwich	ENC-ERKP6004	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma (heparin samples), Urine	0.1 ng/mℓ		Sandwich	ENC-ERKR7004	1 kit
	Porcine												Sandwich	ENC-ERKS8004	1 kit
Cortisol	Canine	●	●	●		●	●	●	●	Serum, Plasma	0.5 pg/mℓ	5-600 ng/mℓ	Sandwich	ENC-ERKC2003	1 kit
	Equine									Serum, Plasma, Urine	0.5 pg/mℓ		Sandwich	ENC-ERKE3004	1 kit
	Feline									Serum, Plasma, Urine	0.5pg/mℓ		Sandwich	ENC-ERKF4003	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma(heparin samples), Urine	1 ng/mℓ		Sandwich	ENC-ERKP6003	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.5pg/mℓ	5-600ng/mℓ	Sandwich	ENC-ERKR7003	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.2 ng/mℓ	5-600ng/mℓ	Sandwich	ENC-ERKS8003	1 kit
C-Peptide	Rat	●	●	●		●	●	●	●	Culture Supernatant, Plasma, Serum, Urine		1.56 - 50 ng/mℓ	Competitive	YII-YK010-EX	1 kit
	Mouse	●	●	●		●	●	●	●	Serum, Plasma		0.412 - 100 ng/mℓ	Competitive	YII-YK013-EX	1 kit
C-Peptide 1	Mouse	●	●	●		●	●	●	●	Serum, Plasma, Urine		0.617 - 50 ng/mℓ	Competitive	YII-YK011-EX	1 kit
C-Peptide II	Mouse	●	●	●		●	●	●	●	Serum, Plasma, Urine		0.412 - 100 ng/mℓ	Competitive	YII-YK012-EX	1 kit
CRF	Human	●	●	●		●	●	●	●	Plasma		0.078 - 2.5 ng/mℓ	Sandwich	YII-YK132-EX	1 kit
	Mouse/Rat	●	●	●		●	●	●	●	Plasma, Brain Tissue Extract		0.078 - 2.5 ng/mℓ	Sandwich	YII-YK131-EX	1 kit
Diacetylspermine	Human	●	●	●		●	●	●	●	Urine	12.5 nM	6.25 - 200 nM	Competitive	KAL-KK073	1 kit

ELISA - Biomarkers

Antigen	Cross Reactivity	Composition								Applicable sample	Sensitivity	Measurement Range	Supplementary	Cat. No.	Size
		Antibody	Plate	Coating	Control	Standard	Labeling	Substrate	Others						
Estradiol	All Species	●	●	●		●	●	●	●	Environmental Water (rivers, waste water), Culture Supernatant		16.5 - 4,000 pg/mℓ	Competitive	YII-YK170-EX	1 kit
	Sheep									Serum, Plasma	0.5 pg/mℓ		Sandwich	ENC-ERKO5005	1 kit
	Canine	●	●	●		●	●	●	●	Serum, Plasma	5 pg/mℓ		Sandwich	ENC-ERKC2005	1 kit
	Equine									Serum, Plasma, Urine	0.5 pg/mℓ		Sandwich	ENC-ERKE3007	1 kit
	Feline									Serum, Plasma	0.5 pg/mℓ		Sandwich	ENC-ERKF4005	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma	10 pg/mℓ		Sandwich	ENC-ERKP6005	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	5 pg/mℓ	10-5000pg/mℓ	Sandwich	ENC-ERKR7005	1 kit
	Porcine									Serum	50 pg/mℓ		Sandwich	ENC-ERKS8005	1 kit
Estrone	—	●	●	●		●	●	●	●	Environmental water, Culture medium supernatant		4.8 - 5,000 pg/mℓ	Competitive	YII-YK180-EX	1 kit (96 test)
Estrone Sulfate	Sheep												Sandwich	ENC-ERKO5006	1 kit
	Canine												Sandwich	ENC-ERKC2006	1 kit
	Equine												Sandwich	ENC-ERKE3008	1 kit
	Feline										0.5 ng/mℓ		Sandwich	ENC-ERKF4006	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.2 ng/mℓ		Sandwich	ENC-ERKP6006	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.5 ng/mℓ		Sandwich	ENC-ERKR7006	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma, Urine	0.5 ng/mℓ		Sandwich	ENC-ERKS8006	1 kit
Follicle Stimulating Hormone (FSH)	Sheep	●	●	●		●	●	●	●	Serum	0.5 ng/mℓ		Sandwich	ENC-ERKO5007	1 kit
	Canine	●	●	●		●	●	●	●	Serum	1 ng/mℓ		Sandwich	ENC-ERKC2007	1 kit
	Equine									Serum	0.5 ng/mℓ		Sandwich	ENC-ERKE3009	1 kit
	Feline									Serum	0.5 ng/mℓ		Sandwich	ENC-ERKF4007	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKP6007	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum	1 ng/mℓ	0.5-100ng/mℓ	Sandwich	ENC-ERKR7007	1 kit
	Porcine	●	●	●		●	●	●	●	Serum	0.5 ng/mℓ	0.5-100ng/mℓ	Sandwich	ENC-ERKS8007	1 kit
GH	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKR7008	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma			Sandwich	ENC-ERKS8008	1 kit
GH(1-43)	Human	●	●	●		●	●	●	●	plasma		0.156 - 10 ng/mℓ	Sandwich	YII-YK270-EX	1 kit
GIP (Active)	Human	●	●	●		●	●	●	●	Human plasma (EDTA-2Na + DPP-4 inhibitor) and culture medium supernatant		3.9- 250 pg/mℓ	Sandwich	YII-YK250-EX	1 kit
	Rat	●	●	●		●	●	●	●	rat plasma (EDTA-2Na + DPP-4 inhibitor)			Sandwich	YII-YK251-EX	1 kit
	Mouse	●	●	●		●	●	●	●	mouse plasma (EDTA-2Na + DPP-4 inhibitor) and culture medium supernatant		7.8 - 500 pg/mℓ	Sandwich	YII-YK252-EX	1 kit
Glicentin	Rat	●	●	●		●	●	●	●	Plasma		0.206 - 50 ㎊/mℓ	Competitive	YII-YK111-EX	1 kit
GLP-1	Rat/Human/ Mouse	●	●	●		●	●	●	●	Plasma		0.206 - 50 ng/mℓ	Competitive	YII-YK160-EX	1 kit
GLP-2	Rat	●	●	●		●	●	●	●	Serum, Plasma		0.137-100 ng/mℓ	Competitive	YII-YK140-EX	1 kit
	Human	●	●	●		●	●	●	●	Plasma, Serum		0.412-100 ng/mℓ	Competitive	YII-YK141-EX	1 kit
	Mouse	●	●	●		●	●	●	●	Serum, Plasma		0.412 - 100 ng/mℓ	Competitive	YII-YK142-EX	1 kit
Glucagon	Rat/Human/ Mouse	●	●	●		●	●	●	●	Plasma		50 - 10,000 pg/mℓ	Competitive	YII-YK090-EX	1 kit
Growth Hormone	Canine	●	●	●		●	●	●	●	Serum, Plasma			Sandwich	ENC-ERKC2008	1 kit
HB Pre-S1	Human	●	●	●		●	●	●	●	Serum, Plasma	0.1 n Unit/mℓ	0.1- 30 n Unit/mℓ	Sandwich	BEC-BCL-S1H-01	1 kit

Antigen	Cross Reactivity	Composition								Applicable sample	Sensitivity	Measurement Range	Supplementary	Cat. No.	Size
		Antibody	Plate	Coating	Control	Standard	Labeling	Substrate	Others						
HB S	Human	●	●	●		●	●	●	●	Serum, Plasma	0.05 n Unit/mℓ	0.05～10 n Unit/mℓ	Sandwich	BEC-BCL-SH-01	1 kit (192well)
HBV genotype-specific epitopes in PreS2 region	Human	●	●	●	●		●	●	●			1.9 -24.8 IU/mℓ	Sandwich	IIM-1A65	48 test
IgE	Mouse	●	●	●		●	●	●	●	Serum			Sandwich	YMS-7675	96 test
IgG, IgM	Human	●	●	●	●		●	●	●	Serum			Sandwich	IIM-1Z23	96 test
Insulin	Canine	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKC2009	1 kit
	Feline	●	●	●		●	●	●	●	Serum, Plasma	0.5ng/mℓ		Competitive	ENC-ERKF4009	1 kit
	Human/ Primates/ Monkey												Sandwich	ENC-ERKP6009	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKS8009	1 kit
	Human/ Rabbit/Canine	●	●	●		●	●	●	●	Serum		0.137 - 100 ng/mℓ	Sandwich	YII-YK060-EX	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKR6009	1 kit
Leptin	Rat	●	●	●		●	●	●	●	Culture Supernatant, Plasma, Serum		78.1 - 20,000 pg/mℓ	Sandwich	YII-YK050-EX	1 kit
	Rat	●	●	●		●	●	●	●	Serum, Plasma		78.1-2,500 pg/mℓ (serum or plasma)	Sandwich	YII-YK051-EX	1 kit
	Mouse	●	●	●		●	●	●	●	Serum, Plasma		0.313-20 ng/mℓ	Sandwich	YII-YK052-EX	1 kit (96 test)
LH	Sheep									Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKO5010	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ	1 - 25 ng/mℓ	Sandwich	ENC-ERKR7010	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKS8010	1 kit
Luteinizing Hormone	Canine	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ	0.5 - 50 ng/mℓ	Sandwich	ENC-ERKC2010	1 kit
	Equine									Serum, Plasma	2 mIU/mℓ		Sandwich	ENC-ERKE3012	1 kit
	Feline									Serum, Plasma, Urine	0.1 ng/mℓ		Sandwich	ENC-ERKF4010	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKP6010	1 kit
NOS-1	Rat/Human	●	●	●		●	●	●	●	Tissue Extract		0.133-32.4 pmℓ/mℓ	Competitive	YII-YK100-EX	1 kit
Obestatin	Human	●	●	●		●	●	●	●	Serum, Plasma		0.231 - 25 ng/mℓ	Competitive	YII-YK231-EX	1 kit (96 tests)
	Mouse/Rat	●	●	●		●	●	●	●	Serum		0.082 - 20 ng/mℓ	Competitive	YII-YK230-EX	1 kit (96 test)
Pentraxin 3, PTX3	Human	●	●	●		●	●	●	●	Plasma, culture supernatant	0.1 ng/mℓ	0.5 - 20 ng/mℓ	Sandwich	PPX-PP-PD03-E0	96 well
Progesterone	Sheep									Milk	0.05 ng/mℓ		Sandwich	ENC-ERKO5011	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKR7011	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ		Sandwich	ENC-ERKS8011	1 kit
	Canine									Serum, Plasma	2 ng/mℓ		Sandwich	ENC-ERKC2011	1 kit
	Equine									Serum, Plasma	0.02 ng/mℓ		Sandwich	ENC-ERKE3013	1 kit
	Feline									Milk	0.05 ng/mℓ		Sandwich	ENC-ERKF4011	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKP6011	1 kit
Prorenin (open form)	Human	●	●	●		●	●	●	●	Human plasma		25-6000 pg/mℓ	Sandwich	YII-YK260-EX	1 kit
PYY	Human	●	●	●		●	●	●	●	Serum, Plasma		0.082 - 20 ng/mℓ	Competitive	YII-YK080-EX	1 kit
	Rat/Mouse	●	●	●		●	●	●	●	Serum, Plasma		0.15 - 12.5 ng/mℓ	Competitive	YII-YK081-EX	1 kit
Rat/Mouse SP-D	Rat/Mouse	●	●	●		●		●	●	DNA		0.47 - 30 ng/mℓ	Sandwich	CSR-80072	1 kit (96 tests)
S-100(BETA)	Human/ Mouse/Rat	●	●	●		●	●	●	●	Plasma		0.078 - 5 ng/mℓ	Sandwich	YII-YK151-EX	1 kit
Soluble CD147	Human	●	●	●		●	●	●	●	Culture supernatant, Urine, Biological sample	0.30 ng/mℓ		Sandwich	KAL-KG573	1 kit
Subtypes of hepatitis B surface antigen (HBsAg)	Human	●	●	●	●		●	●	●				Sandwich	IIM-1A63	24 test

ELISA - Biomarkers

Antigen	Cross Reactivity	Composition								Applicable sample	Sensitivity	Measurement Range	Supplementary	Cat. No.	Size
		Antibody	Plate	Coating	Control	Standard	Labeling	Substrate	Others						
T3	Feline									Serum, Plasma			Sandwich	ENC-ERKF4013	1 kit
	Sheep									Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKO5013	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ	0.5-10ng/mℓ	Sandwich	ENC-ERKR7013	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ	0.5-10ng/mℓ	Sandwich	ENC-ERKS8013	1 kit
T4	Feline	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ		Sandwich	ENC-ERKF4014	1 kit
	Sheep	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKO5014	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	2 ng/mℓ		Sandwich	ENC-ERKR7014	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKS8014	1 kit
Testosterone	Canine	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKC2016	1 kit
	Equine	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKE3018	1 kit
	Feline	●	●	●		●	●	●	●	Serum, Plasma	20 pg/mℓ		Sandwich	ENC-ERKF4016	1 kit
	Sheep	●	●	●		●	●	●	●	Serum	0.1 ng/mℓ		Sandwich	ENC-ERKO5016	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum	0.1 ng/mℓ		Sandwich	ENC-ERKP6016	1 kit
Teststerone	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	20 pg/mℓ	0.1-18ng/mℓ	Sandwich	ENC-ERKR7016	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma, Urine	20 pg/mℓ		Sandwich	ENC-ERKS8016	1 kit
Thyroid Stimulating Hormone	Canine	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ		Sandwich	ENC-ERKC2015	1 kit
	Equine	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKE3017	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●	Serum, Plasm	1 ng/mℓ		Sandwich	ENC-ERKP6015	1 kit
Thyroid Tests T3	Canine	●	●	●		●	●	●	●	Serum, Plasma	0.5 ng/mℓ		Sandwich	ENC-ERKC2013	1 kit
	Equine	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKE3015	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●				Sandwich	ENC-ERKP6013	1 kit
Thyroid Tests T4	Canine	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ		Sandwich	ENC-ERKC2014	1 kit
	Equine	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKE3016	1 kit
	Human/ Primates/ Monkey	●	●	●		●	●	●	●				Sandwich	ENC-ERKP6014	1 kit
Total GLP-1-HS	Rat/Human	●	●	●		●	●	●	●	Plasma and culture medium supernatant		1.24 - 300pM	Sandwich	YII-YK161-EX	1 kit
TSH	Feline	●	●	●		●	●	●	●	Serum, Plasma	0.1 ng/mℓ		Sandwich	ENC-ERKF4015	1 kit
	Sheep	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKO5015	1 kit
	Mouse/Rat/ Rodent	●	●	●		●	●	●	●	Serum, Plasma	0.2 ng/mℓ		Sandwich	ENC-ERKR7015	1 kit
	Porcine	●	●	●		●	●	●	●	Serum, Plasma	1 ng/mℓ		Sandwich	ENC-ERKS8015	1 kit
Urinary Creatinine	Human	●	●	●		●	●	●	●	Urine	1.25 mg/dℓ	0.625 - 20 mg/dℓ	Competitive	KAL-KK135	1 kit
Urinary Diacetylspermidine	Human	●	●	●		●	●	●	●	Urine	18.75 nM	9.375 - 600 nM	Competitive	KAL-KK123	1 kit
Urocortin	Mouse/Rat	●	●	●		●	●	●	●	Serum, Plasma		1.563 - 100 ng/mℓ	Competitive	YII-YK210-EX	1 kit
Urocortin 2	Mouse	●	●	●		●	●	●	●	Serum, Plasma		0.82 - 200 ng/mℓ	Competitive	YII-YK190-EX	1 kit
	Rat	●	●	●		●	●	●	●	Serum, Plasma		1.56 - 100 ng/mℓ	Competitive	YII-YK191-EX	1 kit
Urocortin 3	Mouse/Rat/ Murine	●	●	●		●	●	●	●	Plasma, Serum, Brain tissue Extract		0.41 - 100 ng/mℓ	Competitive	YII-YK200-EX	1 kit
Vitellogenin	Cyprinus carpis/ *Cyprinus carpis*	●	●	●		●	●	●	●	Plasma		7.8 - 500 ng/mℓ	Sandwich	KAL-KH003	1 kit
	Quail	●	●	●		●	●	●	●	Serum			Sandwich	KAL-KH049	1 kit

High Sensitivity CPD ELISA kit

Background

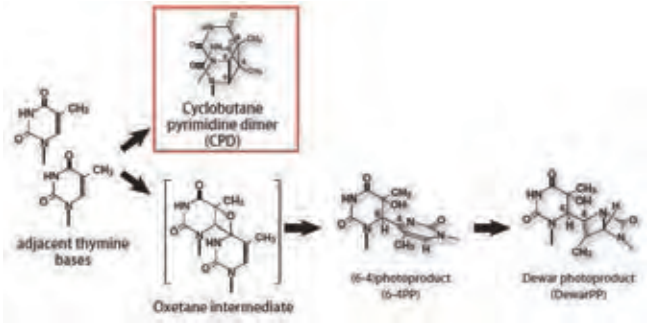
Cyclobutane pyrimidine dimers (CPDs) ELISA kit is optimized for high sensitivity detection of CPDs in DNA purified from cultured cells or from the skin epidermis using an enzyme-linked immunosorbent assay (ELISA). This system can detect CPDs formed in every dipyrimidine sequence (TT, TC, CT and CC) in DNA. Thus, this technology will contribute to understanding the molecular mechanisms of cellular responses to UV light and DNA damage in many research fields including cancer research, photobiology, dermatology, ophthalmology, immunology, and cosmetology.

Principle

To measure DNA damage in DNA, we use ELISA (enzyme-linked immunosorbent assay) using Anti-CPDs (Clone: TDM-2). Genomic DNA is purified from UV-damaged cells and heat denatured DNA is coated on wells of 96-well plate. The binding of TDM-2 to DNA damage is detected by sequential treatment with biotinylated 2nd antibody and streptavidin-peroxidase. The absorbance of colored products derived from OPD is measured at 492nm.

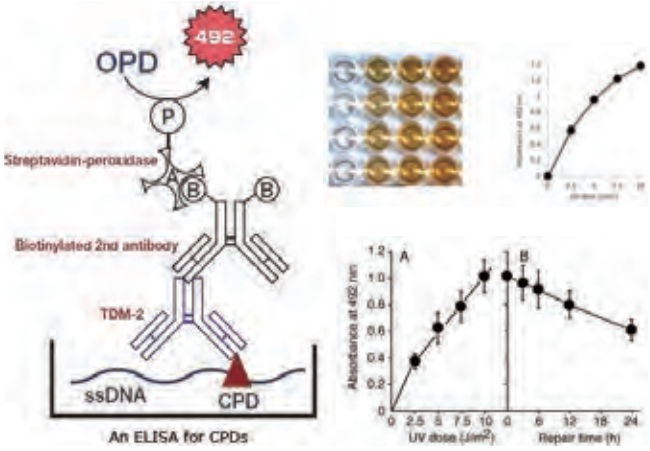
Composition

- PROTAMINE SULFATE COATED ELISA PLATE 96 : (8×12) 1 plate
- Positive CPD Standard using Calf thymus DNA (UVC irradiation : 0 J/㎡) : 10 μg/mℓ, 100 μℓ /vial,1 vial (Lyophilized)
- Assay Diluent (10X) : 10 mℓ, 1 bottle (Liquid)
- Wash Buffer (20X) : 15 mℓ, 2 bottles (Liquid)
- Blocking Reagent (50X) : 200 μℓ /vial, 2 vials (Lyophilized)
- Anti-CPDs (100X) : 150 μℓ /vial, 1 vial (Lyophilized)
- Biotinylated 2nd antibody (100X) : 150 μℓ /vial, 1 vial (Lyophilized)
- Streptavidin-peroxidase (100X) : 150 μℓ /vial, 1 vial (Lyophilized)
- OPD Tablet (2mg) : 2 tablets
  OPD Diluent (10X) : 600 μℓ, 2vials (Liquid)
- Stop Solution : 12 mℓ, 1 bottle (Liquid)
- Cover Film : 3 sheets
  Instruction manual : 1



Reference

- Mori, T., *et al*., Photochem. Photobiol. 54, 225-232 (1991).
- Matsunaga, T., *et al*., Photochem. Photobiol. 54, 403-410 (1991).
- Potten, C.S., *et al*., Int. J. Radiat. Biol. 63, 313-324 (1993)
- Kobayashi, N., *et al*., J. Invest. Dermatol.101,685-689 (1993)
- Todo, T., *et al*., Nature 361, 371-374 (1993)
- Nakane, H., *et al*., Nature 377, 165-168 (1995)
- Komatsu, Y., *et al*., Nucleic Acids Res. 25, 3889-3894 (1997)
- Kobayashi, N., *et al*., J. Invest. Dermatol. 110, 806-810 (1998)
- Nakagawa, A., *et al*., J. Invest. Dermatol. 110, 143-148 (1998)
- Otoshi, E., *et al*., Cancer Res. 60, 1729-1735 (2000)
- Katsumi, S., *et al*., J. Invest. Dermatol. 117, 1156-1161 (2001)
- Kobayashi, N., *et al*., Pigment Cell Res. 14, 94-102 (2001)
- Wakasugi, M., *et al*., J. Biol. Chem., 277, 1637-1640 (2002).
- Imoto, K., *et al*., J. Invest. Dermatol. 119, 1177-7782 (2002)
- Nishiwaki, Y., *et al*., J. Invest. Dermatol. 122, 526-532 (2004)
- Sugasawa, K., *et al*., Cell 121,387-400 (2005).
- Yasuda, G., *et al*., Mol. Cell. Biol., 27, 6606-6614 (2007).
- Matsumoto, M., *et al*., J. Cell Sci., 120, 1104-1112 (2007).
- Yamamoto, A., *et al*., DNA Repair, 6, 649-657 (2007).



Description	Antigen	Reacts with	Applicable Sample	Supplementary	Cat. No.	Quantity
High Sensitivity CPD ELISA kit	Cyclobutane Pyrimidine Dimers (CPDs)	Human/ Animal	DNA	Sandwich	CSR-NM-MA-K001	1 kit
Protamine Sulfate Coated ELISA Plate 96					CSR-NM-MA-P001	1 plate
Protamine Sulfate Coated ELISA Plate 96×5					CSR-NM-MA-P002	1×5 plate
Protamine Sulfate Coated ELISA Plate 96×10					CSR-NM-MA-P003	1×10 plate
UVC-irradiated DNA samples					CSR-NM-MA-R010	5×10 μg

FASTKIT ELISA ver.III

Intended Use

This product is a food allergen screening test kit which can detect egg proteins in foods.This product is based on the guidelines shown by CAA Notification No. 286 from the Japan Deputy Secretary General of the Consumer Affairs Agency dated September 10, 2010, "Test methods for food products containing allergic substances." This product can measure specific proteins in the food such as raw materials and processed foods widely.
According to CAA Notification No. 36 from the Deputy Secretary General of the Consumer Affairs Agency dated March 26, 2014, " Partial Revision of "Test methods for food products containing allergic substances," This is the improved kit by removing 2-mercaptoethanol from "FASTKIT ELISA Ver.II". In addition, according to a separate attachment 6 of CAA Notification No.36 from the Deputy Secretary General of the Consumer Affairs Agency "Guidelines for Evaluating Improved Methods of the Test Methods for Food Products Containing Allergic Substances," it has been confirmed that its performance is equal to that of "FASTKIT ELISA Ver.II".

Composition

- Antibody-immobilized microtiter plate (with a cover) : A 96-well microtiter plate (8 wells×12 lanes)×1
- Standard solution (50 ng/mℓ);manufactured by Nippon Gean Co., Ltd. : 1.8 mℓ×1
- Dilution buffer : 100 mℓ×1
- Biotin-conjugated antibody : 150 μℓ×1
- Streptavidin-conjugated enzyme (peroxidase) : 150 μℓ×1
- Chromogenic substrate (TMB) : 12 mℓ×1
- Solution to stop reaction (0.5N H2SO4) : 12 mℓ×1
- Concentrate wash solution (10-fold condensate) : 100 mℓ ×1
- Concentrate extraction buffer 1. (20-fold condensate) : 50 mℓ×1
- Concentrate extraction buffer 2. (20-fold condensate) : 50 mℓ×1
- Concentrate extraction buffer 3. (20-fold condensate) : 50 mℓ×1
- Instruction leaflet : 1 copy

Reference

- CAA Notification No. 286 from the Deputy Secretary General of the Consumer Affairs Agency, "Test methods for food products containing allergic substances"
- Marui E.: Food Sanitation Research, Vol. 52 (5), 25-31, 2002
- Akiyama H. and Toyoda M.: Food Sanitation Research Vol. 52 (6), 65-73, 2002
- CAA Notification No. 36 from the Deputy Secretary General of the Consumer Affairs Agency, "Partial Revision of "Test methods for food products ontaining allergic substances"

Description	Antigen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
FASTKIT ELISA Ver. III BUCKWHEAT	Buckwheat proteins	Buckwheat	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100433EX	1 kit
FASTKIT ELISA Ver. III EGG	Egg proteins	Egg	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100430EX	1 kit
FASTKIT ELISA Ver. III MILK	Milk proteins	Milk	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100434EX	1 kit
FASTKIT ELISA Ver. III PEANUT	Peanut proteins	Peanut	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100432EX	1 kit
FASTKIT ELISA Ver. III WHEAT	Wheat proteins	Wheat	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100431EX	1 kit
FASTKIT ELISA Ver. III SESAME	Sesame proteins	Sesame	Food	0.78 -50 ng/mℓ	Sandwich	NPH-999100436EX	1 kit

BroadCheck Metallothionein kit

Background

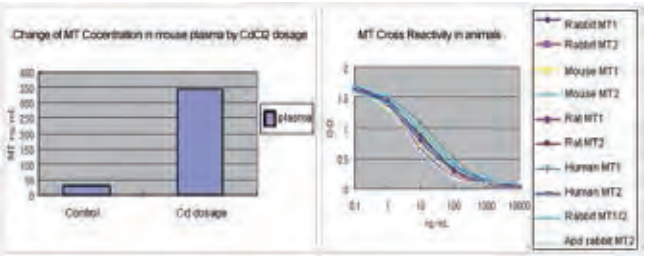
Metallothionein (MT) which is Cd binding protein have discovered from horse kidney by Margoshe and Vallee in 1957. MT is present in all animal cells and has strong affinity against another heavy metal. The physiological role are concerned in detoxication of organic metal, metabolic regulation of bioessential metal, protection from stress and free radical. However, to obtain high affinity anti MT antibody was very hard because MT is a cysteine rich (about 30%), low molecular weight protein and by the absence of aromatic amino acid in this structure. Therefore, the high sensitive ELISA system has not been established and difficult to investigate the behavior of MT *in vivo*.
We developed anti MT antibody and established the high sensitivive ELISA system for determining human and animal MT. The epitope of this antibody is located at NH2 terminals acetylated peptides in MT, therefore can assay native MT. In addition, NH2 terminals of MT is high conserved sequence in many animal species, therefore almost animals MT can measure in this ELISA kit.

Features

The kit is for quantitative detection and the procedure of this assay is simple, easy and hardly influenced by physiological active substances and body fluid. The epitope of this antibody we used in this kit is located at NH2 terminals and acetylated peptides in MT. MT I and II which have common NH2 terminals sequence can react against this antibody.

Specificities

The antibody in this kit can recognize the N terminals, especially acetyl group of N terminal amino acid. Therefore, the cross reactivity against recombinat MT protein expressed in bacteria are under 5%.



Composition

- Antigen coated 96well plate
- MT standard
- Standard diluent
- Antibody solution
- 2nd antibody
- 2nd antibody diluent
- Enzyme Substrate
- Stop solution
- Concentrated washing solution
- Plate seal

Assay Principle

This ELISA kit adopts indirect competitive reaction using the rabbit MT polyclonal antibody which recognize the N terminals of MT. The MT are coated in the surface of 96 wells plate, onto which standard of MT or samples to be measured and anti MT antibody are overlaid and incubate. After a washing step, HRP-conjugated anti rabbit antibody is added and incubate again. HRP conjugated antibody and anti MT antibody - MT complex are formed. After a washing, substrate is added, which reacts with the HRP conjugate to produce blue colors. More blue color means less MT. The optical densities are measured and plotted to calculate the exact concentration of MT.

Description	Antigen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
BroadCheck Metallothionein kit	Metallothionein	Human/ Animal	Blood, organization, urine, cultured cell etc.	0.7 - 10000 ng/mℓ	Competitive	FRL-77600-EX	1 kit

BroadCheck Deoxynivalenol kit

Background

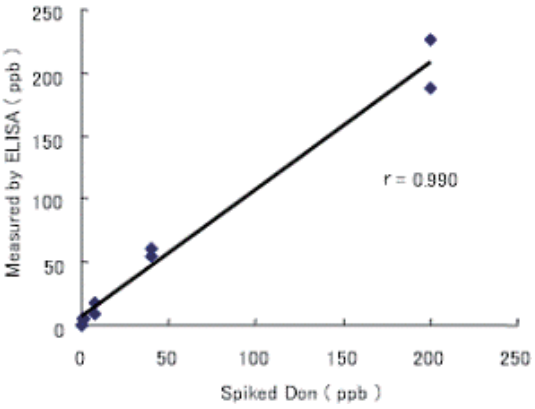
Deoxynivalenol (DON) belongs to the trichothecene family mycotoxin and is most produced of Fusarium graminearum. DON often occurs in plant products particularly in cereal. Due to their high cytotoxic and immunosuppressive properties, the toxicological these toxins pose a risk to human and animal health. Accurate determination of the presence of toxin is of major importance to those monitoring the quality of feed and food in which DON may occur. We developed monoclonal antibody for DON, and a kit for detection of DON in cereal, feed with simple and easy procedure.

Features

The kit is for quantitative detection of DON in cereal and feed and has outstanding specificity and quantification. The detection procedure is simple, easy and hardly influenced by other protein components.

Specificities

The ELISA kit is specific for DON and 15-acetyl DON (see Basic capability).



Composition

- Antibody coated plate
- DON standard
- Enzyme conjugate solution
- Enzyme conjugate solution diluent
- Antibody solution
- Substrate for enzymes
- Stop solution
- Concentrated washing solution
- Plate cover

Assay Principle

The ELISA kit adopts direct competitive reaction recognizing DON and their derivatives. The capture antibody are coated on the surface of 96 well plate, onto which HRP-labeled DON, anti-DON antibody and DON standard solution or object to be measured are overlaid at once. After reaction, substrate is added to the wells, which reacts with the bound enzyme conjugate to produce blue color. The optical densities (OD) are measured and plotted the standard curve to calculate in the concentration of DON in the object to be measured.

Cross reactivity with mycotoxin of trichothecene

DON	100%
15Ac-DON	120%
3Ac-DON	0.1%
NIV	5%
T2 Toxin	<0.1%

Description	Antigen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
BroadCheck Deoxynivalenol kit	Deoxynivalenol (DON)		Cereal	8.23 – 6000 ng/mℓ	Competitive	FRL-78700-EX	1 kit

BroadCheck New Quinolone kit Ver.2.0

Background

Antibiotics have been widely used to reduce the bacterial infection, and continual administration of the antibiotics show increased survival of the bacteria. This phenomenon is of potential medical significance since tolerance causes failures and facilitates the development of antibiotic resistance. The antibiotics have also been used in stockbreeding and fisheries. The antibiotics remained in the meat and fish are ingested by human, and accelerate the development of antibiotic resistance. Among various antibiotics, new quinolones have broad antibiotic spectra and a wide variety of derivatives have been developed and used. Contamination of new quinolones offer problem. We developed monoclonal antibody for the wide variety of new quinolones, and a kit for simultaneous detection of various antibiotics remained in the meat and fish with simple and easy procedure.

Features

The kit is for quantitative detection of new quinolone and their derivatives in food, and has outstanding specificity and quantification. The detection procedure is simple, easy and har dly influenced by physiological active substances and body fluid components. Since the monoclonal antibody used in this kit is able to bind to the antigen in organic solvents (methanol and ethanol), the extract from tissues with alcoholic can immediately be measured with the ELISA.

Specificities

The ELISA kit is specific for new quinolones and their derivatives, and cross reacts with neither sulfa drugs nor nitrofurans (see Basic Capability).

Composition

- Antibody coated plate
- New quinolone standard
- Enzyme conjugate solution
- Enzyme conjugate solution diluent
- Antibody solution
- Substrate for enzymes
- Stop solution
- Concentrated washing solution
- Plate cover

Assay Principle

The ELISA kit adopts direct competitive reaction recognizing the basic component in common with new quinolones and their derivatives. The capture antibody are coated on the surface of 96 well plate, onto which HRP-labeled new quinolone, anti-new quinolone antibody and Enrofloxacin antibacterial agent or object to be measured are overlaid at once. Measuring HRP activity in the complex yields concentration of new quinolone in the object to be measured.

Description	Antigen	Reacts with	Applicable Sample	Measurement Range	Supplementary	Cat. No.	Quantity
BroadCheck New Quinolone kit Ver.2.0	New Quinolone		Food	0.41 - 300 ng/mℓ	Competitive	FRL-78000-EX	1 kit

PVY-N ELISA HOKUDO

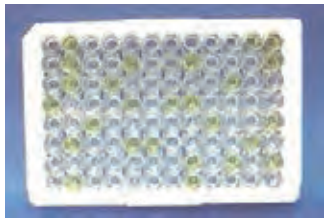
Intended Use

This kit detects PVY-N (potato Y virus N).

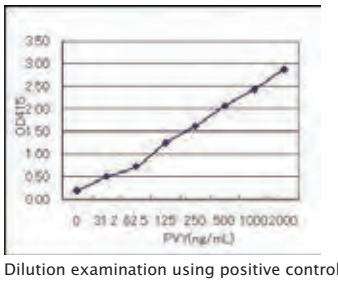
PVY-N (potato Y virus N) is a virus that causes the decrease in amount and the quality by infection with the seed potato in a vegetative propagation potato.

Composition

- Anti PVY IgG : 1 plate (96 wells)
- ALP labeled Anti PVY monoclonal antibody : 0.3 mℓ × 1
- homogenization buffer (phosphate-buffer, Tween 20) : 100 mℓ × 1 bottle
- reaction buffer (PBS, BSA, Tween 20) : 26 mℓ × 1 bottle
- Washing solution : 100 mℓ × 1 bottle
- enzyme-substrate solution (PNPP) : 26 mℓ × 1 bottle
- Stopping solution : 13 mℓ × 1 bottle
- positive control : 1 mℓ × 2 vials
- negative control : 1 mℓ × 2 vials
- Adhesive plate covers : 2 sheets



Assay result example



Dilution examination using positive control

Description	Antigen	Applicable Sample	Supplementary	Cat. No.	Quantity
PVY-N ELISA HOKUDO	PVY-N	Detection of potato Y virus N (PVY-N)	Sandwich	HKD-309401 HKD-309402	1 kit 10 kit

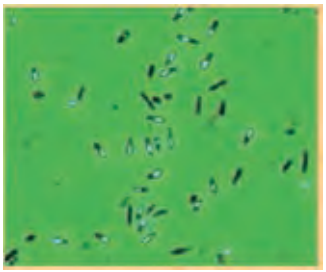
Guaiacol Detection Kit

Intended Use

Used together with VA-YSG Medium (Cat. No. KYO-08901) to determine the presence of guaiacol-producing Thermo-Acidophillic Bacilli (TAB) in juice.

Background

Alicyclobacillus acidoterrestris is a gram-positive, spore-forming bacillus that occurs widely in nature. This species have been studied substantially after the incident of turbidity of transparent apple juice in 1984. The Alicyclobacillus genus bacteria, which peculiarly grow under relatively high temperature and acid conditions, are called Thermo-acidophilic Bacilli (TAB) [1, 2, 3].
TAB are not destroyed by pasteurization and may remain in final products of fabricated food and beverages. TAB are not known to be harmful to health but are known to degrade the quality of juices and other products by producing guaiacol, causing off-flavor. Even without the off-flavor problem, product values may be degraded by slight deterioration during distribution.
It is very difficult to avoid contamination of TAB, which are common in soil. Fortunately, however, A. acidocaldarius and other main species that cause contamination are known to be harmless, and damage caused by TAB can be minimized by monitoring the contamination of A. acidoterrestris, which is known to be harmful. This species, however, cannot be detected by usual isolation culture methods because it grows only under acid and relatively high temperature conditions.
Because of frequent occurrence of fruit juice deterioration incidents in Europe and other regions, Japan Fruit Juice Association developed and publicized a unified test method for thermo-acidophilic bacilli in March 2003[4]. To alloweasy performance of this test method, we developed a test kit to differentiate A. acidoterrestris in terms of productivity of guaiacol, which causes off-flavor.



A. acidoterrestris
Kindly provided by Mr. K. Goto. (MITSUI NORIN CO.,LTD.)

Scheme of the unified test method for TAB

TAB test:
TAB are detected selectively by culturing in an acid medium (pH 3.7±1) at temperatures best suited for their growth.
A. acidoterrestris differentiation:
After the TAB test, A. acidoterrestris is differentiated from the other Alicyclobacillus species by using either of the following methods: 1) The differential growth temperature method, using differences in breeding ability at best suited temperatures, and 2)The peroxidase method, using tetraguaiacol production.
*This product adopts the peroxidase method to differentiate A.acidoterrestris from TAB. The method allows quick measurement of productivity of guaiacol, which causes off-flavor.
*Direct testing after the preliminary culture is also under consideration.

Composition

Reagent 1: 50 mM Potassium hydrogen phthalate Buffer 60 mℓ×2 bottles
Reagent 2: 1.3 % hydrogen peroxide solution 2.5 mℓ×1 tube
Reagent 3: Peroxidase-Phosphoric Acid Buffer 2.5 mℓ×1 tube
Positive Control: Guaiacole (1050 ppm) 2.5 mℓ×1 tube

Method

1. Take with single inoculation loop,10 μℓ ,of young colony that has been isolated on YSG agar plate and that has not formed spores. Suspend the colony in a tube of "Va-YSG medium (2 mℓ), " (≧1×10^8 cfu/ mℓ).
2. Incubate at 45 ± 1℃ for 3 hours.
3. Add 1.0 mℓ of Reagent1of "Guaiacole Detection Kit".
4. Add 20 μℓ of Reagent 2 of "Guaiacole Detection Kit".
5. Add 20 μℓ of Reagent 3 of "Guaiacole Detection Kit".
6. Mix well.
7. Let it stand for 5 - 10 minutes.
8. Check the color change of the solution.

*Readthe result within 10 minutes
*Blank (Negative Control)
Use "Va-YSG medium (2 mℓ)" that has not been inoculated and follow steps 2 - 8.
*Positive Control
Mix well 2 mℓ of distilled water and 100 μℓ of Positive Control. Follow steps 3 - 8.

Interpretationof Results

Darker brown than blank = Positive *If the color change is not significant and difficult to determine, retest with 24 hours incubation instead of 3 hours, step 2.
Same color as blank = Negative
Verify the test results by checking the reading of positive control; positive control result should have significantly darker brown than blank.

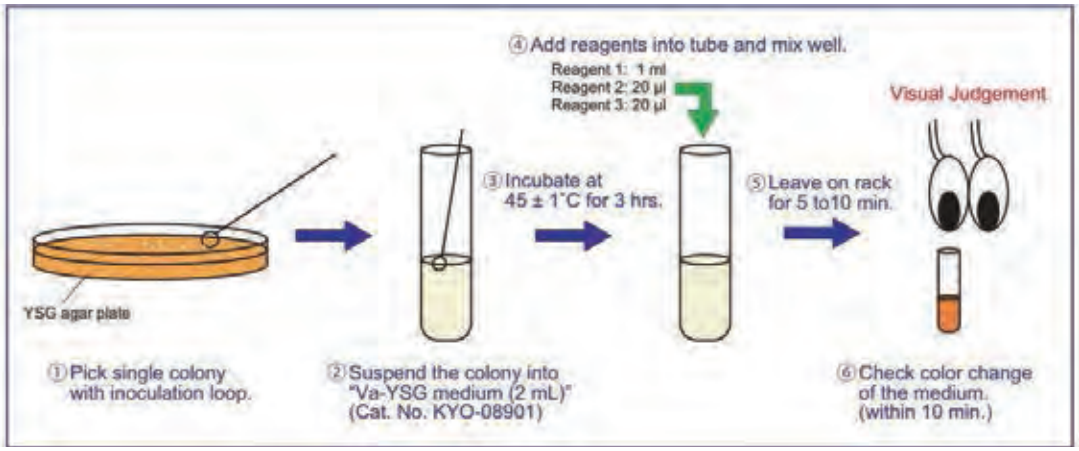
Handling instructions

<Example of Results>
Brown color indicates contamination of AAT
1. Negative Control
2. A. acidoterrestris B2067
3. A. acidoterrestris ATCC49025T
4. A. acidocaldarius ATCC27009T
5. A. acidocaldarius HP2
6. A. genomic sp. P2
7. A. genomic sp. DSM11983

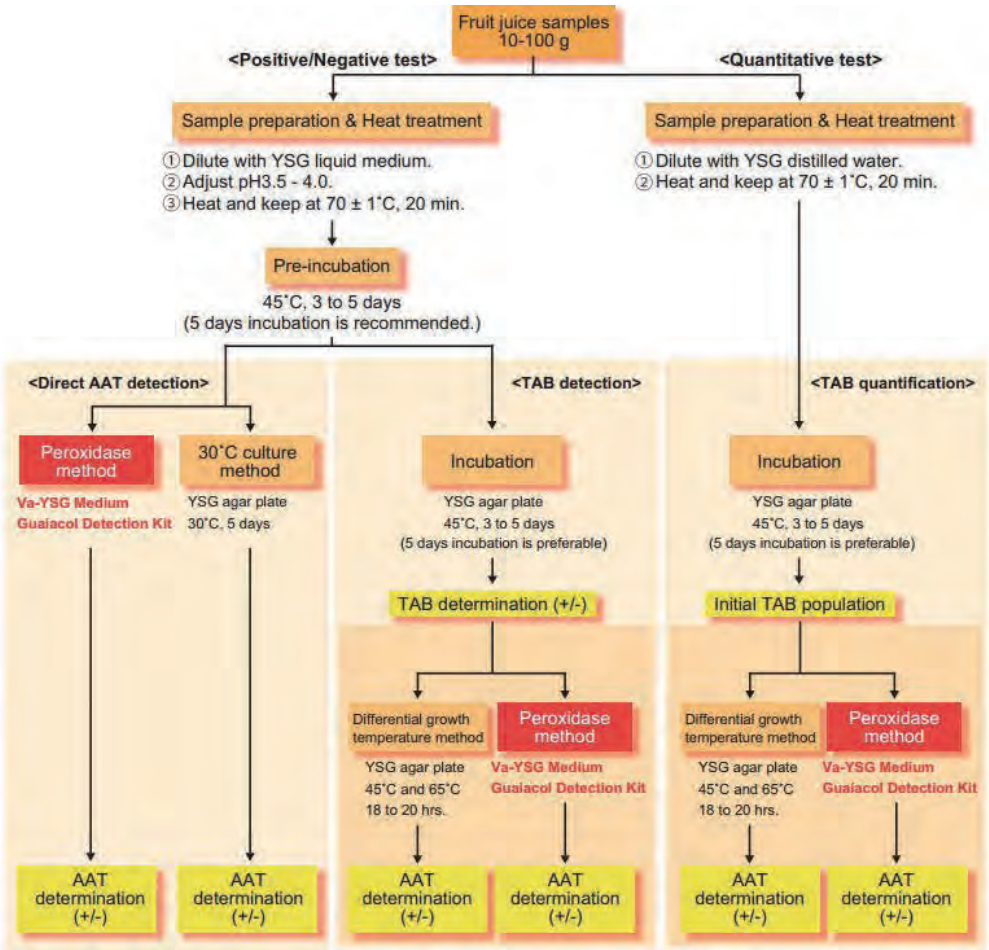
Please dispose used medium after high pressure sterilization (121℃ for more than 30 min) with appropriatecare. Please strictly keep the storage condition (2 - 10℃ Celsiusand and dark place).
Expiration date : 12 month from date of manufactre.

Reference

- G. Deinhard, *et al*., *Bacillus acidoterrestris sp. nov.*, a new thermotolerant acidophile isolated from different soils. Syst. Appl. Microbiol. 10, 47-53, 1987
- GOTO, M., Spore-forming thermo-acidophilic bacilli of the genus *Alicyclobacillus*, Bokin Bobai, 28 (8), 499-508, 2000 (in Japanese)
- Niwa, M., Lecture on "Classification and identification of microbes" 1. Classification and properties of new thermo-acidophilic bacilli, January 2001 issue of Soft Drink TechnicalData, 9-26, 2001 (in Japanese)
- Niwa, M., *et al*., Development of a rapid detection method of *A. acidoterrestris*, hazardous bacteria to acidic beverage. Fruit processing 13 (2) 102-107, 2003
- Japan Fruit Juice Association, On the unified test method for thermo-acidophilic bacilli, Report of Japan Fruit Juce Association, 535, 4-12, 2003 (in Japanese)
- Niwa. M., *et al*., A. acidoterretris rapid detection kit, Fruit processing 13 (5) 328-331, 2003
- Niwa, M., Control of deleterious bacteria in acidic beverages by using a guaiacol detection kit (peroxidase method), Japan Food Science, 2004-2, 23-28, 2004 (in Japanese)
- Japan Laid-Open P2003-259A "Detection of guaiacol forming bacteria and/or its identification method"



Experimental Procedure



Scheme of TAB Test
- Japan Fruit Juice Association -

Description	Cat. No.	Quantity
Guaiacol Detection Kit	KYO-08921	100 test

Va-YSG Medium

Intended Use

Detection of guaiacol

Background

Alicyclobacillus acidoterrestris is a gram-positive, spore-forming bacillus that occurs widely in nature. This specie has been studied substantially after the incident of turbidity of transparent apple juice in 1984. The Alicyclobacillus genus bacteria, which peculiarly grows under relatively high temperatures and acid conditions, is called Thermo-acidophilic Bacilli (TAB) [1, 2, 3].
TAB are not destroyed by pasteurization and may remain in final products of fabricated food and beverages. TAB are not known to be harmful to health but are known to degrade the quality of juices and other products by producing guaiacol, causing off-flavor. Even without the off-flavor problem, product values may be degraded by slight deterioration during distribution.
It is very difficult to avoid contamination of TAB, which are common in soil. Fortunately, A. acidocaldarius and other main species that cause contamination are known to be harmless, and damage caused by TAB can be minimized by monitoring the contamination of A. acidoterrestris, which is known to be harmful. These species, however, cannot be detected by usual isolation culture methods as they grow only under acidic and relatively high temperature conditions. Because of frequent occurrence of fruit juice deterioration incidents in Europe and other regions, Japan Fruit Juice Association developed and publicized a unified test method for TAB in March 2003 [4]. To allow easy performance of this test, we developed a kit that differentiates A. acidoterrestris in terms of productivity of guaiacol, which causes off-flavor.

Composition

Va-YSG Medium (2 mℓ) 100 tubes
Vanillic acid added YSG medium for guaiacol formation 2 mℓ ×100 tubes

Weight

780 g

Size

18×18×11cm

Method

1. Take with single inoculation loop, 10 μℓ , of young colony that has been isolated on YSG agar plate and that has not formed spores. Suspend the colony in a tube of "Va-YSG medium (2 mℓ), " (≧1×10^8 cfu/ mℓ).
2. Incubate at 45 ± 1℃ for 3 hours.
3. Add 1.0 mℓ of Reagent 1 of "Guaiacol Detection Kit".
4. Add 20 μℓ of Reagent 2 of "Guaiacol Detection Kit.
5. Add 20μℓ of Reagent 3 of "Guaiacol Detection Kit.
6. Mix well.
7. Let it stand for 5 - 10 minutes.
8. Check the color change of the solution.

*Read the result within 10 minutes

*Blank (Negative Control) Use "Va-YSG medium (2 mℓ)" that has not been inoculated and follow steps 2 - 8.

*Positive Control
Mix well 2 mℓ of purified water and 100 μℓ of Positive Control. Follow steps 2 - 8.

Reference

- Niwa, M., A.Kawamoto, Development of a rapid detection method of A. acidoterretris, hazardous bacteria to acidic beverage, Fruit Processing, 13, 102-107 (2003)
- Niwa, M. (A course for "Taxonomy and identification of microorganisms" 1, Taxonomy and quality of new thermostable acidphile bacteria.) Technical data of soft drinks 2001, (1) 9-26 (2001)
- Niwa, M. et.al. (Development of a rapid detection of A. acidoterretris, hazardous bacteria to acidic beverage) Report of Association for Fruit Juice (531) 23-30
- Niwa, M. A. Kuriyama, A. acidoterretris RAPID DETECTION KIT, Fruit Processing, 13, 328-331 (2003)
- Niwa, M. et.al., Report of Association for Fruit Juice (541) (Sep. 2003), (Proposal for direct detection of of A. acidoterretris using peroxidase method).

Description	Cat. No.	Quantity
Va-YSG Medium	KYO-08901	100 pc

YSG Agar Plate

Intended Use

Isolation of Thermo-Acidophilic Bacilli (TAB)

Description	Cat. No.	Quantity
YSG Agar Plate	KYO-06810	20 plate

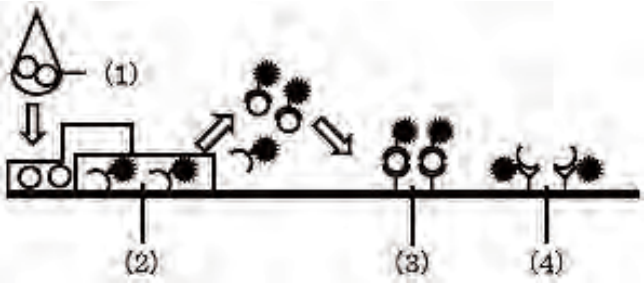
NH Immunochromato series

Intended Use

This kit is a simple and rapid detection kit for foodborne pathogens utilizing immunochromatographic assay. Simple test procedure with simply dropping specimens of enrichment culture to a test strip. Rapid judgment of test results, by checking the reddish purple test line simply after 15 minutes from the start of assay.

Background

Food poisoning by Diarrheagenic *Escherichia coli* is an infectious food poisoning that is caused by the growth of *E.coli* taken into the intestinal tract though the ingestion of food. These Diarrheagenic *E.coli* canbe broadly classified into five types[(1)]. Among these, Enterohemorrhagic *E.coli* (EHEC) causes hemorrhagic colitis through the action of the verotoxin that it produces; it can also cause hemolytic uremic syndrome and encephalopathy, which can be fatal. Many cases of mass food poisoning by EHEC have occurred, so EHEC is viewed as the most dangerous among Diarrheagenic *E.coli* from the standpoint of food hygiene. The recent increase in the serotype O26 isolated from patients with diarrheagenic *E.coli* infection has made it as the second commonest serotype after O157. The Ministry of Health, Labour, and Welfare of Japan therefore issued a notification of the "Test method of diarrheagenic *E.coli* O157 and O26" (Notification No. 1102004 issued by Inspection and Safety Division) in November 2006[(2)]#. This product is a kit for detecting *E.coli* O26 in foods by immunochromatography. Tests can be conducted rapidly and simply by means of the kit.



When a sample solution is dropped onto the test sample drop section of the test plate, the gold colloid-labeled anti-*E. coli* O157 polycolonal antibody (2) in the test sample-containing section dissolves and forms complexes with *E. coli* O157 (1). These complexes move to the expanded section by capillary attraction and are trapped by the anti-*E. coli* O157 antibody (3) that is fixed in the test line appearance position. This results in the appearance of a reddish purple line of gold colloid. This reddish purple line can be detected by visual inspection and used to judge the presence or absence of *E. coli* O157 in the test solution. The excess gold-labeled antibodies, regardless of the presence or absence of *E. coli* O157 in the test solution, travel further through the expanded section and are trapped by the anti-goat immunoglobulin rabbit antibody(4) fixed at the control line appearance position, where they form a second reddish purple line. The presence of this line indicates that the test solution has reached the expanded section.

Features

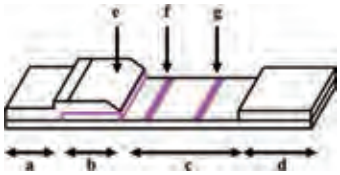
1. The simple one-step operation of the kit.
2. The test gives rapid results.
3. There is no need for special test equipment.

Composition

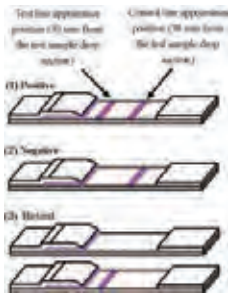
Test strip	2-test×10 packs
Instruction manual	1 sheet
Plastic pouched bag	1 bag

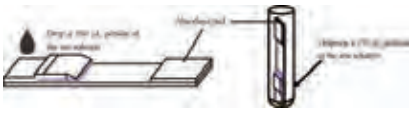
Reference

1. Ministry of Health, Labor and Welfare, Microorganism Section of Guide to Food Hygiene, the Japan Food Hygiene Association, pp 168-179, 2004.
2. Ministry of Health, Labour, and Welfare, Test Method for Diarrheagenic *E. coli* O157 and O26 (Notification No. 1102004 November 2, 2006 issued by Inspection and Safety Division)



1) Illustration of Test plate
a. Sample solution drop section (Be careful not to touch this sectoin with your finger.)
b. Reagent-containing section
c. Detecting section (Be careful not to scratch this section and touch this section with your finger.)
d. Absorbent pad
e. Measurement items listing position
f. Test line appearance position (Approx.30㎜ from the sample solution drop section.)
g. Control line appearance position (Approx.38㎜ from the sample solution drop section)





Description	Cat. No.	Quantity
NH Immunochromato O26	NPH-999400000	1 kit
NH Immunochromato O111	NPH-999500000	1 kit
NH Immunochromato O157	NPH-999100000	4×5 test
NH Immunochromato Campylobacter	NPH-999600000	1 kit
NH Immunochromato Listeria	NPH-999200000	4×5 test
NH Immunochromato Salmonella	NPH-999300000	4×5 test
NH Immunochromato VT1/2	NPH-999700000	1 kit

FASTKIT Slim series

Intended Use

Detection of allergic protein in foods or solutions

Background

The Japan Food Sanitation Law obliges that 7 specified allergenic ingredients (egg, milk, wheat, buckwheat, peanut, shrimp and crab), which have a high risk of inducing food allergy, should be listed on food labels. The Food Sanitation Law also recommends that 18 ingredients, including soybeans, should be listed on the label in a way similar to the specified allergenic ingredients.
"Providing accurate information by listing of ingredients on food labels" and "preventing contamination with the ingredients which are not listed on the labels" are required to prevent food allergy. Moreover, as a measure to prevent contamination, routine management at the manufacturing sites, including verification of the process of washing the machines and devices used for production, is important.
This product is a kit for detecting buckwheat protein by immunochromatography. Tests can be conducted rapidly and simply by means of the kit.

Features

1. The simple one-step operation enables easy assessment, and anybody can perform the test easily.
2. Because there is no need for special test equipment and the test gives rapid results (in 15 minutes), it is best for routine management at the production sites.

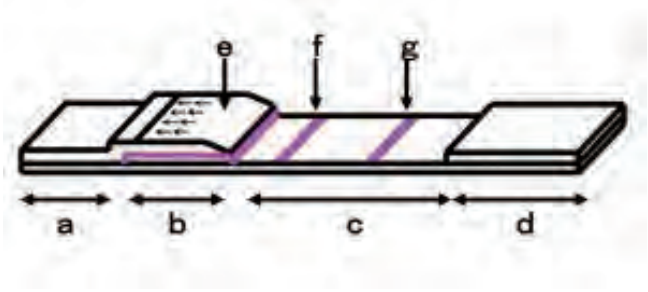


Illustration of Test plate
a. Sample solution drop section (Be careful not to touch this sectoin with your finger.)
b. Reagent-containing section
c. Detecting section (Be careful not to scratch this section and touch this section with your finger.)
d. Absorbent pad
e. Measurement items listing position
f. Test line appearance position (Approx.30㎜ from the sample solution drop section.)
g. Control line appearance position (Approx.38㎜ from the sample solution drop section)

Composition

Test strip	2-test×10 packs
Dilution Buffer	50 mℓ×1 bottle
Extraction buffer	(1/10 concentration) 100 mℓ×1 bottle
Instruction manual	1 sheet
Plastic pouched bag	1 bag

Reference

1. Ministry of Health, Labour and Welfare: Labels for foods containing allergenic substances (Shokukihatsu No. 2 Shokukanhatsu No.46 dated March 21, 2001, final revision, Shokuankihatsu No. 012201 Shokukanhatsu No. 0122002 dated January 22, 2009)
2. Ministry of Health, Labour and Welfare: Enforcement of the ministerial ordinance partially amending the Ordinance for Enforcement of the Food Sanitation Act (Shokuanhatsu No. 0603001 dated June 3, 2008)
3. Ministry of Health, Labour and Welfare: Interim report (outline) by the Allergy Labeling Commission, Food Labeling Study Team (October 29, 2001)
4. Ministry of Health, Labour and Welfare: Methods of the test of foods containing allergenic substances (final revision, Shokuanhatsu No.0122001 dated January 22, 2009)

Description	Cat. No.	Quantity
FASTKIT™ SLIM Buckwheat	NPH-NFS004	20 test
FASTKIT™ SLIM Egg	NPH-NFS001	20 test
FASTKIT™ SLIM Milk	NPH-NFS002	20 test
FASTKIT™ SLIM Peanut	NPH-NFS005	20 test
FASTKIT™ SLIM Soybean	NPH-NFS006	20 test
FASTKIT™ SLIM Wheat	NPH-NFS003	20 test

Human collagen type1 ELISA KIT

Intended Use

Type 1 collagen is the most abundant protein in connective tissues, especially in tendon, skin and bone. This kit is designed to quantify collagen in various sources such as cell media, ECM (Extra Cellular Matrix) of culture cells and tissues because the kit detects atelo-collagen which is prepared by pepsin digestion.

Features

Short assay time (2 hours 15 minutes).
Collagen pre-coated microtiter-plate.
Simultaneous assay of many samples (Assay maximum is 40 samples per 1 kit in duplicate).
No need of special machines and equipments because of non-isotope assay.
Partitional use because of split type (8 wells/strip).

Composition

- Collagen coated microtiter plate 96 wells : 12 strips
- Collagen standard : 0.5mℓ
- Biotinylated anti-collagen antibody concentrate : 0.8mℓ
- Avidin-HRP conjugate concentrate : 0.07mℓ
- Diluent A : 10mℓ
- Diluent B : 10mℓ
- Wash buffer concentrate (10X concentrated) : 50mℓ
- TMB substrate : 7mℓ
- Stop solution : 7mℓ
- Plate seal : 1 sheet

Description	Antigen	Immunogen	Reacts with	Applicable Sample	Sensitivity	Measurement Range	Supplementary	Cat. No.	Quantity
Human Collagen type I, ELISA kit (without pepsin)	Collagen type 1	Human	Human	cell media, ECM (Extra Cellular Matrix) of culture cell, tissue	0.02 μg/mℓ	0.02 - 40 μg/mℓ	Competitive	ACE-EC1-E105-EX	1 set
Human Collagen type I, ELISA kit (with pepsin)	Collagen type 1	Human	Human	cell media, ECM of culture cell, tissue	0.02 μg/mℓ	0.02 - 40 μg/mℓ	Competitive	ACE-EC1-E205-EX	1 set

Cedar Pollen Allergen ELISA Kit

Intended to Use

For measurements of Cry j1 and Cry j2 in samples

Background

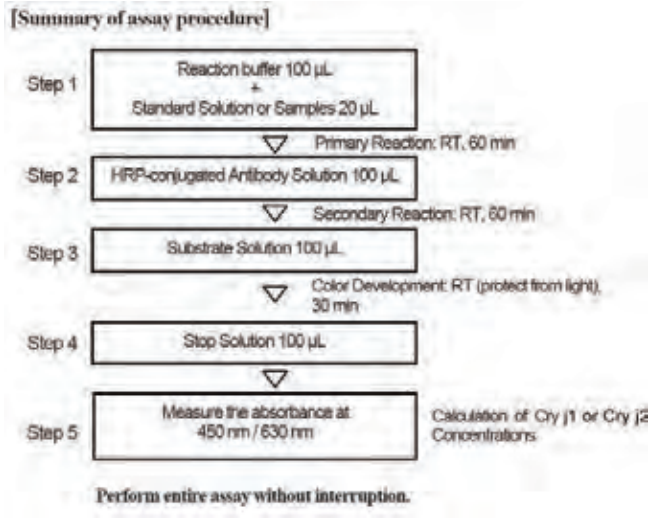
These sandwich-type enzyme-linked immunosorbent assay (ELISA) kits use the monoclonal antibodies specific to Cry j1 and Cry j2, the cedar (Cryptomeria japonica) pollen allergen.

Features

- Rapid: Handiling time is only 2.5 hours.
- High sensitivity: Cry j1 ≧0.8 ng/mℓ, Cry j2 ≧10 ng/mℓ
- Simple handling by sandwich EIA
- Special pretreatment is needless.

Composition Cryj1 (or Cryj2)

- Antibody-coated Microplate (8 well strip) : 12 strips
- Cry j1 (or Cryj2) Standard (dry form) (25.6 ng/mℓ) : 1 vial
- HRP-conjugated Antibody Solution : 1 vial (12 mℓ)
- Substrate Solution (TMB): 1 vial (12 mℓ)
- Stop Solution (1 mℓ/ℓ HCl) : 1 vial (12 mℓ)
- Standard Diluent : 1 vial (0.5 mℓ)
- Concentrated Reaction Buffer (5×) : 1 vial (40 mℓ)
- Concentrated Wash Solution (5×) : 2 vials (50 mℓ)
- Cover Film (for Microplate) : 3 films



Description	Antigen	Sensitivity	Supplementary	Cat. No.	Quantity
Cedar Pollen Allergen ELISA Kit "Cry j1"	Cry j1 (Cedar Pollen Allergen)	0.8 ng/mℓ	Sandwich	IIM-1Z31	1 kit
Cedar Pollen Allergen ELISA Kit "Cry j2"	Cry j2 (Cedar Pollen Allergen)	10 ng/mℓ	Sandwich	IIM-1Z32	1 kit

HAMA Blocker

Background

HAMA (Human anti-mouse antibody) interference is a common source of poor results in sandwich ELISA systems. This presents a significant problem, often causing false positive results in some assays.
THBR1-AS/THBR2 is a highly potent reagent that actively blocks the HAMA interference in sandwich ELISA assays.

Ig Class

IgG1

Composition

10 ㎎/㎖

Description	Cat. No.	Quantity
THBR1-AS	SIM-2ZTHBR1	2 ㎖
THBR2	SIM-2ZTHBR2	2 ㎖

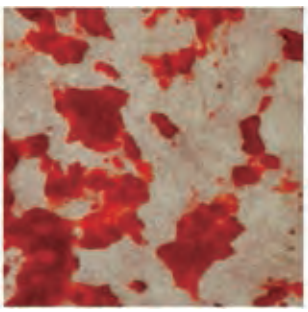
Calcification Evaluation Set

Intended Use

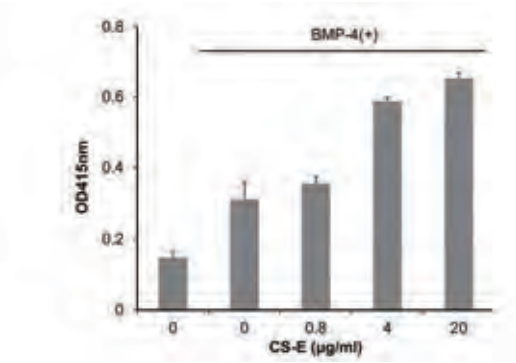
This product utilizes Alizarin Red dye solution to stain calcified nodules produced by differentiated osteoblasts, and an acid solution to extract dye bound to calcified nodules. The optical absorbance of the extracted dye solution is then measured, providing a convenient assay to evaluate the extent of osteoblast differentiation (calcification) in cultured cells.

Protocol

1. Remove culture medium from each well (24-well or 48-well plate), then once with PBS.
2. Fix washed cells with 10% neutral buffered formalin or 4% paraformaldehyed for app. 10 minutes.
3. Remove fixative solution and washwells with water.
4. Remove remaining water carefully by aspiration or by patting the plate on a paper towel.
5. Add Alizarin Red solution to each well (0.5㎖/well for 24-well plate or 0.25㎖/well for 48-well plate), and stain for 30 minutes at room temperature.
6. Remove the Alizarin Red solution in each well and wash with water until wash water is nearly clear (pale red color. Wash water will not clear completely).
7. Carefully remove all remaining water from wells by aspiration or by patting the plate on a paper towel.
8. Add Calcified Nodule Extraction Solution to each well (0.5 ㎖/well for 24-well plate or 0.25㎖/well for 48-well plate), and shake plate gently for about 10 minutes on a plate shaker to extract the bound dye.
9. Transfer 100㎕ of the extracted dye solution to 96-well plate and measure the absorbance at 400～450㎚ on a plate reader.



Alizarin Red staining of MC3T3-E1 cells cultured in differentiation medium



The Effects of BMP and chondroitin sulfate E (CS-E) on the mineralization of MC3T3-E1 cells (Mean±SD)

Cautions

1. When using this reagent set, take appropriate safety precautions (*i.e.*, lab coat, gloves, eye goggles, etc) to avoid contact with body.
2. If upper internal surface of culture wells are strongly stained by Alizarin Red due to non-specific calcium adherence, remove this red material using a cotton swab or other wipe prior to Step (8).
3. This reagent set is not suitable for use with calcium phosphate coated plates such as CSR-BRA-24P or CSR-BRA-48P.

Reference

・Miyazaki T. *et. al.*, J Cell Physiol. 217: 768-777. 2008.

Composition

・Alizarin Red Solution (Product Code：CSR-ARD-A1, 100㎖, 1 bottle, store at room temperature)
・Calcified Nodule Extraction Solution (5% Formic Acid, Product Code：CSR-ARD-E1, 100㎖, 1 bottle, store at room temperature)

Description	Cat. No.	Quantity
Calcification Evaluation Set	CSR-ARD-SET	1 set
Alizarin Red Solution	CSR-ARD-A1	100 ㎖
Calcified Nodule Extraction Solution	CSR-ARD-E1	100 ㎖

EnBio RCAS for ER α

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

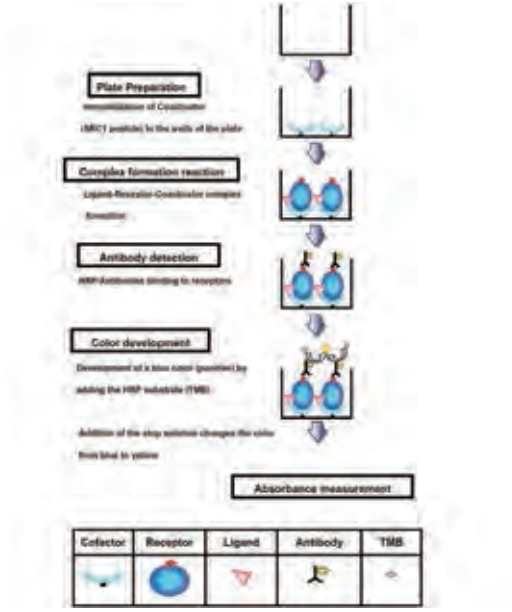
Estrogen receptor α (ERα) is a member of the nuclear receptor (NR) family. NR is one of the transcription factors that regulate target gene expression. ERα plays an important role of reproduction in physiological functions. The study of chemical binding to ERα is very useful for research of endocrine disrupting chemicals (EDCs) and drug screening.

NR activation before gene expression consists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore characteristic of the test samples can be predicted more accurately using this RCAS kit (*i.e.* both agonist and antagonist for ERα can be detected.).

Principle

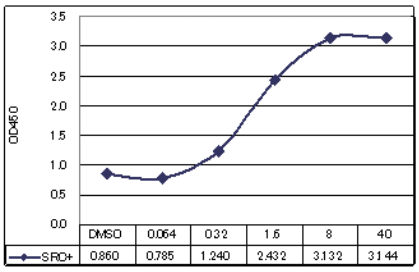
A peptide containing LXXLL motifof coactivator (SRC1) is immobilized on the microwell plate. The mixture of recombinant human ERα with potentially agonistic or antagonistic compounds is incubated into the plate. The binding of ERα-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody.
The HRP activity is determined by the addition of TMB substrate solution. The reaction is stopped by addition of an acid solution and the resultant color is read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 or IC50 using the absorbance data.



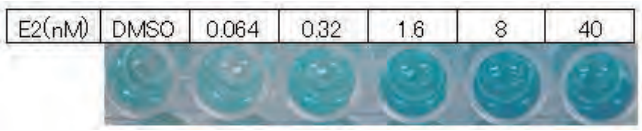
Assay Principle

Composition

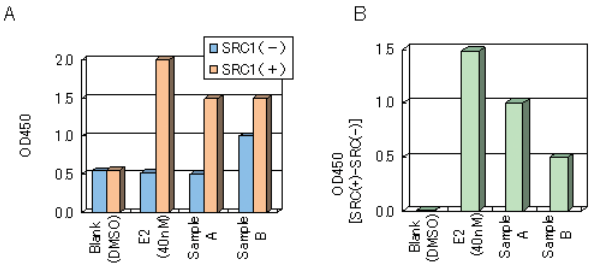
- Microtiter plate : 1 plate (12 wells×8 strips) (in a foil pouch)
- 100×SRC1 peptide : 1 tube (0.2 mℓ in 1.7 mℓ plastic tube)
- 100×Detection antibody <ERα> : 1 tube (0.14 mℓ in 1.7 mℓ plastic tube)
- Assay buffer : 1 bottle (30 mℓ in 30 mℓ PP bottle)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ in 60 mℓ PP bottle)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution (2.7% sulfuric acid) : 1 bottle (14 mℓ in 15 mℓ PP bottle)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ in 5 mℓ glass tube)
- ERα agonist α-Estradiol, 0.8 μM in DMSO : 1 vial (0.3 mℓ in 1.5 mℓ glass tube)
- Plate seal : 1 sheet
- ERα : 3 tubes (0.2 mℓ PCR tube)



A typical result obtained by using this kit
Actual Photograph of TMB color development in the wells just before adding the stop solution (the photograph was taken when the data described in panel A was measured.)



Example of data analysis using SRC1 (+) and SRC1 (-)



Dose response curve of 17beta-estradiol (E2), Diethylstilbestrol (DES), Genistein, 4-Nonylphenol (NP), Bisphenol A (BPA) and Resveratrol.

Description	Cat. No.	Quantity
EnBio RCAS for ER α	EBT-ERA-SRC-EX	1 set

EnBio RCAS for LXR α

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

Liver X receptor (LXR) is a member of the nuclear receptor (NR) family. NR is one of the transcription factors that regulate target gene expression. LXR plays an important role in regulation of cholesterol and fatty acid homeostasis, therefore, the study of chemicals bind to LXR is very useful for research of drug screening.
LXR has two subtypes, LXR α and LXR β. LXR α is expressed in restricted tissues such as liver, kidney, intestine, fat tissue and macrophages,whereas LXR β is ubiquitously expressed.

NR activation before gene expressionconsists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore you can predict the characteristic of your test samples more accurately using this RCAS kit.

Principle

A peptide containing LXXLL motif of coactivator (SRC1) is immobilized on the microwell plate. The mixture of recombinant human LXR α with potentially agonistic compounds is incubated into the plate. The binding of LXR α-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody. The HRP activity is determined by the addition of TMB substrate solution. The reaction is stopped by addition of an acid solution and the resultant color read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 using the absorbance data.

Composition

- Microtiter plate : 1 plate (12 wells×8 strips)
- 100×SRC1 peptide : 1 tube (0.2 mℓ)
- LXR α : 2 vials (lyophilized)
- 100×Detection antibody <LXR α> : 1 tube (0.14 mℓ)
- Assay buffer : 1 bottle (30 mℓ)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution (2.7% sulfuric acid) : 1 bottle (14 mℓ)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ)
- LXR α agonist T0901317, 0.5 mM in DMSO : 1 vial (0.3 mℓ)
- Plate seal : 2 sheets

Description	Cat. No.	Quantity
EnBio RCAS for LXR α	EBT-LXRA-SRC-EX	1 set

EnBio RCAS for PPAR α

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

Peroxisome proliferator activated receptor α (PPAR α) is a member of the nuclear receptor (NR) family. NR is one of the transcription factors that regulate target gene expression. PPAR α is expressed in restricted tissues such as liver, skeletal muscle. PPAR α plays an important role in regulation of lipid metabolism and is the main target of fibrate drugs used for the treatment of hyperlipidemia. Therefore, the study of chemicals bind to PPAR α is very useful for research of drug screening.

NR activation before gene expression consists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore you can predict the characteristic of your test samples more accurately using this RCAS kit (*i.e.* both agonist and antagonist for PPAR α can be detected).

Principle

A peptide containing LXXLL motif of coactivator (CBP) is immobilized on the microwell plate. The mixture of recombinant human PPAR α with potentially agonistic or antagonistic compounds is incubated into the plate. The binding of PPAR α-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody.
The HRP activity is determined by theaddition of TMB substrate solution. The reaction is stopped by addition of an acid solution and the resultant color read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 using the absorbance data.

Composition

- Microtiter plate : 1 plate (12 wells×8 strips)
- 100×CBP peptide : 1 tube (0.2 mℓ)
- PPAR α : 2 vials (lyophilized)
- 100×Detection antibody <PPAR α> : 1 tube (0.14 mℓ)
- Assay buffer : 1 bottle (30 mℓ)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution (2.7% sulfuric acid) : 1 bottle (14 mℓ)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ)
- PPAR α agonist Wy 14643, 5 mM in DMSO : 1 vial (0.3 mℓ)
- Plate seal : 2 sheets

Description	Cat. No.	Quantity
EnBio RCAS for PPAR α	EBT-PPARA-CBP-EX	1 set

EnBio RCAS for PPAR δ

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

Peroxisome proliferator-activated receptor δ (PPAR δ) is a member of the nuclear receptor (NR) family. NR is one of the transcription factors that regulate target gene expression. PPAR δ plays an important role in regulation of fatty acid metabolism. PPAR δ is ubiquitously expressed and a potential target in treatment of obesity, insulin resistance and hyperlipidemia, therefore, the study of chemicals bind to PPAR δ is very useful for research of drug screening.

NR activation before gene expression consists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore you can predict the characteristic of your test samples more accurately using this RCAS kit (*i.e.* both agonist and antagonist for PPAR δ can be detected.)

Principle

A peptide containing LXXLL motif of coactivator (CBP) is immobilized on the microwell plate. The mixture of recombinant human PPAR δ with potentially agonistic or antagonistic compounds is incubated into the plate. The binding of PPAR δ-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody.
The HRP activity is determined by the addition of TMB substratesolution. The reaction is stopped by addition of an acid solution and the resultant color read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 using the absorbance data.

Composition

- Microtiter plate : 1 plate (12 wells×8 strips)
- 100×CBP peptide : 1 tube (0.2 mℓ)
- PPAR δ : 2 vials (lyophilized)
- 100×Detection antibody <PPAR δ> : 1 tube (0.14 mℓ)
- Assay buffer : 1 bottle (30 mℓ)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution (2.7% sulfuric acid) : 1 bottle (14 mℓ)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ)
- PPAR δ agonist L-165,041, 125 μM in DMSO : 1 vial (0.3 mℓ)
- Plate seal : 2 sheets

Description	Cat. No.	Quantity
EnBio RCAS for PPAR δ	EBT-PPARD-CBP-EX	1 set

EnBio RCAS for PPAR γ

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

Peroxisome proliferator activated receptor γ (PPAR γ) is a member of the nuclear receptor (NR) family. NR is one of the transcription factors that regulate target gene expression. PPAR γ is highly expressed in adipocytes and regulates differentiation, adipose accumulation and insulin sensitivity. PPAR γ is the main target of thiazolidinedione (TDZ) class of drugs used for the treatment of type II diabetes. Therefore, the study of chemicals bind to PPAR γ isvery useful for research of drug screening.

NR activation before gene expression consists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore you can predict the characteristic of your test samples more accurately using this RCAS kit (*i.e.* both agonist and antagonist for PPAR γ can be detected.).

Principle

A peptide containing LXXLL motif of coactivator (CBP) is immobilized on the microwell plate. The mixture of recombinant human PPAR γ with potentially agonistic or antagonistic compounds is incubated into the plate. The binding of PPAR γ-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody.
The HRP activity is determined by the addition of TMB substrate solution. The reaction is stopped by addition of an acid solution and the resultant color read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 using the absorbance data.

Composition

- Microtiter plate : 1 plate (12 wells×8 strips)
- 100×CBP peptide : 1 tube (0.2 mℓ)
- PPAR γ : 2 vials (lyophilized)
- 100×Detection antibody <PPAR γ> : 1 tube (0.14 mℓ)
- Assay buffer : 1 bottle (30 mℓ)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution (2.7% sulfuric acid) : 1 bottle (14 mℓ)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ)
- PPAR γ agonist Troglitazone, 1mM in DMSO : 1 vial (0.3 mℓ)
- Plate seal : 2 sheets

Description	Cat. No.	Quantity
EnBio RCAS for PPAR γ	EBT-PPARG-CBP-EX	1 set

EnBio RCAS for VDR

Intended Use

Screening of natural extracts and synthetic chemicals for potential nuclear receptor ligands.

Background

Vitamin D receptor (VDR) is a member of the nuclear receptor (NR) family. NRs are ligand-activated transcription factors that regulate the expression of target genes by binding to cis-acting DNA sequences. VDR is activated by 1α,25(OH)2-VD3 (Vitamin D3) , the active form vitamin D and plays important role in regulation of calcium metabolism, immune responses and cancer by mediating the most biological functions of Vitamin D. Therefore, the VDR-specific ligands have been attractive targets for research of calcium metabolism and chronic disease such as osteoporosis, cancer and immune diseases.

NR activation before gene expression consists of 3 steps.
Step 1: Ligand binding to NR induces conformational change of NR
Step 2: Coactivator is recruited to NR-ligand complex
Step 3: Other transcriptional factors are recruited to NR-ligand-coactivator complex

Competitive binding assay detects only the ligand-binding to NR, whereas RCAS detects NR-ligand-coactivator complex. Therefore you can predict the ligand-dependent NR activity of your test samples more accurately using this RCAS kit.

Principle

A peptide containing LXXLL motif of coactivator (SRC1) is immobilized on the microwell plate. The mixture of recombinant human VDR with potentially agonistic compounds is incubated into the plate. The binding of VDR-ligand complex to the coactivator peptide on the plate is detected by using HRP conjugated detection antibody. The HRP activity is determined by the addition of TMB substrate solution. There action is stopped by addition of an acid solution and the resultant color read at 450 nm using a microwell plate spectrophotometer. The reactivity of the sample to the receptor can be determined by calculation of EC50 using the absorbance data.

Composition

- Microtiter plate : 1 plate (12 wells×8 strips)
- 100×SRC1 peptide : 1 tube (0.2 mℓ)
- 100×Detection antibody <VDR> : 1 tube (0.14 mℓ)
- Assay buffer : 1 bottle (30 mℓ)
- 10×Wash buffer, phosphate : 1 bottle (50 mℓ)
- TMB substrate : 1 bottle (25 mℓ)
- Stop solution : 1 bottle (2.7% sulfuric acid)(14 mℓ)
- Dimethyl Sulfoxide (DMSO) : 1 vial (4 mℓ)
- VDR agonist 1α,25(OH)2-VD3, 10μM in DMSO : 1 vial (0.3 mℓ)
- Plate seal : 1 sheet
- VDR : 3 tubes (0.2 mℓ PCR tube)

Description	Cat. No.	Quantity
EnBio RCAS for VDR	EBT-VDR-SRC-EX	1 set

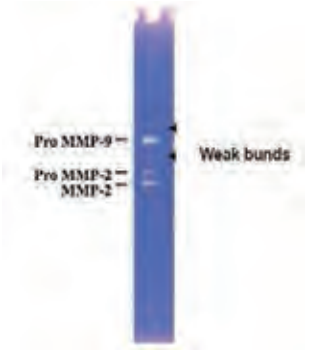
Gelatin Zymography kit

Intended Use

The Gelatin Zymography Kit provides an easy system for the electrophoretic detection of ProMMP-2, MMP-2 and ProMMP-9 in blood, body fluid, secretion, cell lysate, cell culture medium, and other samples.

Protocol

1. Load 100-150 mℓ of Electrophoresis Buffer to the lower chamber (anode). Refer to the instruction manual of your electrophoresis tank/chamber to know appropriate volume of the buffer.
2. Take out the comb on precast gel carefully and set the gel to electrophoresis chamber. The side of sample holes should be set on the upper side. If the sample holes are disturbed, fix them up with needle etc.
3. Load around 100 mℓ of Electrophoresis Buffer to the upper chamber (cathode).
4. Mix samples with equivalent volume of sample preparation buffer. Incubate for 15 minutes at Room Temperature. (Do NOT heat the samples.)
   *MMP markers can be used without sample preparation buffer.
5. Apply the samples and MMP markers to gel plate.
6. Run electrophoresis at 15 mA constant current. (If you use 2 gels, set the current at 30 mA)
7. After the run is completed, turn off the electrophoresis chamber, and take out the gel plate from the chamber.
8. Remove the upper glass plate of thegel plate and peel off the gel carefully with a spatula.
9. Put the gel in the tray with 200 mℓ of Washing Buffer. Incubate with shaking at Room Temperature.
10. Put the gel in the container with 50 mℓ of Reaction Buffer and seal up the container. Incubate the gel in the container in incubator at 37℃ for 20-40 hrs (Lower enzyme concentration needs longer reaction time.).
11. After enzymatic reaction, put the gel in the container with Staining solution. Incubate for 30 minutes at Room Temperature to stain protein.
12. Put the gel in the container with De-staining solution. And incubate for 30 minutes to several hours to de-stain.



10 μℓ of MMP markers applied and enzymatic reacted for 24 hr at 37℃

Reference

1. Miyazaki, K., Ohta, Y., Nagai, M., Morimoto, N., Kurata, T., Takehisa, Y., Ikeda, Y., Matsuura, T., Abe, K. Disruption of Neurovascular Unit Prior to Motor Neuron Degeneration in Amyotrophic Lateral Sclerosis. J. Neurosci. Res. 89, 718-728 (2011)
2. Fujiwara, M., Kashima, T. G., Kunita, A., Kii, I., Komura, D., Grigoriadis, A. E., Kudo, A., Aburatani, H., Fukayama, M. Stable Knockdown of S100A4 Suppresses Cell Migration and Metastasis of Osteosarcoma. Tumour Biol.
3. Aoki, T.,Kataoka, H., Ishibashi, R., Nozaki, K., Hashimoto, N. Simvastatin Suppresses the Progression of Experimentally Induced Cerebral Aneurysms in Rats. Stroke. 39, 1276-85 (2008)
4. Kuramochi, D., Unoki, H., Bujo, H., Kubota, Y., Jiang, M., Rikihisa,N., Udagawa, A., Yoshimoto, S., Ichinose, M.,Saito, Y. Matrix Metalloproteinase 2 Improves The Transplanted Adipocyte Survival in Mice. Eur. J. Clin. Invest. 38, 752-759 (2008)
5. Fujimoto, M., Takagi, Y., Aoki, T., Hayase, M., Marumo, T., Gomi, M., Nishimura, M., Kataoka, H., Hashimoto, N., Nozaki, K. Tissue Inhibitor of Metalloproteinases Protect Blood-brain Barrier Disruption in Focal Cerebral Ischemia. J. Cereb. Blood Flow Metab. 28, 1674-1685 (2008)

Description	Cat. No.	Quantity
Gelatin Zymography Kit (COSMOBIO) 【Composition】 Precast gel for 12 samples, 5 pieces Electrophoresis Buffer (×10), 100 mℓ×2 Washing Buffer (×10), 100 mℓ Reaction Buffer (×10), 25 mℓ Sample Preparation Buffer, 5 mℓ Staining Solution, 100 mℓ MMP markers (ProMMP-2, MMP-2, ProMMP-9), 0.2 mℓ The size of the glass plate gel is 100 (W)×100 (H) and the thickness is 1 mm , for COSMOBIO electrophoresis system.	PMC-AK47-COS	1 kit
Gelatin zymography kit (ATO) 【Composition】 Precast gel for 12 samples, 5 pieces Electrophoresis Buffer (×10), 100 mℓ×2 Washing Buffer (×10), 100 mℓ Reaction Buffer (×10), 25 mℓ Sample Preparation Buffer, 5 mℓ Staining Solution, 100 mℓ MMP markers (ProMMP-2, MMP-2, ProMMP-9), 0.2 mℓ The size of the glass plate gel is 120 (W)×100 (H) and the thickness is 1 mm , for ATO electrophoresis system.	PMC-AK45-COS	1 kit
MMP Marker 【Composition】 MMP markers (ProMMP-2, MMP-2, ProMMP-9)	PMC-AK38-COS	200 μℓ
Precast Gelatin Zymogram Gel (ATO) 【Composition】 Precast gel for 12 samples, 5 pieces The size of the glass plate gel is 120 (W)×100 (H) and the thickness is 1 mm , for ATO electrophoresis system.	PMC-AK46-COS	5 plate
Precast Gelatin Zymogram Gel (ATO) 【Composition】 Precast gel for 12 samples, 10 pieces The size of the glass plate gel is 120 (W)×100 (H) and the thickness is 1 mm , for ATO electrophoresis system.	PMC-AK49-COS	10 plate
Precast Gelatin Zymogram Gel (COSMOBIO) 【Composition】 Precast gel for 12 samples, 5 pieces The size of the glass plate gel is 100 (W)×100 (H) and the thickness is 1 mm , for COSMOBIO electrophoresis system.	PMC-AK48-COS	5 plate
Precast Gelatin Zymogram Gel (COSMOBIO) 【Composition】 Precast gel for 12 samples, 10 pieces The size of the glass plate gel is 100 (W)×100 (H) and the thickness is 1 mm , for COSMOBIO electrophoresis system.	PMC-AK50-COS	10 plate

Albumin Glycation Assay Kit, Glyceraldehyde / Collagen Glycation Assay Kit, Glyceraldehyde

Intended Use

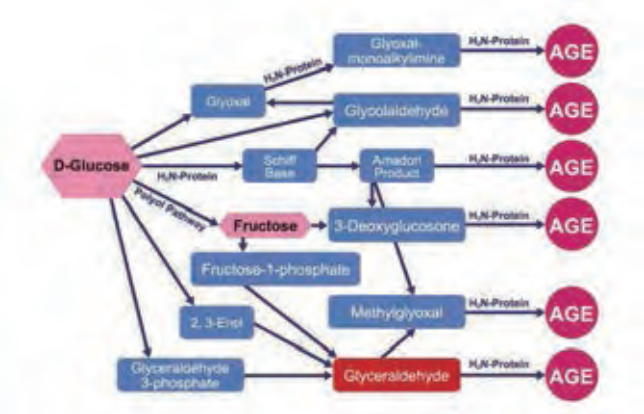
For the detection of fluorescent glyceraldehyde-derived advanced glycation end products (AGEs) that form rapidly on albumin or collagen, and for evaluating the ability of substance to inhibit the formation of fluorescent glyceraldehyde-derived AGEs on albumin or collagen.

Background

The non-enzymatic reaction of reducing carbohydrates with lysine side chains and N-terminal amino groups of macromolecules (proteins, phospholipids and nucleic acids) is called the Maillard reaction or glycation. The products of this process, termed advanced glycation end products (AGEs), adversely affect the functional properties of proteins. Many AGEs have fluorescent and convalent cross-linking properties. Accumulation of AGEs has been thought to play an important role in the pathogenesis of diabetic patients as well as the aging process.
Recent studies have suggested that AGEs can arise not only from sugars but also from carbonyl compounds derived from the autoxidation of sugars and other metabolic pathways. Among different AGEs, there is evidence that glyceraldehyde -derived AGEs are associated with such cytotoxcity.
"Albumin Glycation Assay Kit" provides rapid detection of fluorescent AGEs and inhibition assay for glycation of albumin solution by glyceraldehyde.
"Collagen Glycation Assay Kit, Glyceraldehyde" provides rapid detection of fluorescent AGEs and inhibition assay for glycation of collagen by glyceraldehyde. These kits provide sufficient reagents to perform up to 192 assays.
These availability and convenience of these Kits will contribute to functional foods or development of anti-glycation material in the cosmetic field.

Principle

These Albumin Glycation Assay Kits are a complete assay system designed to measure the fluorescent AGEs using the fluorescence microplate readerequipped with a 370nm excitation filter and 440nm emission filter.



Possible routes of the advanced glycation end-products (AGEs) formation

Albumin Glycation Assay Kit

Collagen Glycation Assay Kit

Composition

Albumin Glycation Assay Kit

- Bovine Serum Albumin (BSA) Solution
- glyceraldehyde (500mM)
- buffer solution
- Aminoguanidine solution (20mM)

*Anti glycation standard substance

Collagen Glycation Assay Kit

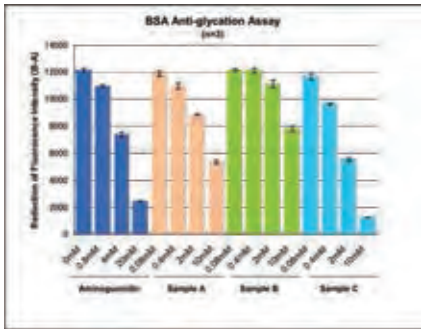
- Collagen Acidic Solution
- Neutralizing Solution
- Glyceraldehyde Solution (500mM)
- Sample Dilution Buffer
- Aminoguanidine Solution (20mM) : Positive control

Reference (Albumin Glycation Assay Kit, Glyceraldehyde)

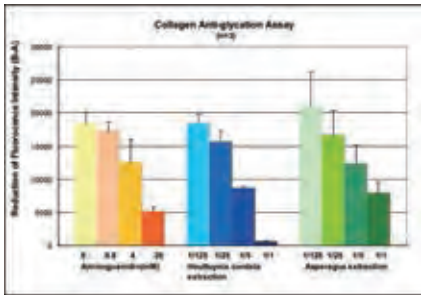
- Nishikawa, T. *et al*., Exp. Cell Res. 171, 164-177. (1987)
- H. Shoda *et al*., Endocrinology (1997) 138, 1886-1892.
- J. Takino *et al*., J Gastroenterol. 45, 646-655 PMID: 20084527. (2010)

Reference (Collagen Glycation Assay Kit, Glyceraldehyde)

- A. Nishikawa, T. *et al*., Exp. Cell Res. 171, p164-177 (1987)
- H. Shoda. *et al*., Endocrinology 138, p1886-1892.(1997)
- Jun-ichi Takino *et al*., J Gastroenterol. Jun;45(6):646-55.(2010) PMID: 20084527



Example of albumin assay kit result



Example of Collagen Glycation Assay Kit, Glyceraldehyde results - Inhibitory effects of aminoguanidin, Houttuynia cordata extraction, and Asparagus extraction on collagen glycation.

Description	Cat. No.	Quantity
Albumin Glycation Assay Kit, Glyceraldehyde	CSR-AAS-AGE-K01E	1 kit
Collagen Glycation Assay Kit, Glyceraldehyde	PMC-AK71-COS	1 kit

Collagen Glycation Assay Kit, Glucose / Fructose

Intended Use

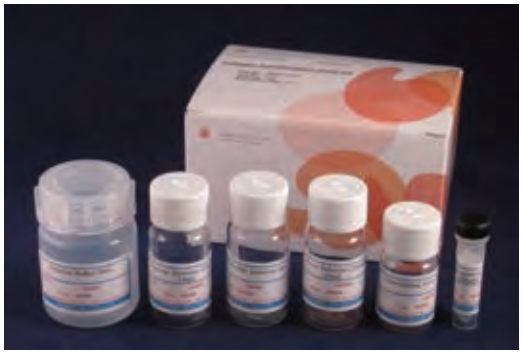
For detection of fluorescent advanced glycation endproducts (AGEs) that form on collagen in the presence of glucose and fructose, and for evaluating the ability of substances to inhibit the formation of fluorescent AGEs that form on the presence of glucose and fructose.

Background

The non-enzymatic reaction of reducing carbohydrates with lysine side chains and N-terminal amino groups of macromolecules (proteins, phospholipids, and nucleic acids) is called the Maillard reaction or glycation. This reaction is initiated by the nonenzymatic reaction of reducing sugars with free amino groups on proteins to form Amadori products. The Amadori products undergo a variety of irreversible dehydration and rearrangement reactions, leading to the formation of advanced glycation end products (AGEs). AGEs have adverse effects on the functional properties of proteins. Many AGEs have fluorescent and covalent cross-linking properties. The accumulation of AGEs is thought to play an important role in the pathogenesis of diabetic patients and the aging process.
The collagen that forms bone, skin, and blood vessel is also glycated.

Principle

The collagen gel formed in 96-well plates generates fluorescence after long-term incubation with glucose or fructose at 37℃. Some reagents or natural products inhibit this reaction. The Collagen Glycation Assay Kit, Glucose / Fructose is a complete assay system, which is designed to measure fluorescent AGEs using a fluorescence micro plate reader equipped with a 370 nm excitation filter and a 440 nm emission filter.



Composition

- Collagen Acidic Solution : 5 mℓ
- Neutralizing Solution : 5 mℓ
- Glucose Solution (200 mM) : 10 mℓ
- Fructose Solution (200 mM), 10 mℓ Sample Dilution Buffer : 20 mℓ
- Aminoguanidine Solution (20 mM): Positive Control : 0.1 mℓ

Reference

- Masayoshi Takeuchi *et al.*, Mol Med. 2000 Feb;6(2):114-25. PMID: 10859028
- Jun-ichi Takino *et al.*, J Gastroenterol. 2010 Jun;45(6):646-55. PMID: 20084527

Description	Cat. No.	Quantity
Collagen Glycation Assay Kit, Glucose / Fructose	PMC-AK70-COS	1 kit

Steroid Detection kits

Description	Conjugation	Recommended to use together	Cat. No.	Quantity
4-Androstenetrione-3-CMO	HRP	Anti 4-Androstenetrione-3-CMO-BSA (Cat. No. FKA-150E)	FKA-149	1000 test
5α-Androstane-3α, 17β-diol-3-Glucuronide-HRP	HRP	Anti 5α-Androstane-3α, 17β-diol-3-Glucuronide-BSA (Cat. No. FKA-142 or FKA-142-E)	FKA-141	1000 test
5α-androstane-3α, 17β-diol-17-Glucuronide-HRP	HRP	Anti 5α-Androstane-3α, 17β-diol-17-Glucuronide-BSA (Cat. No. FKA-144-E)	FKA-143	1000 test
5α-Pregnane-3-20-Dione-11 α-Succ-HRP	HRP	Anti 5α-Pregnane-3-20-Dione (Cat. No. FKA-322-E)	FKA-321	1000 test
6β-OH-corisol-3-CMO-HRP	HRP	Anti 6β-OH-Cortisol (Cat. No. FKA-432-E)	FKA-431	1000 test
11β-OH-Androstenedione-HRP	HRP	Anti 11B-OH-ANDROSTENEDION (Cat. No. FKA-140-E)	FKA-139	1000 test
11β-OH-Testosterone-3-CMO	HRP	Anti 11β-OH-Testosterone-3-CMO-BSA (Cat. No. FKA-148E)	FKA-147	1000 test
11-Ketotestosterone (11-KT)	–	Anti 11-Oxo-Testosterone (Cat. No. FKA-118-E or FKA-118) 11-oxo-Testosterone-3-CMO, HRP (Cat. No. FKA-117)	FKA-117ST	10 mg
11-oxo-Testosterone-3-CMO, HRP	HRP	Anti 11-Oxo-Testosterone (Cat. No. FKA-118-E or FKA-118)	FKA-117	1000 test
16α-OH-Androstenedione-3-HRP	HRP	Anti 16α-OH-Androstenedione-3 (Cat. No. FKA-124 or FKA-124-E)	FKA-123	1000 test
16α-OH-DHA-3-HRP	HRP	Anti 16α-OH-DHA-3 (Cat. No. FKA-126 or FKA-126-E)	FKA-125	1000 test
16α-OH-Pregnenolone-3-HRP	HRP	Anti 16α-OH-Pregnenolone-3 (Cat. No. FKA-318-E)	FKA-317	1000 test
17A-20B-21TRI OH Progesterone	–	Anti 17α, 20β 21-tri OH-Progesterone (Cat. No. FKA-340) Anti 17α, 20β, 21-tri OH-Progesterone (Cat. No.FKA-340E) 17α, 20β, 21-tri OH-Progesterone-HRP (Cat, no. FKA339)	FKA-339ST	0.2 mg
17α, 20α-diOH-pregesterone-HRP	HRP	Anti DIOH Progesterone 17/20 (Cat. No. FKA-330E)	FKA-329	1000 test
17α, 20β, 21-tri OH-Progesterone-HRP	HRP	Anti 17α, 20β, 21-tri OH-Progesterone (Cat. No. FKA-340-E)	FKA-339	1000 test
17α, 20β-diOH-Progesterone-HRP	HRP	Anti 17α, 20β-diOH-Progesterone (Cat. No. FKA-332-E)	FKA-331	1000 test
17α-OH-Pregnenolone-3-HRP	HRP	Anti 17α-OH-Pregnenolone-3 (Cat. No. FKA-320-E)	FKA-319	2000 test
17α OH-Progesteron-3-HRP	HRP	Anti 17α-OH-Progesterone-3 (Cat. No. FKA-308-E)	FKA-307	1000 test
20α OH-Progesterone-3-HRP	HRP	Anti 20α-OH-Progesterone-3 (Cat. No. FKA-310-E)	FKA-309	1000 test
20β-OH-_Ecdysone-HRP	HRP	Anti 20β-Hydroxy-Ecdysone-6-CMO-BSA (Cat. No. FKA-614-E)	FKA-613	1000 test
Aldosterone-3-HRP	HRP	Anti Aldosterone (Cat. No. FKA-428-E)	FKA-427	1000 test
Androstenedione-HRP	HRP	Anti Androstenedione-3-CMO-BSA (Cat. No. FKA-138 or FKA-138-E)	FKA-137	1000 test
Bisphenol A-4-HRP	HRP	Anti Bisphenol A (Cat. No. FKA-606-E)	FKA-605	1000 test
Chenodeoxycholic acid-3-Sulfate-24-HRP	HRP	Anti Chenodeoxycholic acid-3-Sulfate (Cat. No. FKA-522-E)	FKA-521	1000 test
Chenodeoxycholic acid-HRP	HRP	Anti Chenodeoxycholic acid (Cat. No. FKA-510-E)	FKA-509	1000 test
Cholic acid-24-aminobutyrate-HRP	HRP	Anti Cholic Acid (Cat. No. FKA-502-E)	FKA-501X	1000 test
Compd S-6α-HRP	HRP	Anti Compd S-6α (Cat. No. FKA-416-E)	FKA-415	1000 test
Corticosterone (Compd. B)-3-CMO-HRP	HRP	Anti Corticosterone (Cat. No. FKA-420-E)	FKA-419	1000 test
Cortisol (Compd. F)-3-HRP	HRP	Anti Cortisol-3 (Cat. No. FKA-404 or FKA-404-E)	FKA-403	1000 test
Cortisol (Compd. F)-21-HRP	HRP	Anti Cortisol-21 (Cat. No. FKA-402-E)	FKA-401	1000 test
Cortisone-3-CMO-HRP	HRP	Anti Cortisone (Cat. No. FKA-408-E)	FKA-407	1000 test
Dehydroepiandrosterone-3-HRP	HRP	Anti DHA 3 (Cat. No. FKA-110 or FKA-110E)	FKA-109	1000 test
Dehydroepiandrosterone (DHA)-HRP	HRP	Anti DHA (Cat. No. FKA-108-E)	FKA-107	1000 test

Description	Conjugation	Recommended to use together	Cat. No.	Quantity
Deoxycholic acid-HRP	HRP	Anti DCA (Cat. No. FKA-506-E)	FKA-505	1000 test
Deoxycorticosterone (DOC)-3-HRP	HRP	Anti DOC (Cat. No. FKA-422-E)	FKA-421	1000 test
Diethylstilbestrol-4-CME-HRP	HRP	Anti Diethylstilbestrol (Cat. No. FKA-602-E)	FKA-601	1000 test
Ecdysone-6-HRP	HRP	Anti Ecdysone (Cat. No. FKA-612-E)	FKA-611	1000 test
Estradiol-3-Glucuronide-CME-HRP	HRP	Anti Estradiol - 3 - Glucuronide (Cat. No. FKA-238E)	FKA-237	1000 test
Estradiol-3-HRP	HRP	Anti Estradiol-3 (Cat. No. FKA-236-E)	FKA-235	1000 test
Estrone-3-CME-HRP	HRP	Anti Estradiol-3 (Cat. No. FKA-234-E) Anti Estrone-3-Glucuronide (Cat. No. FKA-224-E)	FKA-233 FKA-223	1000 test 1000 test
Estrone-3-Sulfate-6-CMO-HRP	HRP	Anti Estrone 3-sulfate (Cat. No. FKA-226-E)	FKA-225	1000 test
Ethinyl Estradiol-6-CMO-HRP	HRP	Anti Ethynylestradiol- 6-CMO (Cat. No. FKA-220-E)	FKA-219	1000 test
Glycochenodeoxycholic acid-HRP	HRP	Anti Glycochenodeoxycholic acid (Cat. No. FKA-512-E)	FKA-511	1000 test
Glycocholic acid-HRP	HRP	Anti Glycocholic acid (Cat. No. FKA-504-E)	FKA-503	1000 test
Glycodeoxycholic acid-HRP	HRP	Anti GDCA (Cat. No. FKA-508-E)	FKA-507	1000 test
Glycolithocholic acid-3-Sulfate-HRP	HRP	Anti Glycolithocholic acid-3-Sulfate (Cat. No. FKA-520-E)	FKA-519	1000 test
Glycolithocholic acid-HRP	HRP	Anti Glycolithocholic acid (Cat. No. FKA-516-E)	FKA-515	1000 test
Hexestrol-4-CME-HRP	HRP	Anti Hexestrol (Cat. No. FKA-604-E)	FKA-603	1000 test
Lithocholic acid-3-Sulfate-24-HRP	HRP	Anti Lithocholic acid-3-Sulfate (Cat. No. FKA-518-E)	FKA-517	1000 test
Lithocholic acid-24-HRP	HRP	Anti Lithocholic acid (Cat. No. FKA-514-E)	FKA-513	1000 test
Prednisolone-21 Succinate-HRP	HRP	Anti Prednisolone 21 Succinate (Cat. No. FKA-628E)	FKA-627	1000 test
Pregnanediol-3-Glucuronide-HRP	HRP	Anti Pregnanediol 3 Glucuronide (Cat. No. FKA-334-E)	FKA-333	1000 test
Pregnanetriol-3-glucuronide-HRP	HRP	Anti Pregnanetriol 3 Glucuronide (Cat. No. FKA-338-E)	FKA-337	1000 test
Pregnenolone-3-HRP	HRP	Anti Pregnenolone 3 (Cat. No. FKA-316-E)	FKA-315	1000 test
Progesterone-3-HRP	HRP	Anti Progesterone 3 (Cat. No. FKA-302-E)	FKA-301	1000 test
Testosterone-3-HRP	HRP	Anti Testosterone 3 (Cat. No. FKA-102 or FKA-102-E)	FKA-101	1000 test
Testosterone-11 α	HRP	Anti Testosterone 11 α (Cat. No. FKA-104 or FKA-104-E)	FKA-103	1000 test
THE-21-SUCC-HRP	HRP	Anti THF (Cat. No. FKA-434-E)	FKA-433	1000 test
Ursodeoxycholic acid-HRP	HRP	Anti Ursodeoxycholic acid (Cat. No. FKA-524-E)	FKA-523	1000 test

HCV Genotype Primer Kit

Intended Use

This kit determines HCV genotypes by simply electrophoresing HCV core region genes of type-specific sequence length amplified by Reverse-Transcription Polymerase Reaction (RT-PCR) and features accurate and simple determination of HCV genotypes.

Background

Study of nucleotide sequence of hepatitis C virus (HCV) has brought to light many of its variants, and reports on its grouping in 5 major genotypes as determined by respective genomic sequences in a fairly well conserved portion as well as geographic locality of each subtype have subsequently been made. Genotyping of HCV is now considered to be clinically helpful in pinning and tracking down the source and route of its infection and will be instrumental in further elucidation of the virus.
Recent report also suggests difference in resistance against therapy and course of the disease of each viral subtype predicting the therapeutic significance of its genotyping.
This kit is developed for genotyping HCV in 5 groups, types I(1a), II (1b), III (2a), IV (2b), and V (3a), determined by Okamoto, *et al* according to genomic sequences in its core region.

Features

This kit determines HCV genotypes by simply electrophoresing HCV core region genes of type-specific sequencelength amplified by Reverse-Transcription Polymerase Reaction (RT-PCR) and features accurate and simple determination of HCV genotypes.

Reference

1. Okamoto H. *et al*., Typing hepatitis C virus by polymerase chain reaction with type-specific primers: application to clinical surveys and tracing infectious sources. Journal of General Virology 73: 673-679, 1992.
2. Okamoto H. *et al*., Full-lengthsequence of a hepatitis C virus genome having poor homology to reported isolates: comparative study of four distinct genotypes. Virology 188: 331-341, 1992.
3. Kanai K. *et al*., HCV genotypes in chronic hepatitis C and response to interferon. Lancet339: 1543, 1992.
4. Okamoto H. *et al*., Characterization of the genomic sequence of type V (or 3a) hepatitis C virus isolates and PCR primers for specific detection. Journal of General Virology 74: 2385-2390, 1993.

Description	Cat. No.	Quantity
HCV Genotype Primer Kit	IIM-8C01	50 test

Pio Assay P. aeruginosa kit

Intended Use

Pseudomonas aeruginosa detection kit using slide agglutination method by monoclonal antibody for O-antigen of *Pseudomonas aeruginosa*.

Composition

- Anti *Pseudomonas aeruginosa* antibody solution, 14 bottles (A-N, 2 mℓ each)
- Antibody mixture, 3 bottles (Antibody mixture 1: A, C, H, I, L;
- Antibody mixture 2: B, J, K, M; Antibody mixture 3: D, E, F, G, N; 2 mℓ each)

Description	Cat. No.	Quantity
Pio Assay P.aeruginosa kit	NBT-POA-1	14 pc

NH beads series

Intended Use

Separation reagent for *E. coli* O26 after enrichment culture

Background

It is difficult that separation of O26 from sample with direct method due to existence of contaminants. This product enable to separate O26 effectively with immunomagnetic beads.

Composition

- NH beads (500 μℓ (25 tests)), 1 tube

Description	Cat. No.	Quantity
NH beads : O26	NPH-B00026	25 test
NH beads : O111	NPH-B00111	25 test
NH beads : O157	NPH-B00157	25 test

Acidic Mucopolysaccaride Assay Kit

Intended Use

Measurement kit for acid mucopolysaccharide in chondrocytes

Background

Chondrocytes produce extracellular matrix such as collagen, mucopolysaccharide and so on. There are conventional methods to measure acidic mucopolysaccharides using radioisotopes but the area and the amount used regarding radioisotopes are restricted. On the other hand, HPLC analysis is complicated to maintain the system and to extra for making samples. Acidic Mucopolysaccharide Assay Kit (PMC-AK03-COS) provides a convenient system for mucopolysaccharides visualization using Stains All, which combines with acidic mucopolysaccharides, with ease. Stains All normally combines with acidic substance, however the Stains All in this kit stains only acidic mucopolysaccharides of chondrocytes selectively.

Composition

- Chromogenic Solution (4 mℓ)×1 bottle
- Buffer (130 mℓ)×1 bottle
- Enzyme Powder for Sample Preparation×5 bottles
- Chondroitin Sulfate Standard Solution (100 μg/mℓ) (2 mℓ)×1 bottle

Reference

- Obayashi K. *et al.*, Am. J. Vet. Res. 72 194-202 (2011)

Description	Cat. No.	Quantity
Acidic Mucopolysaccaride Assay Kit	PMC-AK03-COS	1 kit

Fecal Mucin Assay Kit

Background

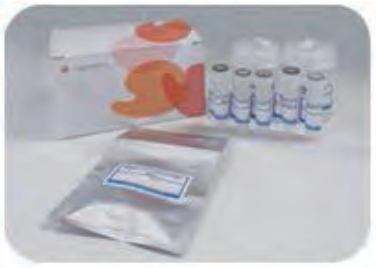
Mucins are a family of heavily glycosylated proteins, and main components of mucosa such as saliva, tear, gastric fluid enteric fluid. Basic configuration of mucin are a macromolecules linked ramiform sugar chain to peptide framework. The heterogeneous property of sugar chain makes them diversity, the molecules has various function, such as specific molecular recognition. Some of the sugar chains recognize a specific protein derived from virus, bacteria was found. Mucins are positioned in mucosal barrier function in gut, stopping the translocation of pathogen and toxin into blood vessel beyond the intestinal wall.
This kit is useful for determination of mucin content in feces.

Assay principle

Mucins are a family of high molecular (1,000kda-10,000kda) and heavily glycosylated protein. Mucin domains within the protein core are rich in threonine, serine and hydroxyproline, reducing end of sugar chain (GalNAc) are frequentry-linked to these amino acid by the post-translational O-glycosylation. This kit contains components to determine fecal mucin content.

Step1: Extraction and partial purification of mucin from feces.
Step2: Determination of mucin

O-glycosidically linked oligosaccharide chains is β-eliminated by diluted alkali, and reducing end of sugar chain is formed. Reducing carbohydrates react at high temperature with 2-cyanoacetamide (CAN) to produce intensity fluorescent condensate.



Composition

- Buffer solution A (tablet) : 3×100 mℓ
- Buffer solution B (acetic acid) : 1×25 mℓ
- Buffer solution C (boric acid) : 1×25 mℓ
- Reagent A (2-cyano acetamide) : 1×1.0 mℓ
- Reagent B (NaOH) : 2×1.5 mℓ
- Standard solution (250 μg/mℓ, N-acetylgalactosamine) : 1×1.0 mℓ
- Enzyme solution : 1×1.5 mℓ

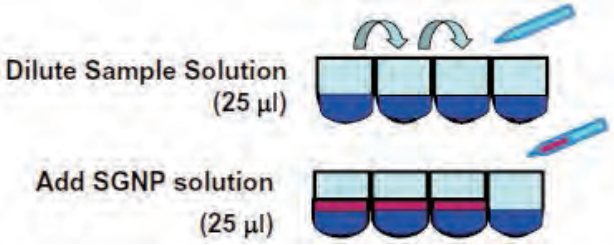
Description	Cat. No.	Quantity
Fecal Mucin Assay Kit	CSR-FFA-MU-K01E	1 kit

SGNP series - Sugar chain Gold Nano-Particles

Application#1: Aggregation assay of protein(s)

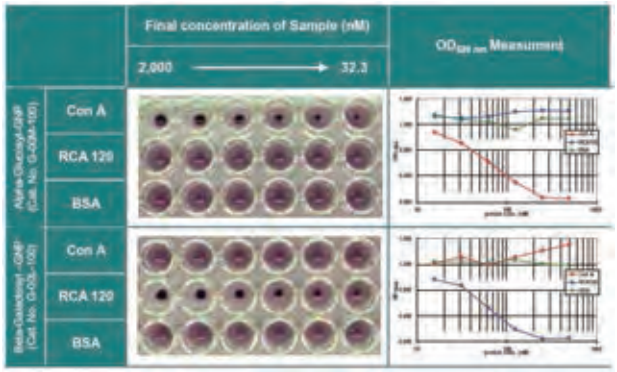
Regularly sugar chain binding proteins, such as lectins, possess multiple binding sites for sugar chains. By the addition of SGNP to the protein solution, the protein may form aggregates with sugar chains immobilized SGNP in a short time of period. The change can be seen visually, or can be quantified by measuring OD at around 530 nm. Using SGNP, the binding properties (selectivity, dissociation constant (K_D), specificity, etc.) are easily evaluated.

(Recommended protocol)



1. Dissolved SGNP at Abs_{530nm} 3.0 using your buffer.
2. In wells of 96-well microtiter plate (round bottom), 25 µℓ of protein solution was added with changing the concentration.
3. Addition of 25 µℓ of SGNP solution prepared as above. Gentle agitation for 0.5 to 2 hr at room temperature.
4. Measure OD at 530 nm of the supernatant.

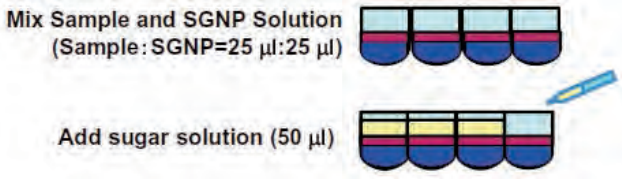
(Example)



Application#2: Inhibition assay

This assay is useful to know the specificity of the ligands for the target protein. By the addition of inhibitor (mono-saccharide, oligo-saccharide, mimetic compounds, glycoprotein, or drug candidate), the formed protein-SGNP aggregates may be re-dissolved by the competitive binding of protein with the inhibitor.

(Recommended protocol)

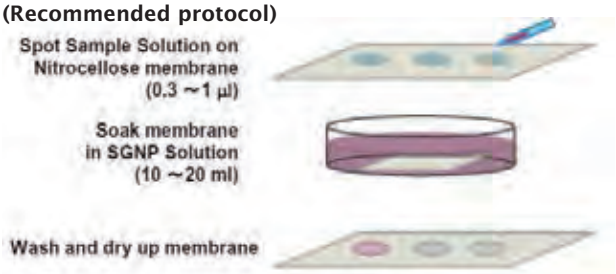


1. Dissolve SGNP at Abs_{530nm} 4.0 - 6.0 using your buffer
2. In wells of 96-well microtiter plate (round bottom), 25Pl of protein solution (Conc. > K_D) and 25 µℓ of SGNP solution as prepared above were added.
3. 50 µℓ of the inhibitor dissolved in the same buffer (conc. 0.1 - 50 mM) is added to the above mixture. Then, agitate for 1 hr or overnight.
4. Measure OD at 530 nm of the supernatant.

Application#3: Probe for Dot-Blotting assay

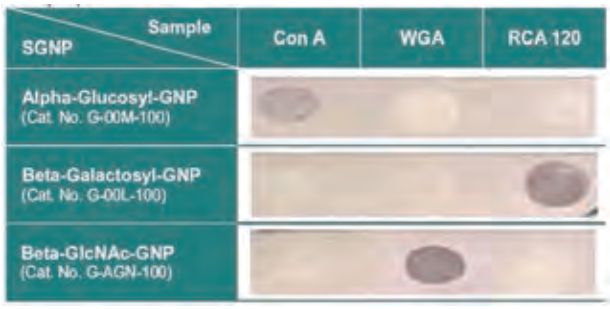
The sugar chain binding potency of the trace amount of your samples can be detected.

(Recommended protocol)



1. Prepare 10 - 20mℓ SGNP solution of Abs_{530nm} = 0.15 - 0.30 using your buffer.
2. On nitrocellulose membrane (10×30 mm), spot your sample (0.3 - 1µℓ, 0.1 - 2.0µg) and dry up at room temperature.
3. To 10 mℓ of SGNP solution in a glassware (φ 50 mm), the membrane is soaked with a gentle agitation for 5 - 30 min.
4. Wash the membrane with buffer and dry up.

(Example)



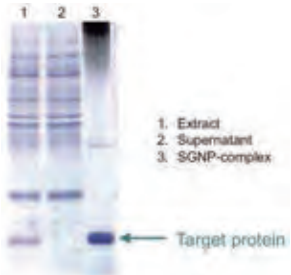
Application#4: Isolation and identification of target protein from a crude extract

Quick isolation and identification of protein(s) having multi-binding sites (lectin) from a plant-derived crude extract of cell-lysate are available using SGNP. Once you get an aggregate by mixing appropriate SGNP with your extract or lysate, the aggregate can be directly applied for SDS-PAGE. Then, the protein band(s) in SDS-gel is analyzed according to the proteomics procedure.

(Recommended protocol)

1. Dissolve SGNP at Abs_{530nm} = 3.0 using your buffer
2. To 50 Pl of SGNP solution in a 1.5 mℓ of eppendorf tube, add 50 µℓ of your extract. The mixture is incubated for 1 h to overnight at 4 degree C with a gentle agitation.
3. Centrifugation at 6,000 - 10,000× g for 10 min, and remove the supernatant.
4. To the precipitate, add 500 µℓ of buffer, vortex for 10 sec and centrifuge at 6,000 - 10,000× g for 10 min, and remove the supernatant. This may repeat 2 more times.
5. To the precipitate, add 10-30 Pl of sample preparation buffer, boiled up for 10 min.
6. SDS-PAGE

(Example)



Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Intended Use

SGNP (Sugar chain - immobilized Gold Nano-Particle) are gold nano particles immobilized with structurally defined sugar chains, showing red-purple color (Omax = ca. 530 nm). SGNP is a very convenient tool for evaluating sugar chain - protein interaction, since the interaction can be detected visually, and can be quantified from the change of OD at 530 nm.

There are several applications as follows:
1. Aggregation of protein
2. Inhibition assay
3. Dot-blotting
4. Isolation and purification of lectin from a crude extract freeze-drying, Abs530 nm =3.0 (dissolved in 0.25 mℓ of buffer)

Description	Cat. No.	Quantity
3SialylGalactosyl GNP	SXB-G-03S-250-EX	1 vial
6SialylGalactosyl GNP	SXB-G-06S-250-EX	1 vial
α Fucosyl GNP	SXB-G-0AF-250-EX	1 vial
α Galactosyl GNP	SXB-G-00E-250-EX	1 vial
α GalNAc GNP	SXB-G-AAN-250-EX	1 vial
α GlcNAc GNP	SXB-G-AGN-250-EX	1 vial
α Glucosyl GNP	SXB-G-00M-250-EX	1 vial
α Mannosyl GNP	SXB-G-AMA-250-EX	1 vial
β Fucosyl GNP	SXB-G-0BF-250-EX	1 vial
β Galactosyl GNP	SXB-G-00L-250-EX	1 vial
β GalNAc GNP	SXB-G-BAN-250-EX	1 vial
β GlcNAc GNP	SXB-G-BGN-250-EX	1 vial
β Glucosyl GNP	SXB-G-00C-250-EX	1 vial
SGNPs#1 [Sugar immoblized Gold Nano particles #1] 【Composition】 α-Glucosyl-GNP, β-Glucosyl-GNP, α-Galactosyl-GNP, β-Galactosyl-GNP, α-GlcNAc-GNP, β-GlcNAc-GNP, α-GalNAc-GNP, β-GalNAc-GNP, α-Fucosyl-GNP, β-Fucosyl-GNP, α-Mannosyl-GNP	SXB-G-AB1-250-EX	1 set
SGNPs#2 [Sugar immoblized Gold Nano particles #2] 【Composition】 α-Glucosyl-GNP, β-Glucosyl-GNP, α-Galactosyl-GNP, β-Galactosyl-GNP, α-GlcNAc-GNP, β-GlcNAc-GNP, α-GalNAc-GNP, β-GalNAc-GNP, α-Fucosyl-GNP, β-Fucosyl-GNP, α-Mannosyl-GNP, 3SialylGalactosyl-GNP	SXB-G-AB2-250-EX	1 set

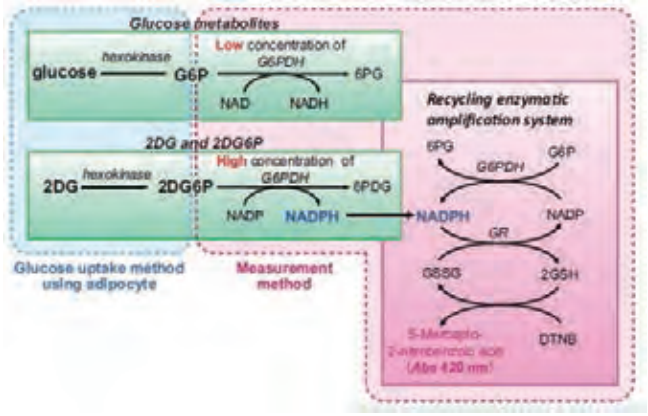
2DG uptake measurement kit - Glucose Uptake Assay

Intended Use

Direct measurement of glucose uptake without the use of radioisotopes.

Background

Measurement of 2-deoxyglucose (2DG) uptake in tissues and cells is a reliable approach with which to estimate glucose uptake and thereby to explore the regulation of glucose metabolism and mechanism of insulin resistance. Radioisotope-labeled 2DG is usually used for the measurement of 2DG uptake both *in vivo* and *in vitro*. However the radioisotope (RI) method is required a specialized facility for RI in strict limitation and cannot be handled in ordinal laboratories. Furthermore, radioactive 2DG administered into cultured cells remains in the extracellular space, and therefore the results must be corrected by separating the extracellular 2DG and intracellular 2DG/2DG-6-phosphate (2DG6P) in the cells. This kit is based on the enzymatic method for the direct measurement of 2DG6P amount without any use of radioisotope materials (Saito K and Minokoshi Y, *et al*. Analytical Biochem 412: 9-17, 2011).



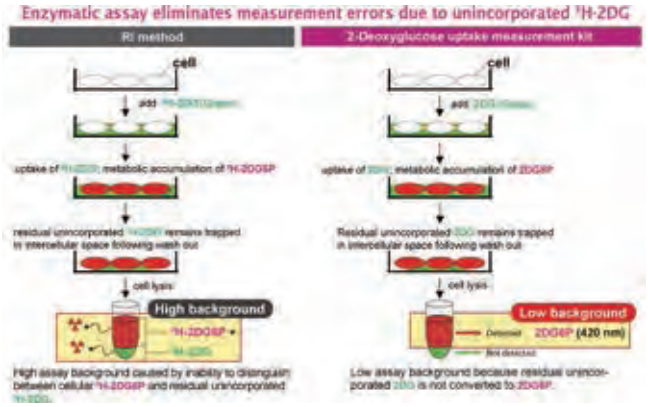
A recycling enzymatic amplification system measures NADPH produced by the *in vitro* oxidation of 2DG6P accumulated in cells following 2DG uptake.

1) So as not to effect glucose metabolism, only a small amount of 2DG is added to live cells. Incorporated 2DG is converted by cell metabolism to 2D6GP, which accumulates in cells. Cell lysates are then prepared.
2) To eliminate detection of G6P, G6P is oxidized (to 6PG) with NAD+ and a low concentration of G6PDH.
3) 2DG6P levels are quantitated by measuring the amount of NADPH produced during 2DG6P oxidation (with NADP+ and a high concentration of G6PDH) in a phtometric recycling amplification/detection system

All reaction steps are conveniently performed in a single well by the sequential addition of premixed reagents. Ideal for assay automation

Advantages

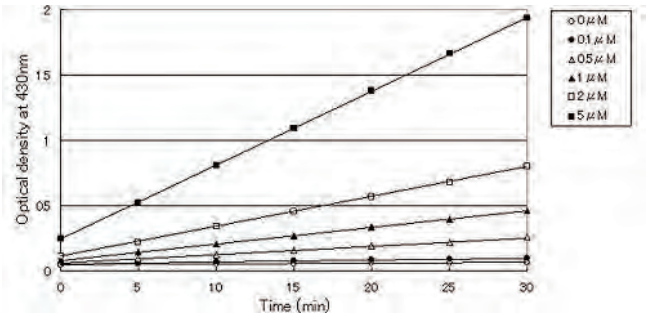
1. No RI materials are required, and 2DG uptake can be measured in any ordinal laboratories.
2. Direct measurement of 2DG6P amount accumulated in target cells.
3. High sensitivity with the use of enzyme-recycling amplification reaction.



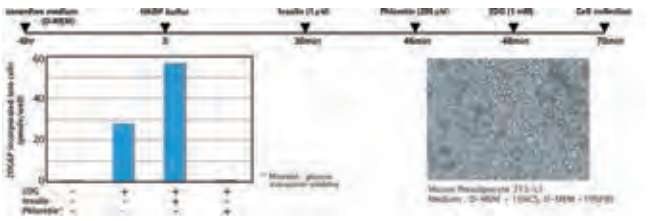
Comparison between this kit and RI method

Reference

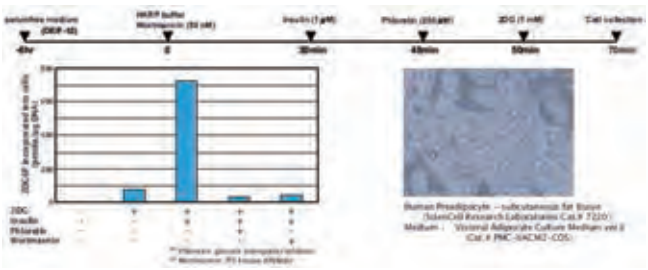
1. Kumiko Saito, Suni Lee, Tetsuya Shiuchi, Chitoku Toda, Masahiro Kamijo, Kyoko Inagaki-Ohara, Shiki Okamoto, Yasuhiko Minokoshi (2011). An enzymatic photometric assay for 2-deoxyglucose uptake in insulin- responsive tissues and 3T3-L1 adipocytes. Anal.Biochem., 412, 9-17.
2. Bo M. Jorgensen and Hans N. Rasmussen (1979). Recycling analysis of nicotinamide-adenine dinucleotide phosphates (NADP and NADPH). Anal.Biochem., 99, 297-303.



Temporal change of O.D. for different concentrations of 2DG6P



Experimental example 1 - 2-deoxyglucose (2DG) uptake by 3T3-L1 cells



Experimental Example 2 - 2-deoxyglucose (2DG) uptake by human adipocytes

Description	Composition	Cat. No.	Quantity
2-Deoxyglucose (2DG) Uptake Measurement Kit	Solution A: 3,400 µℓ×1 tube Solution B (Acid solution): 1,000 µℓ×1 tube Solution C (Acid neutralizing solution): 1,000 µℓ×1 tube Solution D: 1,600 µℓ×1 tube Solution E (Alkali solution): 1,000 µℓ×1 tube Solution F (Alkali Neutralizing solution): 1,000 µℓ×1 tube Solution G: 2,000 µℓ×1 tube 1 mM 2DG6P solution: 500 µℓ×1 tube Sample diluent buffer Concentrate (100-fold concentrated solution): 3 mℓ×1 tube Substrate buffer: 11 mℓ×1 vial DTNB Substrate (powder): 5 vials Low G6PDH: 25 µℓ×1 tube High G6PDH: 250 µℓ×1 tube GR: 20 µℓ×1 tube	CSR-OKP-PMG-K01E	1 kit (50 test)
2-Deoxyglucose (2DG) Uptake Measurement Kit	Solution A: 1,800 µℓ×1 tube Solution B (Acid solution): 500 µℓ×1 tube Solution C (Acid neutralizing solution): 500 µℓ×1 tube Solution D: 850 µℓ×1 tube Solution E (Alkali solution): 500 µℓ×1 tube Solution F (Alkali Neutralizing solution): 500 µℓ×1 tube Solution G: 1,100 µℓ×1 tube 1 mM 2DG6P solution: 250 µℓ×1 tube Sample diluent buffer Concentrate (100-fold concentrated solution): 1.5 mℓ×1 tube Substrate buffer: 6.5 mℓ×1 vial DTNB Substrate (powder): 3 vials Low G6PDH: 13 µℓ×1 tube High G6PDH: 130 µℓ×1 tube GR: 10 µℓ×1 tube	CSR-OKP-PMG-K01TE	1 kit (25 test)

Adipocyte Fluorescent Staining Kit

Intended Use

Detection of Adipose Differentiation

Background

The Adipocyte Fluorescent Staining Kit is designed to stain both lipid droplets and nuclei in adipocytes using BODIPY(R) (Invitrogen Corporation) and H33258, respectively. Furthermore, the amount of lipid per cell and cellshape can bequantified using imaging instrument such as IN Cell Analyzer 1000 (GE Healthcare Company)
(*) BODIPY is a registered trademark of Invitrogen Corporation.

Composition

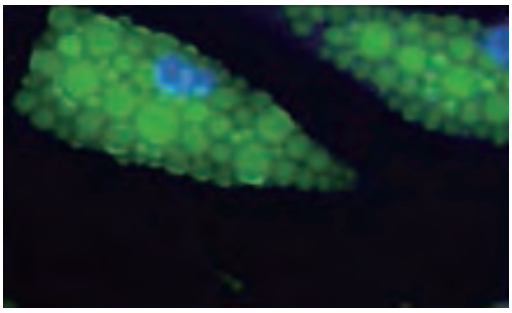
- PBS tablet for washing×5 tablets
- Nuclear stain solution (Hoechst33258) (50 mℓ)×1 bottle
- Lipid droplet stain solution (BODIPY®) (50 mℓ)×1 bottle
- Mounting Reagent (50 mℓ)×1 bottle

Additional Materials Required

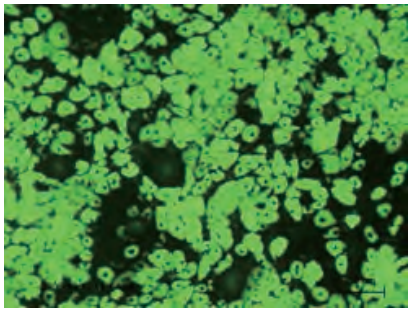
- Fixative solution
- 37 % formaldehyde 100 mℓ
- Distilled or deionized water 900 mℓ
- NaH2PO4(H2O) 4 g
- Na2HPO4 6.5 g

Reference

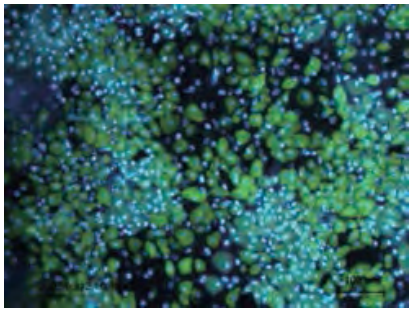
- Sunao T. *et al.*, Journal of Bone and Mineral Research 15 1477-1488 (2000)
- BEN AA. *et al.*,*In Vitro* Cell Dev. Biol. July-August (1998). Animal 34: 568-577



Human Subcutaneous Adipocyte stained with Adipocyte Fluorescent Staining kit
Lipid droplets stained with the lipophilic dye BODIPY®. The blue nuclear stain is the DNA dye Hoechst 33258.



BODIPY staining of lipid droplets



H33258 staining of nuclei

Description	Cat. No.	Quantity
Adipocyte Fluorescent Staining Kit	PMC-AK19F-COS	1 set

GPDH Assay Kit

Intended Use

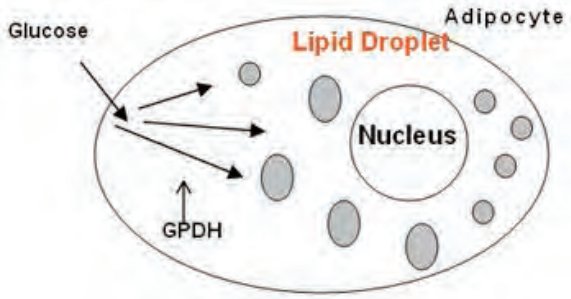
Measure GPDH activity in cells and tissue. Monitor fat synthesis and adipocyte differentiation.

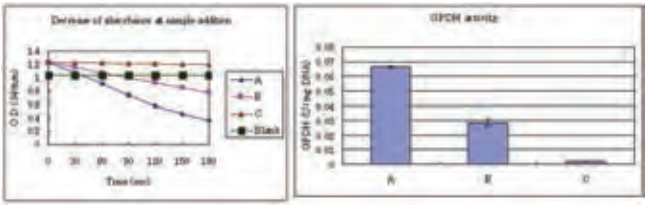
Background

The adipose tissue works as a place energy store *in vivo*. The way to do that is turning the energy derived from foods into fat by enzymes has a role in fat synthesis. Among the enzymes, glycerol 3-phosphate dehydrogenase (GPDH) is mostmeasured enzyme that to analyze fat synthesis activity of adipose tissue and adipocyte. This kit has several advantages, in measuring the enzyme activity, over the traditional methods, which include higher stability and reproducibility.

Composition

- Substrate×10 bottles (10 tests / bottle)
- Enzyme Extraction Reagent×1 bag (Powder)





< Example Data >
Effect of Troglitazone on GPDH activity in 3T3-L1 cell cultures
GPDH activities were measured with GPDH Assay Kit.
A, 3T3-L1 adipocytes treated with Troglitazone
B, 3T3-L1 adipocytes
C, 3T3-L1 preadipocytes

Protocol

Sample preparation - cultured cells

1. Remove culture medium and wash the cells twice with 500 μℓ PBS.
2. Add enzyme extraction solution to each well. For a 24-well plate, apply 0.5-1 mℓ per well.
3. Homogenize the cell extract byusing a sonicator.

Assay procedure

1. Add 400 μℓ of substrate solution to spectrometer cuvette (quartz micro cuvette), and warm at 25℃ (about 5 minutes). Hopefully use spectrometer keep warm at 25℃. When couldn't, wait until substrate solutionbecome room temperature. In same way, warm samples at 25℃.
2. Add 200 μℓ of sample to cuvette and mix it well. Measure decrease of absorbance at 340 nm, and find amount of absorbance change per minute (δO.D.). Use kinetic program on spectrometer. If don't have it, time measurement with timer. In general, measure for 3-10 minutes.
   Note 1: As described in example data, find slope (δO.D.) on linearity area.
   Note 2: It is possible to measure for a maximum of 500 samples, if use 96 well micro-plates reader.

Calculation of GPDH activity

One unit is activity of 1 μmol NADH example by GPDH per minute per 1 mℓ sample. Based on this, GPDH activity is found following equation. (Only light path is 1 cm)

GPDH activity (U/ mℓ)= δO.D.(340 nm)/min.×0.482*
(δO.D.: value of absorbance change at 340 nm)

*96well plate
Light path (cm) = total amount of reaction (mℓ) /area of the bottom of well (cm²)

Reference

- Tashiro K. *et al.,* Stem Cells 27 1802-1811 (2009)
- Nagane K. *et al.,* Tissue Eng. Part A 16 21-31 (2010)
- Matsumura K. *et al.,* Cell Transplant 19 691-699 (2010)
- Jiao WH. *et al.,* Magn. Reson. Chem. 48 490-495 (2010)

Description	Cat. No.	Quantity
GPDH Assay Kit	PMC-AK01-COS	1 kit

Lipid Assay Kit

Intended Use

Detection of Adipocyte Differentiation

Background

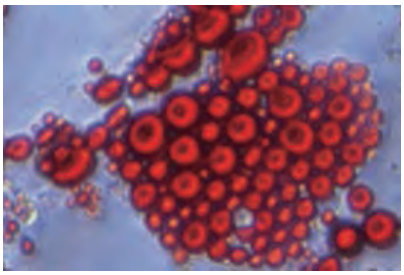
Adipocytes synthesize neutral fat and accumulate it as fat globules in the cell during the development from precursor cells to mature adipocytes. The fat globules can be an indicator of the differentiation status of adipocytes.
This kit is a staining kit for fat globules in the adipocyte by Oil red O. Moreover, red-stained fat globules can be isolated and measured with determination of pigment.

Reference

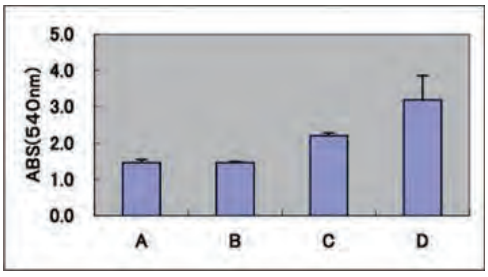
・Tashiro K. *et al.*, Stem Cells 27 1802-1811 (2009)

Composition

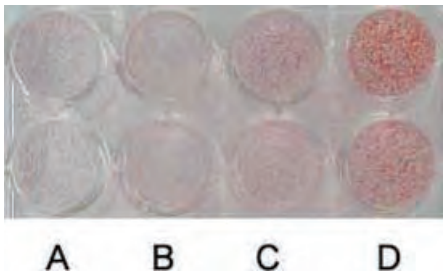
Oil Red O Solution (300 mℓ)×1 bottle
Solvent for Oil Red O Extraction (200 mℓ)×2 bottle



Human Subcutaneous Adipocyte stained with Lipid Assay Kit



Viceral adipocytes were stained with Oil red O solution



Dye extractions were measured by spectrophotometer (540 nm)

Description	Cat. No.	Quantity
Lipid Assay Kit	PMC-AK09F-COS	1 set

Hybri-Bag

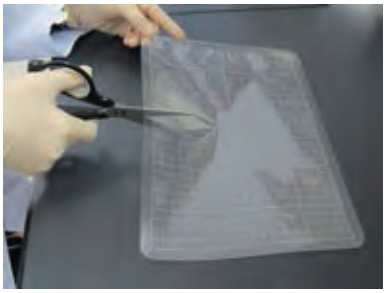
Intended Use

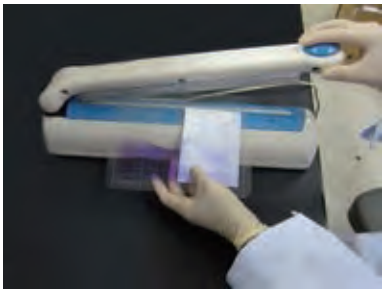
Laboratory-proposed heat-sealable bags for blotting and hybridization procedures.

Features

- High Strength (0 to +80℃) Composite Film
- Easy to seal with a Heat Sealer
- No Non-specific Binding (Non Powder product)
- Clear and Smooth surface
- Reasonable Price
- 3 types

Type	Soft	Hard	Hard (Grid type)
Cat.#	SE-S-1021-EX	SE-S-1001-EX	SE-S-1002-EX
Inside	Polyethylene	Polypropylene	
Outside	Nylon		
Size	200 × 200 (mm)		
Quantity	50 Bags		





1. Cut the Hybri-bag to adjust the size to the membrane.
2. Put membrane and buffer including antibody into the Hybri-bag, and seal with a heat sealer. (Note that you need to remove the bubbles from the hybri-bag when you seal to perform even blocking.)

Description	Cat. No.	Quantity
Hybridization Bags Hybri-Bag Soft	SE-S-1021-EX	50 sheet
Hybridization Bags Hybri-Bag Hard	SE-S-1001-EX	50 sheet
Hybridization Bags Hybri-Bag Hard (1 cm grid)	SE-S-1002-EX	50 sheet

PerfectHyb™ Hybridization Solution

Intended Use

Premixed hybridization solution containing a hybridization enhancer for Northern and Southern analysis.

Background

PerfectHyb™ Hybridization Solution is a premixed buffer for hybridization. It has the following characteristics.
PerfectHyb™ Hybridization Solution is a premixed buffer for hybridization. It has the following characteristics.

- Supports Northern and Southern blotting
- Hybridization time can be cut
- Allows analysis with both RI- and non-RI-labeled probes
- Optimum buffer for analysis using a hybridization oven, as the temperature for hybridization is equal to that for probe cleaning
- No need to add salmon sperm DNA, etc.
- Low viscosity makes handling easy

Applications

1. Northern blotting

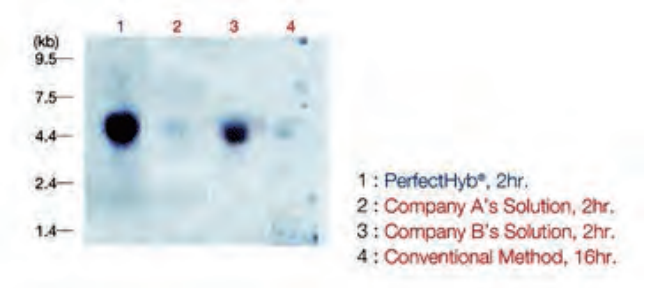
This product supports analysis using DNA probes, RNA probes and oligonucleotide probes. When used for pre-blotted type membrane*analysis, we recommend use of RI-labeled cDNA or oligonucleotide probes, taking into account background, rehybridization, etc.
Non-RI-labeled probes sometimes produce background signals depending on detection conditions. Experiments using such probes need to be done carefully, referring to the relevant instruction manuals.
* Good results have been obtained in analysis involving several manufacturers' preblotted membranes.

2. Southern blotting

We recommend use of DNA probes and oligonucleotide probes when using this product in Southern blotting.
Non-RI-labeled probes sometimes produce background signals depending on detection conditions. Experiments using such probes need to be done carefully, referring to the relevant instruction manuals.

3. Hybridization enhancement

This product contains a hybridization enhancer, which allows for shortened hybridization. When used in Northern blotting, this product enhances signals compared to conventional methods.



Northern Blot Analysis Using PefectHyb

Additional material required

The following are required to perform hybridization experiments using this product.
Reagents

- Cleanser A:2 × SSC (pH 7.0), 0.1% SDS
- Cleanser B*:0.1 × SSC (pH 7.0), 0.1% SDS

* Only necessary for Southern blotting or Northern blotting with RNA probes (cf. p.8 for details of reagent preparation)

Other equipment

- Thermostat (preferably with a shaking function) or a hybridization oven
- Heat sealer (unnecessary when an oven is used)
- Hybridization bag (unnecessary when an oven is used)
- X-ray film

Features and advantages

High Sensitivity

This solution contains a hybridization enhancer and generates a strong signal, enabling it effective detection of genes with low expression rates.

Optimize Performance of a Broad Range of Applications.

This solution can be used in Northern and Southern blot analysis. It is also ideal for non-RI analysis.

Rapid

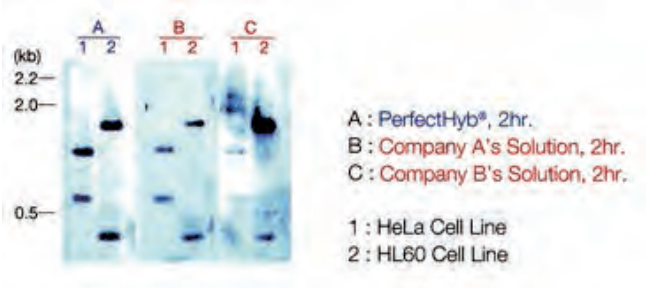
Normal hybridization can be completed in 1-2 hours.

Easy to use

This solution does not develop crystal precipitation and has a low viscosity at normal temperatures, allowing simple handling. Addition of salmon sperm DNA is also not necessary. Moreover, it allows hybridization and washing procedures at the same temperature and is ideal for analysis using hybridization ovens.

Recommendations

Use for the mRNA Blotting Membrane
We recommend that RI-labeled cDNA probes or oligo probes be used in analysis of pre-blotting membranes in consideration of background.
Detection of the Gene Navigator® cDNA Array System cDNA array
Use of PefectHyb® Hybridization Solution -filter array- is recommended for detection of the above-mentioned product.



Southern Blot Using PefectHyb

Description	Cat. No.	Quantity
PerfectHyb Hybridization Solution	TYB-HYB-101	250 ml

IMMUNO SHOT series

Background

IMMUNO SHOT is an enhancer of antigen-antibody reaction. In Western blotting and ELISA, researchers often experience a weak signal or high background. IMMUNO SHOT improves these problems it as antibody diluents. Due to the principle of working mechanism, IMMUNO SHOT can be used in many assay systems that use antigen-antibody reaction.

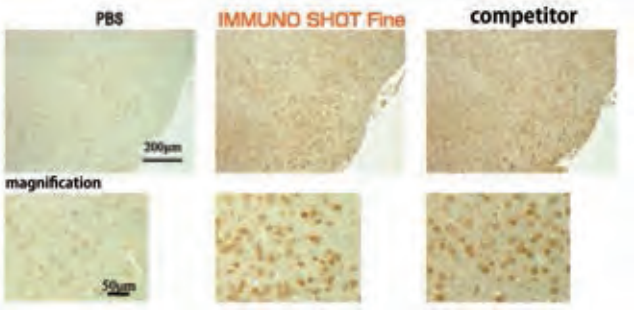
How IMMUNO SHOT Works
IMMUNO SHOT contains a polymer which, by changing the physicochemical properties of antigen and antibody, enhances the mutual accessibility, and facilitate the specific reaction. The other ingredient, protein, reduces non-specific binding of antibody. Thus, IMMUNO SHOT enhances the antigen-antibody reaction while reducing the background.

Applications

- IMMUNO SHOT is consisted of Reagent 1 and Reagent 2. Use Reagent 1 for the dilution of the 1st antibody. Use Reagent 2 for the dilution of the 2nd antibody. No change is required for the other assay protocol.

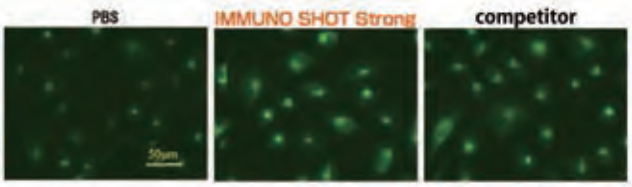
- In some assay systems, only one antibodyis used. Forexample some ELISA uses only one enzyme-conjugated antibody. In such case, try using Reagent 2 for the antibody dilution.In some cases, however, Reagent 1 gives better results.

- IMMUNO SHOT has been successfully used in Western blotting, antibody sandwich ELISA with either the 1st or 2nd antibody-labeled type, antigen sandwich ELISA



Staining of Cdk4 in mouse brain tissue

Staining of p53 in A431 cells



Staining of Vimentine in A549 cells

Features and Advantages

1. High signal with low background
IMMUNO SHOT enhances the antigen-antibody reaction. Comparing with the method using detergent-containing buffer, several to over 10-fold stronger signal can be obtained while the background level is low. Thus, you can get much higher S/N ratio than usual method.

2. Effective for saving antibody usage and time of reaction time
Because higher signal can be obtained using IMMUNO SHOT, you can reduce the amount of antibody used and the time required for reactions.

3. Can be used for many reactions
IMMUNO SHOT can be used not only for Western blotting and ELISA, but also forother assay systems using antigen-antibody reactions. In addition, IMMUNO SHOT does not affect activities of HRP (horse radish peroxidase) or AP (alkaline phosphatase), and can be used for assay systems using these enzymes.

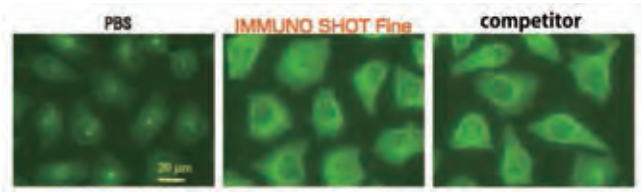
4. Easy to use IMMUNO SHOT is formulated as to Ready-to-Use.
Just exchange your dilution buffer of antibodies to the solutions of IMMUNO SHOT.

Characteristics of Composition

Solution F:
The solution is designed to maximize the background-reducing activity. Ideal for observing fine structures by using antibodies with high specificity and sensitivity.

Solution M:
The solution shows characteristics of middle of F and S. Ideal for initial try.

Solution S:
The solution is designed to maximize the specific signal enhancing activity. Ideal for observing strong signal by using antibodies with less specificity and sensitivity. This solution has less ability to reduce the background.
(Caution: the above description shows general characteristics of the solutions, and the results you get may be different depending on the antibody and antigen you are interested in.)



Staining of α-Tubulin in A549 cells

Staining of dimethyl histone in rat brain

IMMUNO SHOT Immunostaining family has following products.

Product #	Composition	Content
CSR-IS-SMF-10	Set of Solutions F, M, and S	10 ml each
CSR-IS-F-20	Solution F	20ml
CSR-IS-M-20	Solution M	20 ml
CSR-IS-S-20	Solution S	20 ml

For beginner user, we recommend to purchase CSR-IS as the initial try

Description	Cat. No.	Quantity
IMMUNO SHOT immunostaining, Fine 【Composition】 Solution F : 10mℓ	CSR-IS-F-20	20 mℓ
IMMUNO SHOT immunostaining, Mild 【Composition】 Solution M : 10mℓ	CSR-IS-M-20	20 mℓ
IMMUNO SHOT immunostaining, Strong 【Composition】 Solution S : 10mℓ	CSR-IS-S-20	20 mℓ
IMMUNO SHOT immunostaining Trial 【Composition】 Solution F : 10mℓ Solution M : 10mℓ Solution S : 10mℓ	CSR-IS-SMF-10	1 set
IMMUNO SHOT Reagent 1	CSR-IS-001-250	250 mℓ
IMMUNO SHOT Reagent 2	CSR-IS-002-250	250 mℓ
IMMUNO SHOT Reagent 1&2	CSR-IS-012-100 CSR-IS-012-250	1 kit 1 kit

IMMUNO SHOT Platinum -100% Protein Free ingredient-

Intended Use

An antigen-antibody reaction promotion reagent improving lack of western blotting and ELISA sensitivity and a high background. These products are made of 100% chemical ingredient and are designed to use various immunity assays system when you do not want to put the detection of the phosphorylation protein and other protein in reaction system.

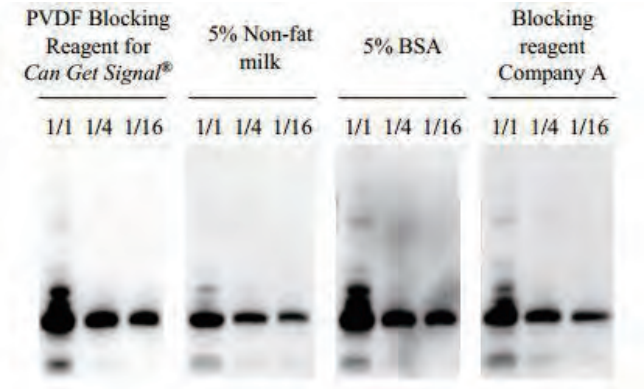
Description	Cat. No.	Quantity
IMMUNO SHOT -Platinum-	CSR-IS-P-250 CSR-IS-P-500	250 mℓ 500 mℓ

PVDF Blocking Reagent for Can Get Signal

Intended Use

High-performance blocking reagent for western blotting

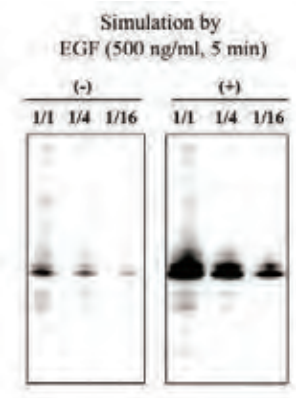
PVDF Blocking Reagent for Can Get Signal® is a high performance blocking reagent optimized for Western blot. The reagent consists of a synthesized polymer, with no protein components. The reagent can be used efficiently with Can Get Signal® Immunoreaction Enhancer Solution



PVDF Blocking Reagent for Can Get SignalR successfully increased protein signal intensity and reduced non-specific background staining.
<Assay conditions>
SDS-PAGE: 8-16% polyacrylamide gel, 15 mA × 90 min
Transfer: 0.8 mA/cm²
at RT for 60 min (semi-dry method)
Blocking: RT for 60 min
Sample: HeLa cell lysates 2 × 104
cells/well (1/1), 4n
dilution (1/4, 1/16)
Primary antibody: rabbit anti-ERK2 (C-14) antibody (0.1 ng/μℓ) in Can Get SignalR Solution 1
Secondary antibody: HRP-conjugated anti-rabbit IgG antibody (0.02 ng/μℓ) in Can Get SignalR Solution 2
Detection reagent: ECL Plus (GE Healthcare)

Features and Advantages

- PVDF Blocking Reagent for Can Get SignalR has been optimized for use together with Can Get SignalR Immunoreaction Enhancer Solution (Code No. NKB-101) for Western blot analysis.
- The reagent is suitable for detection of phosphorylated proteins, because it does not contain any protein components.
- The reagent minimizes the masking effects of low signal intensities, whereas conventional blocking reagents (e.g., non-fat milk and gelatin) can mask Western blot protein signals.



The distinct bands (p-ERK1: 44 kDa, p-ERK2: 42 kDa) were successfully detected with minimal background staining.

Description	Cat. No.	Quantity
PVDF Blocking Reagent for Can Get Signal	TYB-NYPBR01	500 mℓ

Can Get series - Immuno reaction Enhancers

Intended Use

Immunoreaction enhancing reagent sets for Immunoassays and Immunostaining procedures.

Features and Advantages

1: Enhancing signals in immunostaining

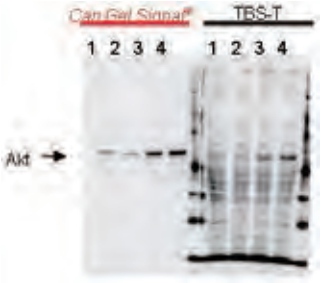
This solution has an effect on enhancing an antigen-antibody reaction, and allows to get clearer signals than the conventional methods.
It can reduce the amount of secondary antibody used and exposure time in fluorescence/luminescence detection system, accordingly images with high S/N ratio and low background can be obtained.

2: Compatible with a wide range of antigens and antibodies

Two different solutions with different reaction-enhancing effects (Solution A and Solution B) are prepared. Users can select the more suitable one for their target according to the experimental system.

3: Wide versatility

It is applicable to all detection systems involving chemical coloration, chemiluminescence and fluorescence because of its composition having no effect on labeling enzymes and fluorescent dyes.
It can be used in combination with sensitizing systems such as ABC or polymer-complex method.



Detection of phosphorylated Aktt with anti-phpspho-Akt antibody

Sample: Cultured bovine adrenomedullary cells
1. Control (H2O)
2. Insulin (1 nM, stimulated for 5min.)
3. Insulin (10 nM, stimulated for 5min.)
4. Insulin (100 nM, stimulated for 5min.)

Detection of Paxillin by fluorescent antibody immunostaining (* This data was provided by Dr. Ichiro Harada of Tokyo Institute of Technology)

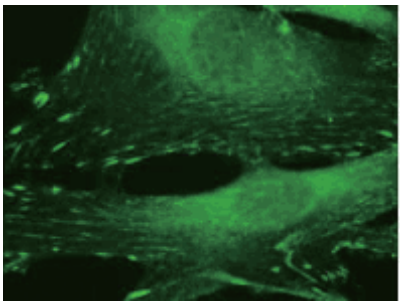


Fig.1. Can Get Signal immunostain (Exposure 1 sec, without controlling contrast)

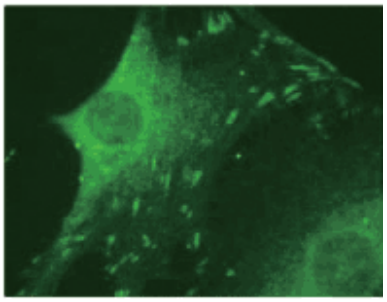


Fig.2. TBS (Exposure 3 sec, without controlling contrast)

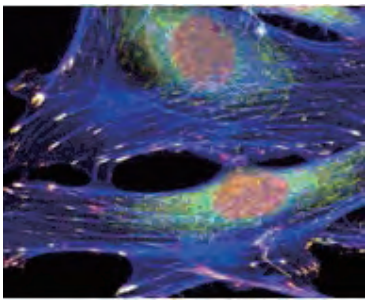


Fig.3. Merged image of trichrome stain

Description	Composition	Cat. No.	Quantity
Can Get Signal Immunoreaction Enhancer Solution	Solution 1 (for primary antibodies): 50mℓ Solution 2 (for secondary antibodies): 50mℓ	TYB-NKB-101T	2×50 mℓ
Can Get Signal Immunoreaction Enhancer Solution	Solution 1 (for primary antibodies): 250mℓ Solution 2 (for secondary antibodies): 250mℓ	TYB-NKB-101	2×250 mℓ
Can Get Signal immunostain Solution A	Solution A: 20m	TYB-NKB-501	1×20 mℓ
Can Get Signal immunostain Solution A	Solution A: 4 bottles×20mℓ	TYB-NKB-501X4	1 set
Can Get Signal immunostain Solution B	Solution B 20mℓ	TYB-NKB-601	1×20 mℓ
Can Get Signal immunostain Solution B	Solution B: 4 bottles×20mℓ	TYB-NKB-601X4	1 set
Can Get Signal immunostain Starter Set	Solution A: 5mℓ Solution B: 5mℓ	TYB-NKB-401	2×5 mℓ
Can Get Signal for primary antibody	Solution 1 (for primary antibodies): 250mℓ	TYB-NKB-201	250 mℓ
Can Get Signal for secondary antibody	Solution 2 (for secondary antibodies): 250mℓ	TYB-NKB-301	250 mℓ

Peroxidase Stabilizer ST2010

Intended Use

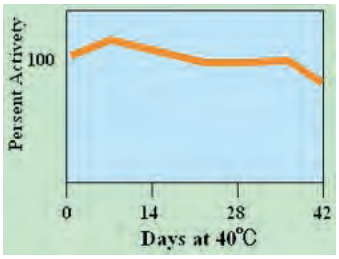
Synthetic polymer type peroxidase enzyme stabilizer

Background

This reagent for is mede of synthetic polymers and does not contain no materials derived from animals, thus has no danger of infection (such as Creutzfeldt-Jacob disease) from animals. Since synthetic polymers are the main components, all lots are quite uniform, and they can be boiled and autoclaved to sterilize and deactivate DNase. This reagents for assey are also highly stable against freezing, agitation, etc

Features

1. Peroxidase stabilizer for enzyme Immunoassay
2. Do not contain any bio-derived materials
3. Excellent stability for POD conjugate protein



POD Stability
<Remaining activity of POD that was stored at 40 Y> POD was diluted to optimum concentration (0.1㎎/㎖ in this example) with the direct POD stabilizer solution. POD solution was filtrated with 0.22㎛ pore-size filter, and store at 40℃. POD activity was measures with H2O2-ABTS coloring-system. The activity at initial time (0 days) was indicated as 100 %.

Description	Cat. No.	Quantity
Peroxidase Stabilizer ST2010	NOF-51005014	100 ㎖

ALP Stabilizer series

Intended Use

ALP stabilizer for enzyme Immunoassay

Background

This reagents for assay consist mainly of synthetic polymers and contains no materials derived from animals, thus there is no danger of infection (such as Creutzfeldt-Jacob disease) from animals. Since synthetic polymers are the main components, all lots are quite uniform, and they can be boiled and autoclaved to sterilize and deactivate DNase. This reagent is also highly stable against freezing and agitation.

Description	Cat. No.	Quantity
ALP Stabilizer ST3010	NOF-51005015	100 ㎖
ALP Stabilizer ST4010	NOF-51005016	100 ㎖

Blocking Reagent series

Intended Use

Blocking Reagent for Immunoassay development

Background

This reagents for assay consist mainly of synthetic polymers and contain no materials derived from animals, so there is no danger of infection (such as Creutzfeldt-Jacob disease) from animals. Since synthetic polymers are the main components, all lots are quite uniform, and they can be boiled and autoclaved to sterilize and deactivate DNase. This reagents for assey are also highly stable against freezing, agitation, etc.

Features

1. There are two products, NB2025 and NB3025 synthetic polymers, which are different in molecular structure.
2. Highly effective for restraining nonspecific absorption
3. Highly effective for stabilizing physiologically active substances that have been immobilized on carriers
4. NB2025 is excellent for stabilization whereas NB3025 is optimum for restraining nonspecific absorption. However, evaluation before each experiment is recommended.
5. Liquid form enabling immediate use after dilution
6. Suitable as sample dilution and cleaning solution
7. Highly stable to Tween 20.

Description	Cat. No.	Quantity
Blocking Reagent NB2025	NOF-51005011	250 ㎖
Blocking Reagent NB3025	NOF-51005012	250 ㎖
Blocking Reagent NB4025	NOF-51005013	250 ㎖

Easy WESTERN II Quick

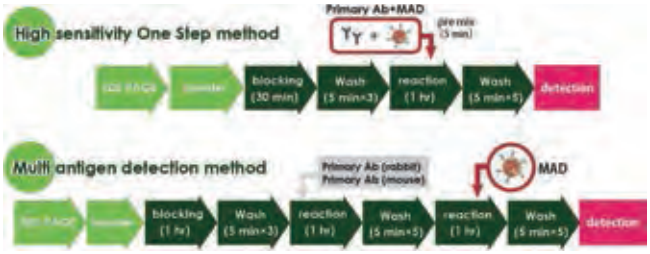
Intended Use

For Fast Antigen Detection or Multi-Antigen Detection

Background

Easy-WESTERN (EZW) is a primary antibody detection reagent kit for Western blots. The kit is based on the Multi-Antibody Detection (MAD) technology. The MAD reagent is nano-size protein particles with high affinity to antibodies. Each particle is composed of about 100 antibody-binding proteins and is labeled with 50 HRP molecules. Because of these properties, MAD reagent enables high sensitivity and quick detection of primary antibodies.

The Easy-WESTERN kit is ideal for high sensitivity, signal enhancement, and simultaneous detection of multi-antigens that is not possible with standard Western blot techniques.



Feature & Advantages

- No need for secondary antibody - MAD reagent can detect most primary antibodies*
- Higher signal for weakly expressed antigens
- Enhance signal by easy reprobing - no stripping the membrane
- Improve signal while using less primary antibodies

* MAD reagent may not work well with goat IgG. For best results use Mouse IgG Enhancer with mouse IgG1 primary antibodies. The performance of EZW depends on the type of antibody, and we do not warrant higher sensitivity in all cases.

Description	Composition	Cat. No.	Quantity
Easy WESTERN II Quick, Basic Set	MAD reagent, Dilution Buffer	BEC-BCL-EZQ21	50 assay
Easy WESTERN II Quick, Maker Detector Set	MAD reagent, Dilution Buffer, Mouse IgG Enhancer, Marker Detector	BEC-BCL-EZQ22	50 assay
Easy WESTERN II Quick, Full Set	MAD reagent, Dilution Buffer, Marker Detector	BEC-BCL-EZQ23	50 assay
Easy WESTERN II Quick, Mouse Enhancer Set	MAD reagent, Dilution Buffer, Mouse IgG Enhancer	BEC-BCL-EZQ24	50 assay

Easy WESTERN II Super

Intended Use

For Maximun Sensitivity and Strong Signal Detection

Description	Composition	Cat. No.	Quantity
Easy WESTERN II Super, Basic Set	MAD reagent, Dilution Buffer	BEC-BCL-EZS21	50 assay
Easy WESTERN II Super, Maker Detector Set	MAD reagent, Dilution Buffer, Marker Detector	BEC-BCL-EZS22	50 assay
Easy WESTERN II Super, Full Set	MAD reagent, Dilution Buffer, Mouse IgG Enhancer, Marker detector	BEC-BCL-EZS23	50 assay
Easy WESTERN II Super, Mouse Enhancer Set	MAD reagent, Dilution Buffer, Mouse IgG Enhancer	BEC-BCL-EZS24	50 assay

Easy WESTERN II Related Product

Intended Use

for Easy-WESTERN (for 50 test)

Description	Cat. No.	Quantity
Marker detector for Easy-WESTERN	BEC-BCL-EZM01	50 test
Easy-WESTERN enhancer for Mouse IgG	BEC-BCL-EZE01	50 test
20X Dilution Buffer for Easy-WESTERN	BEC-BCL-EZB01	50 ml

DNA Quantity Kit

Intended Use

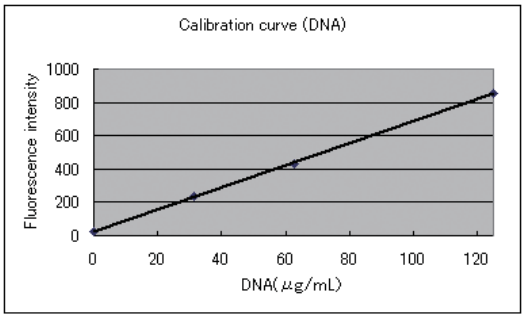
Quantitative determination of DNA concentration

Background

The DNA Quantity Kit (Cat.No.PMC-AK06-COS) is designed to quantify DNA directly from cell culture. DNA can be quan tified without purification process from cell culture as Color De velopment Reage nt binds to cellular double stranded DNA and emits blue fluorescence at 458 nm.

Preparation of Standard Curve

1. Standard sample preparation
   - Dilute the stock DNA Standard (100 μg/mℓ) to 50, 25, 12.5 and 0 μg/mℓ with purified water.
   - Diluted sample standards can be stored frozen at -20℃.
2. Transfer each 50 μℓ of standard sample to new tubes.
3. Add 1mℓ Dilution Buffer to each standard sample and mix well.
4. Add 50 μℓ of Color Development Regent to each tube.
5. Mix thoroughly.
6. Measure fluorescence. (Excitation wavelength at 356nm, emission wavelength at 458nm)



Sample Analysis (24well plate format)

1. Remove culture medium and rinse the culture plate with Phosphate Buffered Saline (PBS).
2. Remove PBS and add 500 μℓ of dilution buffer to each well.
3. Sonicate cells until completely homogenated.
4. Transfer 50 μℓ of homogenate sample to new tube.
5. Add 1mℓ of Dilution Buffer to each tube and mix well.
6. Add 50 μℓ of Color Developer to each tube.
7. Mix thoroughly.
8. Measure fluorescence. (Excitation wavelength at 356nm, emission wavelength at 458nm)

Composition

- Color Development Reagent (10 mℓ)×1 bottle
- Dilution Buffer (150 mℓ)×2 bottles
- DNA standard (2 mℓ : 100 g/mℓ)×1 tube

Reference

- Kalgaonkar S. *et al.*, Phytother.Res. 24 1223-1228 (2010)
- Okura H. *et al.*, Tissue Eng. Part C Methods. 16 761-70 (2010)
- Saito Y. *et al.*, Transplant. Proc. 41 307-310 (2009)

Description	Cat. No.	Quantity
DNA Quantity Kit	PMC-AK06-COS	1 kit

Picotan/Picotein protein detection kit

Intended Use

A high sensitivity protein detection tool. Proteins can be detected in pg level.

Reaction Condition

Mix this product and protein solution (1 : 1) and incubate 1 hr at 37℃ (or incubate 16 hr at room temperature) to label DNP to protein. Molecular marker proteins are needed to react in the same condition with the samples.
React DNP-protein, Picotan/Picotein Anti DNP-IgG (Cat. No. LSL-LP-2001) and second antibody (labeled). 10-100 pg of proteins are detected.
Primary antibody (HRP-labeled) (Picotan/Picotein Anti DNP-IgG (Cat. No. LSL-LP-6011) can also be used.

Description	Cat. No.	Quantity
Activated DNP	LSL-LP-0101	1 mℓ
Picotan/Picotein Anti DNP-IgG	LSL-LP-2001 LSL-LP-6011	1 mg 0.1 mg

Alkaline Phosphatase Staining Kit

Intended Use

Detection of Osteoblasts

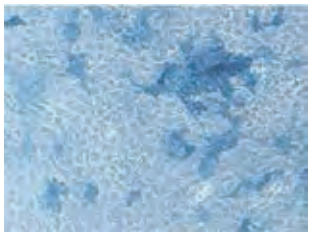
Background

The Alkaline Phosphatase Staining Kit is suitable for the staining of alkaline phosphatase in osteoblasts. Bone mass is controlled by the balance between the activity of osteoblasts bone formation and the activityof osteoclasts. Alkaline phosphatase and tartrate-resistant acid phosphate (TRAP: TRAP staining kit , Cat. No. PMC-AK04F-COS) are used as markers for osteoblasts and osteoclasts, respectively.

Protocol

(12-well plate format)

1. Remove culture medium. Wash each well three times with 1mℓ of PBS.
2. Add 500μℓ of the 10% Formalin Neutral Buffer Solution to each well and fix for 20 minutes at room temperature.
3. Remove 10% Formalin Neutral Buffer Solution. Wash each well with 2mℓ of deionized water. (× 3 times)
4. Dissolve 1 vial of Chromogenic Substrate with 5mℓ of Substrate-containing Buffer.
5. Add 400μℓ of Chromogenic Substrates to each well.
6. Incubate at 37 for 5-20 minutes. Adjust incubation time until stained ALP is clearly showing the result in figure 1.
7. Wash with deionized water to stop the reaction.
   Note: Excess incubation will be the cause of overstaining.



ALP staining of 3T3-E1

Composition

- Substrate-containing Buffer (50 mℓ)×1 bottle
- Chromogenic Substrate×10 vials
- One kit contains regents for 10 × 12-well plates

<Additional Materials Required>

- 10% Formalin Neutral Buffer Solution
- Phosphate Buffered Saline (PBS)
- Distilled or deionized water

Reference

- A. S. H. De Jong *et. al.*, The Histochemical Journal Volume 17, 1119-1130 (1985)

Description	Cat. No.	Quantity
Alkaline Phosphatase Staining Kit	PMC-AK20-COS	1 kit

Pancreatic β-cell Staining Kit

Intended Use

Pancreatic β-cell Fluorescent Staining Kit (PMC-AK11F-COS) is designed to stain insulin-producing β-cells, using an anti-insulin antibody. This product is available for mouse and rat β-cells.

Protocol

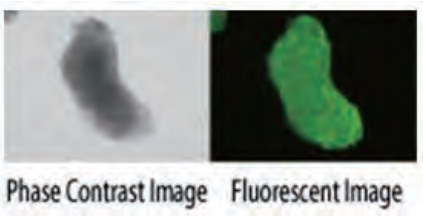
1. Transfer pancreatic cells (1.0×10^5 cells and above) or 10-20 pancreatic islets into a suitable centrifuge tube such as 1.5 mℓ centrifuge tube.
2. Centrifuge at 2,000× g for 3 minutes and remove the supernatant.
3. Fix cellswith 0.5 mℓ of fixative solution at 4℃ over night.
4. Centrifuge at 10,000× g for 3 minutes and remove the fixative solution.
5. Add 1 mℓ of Washing Buffer to centrifuge tube and centrifuge at 10,000× g for 3 minutes, and then remove the WashingBuffer. (× 3 times)
6. After removing the Washing Buffer, add 100 μℓ of Blocking Buffer to the centrifuge tube and leave for 30 minutes at room temperature.
7. Centrifuge at 10,000× g for 3 minutes and remove the Blocking Buffer.
8. Add100μℓ of Blocking Buffer to the centrifuge tube and add 2 μℓ of Anti-insulin antibody to the tube. Mix gently using a micropipette and leave the tube at room temperature for one hour.
9. Centrifuge at 10,000× g for 3 minutes and remove the Anti-insulin antibody.
10. Add 1 mℓ of Washing Buffer to the centrifuge tube and centrifuge at 10,000× g for 3 minutes. Remove the Washing Buffer (× 3 times).
11. After removing the Washing Buffer, add 100 μℓ of Blocking Buffer to centrifuge tube and add 2 μℓ of Fluorescein Secondary Antibodies to the tube. Mix gently using a micropipette and leave the tube at room temperature for one hour.
12. Centrifuge at 10,000× g for 3 minutes and remove the Anti-insulin antibody.
13. Add 1 mℓ of Washing Buffer to the centrifuge tube and centrifuge at 10,000× g for 3 minutes, and remove the Washing Buffer. (× 3 times)
14. Examine cells with an excitation filter of 459 nm and an emission filter of 520 nm .

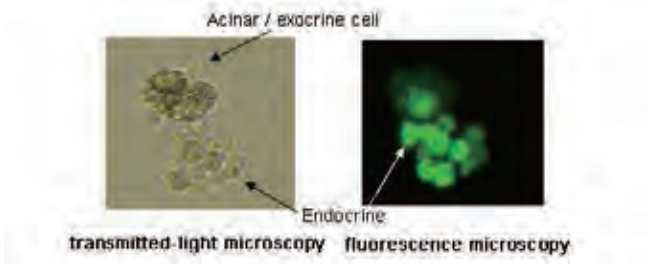
Composition

- Washing Buffer (100 mℓ)×1 bottle
- Blocking Buffer (2 mℓ)×1 bottle
- Anti-insulin Antibody (20 μℓ)×1 vial
- Fluorescein Secondary Antibodies (20 μℓ)×1 vial
- One kit contains regents for 10 samples
- Species Cross-Reactivity: rat, mouse

Additional Materials Required

- fixative solution 4% Paraformaldehyde Phosphate Buffer Solution





Description	Cat. No.	Quantity
Pancreatic β-cell Staining Kit	PMC-AK11F-COS	1 set

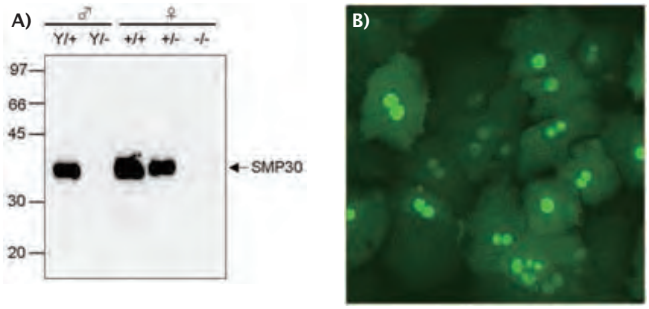
SMP30 [Gluconolactonase, GNL] WesternBlot & ImmunoStain Kit

Intended Use

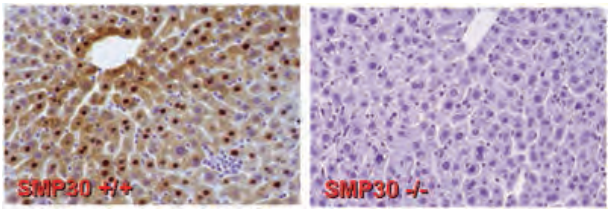
Aging, Vitamin C and Lung Disease Research Kit

Background

SMP30 (Senescence Marker Protein-30) is a 34-kDa protein whose tissue levels in the liver, kidney, and lung decrease with aging (1, 2). SMP30 expressed in multiple tissues including the liver, kidney, brain, lung, adrenal gland, stomach, ovary, uterus, testis and epidermis. Recently, SMP30 was identified as the lactone-hydrolyzing enzyme gluconolactonases (GNL) of animal species (3). GNL is a key enzyme which involve in vitamin C (L-ascorbic acid) biosynthesis. SMP30 knockout micedisplayed symptoms of scurvy when fed a vitamin C-deficient diet. Moreover, SMP30 protects mice lungs from oxidative stress associated with aging and smoking (4). Thus SMP30 is a key age-associated protein for aging, vitamin C and lung disease research.



A) Western Blot Analysis
Antibody: Rabbit anti SMP30/GNL antibody 0.1㎖
Specimen: SMP30/GNL Knockout Mouse Liver 2 slides, Wild type Mouse Liver 2 slides
Tissue extract: SMP30/GNL Knockout Mouse Liver 30 ㎖ (Protein concentration 0.4 ㎎/㎖)
B) Immunofluorescence staining
Primary cultured mouse hepatocytes stained with SMP30/GNL antibody at 1:200 dilution. Nucleus and cytoplasm stained in green.



Immunohistochemical staining

Composition

- Antibody
  Rabbit anti SMP30/GNL antibody 0.1 ㎖
  10 mM Tris (pH 7.4), 0.14 M NaCl
  This kit does not contain NaN3
- Specimen
  SMP30/GNL Knockout Mouse Liver 2 slides
  Wild type Mouse Liver 2 slides
- Tissue extract
  SMP30/GNL Knockout Mouse Liver 30 PL
  (Protein concentration 0.4 ㎎/㎖)
  Wild type Mouse Liver 30 PL
  (Protein concentration 0.4 ㎎/㎖)

Reference

- Ishigami, A. *et al*., Senescence marker protein-30 knockout mouse liver are highly susceptible to TNF-α- and Fas-mediated apoptosis. Am. J. Pathol. 161 1273-1281 (2002)
- Ishigami, A. *et al*., Nuclear localization of senescence marker protein-30 (SMP30) in cultured mouse hepatocytes and its homology to RNA polymerase. Biosci. Biotechnol. Biochem. 67 158-160 (2003)
- Kondo, Y. *et al*., Senescence Marker Protein 30 Functions as Gluconolactonase in L-Ascorbic Acid Biosynthesis and Its Knockout Mice Are Prone to Scurvy. Proc. Nat. Acad. Sci. USA 103 5723-5728 (2006)
- Sato, T. *et al*., Senescence Marker Protein-30 Protects Mice Lungs from Oxidative Stress, Aging and Smoking. Am. J. Respir. Crit. Care Med. 174 530-537 (2006)

Description	Cat. No.	Quantity
SMP30 [Gluconolactonase, GNL] WesternBlot & ImmunoStain Kit	SML-ROIK01-EX	1 kit

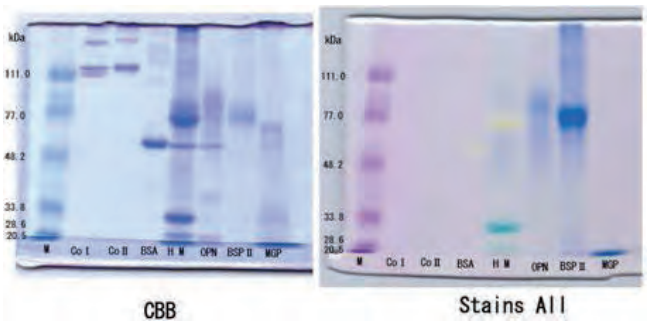
Stains All Gel Staining Kit

Intended Use

The Stains All Gel Staining Kit (Cat.No.AK02) is specifically designed to stain strongly acidic proteins.The color of the protein band varies depending on the Protein's isoelectric point and chemical modifications like glycosylation and phosphorylation.

Background

Acidic Proteins that reg ulate bone calcification such as O steocalcin, Osteopontin and BS P Ⅱ, are maj or components of bones and teeth.These acidic proteins are difficult to detect by conventional staining methods of SDS-PAGE gels.



Composition

- Staining Stock Solution (×10) 40 ㎖
- Dilution Buffer 200㎖ × 2 bottles

Reference

- Nagao, Y., Imai, Y., Matsui, J., Ogawa, T., Miyashita, T. Proton Transport Properties of Poly (aspartic acid) with Different Average Molecular Weights. J. Chem. Thermodynamics. 43, 613-616 (2011)
- Namikawa, Kazuhiko., Sato, Yumi., Maruo, T., Sunaga, F., Sakaguchi, K., Suzuki, J. A Study of an Erythrocyte Membrane Protein that Contributes to Inhibition of Agglutination of Feline Erythrocytes in Glucose Solution. J. Electrophoresis. 54, 9-12 (2010)

Description	Cat. No.	Quantity
Stains All Gel Staining Kit	PMC-AK02-COS	1 kit

Calcified Nodule Staining kit

Intended Use

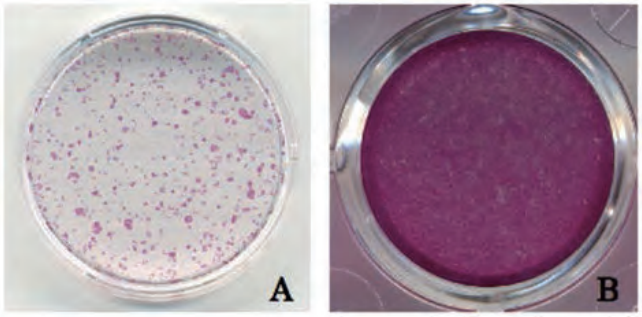
Calcified Nodule detection

Background

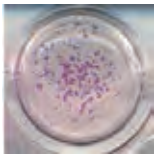
Alkaline phosphatase, osteopontin, and osteocalcin are expressed during the differentiation of bone marrow cells into mature osteoblasts and osteoblasts form calcium tubercle. Alizarin Red S, an anthraquinone derivative, has been usedtoidentify Calcified nodule, because Calcium forms an Alizarin Red S-calcium complex, and the products turn (became) red. Calcified Nodule Staining kit contains Substrate-containing Buffer composed mainly of Alizarin Red S and Chromogenic Substrate,and provides a convenient system for staining calcified nodule with ease.

Composition

Substrate-containing Buffer (×100) (60 mℓ)×1 bottle
Chromogenic Substrate×10 vials
*One kit contains regents for 24-well plates×10



A: 3T3-E1 cells are cultured using Osteogenesis Culture for Osteogenesis Culture kit (Mouse) (Code No. PMC- OGCMO-COS) (35 mm dish)
B: Cells in Osteogenesis Culture Kit (Mouse) (PMC-OGC11-COS) (24well plate)



Description	Cat. No.	Quantity
Calcified nodule Staining kit	PMC-AK21-COS	1 set

TRAP Staining Kit

Intended Use

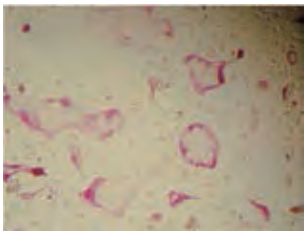
Detection of Osteoclast

Background

The TRAP Staining Kit is used for the staining of Tartrate-Resistant Acid Phosphatase in osteoclasts. Bone mass is controlled by the balance between the activity of osteoblasts bone formation and osteoclasts.
Alkaline phosphatase (ALP staining kit, Cat.No.PMC-AK20-COS) and tartrate-resistant acid phosphate are used as markers for osteoblasts and osteoclasts, respectively.

Protocol (96-well plate format)

1. Remove culture medium. Wash each well once with 100 μℓ of PBS.
2. Add 50 μℓ of the 10% Formalin Neutral Buffer Solution to each well and fix for 5 minutes at room temperature.
3. Wash each well with 250 μℓ of deionized water. (× 3 times)
4. Dissolve 1 vial of Chromogenic Substrate with 5 mℓ of Tartrate-containing Buffer.
5. Add 50 μℓ of Chromogenic Substrates to each well.
6. Incubate at 37℃ for 20-60 minutes. Adjust incubation time until stained TRAP is clearly showing.
7. Wash with deionized water to stop the reaction.
   Note: Excess incubation will be cause of over staining.



TRAP staining of Osteoclast

Composition

Tartrate-containing Buffer (50 mℓ)×1 bottle
Chromogenic Substrate×10 vials

Reference

- Sunao T. *et al.*, JOURNAL OF BONE AND MINERAL RESEARCH 15 1477-1488 (2000)
- BEN AA. SCHEVEN *et al.*,*In Vitro* Cell. Dev. Biol. July-August. Animal 34 568-577 (1998)
- Martha J. Somerman, *et al.*, EXPERIMENTAL CELL RESEARCH 216 335-341 (1995)
- Ichiro Itonaga *et al.*, Biochemical and Biophysical Research Communications 264 590-595 (1999)
- Hiroshi Takayanagi *et al.*, Nature 408 600-605 (2000)
- Morinobu A. *et al.*, Arthritis Rheum. 58 2012-2018 (2008)
- Hase H. *et al.*, Arthritis Rheum. 58 3356-3365 (2008)
- Cao H. *et al.*, Bone 46 386-395 (2010)
- Okada Y. *et al.*, Arch. Oral Biol. 55 502-508 (2010)
- Okamoto A. *et al.*, Eur. J. Oral Sci. 117 238-247 (2009)

Description	Cat. No.	Quantity
TRAP Staining Kit	PMC-AK04F-COS	10 plate

D-Serine Colorimetric Assay Kit

Intended Use

Measurement Kit for D-Serine in urine and food samples

Background

D-form amino acids have long been known as components of bacterial cell wall peptidoglycan layers. More recent developments in analytical technologies have demonstrated that D-amino acids are also present in mammals and display specific and important physiological activities. Particularly high levels of D-serine levels are present in brain tissue where D-serine functions as an important co-agonist of N-methyl-D-aspartate (NMDA) receptors (NMDR), involved in regulating higher brainfunction such as memory and learning. D-serine is suggested to play a role in neurodegeneration associated with diseases such as Alzheimer's disease (AD) and amyotrophic lateral sclerosis (ALS). High levels of free D-serine can also be found in human urine although its significance is unclear.
D-serine is commonly assayed by HPLC or GC following conversion of D-serine to diastereomer derivatives. Such methods are time consuming, require expensive instrumentation, and are not suitable for processing large numbers of samples. The D-Serine Colorimetric Assay Kit employs the D-form specific enzyme D-serine dehydratase from Saccharomyces cerevisiae (DsdSC) enabling the quantitation of D-serine by spectrophotometric measurement.

Advantages

1. Enzymatic reaction with colorimetric detection for reading on standard UV/VIS absorbance microplate readers (340 nm).
2. Suitable for large numbers of samples.
3. Quantitative for D-serine detection. Detection range: 0.01 mM - 1 mM

Principleof Assay

DsdSC catalyzes the conversion of D-serine to pyruvate and ammonia. In the presence of lactate dehydrogenase (LDH), pyruvate is reduced to lactate with the concomitant oxidation of NADH to NAD. The reaction can be monitored by measuring the decrease in absorbance at 340nm due to the oxidation of NADH. The D-serine concentration in unknown samples is determined by comparison with a standard curve.

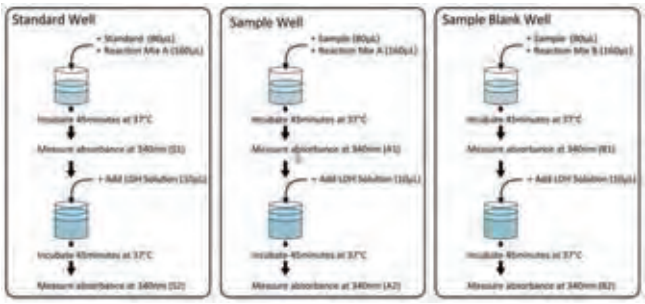


Figure 2 : Overview of the assay procedure

Sample

Urine

Composition

- Assay Buffer (11 mℓ)×2 vials
- LDH Diluent Buffer (3 mℓ)×2 vials
- 10mM D-Serine Solution (2 mℓ)×2 vials
- NADH Solution (200 μℓ)×2 vials
- DsdSC Solution (110 μℓ)×1 vial
- LDH Stock Solution (220 μℓ)×1 vial
- 96-well plate×1 plate

Reference

- Tomokazu Ito, Kei Takahashi, Tomoko Naka, Hisashi Hemmi, Tohru Yoshimura (2007). Enzymatic assay of D-serine using D-serine dehydratase from Saccharomyces cerevisiae.
- Tomokazu Ito, Hisashi Hemmi, Kunishige Kataoka, Yukio Mukai and Tohru Yoshimura (2008). A novel zinc-dependent D-serine dehydratase from Saccharomyces cerevisiae.

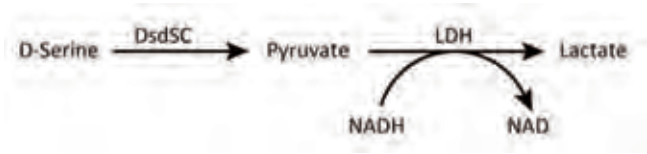


Figure 1: Principle of D-Serine Colorimetric Assay Detection

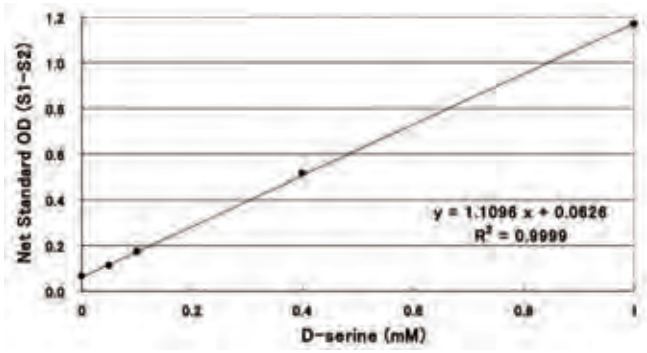


Figure 3 : D-Serine standard curve produced from assay data in Table 4

Description	Cat. No.	Quantity
D-Serine Colorimetric Assay Kit	CSR-CT-DSC-K01E	1 kit

ACE test (autoclave, EO Gas, H2O2, LTSF, formalin, steam sterilization 115 degree)

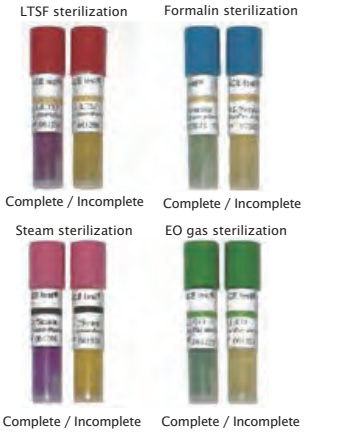
Background

ACE test are biological indicators with chemical indicators which can confirm whether the sterilization has been carried out properly for autoclave, EO Gas, H202, LTSF, formalin, and steam sterilization at 115℃.

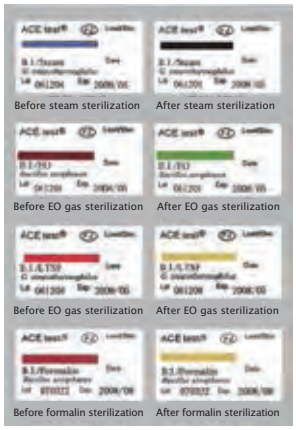
Features

- Easy culturing that do not require sterile operations.
- Highly reliable sterilization results can be easily obtained with 24 hours, 48 hour or 7 day culturing.
- Sterilization results can be easily checked with the chemical indicator on the label.
- Can be used with US incubators (Ace Test size: Length 46.5 ㎜×diameter 8.5 ㎜)
- Matches criteria required as a biological indicator for JP, USP, EN866, and ISO11138 Sterilization methods.

NOTE: ACE mini INCUBATOR is available for usage together (pg176).



The color change after sterilization and 24 hours culture



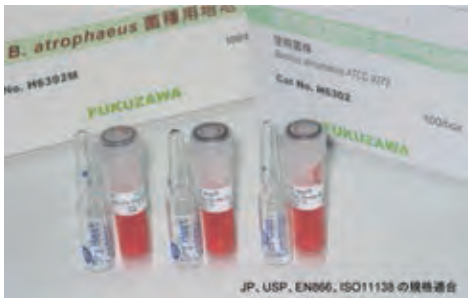
Chemical indicator color change of the label

Description	Cat. No.	Quantity
ACE test (autoclave)	FUK-H3723 FUK-H3723T	1 pack 1 pack
ACE test (EO Gas)	FUK-H3724	1 pack
ACE test (formalin)	FUK-H6305	1 pack
ACE test (H2O2)	FUK-H3725T	1 pack
ACE test (LTSF)	FUK-H6303T	1 pack
ACE test (Medium for B. atrophaeus)	FUK-H6302M	1 pack
ACE test (steam sterilizer 115 degree)	FUK-H6301	1 pack

ACE test (Dry Heat Kit)

Background

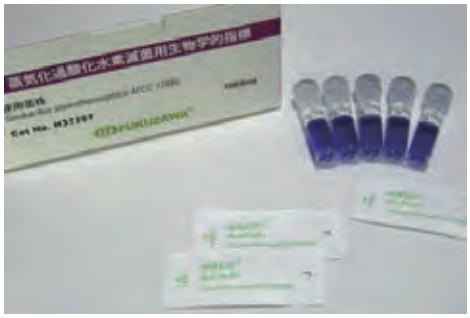
The ACE test (Dry Heat Kit) contains a biological indicator (H6302) and culture medium for *Bacillus atrophaeus* (H6302M).
When cultured with the conventional soy bean digest medium, 5-7 days are required. However, with H6302M medium, it only takes 48 hours of culturing for highly reliable sterilization.



ACE test (Dry Heat)

Description	Cat. No.	Quantity
ACE test (Dry Heat)	FUK-H6302	1 pack
ACE test (Dry Heat Kit)	FUK-H6302K	1 kit

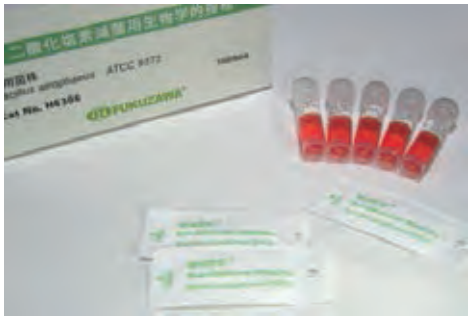
ACE test (Hydrogen Peroxide Vapor Sterilization)



Medium

Description	Cat. No.	Quantity
ACE test (Hydrogen Peroxide Vapor Sterilization)	FUK-H3726-2 FUK-H3726-3 FUK-H3726-4 FUK-H3726-5 FUK-H3726T	1 pack 1 pack 1 pack 1 pack 1 pack

ACE test (Chlorine dioxide Sterilization)



Medium

Description	Cat. No.	Quantity
ACE test (Chlorine dioxide Sterilization)	FUK-H6306	1 pack

ACE Steri® Sterilization Roll Bags

Intended Use

Sterilization roll bag for steam sterilization, EO gas sterilization and formalin sterilization.

Material

Dialysis paper : BILLERUD (SKARBLACKA, Sweden)
Meet the standard of EN868-1, EN868-3, EN868-6

Firms : 12㎛ PET (positron emission tomography) and 45㎛ CPP (Cast PolyPolypropylene), two - layer structure

Description	Cat. No.	Quantity
ACE Steri® Sterilization Roll Bag 100㎜×200m	FUK-H7100 FUK-H7100	1 roll 4 roll
ACE Steri® Sterilization Roll Bag 150㎜×200m	FUK-H7150 FUK-H7150	4 roll 1 roll
ACE Steri® Sterilization Roll Bag 200㎜×200m	FUK-H7200 FUK-H7200	1 roll 4 roll
ACE Steri® Sterilization Roll Bag 250㎜×200m	FUK-H7250 FUK-H7250	1 roll 2 roll
ACE Steri® Sterilization Roll Bag 300㎜×200m	FUK-H7300 FUK-H7300	1 roll 2 roll

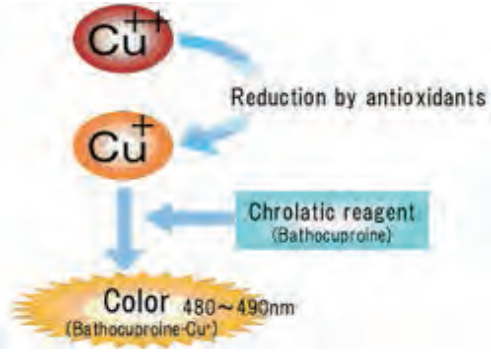
Potential Anti Oxidant (PAO) kit

Intended Use

Test kit for Total Antioxidant Capacity

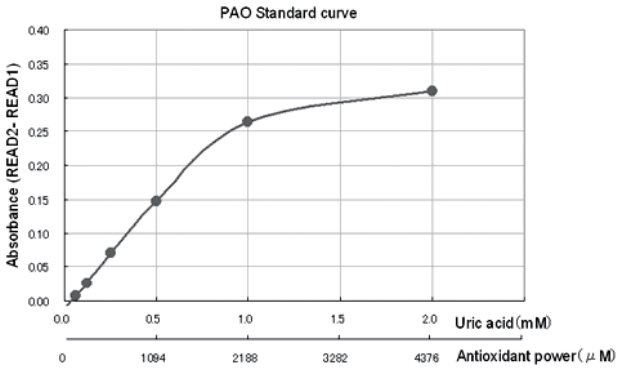
Background

Oxidative stress plays an important role in various diseases and aging. The control of oxidative stress is expected to be useful to prevent diseases and aging. Oxidative stress is caused by the imbalance between reactive oxygen species (ROS) and antioxidant defense system. For accurate assessment of oxidative stress, measurement of ROS, oxidative damage and antioxidant activity may be essential. PAO can detect not only hydrophilic antioxidants such as Vitamin C, glutathione, but also can detect hydrophobic antioxidants such as Vitamin E. Applicable for assessment of total antioxidants of serum, foods and beverage samples.



Composition

- Standard (Uric acid powder), 1 vial (for 2 mM)
- Sample diluent, 60 mℓ×1 bottle
- Cu^{++} solution, 5 mℓ×1 bottle
- Stop solution, 5 mℓ×1 bottle
- Micro titer plate, 1 plate



Reference

- Effetcts of the daily administration of a rehydrating supplement to trotter horses. A Falaschini, G Marangoni, S Rizzi and MF Trombetta. J Equine Sci 16(1), p 1-9 (2005)
- Oxidative imbalance and cathepsin D changes as peripheral blood biomarkers of Alzheimer disease: A pilot study. E Strafacea, P Matarresea, L Gambardella, R Vona, A Sgadari, MC Silveri, W Malorni. FEBS Letters 579, p 2759-766 (2005)
- Oxidative stress and its association with coronary artery disease and different atherogenic risk factors. C. VASSALLE, L. PETROZZI , N. BOTTO, M. G. ANDREASSI and G. C. ZUCCHELLI. Journal of Internal Medicine 256: 308-315 (2004)
- Antioxidant capacity as a reliable marker of stress in dairy calves transported by road. P Pregel, E Bollo, FT Cannizzo, B Biolatti, E Contato, and PG Biolatti. Veterinary Record 156, p 53-54 (2005)
- Vitamin E-coated dialyzers reduce oxidative stress related proteins and markers in hemodialysis a molecular biological approach. LA Calo, A Naso, E Pagnin, PA Davis, M Castoro, R Corradin, P Riegler, C Cascone, W Huber and A Piccoli. Clinical Nephrology, Vol.62(5), p 355-361 (2004)
- Oxidative stress-related factors in Bartter's and Gitelman 9s syndrome: relevance for angiotensin II signalling.Calo LA, Pagnin E, Davis PA, Sartori M, Semplicini A. Nephrol Dial Transplant ,Vol.18(8) p 1518-25 (2003)
- Effect of epoetin on HO-1 mRNA level and plasma antioxidants in hemodialysis patients. Calo LA, Stanic L, Davis PA, Pagnin E, Munaretto G, Fusaro M, Landini S, Semplicini A, Piccoli A. Int. J Clin. Ther, Vol.41(5), p 187-92 (2003)
- Restored Antioxidant Capacity Parallels the Immunologic and Virologic Improvement in Children with Perinatal Human Immunodeficiency Virus Infection Receiving Highly Active Antiretroviral Therapy. M Martino, F Chiarelli, M Moriondo, M Torello, C Azzari, and L Galli. Clinical Immunology, Vol.100(1), p 82-6 (2001)

Description	Cat. No.	Quantity
Potential Anti Oxidant (PAO) kit	NNS-KPA-050E-EX	96 well

Protein Carbonyls Immunohistochemical Staining Kit (50 slides)

Intended Use

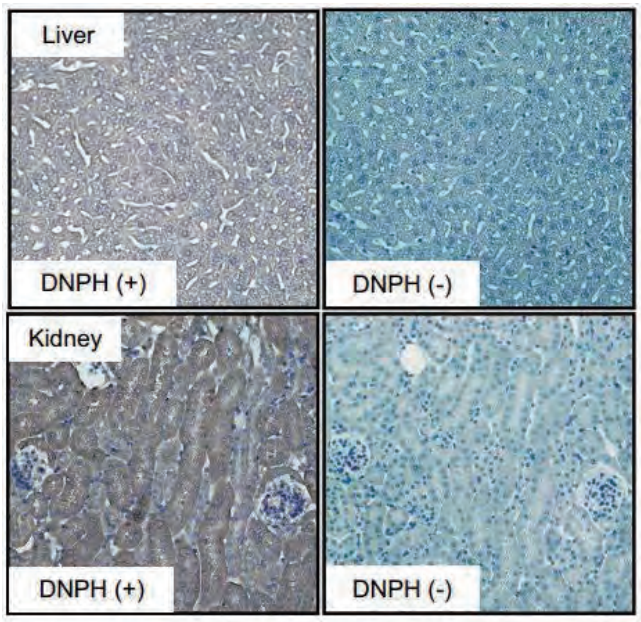
For the specific detection of protein oxidation by ROS.

Background

Reactive oxygen species (ROS) are produced as a result of normal cell metabolism or by exposure to ionizing radiation, chemicals, or other environmental stress. ROS are well known to promote non-specific protein oxidation, with negative effects protein structure and function. Typical ROS-induced protein modifications include the transformation of lysine, arginine, proline, and threonine side chain amines into aminoacyl carbonyls. The chemical stability of these carbonyl derivatives allows their detection and quantification, providing a sensitive and reliable marker of ROS-mediated protein oxidation. In the central feature of this kit, carbonyl groups in tissue are first derivitized by reaction with 2,4-Dinitrophenylhydrazine (DNPH). DNPH-derivitized carbonyls are then detected using an anti-DNP specific antibody suitable for immunohistochemical procedures. The Protein Carbonyls Immunohistochemical Staining Kit is the first kit to enable detection of protein carbonyls by immunohistochemical staining. A detection kit for protein carbonyls in cell lysates by Western blotting with anti-DNP antibody is also available (Cat No.SML-ROIK03-EX).

Reference

- Nakamura A. *et. al.*, J Biochem (Tokyo). 119 768-774 (1996)
- Goto S. *et. al.*, A critical evaluation. Age. 20 81-89 (1997)
- Goto S. *et al*., Mech Ageing Dev. 107 245-253 (1999)
- Nakamura A. *et. al.*, Biochem Biophys Res Commun. 264, 580-583 (1999)
- Robinson CE. *et al*., Anal Biochem. 266, 48-57 (1999)
- Sato T. *et. al.*, Am J Respir Crit Care Med. 174 530-537 (2006)



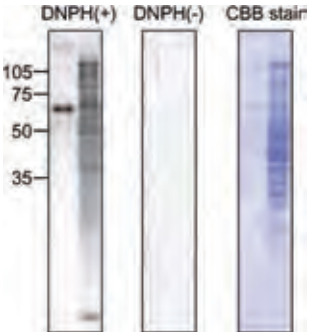
Immunohistochemical staining
Mouse liver and kidney sections stained with rabbit anti-DNP antibody at 1:100 dilution and developed by 3,3' -diaminobenzidine (DAB). Specimens were incubated with (DNPH(+)) or without (DNPH(-)) DNPH solution. Protein carbonyls are detected only in DNPH-treated specimen and not detected at all in untreated specimen.

Description	Cat. No.	Quantity
Protein Carbonyls Immunohistochemical Staining Kit (50 slides)	SML-ROIK04-EX	1 kit

Protein carbonyls western blot detection kit (15 Blots)

Intended Use

For the specific detection of protein oxidation by ROS.



<Western Blot Analysis>
DNPH(+) : DNPH in 2 N HCl
Left lane : oxidized BSA 0.1 Pg
Right lane: mouse liver extract 5 Pg
DNPH(-) : 2 N HCl
Left lane: oxidized BSA 0.1 Pg
Right lane: mouse liver extract 5 Pg
CBB stain : proteins stained by Coomassie brilliant blue
* DNP antibody at 1:2,000 dilution used.

Composition

- Antibody: Rabbit anti-DNP antibody 0.075 mℓ
- 10 mM Tris (pH 7.6), 0.14 M NaCl

This kit does not contain NaN3
The property of the antibody see below *
DNPH solution (shade the light) : 10X 2,4-Dinitrophenylhydrazine (DNPH) solution, 15 mℓ
Oxidized protein: oxidized BSA , soluble in SDS-PAGE sample buffer, 0.15 mℓ

The property of the antibody

Rabbit Polyclonal Antibody
2,4-dinitrophenyl (DNP) IgG
Purified IgG Fraction
Rabbit anti-DNP IgG
Volume: 0.075 mℓ
Antigen : DNP-KLH
Host : Rabbit
Supplied As: IgG fraction purified from rabbit serum.
Prepared in 10 mM Tris (pH 7.6), 0.14 M NaCl.
Storage and Stability : antibody, DNPH solution, oxidized protein 4qC, 1 year

Reference

- Nakamura A. *et. al.,* J Biochem (Tokyo). 119 768-774 (1996)
- Goto S. *et. al.,* A critical evaluation. Age. 20 81-89 (1997)
- Goto S. *et al*., Mech Ageing Dev. 107 245-253 (1999)
- Nakamura A. *et. al.,* Biochem Biophys Res Commun. 264, 580-583 (1999)
- Robinson CE. *et al*., Anal Biochem. 266, 48-57 (1999)
- Sato T. *et. al.,* Am J Respir Crit Care Med. 174 530-537 (2006)

Description	Cat. No.	Quantity
Protein carbonyls western blot detection kit(15Blots)	SML-ROIK03-EX	1 kit

Vitamin C Assay kit

Intended Use

This Vitamin C Assay Kit measures total vitamin C (AsA + DHAsA).

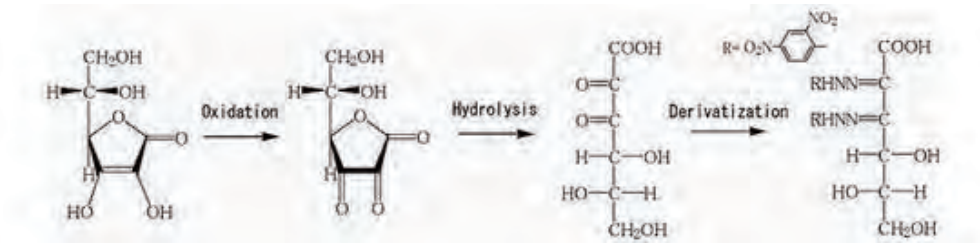
Vitamin C (L-Ascorbic acid) is water-soluble vitamin with strong reducing action and is an important coenzyme for internal hydroxylation reactions (e.g. collagen). Vitamin C is found in both reduced form (ascorbic acid (AsA)) and oxidized form (dehydroascorbic acid (DHAsA)). This Vitamin C Assay Kit measures total vitamin C (AsA + DHAsA). The method of this kit is a refinement of the colorimetric assay described by Daniel (1973).

Composition

- Reagent (1):Oxidizing agent, 1 vial (2 mℓ)
- Reagent (2): 5% Metaphosphoric acid/2% $SnCl_2$, 1 vial (10 mℓ)
- Reagent (3): 2,4-Dinitrophenylhydrazine (DNPH), 1 vial (Dissolve in 3 mℓ 44% sulfuric acid)
- Reagent (4): 5% Metaphosphoric acid,

Reference

- Daniel W.B., Gladys E, James E.M. : Clinica Chimica Acta, 44, 47-52 (1973)
- Am J Respir Crit Care Med. 2009 Nov 15;180(10):1002-9. Epub 2009 Aug 27.



Description	Cat. No.	Quantity
Vitamin C, Assay kit	SML-ROIK02-EX	1 kit

L-Glutamate Assay Kit II

Intended Use

Determination of L-glutamate using L-glutamate oxidase inbiological samples.

Preparation of color Reagent Solution

Reconstitute the Enzyme reagent in the vial with approximately 1㎖ Buffer. Transfer all of the enzyme reagent into the bottle of buffer.

Standard Procedure for the Assay

Standard Procedure for the Assay
Samples should be determined in duplicate.
1. Add 900㎕ of Color Regent Solution to all tubes.
2. Add 60㎕ of sample to tubes for sample. (A)
3. Add 60㎕ of Standard Solution to tubes for standard. (S)
4. Add 60㎕ of distilled water to tubes for blank 1. (R)
5. Add 900㎕ of distilled water to tubes for blank 2. (B)
6. Mix each tubes.
7. Stand each tubes for 20 �min at room temperature.
8. Measure absorbance at 660 ㎚.
9. Calculate the concentration of L-glutamate as follows; L glutamate (㎎/ℓ)=(A-B-R)/(S-R)×100×(dilution ratio)

Composition

- Buffer: Good's buffer (pH 7.1) 1 bottle (60 ㎖)
- Enzyme Reagent: Enzyme (lyophilized powder) 1 vial
- Standard Solution: L-glutamate solution (100 ㎎/ℓ) 1 vial (1.5 ㎖)

Reference

- Arima J. et. al., J Biochem 134, 805-812, 2003
- Yamauchi H. et. al., Nihon Shoyu Kenkyujo Zasshi (Japanese) 13, 8-12, 1987
- Kusakabe H. et. al., Agric. Biol. Chem., 48, 181-184, 1984

Description	Cat. No.	Quantity
L-Glutamate Assay Kit II	YMS-80057	1 kit

Type I collagenase assay kit

Intended Use

For measurement collagenase activity

Back ground

Type I collagenase has an important role on the collagen metabolism and cleaves Type I collagen, which one of the collagen family comprising 9 members, yielding 1/4 and 3/4 collagen fragments. Type I collagenase Assay Kit (PMC-AK37-COS) is designed to quantify Type I collagenase activity using a fluorescent-labeled collagen as a substrate. This kit provides a convenient system for studying, for example, arthitic synovial in which Type I collagenase activity can be detected.

Composition

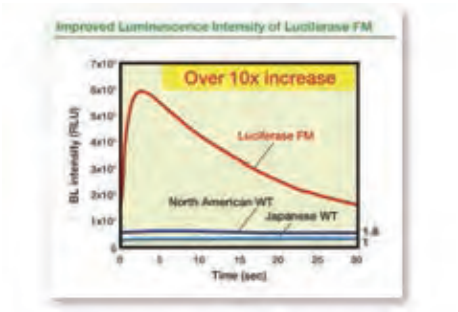
- Fluorescence-labeled collagen 6 ㎖×2 bottles
- Buffer A 100 ㎖×1 bottle
- Buffer B 150 ㎖×1 bottle

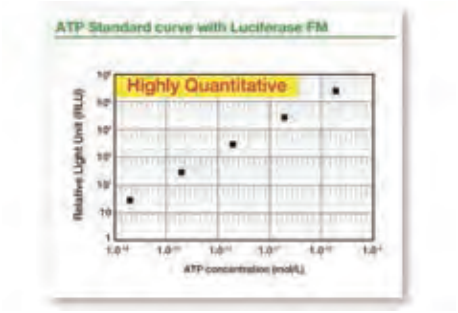
Description	Cat. No.	Quantity
Type I collagenase assay kit	PMC-AK37-COS	1 kit

Luciferase FM

Background

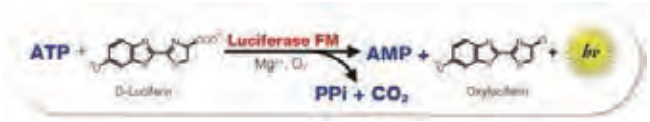
The determination of ATP concentration in unknown samples by bioluminescence using ATP-dependent luciferase enzymes is a well-established method. Luciferase FM is a genetically modified variant of native North American firefly (photinus pyralis) luciferase generating a luminescence intensity approximately 10 times greater than wild-type enzyme.
The increased brightness of Luciferase FM significantly extends the limits of ATP detection in standard assays. Take advantage of Luciferase FM's superior properties to extend the limits of ATP detection in your lab.





Reference

・Fujii H, Noda K, Asami Y, Kuroda A, Sakata M, Tokida A., Increase in bioluminescence intensity of firefly luciferase using genetic modification. Anal Biochem. 2007 Jul 15; 366 (2): 131-6.



Principle of Luciferase FM ATP detection

Description	Cat. No.	Quantity
LUCIFERASE FM 【Composition】 1mg luciferase reagent, lyophilized (white screw-cap).	CSR-LUC-E01	1 mg

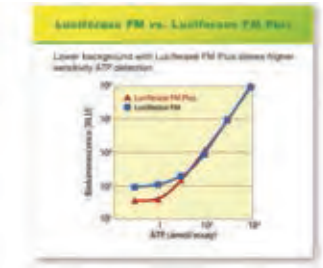
Luciferase FM PLUS

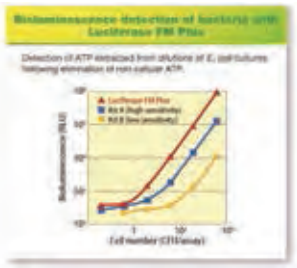
Background

Luciferase FM is a genetically modified variant of native North American firefly (photinus pyralis) luciferase generating a luminescence intensity approximately 10 times greater than the wild type enzyme (see reverse) and thus, ideally suited for high sensitivity ATP detection. The Luciferase FM Plus Reagent Set includes ATP-free water and an optimally formulated lyophilized premix containing Luciferase FM enzyme, luciferin, and buffer salts to deliver the ultimate sensitivity in ATP detection.

Principle of Luciferase FM Detection

Kit conponents : 2 x 5 mℓ Luciferin FM reagent premix, lyophilized. 30 mℓ AT-free sterile water, Ready to use.





Reference

・Fujii H, Noda K, Asami Y, Kuroda A, Sakata M, Tokida A., Increase in bioluminescence intensity of firefly luciferase using genetic modification. Anal Biochem. 2007 Jul 15; 366 (2): 131-6. PMID:17540326
・Noda K, Matsuno T, Fujii H, Kogure T, Urata M, Asami Y, Kuroda A., Single bacterial cell detection using a mutant luciferase. Biotechnol Lett. 2008 Jun;30(6):1051-4. PMID:18224280
・Noda K, Goto H, Murakami Y, Ahmed AB, Kuroda A., Endotoxin assay by bioluminescence using mutant firefly luciferase. Anal Biochem. 2010 Feb 15;397(2):152-5. PMID:19850001

Description	Cat. No.	Quantity
LUCIFERASE FM PLUS 【Composition】 ・Luciferase reagent, lyophilized (40 Test ×2 bottles, white screw-cap) ・Sterilized water, ready-to-use (30 mℓ ×1 bottle, white plastic bottle)	CSR-LUC-E02	80 test

NO PERMIT REQUIRED

COSMO BIO CO., LTD.
Inspiration for Life Science

NON-RADIOACTIVE

2DG Glucose Uptake Assay

Sensitive, accurate, and safe measurement of glucose uptake (2DG) by cultured cells is now available to any laboratory. No radiation permit required !
The Glucose Uptake Assay Kit from Cosmo Bio features:

- **Picomole sensitivity**
- **Advanced recycling enzymatic amplification**
- **Photometric detection (420nm)**
- **No wash, automation friendly assay protocol**
- **Optimized for 96-well culture plates**
- **Needs no correction for extracellular 2DG**

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Cells / Tissue Culture

Porcine Fertilization Medium and Culture Kit

Intended Use

Basic Culture Kit for Porcine Embryos *in vitro*

Background

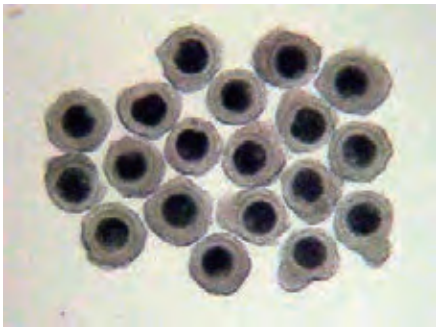
This kit is for culturing porcine embryos *in vitro*. It consists of porcine oocyte/embryo collection medium (POE-CM), basic medium for porcine oocyte maturation (POM), porcine fertilization medium (PFM), defined medium for porcine embryos (PZM-5), dbcAMP concentrated solution-100X (dbcAMP-100X) and Reproplate.
This kit can efficiently produce transferable embryos (blastocysts) under a low oxygen condition (5% O_2/5% CO_2/90% N_2, 39℃) without coculture of cumulus/granulose cells.

Composition

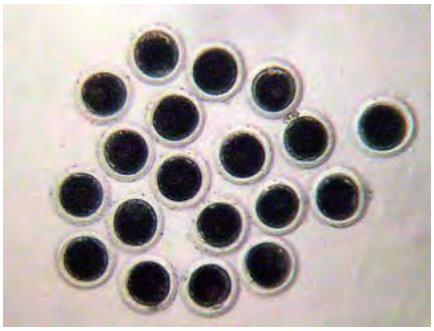
1) Porcine oocyte/embryo collection medium (POE-CM)
   Catalog No.: CSR-CK020, 100 mℓ×5 units
2) Basic medium for porcine oocyte maturation (POM)
   Catalog No.: CSR-CK021, 25 mℓ×3 units
3) Porcine fertilization medium (PFM)
   Catalog No.: CSR-CK023, 100 mℓ×2 units
4) Defined medium for porcine embryos (PZM-5)
   Catalog No.: CSR-CK024, 25 mℓ×3 units
5) dbcAMP concentrated solution-100X (dbcAMP-100X)
   Catalog No.: CSR-CK027, 0.5 mℓ
6) Reproplate
   Catalog No.: CSR-CK028, 10 plates×10 units

Reference

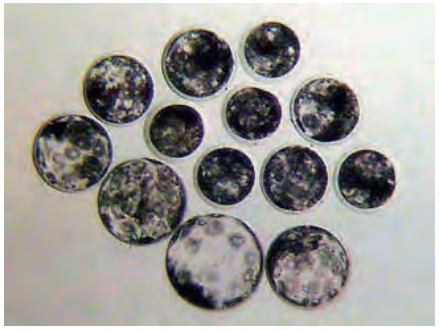
- Mito T, Yoshioka K, Nagano M, Suzuki C, Yamashita S, Hoshi H. Transforming growth factor-α in a defined medium during *in vitro* maturation of porcine oocytes improves their developmental competence and intracellular ultrastructure. Theriogenology 2009; 72: 841-850.
- Suzuki C, Yoshioka K. Effects of amino acid supplements and replacement of polyvinyl alcohol with bovine serum albumin in porcine zygote medium. Reprod Fertil Dev 2006; 18: 789-795.
- Suzuki C, Yoshioka K, Sakatani M, Takahashi M. Glutamine and hypotaurine improves intracellular oxidative status and *in vitro* development of porcine preimplantation embryos. Zygote 2007; 15: 317-324.
- Yoshioka K, Suzuki C, Tanaka A, Anas IMK, Iwamura S. Birth of piglets derived from porcine zygotes cultured in a chemically defined medium. Biol Reprod 2002; 60: 112-119.
- Yoshioka K, Suzuki C, Itoh S, Kikuchi K, Iwamura S, Rodriguez-Martinez H. Production of piglets derived from *in vitro*-produced blastocysts fertilized and cultured in chemically defined media: effects of theophylline, adenosine, and cysteine during *in vitro* fertilization. Biol Reprod 2003; 69: 2092-2099.
- Yoshioka K, Suzuki C, Onishi A. Defined system for *in vitro* production of porcine embryos using asingle basic medium. J Reprod Dev 2008; 54: 208-213.



Cumulus-oocyte complexes just after the collection



Denuded embryos



Blastocysts

Description	Cat. No.	Quantity
Basal Culture Kit for Porcine Embryos *in vitro*	CSR-CK029	1 kit
Complete Culture Kit for Porcine Embryos *in vitro*	CSR-CK030	1 kit
Porcine Oocyte/Embryo Collection Medium	CSR-CK020	5×100 mℓ
Basic Medium for Porcine Oocyte Maturation	CSR-CK021	3×25 mℓ
High Performance Basic Medium for Porcine Oocyte Maturation	CSR-CK022	3×25 mℓ
Porcine Fertilization Medium	CSR-CK023	2×100 mℓ
Defined Medium for Porcine Embryos (PZM-5)	CSR-CK024	3×25 mℓ
Defined medium for Late stage Porcine Embryos	CSR-CK025	2×25 mℓ
dbcAMP Concentrated Solution-100X	CSR-CK027	0.5 mℓ
Reproplate	CSR-CK028	10×10 plate
Sperm Diluent for *in vitro* fertilization	CSR-CK026	25 mℓ

Human Somatic Cell Culture Medium Series

Description	Cat. No.	Quantity
COSMEDIUM H001, for Nomal Human Fibroblasts	CSR-CK001	500 mℓ
MCDB107 Medium	CSR-CK011 CSR-CK010	500 mℓ 1000 mℓ
MCDB153 Medium	CSR-CK015 CSR-CK014	500 mℓ 1000 mℓ
MCDB153HAA Medium	CSR-CK017 CSR-CK016	500 mℓ 1000 mℓ
RITC80-7 Medium	CSR-CK018 CSR-CK019	500 mℓ 1000 mℓ

Cosmedium for Insect Cell Culturing

Intended Use

For culturing insect cells (Mamestra Ovarian Origin (Sf-9 strain) Cell)

Description	Cat. No.	Quantity
COSMEDIUM 009X [for Insect Ce culture]	KOJ-COS-009X KOJ-COS-009X	500 mℓ 1000 mℓ

Cosmedium Virus Production Serum-free Media

Intended Use

Serum-free media for virus production.

Background

MDCK Cell Serum-free Media

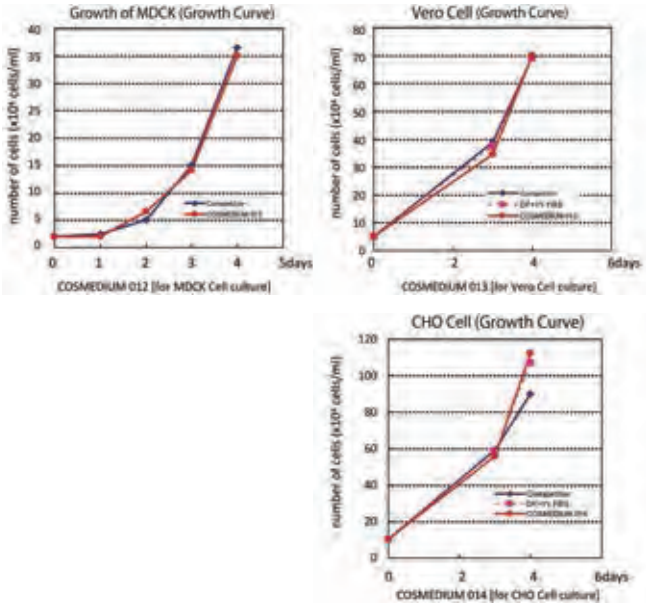
The media does not contain unnecessary proteins such as FBS, thus purification of virus and recombinant proteins can be carried out with ease with MDCK cells.

Vero Cell Serum-free Media

The serum-free media contains very little proteins and is ideal for culturing cells such as MDCK and BHK-21. The media does not contain unnecessary proteins such as FBS, thus purification of virus and recombinant proteins can be carried out with ease with Vero cells.

CHO Cell Serum-free Media

The media is ideal for growing and maintaining suspension CHO cells, and high yield production of recombinant proteins. The media does not contain unnecessary proteins such as FBS, thus purification of virus and recombinant proteins can be carried out with ease with CHO cells.



Description	Cat. No.	Quantity
COSMEDIUM 012 [for MDCK Cell Culture]	KOJ-COS-012	500 mℓ
COSMEDIUM 013 [for Vero Cell Culture]	KOJ-COS-013	1000 mℓ
COSMEDIUM 014 [for CHO Cell Culture]	KOJ-COS-014 KOJ-COS-014	500 mℓ 1000 mℓ

Other Media

Intended Use

For Culturing Hybridomas

Features

- Stable culturing at high density is possible. By making use of a high density culturing incubator, it is possible to collect more than 1㎎/㎖ of antibody.
- Media is ideal for hybridomas which produce more antibodies towards the end of culturing.
- Media enables stable maintenance of high density cells such as hybridomas of more than 200 × 10^6 cells/㎖ According to culture conditions, cell density of more than 10^8 cells/㎖ is possible.
- Storage for 8 months is possible under dark conditions at 4～8℃.
- Media contains an effective buffer which doesn't allow the pH to change excessively.
- Media is serum-free and does not contain Alubumin. Protein content is less than 5 ㎎/ℓ of transferin and insulin.

Application

The media is suitable for culturing of antibody-producing cells and isolation of antibodies. The media is suitable for culturing of mouse and human hybridoma cells.

Culturing of Cell lines

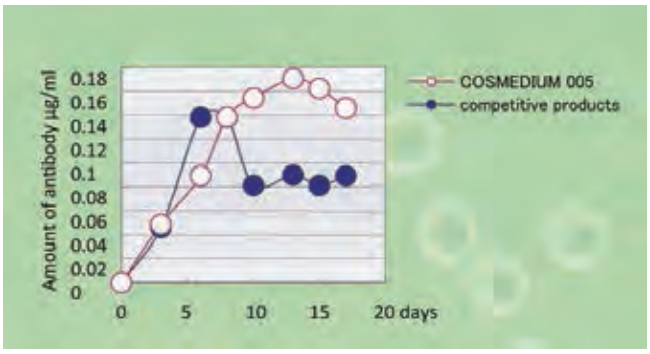
The media is suitable for production processes such as culturing of high density drug-producing cell lines.

Cloning

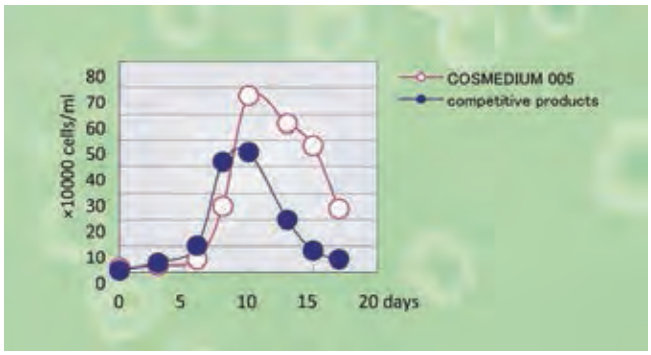
Cloning of mouse hybridoma cells by the limiting dilution method can be carried out efficiently.

Composition

L-Glutamine, includes antibiotics (60 ㎎/ℓ Kanamycin)



Antibody Production by Hybridoma



Growth of Hybridoma

Description	Cat. No.	Quantity
COSMEDIUM 005 [for culturing of hybridomas]	KOJ-COS-005	1 ℓ
COSMEDIUM 006X [for culturing of human lympocytes]	KOJ-COS-006X	1 ℓ
COSMEDIUM 017 [for CHO Cell culture]	KOJ-COS-017	500 ㎖

Medium for Embryo Manipulation

Description	Intended Use	Cat. No.	Quantity
M2	For extracorporeal manipulation of embryos	CSR-R-M083 CSR-R-M084	10×2 mℓ 10×5 mℓ
PB1	For extracorporeal manipulation of embryo	CSR-R-P185 CSR-R-P138	10×2 mℓ 10×5 mℓ

IVF Medium and Freezing Medium for Rat

Description	Intended Use	Cat. No.	Quantity
mR1ECM	For rat *in vitro* cultivation	CSR-R-M191 CSR-R-M174	10×2 mℓ 10×5 mℓ
P10	For embryo freezing	CSR-R-P186	10×2 mℓ
PEPeS	For embryo freezing	CSR-R-P187	10×1 mℓ

Mouse General Freezing and Culture Medium

Description	Intended Use	Cat. No.	Quantity
1M DMSO	For freezing mouse embryo	CSR-R-T072	10×2 mℓ
0.25M Sucrose	For freezing and melting mouse embryo	CSR-R-Y077 CSR-R-Y078	10×2 mℓ 10×5 mℓ
DAP213	For freezing mouse embryo	CSR-R-T073	10×1 mℓ
HTF	For mouse *in vitro* cultivation	CSR-R-B070 CSR-R-B071	10×2 mℓ 10×5 mℓ
KSOM	For mouse *in vitro* cultivation	CSR-R-B074 CSR-R-B075	10×2 mℓ 10×5 mℓ
mWM	For mouse *in vitro* cultivation	CSR-R-B080 CSR-R-B081	10×2 mℓ 10×5 mℓ

Blood, Serum, Plasma and Red Blood Cells

Description	Cat. No.	Quantity
Human Plasma (each, heparin)	KOJ-12271310	100 mℓ
Mouse Serum	KOJ-12181005	50 mℓ

Cells and Cell Extracts

Description	Cat. No.	Quantity
Ehrlich Bonito Extract	KYO-01201	1 kg
Lactose Broth	KYO-02390	300 g
Rat Bone EDTA Extract	YMS-7609	0.5 mℓ

Stem Cell

Description	Intended Use	Cat. No.	Quantity
EXPREP™ MSC Medium (Serum Free)	High cell proliferation ability in a serum-free culture medium	SEE-MS-S0001	500 mℓ

Hepatocyte

Description	Intended Use	Cat. No.	Quantity
Culture Medium for Hepatocyte	To culture hepatocytes	TRP-RM-101FF	100 mℓ

Mouse Reproductive Engineering-FERTIUP®, CARD MEDIUM®, and Accessories

Intended Use

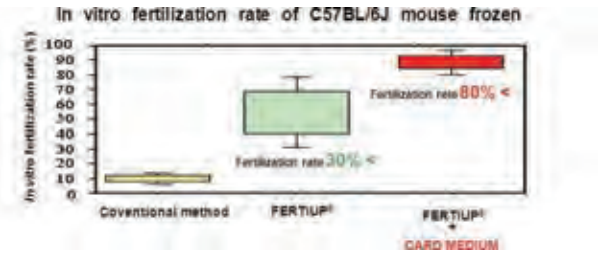
To stabilise and improve spermatozoa cryopreservation results and *in vitro* fertilization rates for laboratory mice

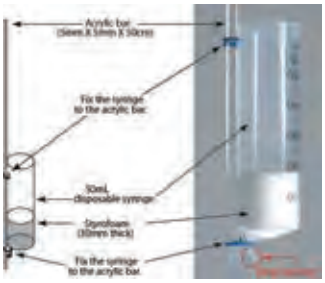
Background

Sperm cryopreservation is a practical and cost-effective method of archiving mouse strains in a laboratory. FERTIUP® and CARD MEDIUM® are high-performance media for mouse sperm cryopreservation, sperm preincubation and *in vitro* fertilization (IVF). When used in combination, FERTIUP® and CARD MEDIUM® provide a high and stable rate of fertilization from frozen-thawed mouse sperm, which will allow you to reproduce mice as and when you need them. Notably, the FERTIUP® sperm cryoprotectant and sperm preincubation medium greatly improve the fertilization rate of frozen-thawed sperm in C57BL/6 and 129 strains, from less than 10% using conventional methods to more than 30%. In addition, our new CARD MEDIUM® enhances the fertility rate to over 80%.
Of course, it goes without saying that FERTIUP® and CARD MEDIUM® have no reproduction toxicity of any kind.
Our newly developed system for sperm cryopreservation and IVF using FERTIUP® and CARD MEDIUM® provides superior support for the safe and reliable preservation of your valuable mouse strains.

Reference

- Takeo, T., Hoshii, T., Kondo, Y., Toyodome, H., Arima, H., Yamamura, KI., Irie, T. and Nakagata, N. Methyl-β-cyclodextrin improves fertilizing ability of C57BL/6 mouse sperm after freezing and thawing by facilitating cholesterol efflux from thecells. Biol Reprod. 78(3):546-51. 2008.
- Takeo, T and Nakagata, N. Combination medium of cryoprotective agents containing L-glutamine and methyl-β-cyclodextrin in a preincubation medium yields a high fertilization rate for cryopreserved C57BL/6J mouse sperm. Lab Anim. 44(2):132-7. 2010
- Nakagata N. 2011. Cryopreservation of mouse spermatozoa and *in vitro* fertilization. Methods Mol Biol. 693: 57-73




Freezing Canister


Sperm Straws


Straw Connector

Description	Cat. No.	Quantity
FERTIUP® Mouse Sperm Cryoprotectant: CPA	KYD-001-05-EX	0.5 mℓ
FERTIUP® Mouse Sperm Cryoprotectant: CPA ×5	KYD-001-05-EX-X5	5×0.5 mℓ
FERTIUP® Mouse Sperm Cryoprotectant: CPA	KYD-001-EX	1 mℓ
FERTIUP® Mouse Sperm Cryoprotectant: CPA ×5	KYD-001-EX-X5	5×1 mℓ
FERTIUP® Mouse Sperm Preincubation Medium: PM	KYD-002-05-EX	0.5 mℓ
FERTIUP® Mouse Sperm Preincubation Medium: PM ×5	KYD-002-05-EX-X5	5×0.5 mℓ
FERTIUP® Mouse Sperm Preincubation Medium: PM	KYD-002-EX	1 mℓ
FERTIUP® Mouse Sperm Preincubation Medium: PM ×5	KYD-002-EX-X5	5×1 mℓ
CARD MEDIUM®	KYD-003-EX	1 kit
FERTIUP® PM 1ML-CARD MEDIUM® set	KYD-004-EX	1 set
FERTIUP® PM 0.5ML-CARD MEDIUM® set	KYD-005-EX	1 set
Triangular Cassette Long (10 units)	KYD-S035	10 unit
Triangular Cassette short (10 units)	KYD-S021	10 unit
Freezing Canister	KYD-S018	1 unit
Sperm Straws (10 Pieces×10 Units)	KYD-S020X10	10 pc
Straw Connector	KYD-S025	1 pc

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

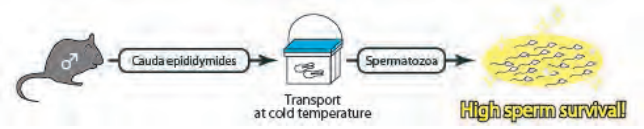
CARD Cold Transport Kit

Intended Use

Safe transport of mouse cauda epididymides and embryos at cold temperatures

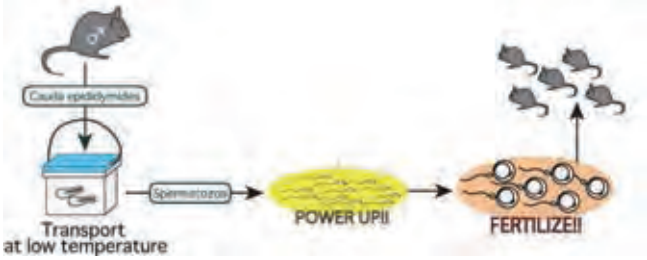
Background

The CARD Cold Transport Kit is specially-designed for cheap, safe transport of mouse cauda epididymides and embryos at cold temperatures. The CARD Cold Transport Kit allows users to reduce transport cost of live mice while also eliminating the risk of mouse fatalities or escapes during transport. Users can also prevent the transmission of pathogens using the CARD Cold Transport Kit.



Characteristics

- The CARD Cold Transport Kit uses a three-layer system (Cold packs, thermos bottle, foam transport box) to ensure that the contents remain at a constant temperature.
- The CARD Cold Transport Kit is designed so that the cold packs, thermos bottle, foam transport box and the sample can be transported while fit snugly. This prevents saccadic movement during transport, thus ensuring the safe transport of your samples.



Example usage of CARD Cold Transport Kit
It is possible to produce mouse pups easily without the presence of a male mouse by using just the cauda epididymides of a male mouse, which have been sent safely and cheaply at cold temperatures using our cold transport kit. Simply preincubate the spermatozoa taken from the cauda epididymides in FERTIUP. Mouse Sperm Preincubation Medium, then carry out *in vitro* fertilization using CARD MEDIUM, and finally transfer the embryos obtained into recipient parents.

Example Usage of CARD Cold Transport kit
It is possible to transport whole colonies of mice by using the CARD Cold Transport Kit to transport embryos at cold temperatures instead of live mice, then having the recipient institution transfer the embryos into recipient parents to obtain pups.

Composition

CARD Cold Transport Kit

- Foam transport box (1)
- Cold packs (4 large packs, 2 small packs)
- Thermos bottle (1)
- Paper box (1)
- Shock-absorbing material (1)

*Note: We recommend usage with our "Cold storage solution for cauda epididymides (Cat. No. KYD-007-EX)" which can be ordered free of charge.

Reference

- Takeo T., and Nakagata N *et al*. 2009. Birth of mice from vitrified/warmed 2-cell embryos transported at a cold temperature. Cryobiology. 58(2): 196-202
- Takeo T., and Nakagata N *et al*. 2010. Short-term storage and transport at cold temperatures of 2-cell mouse embryos produced by cryopreserved sperm. J Am Assoc Lab Anim Sci. 49(4): 415-419

Description	Cat. No.	Quantity
CARD Cold Transport Kit	KYD-006-EX	1 set
Cold storage solution for cauda epididymides	KYD-007-EX	1 set

Bone Resorption Assay Kit

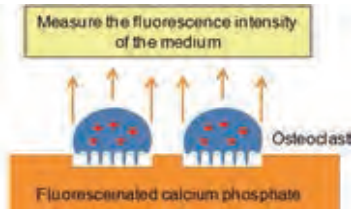
Intended Use

For skeletal metabolism research

Background

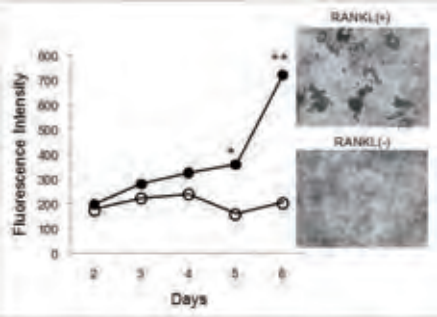
This product is an assay kit for the measurement of bone resorption activity using a fluoresceinated calcium phosphate-coated plate.

The coated calcium phosphate is first bound to fluoresceinamine-labeled chondroitinsulfate (FACS), which is released from the calcium phosphate layer into conditioned medium by osteoclastic resorption activity. Bone resorption activity is evaluated by measuring the fluorescence intensity of the conditioned medium. This assay provides a rapid evaluation system compared to the traditional pit assay.



Features

- Bone resorption activity is evaluated by measuring the fluorescence intensity of the medium.
- The fluorescence excitation and emission wavelengths are identical to those for the commonly-used fluorescent dye, FITC.
- Microscopic observation of cell morphology is possible.
- Pit area can be analysed after.
  Ready to use, sterile components.



Osteoclastic differentiation of RAW264 cells induced by RANKL (100 ng/mℓ) was evaluated by measuring the fluorescence intensity of the conditioned medium. Photographs show pit formation on the calcium phosphate (CaP) coating with or without RANKL stimulation. (●: with RANKL, ○: without RANKL, *: $p<0.05$, **: $p<0.001$)

BONE RESORPTION ASSAY KIT 24

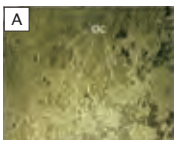
Composition

Bone Resorption Assay Kit 24

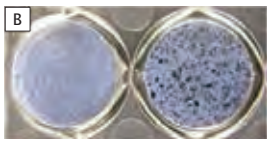
(1) Bone Resorption Assay Plate 24 (Cat. CSR-BRA-24P, sterilized): 1 plate
Calcium phosphate (CaP)-coated 24-well plate
(2) Bone Resorption Assay Facs (Cat. CSR-BRA-FACS1, PBS solution, sterilized, store below 4℃): 1 bottle
Fluoresceinamine-labeled chondroitin sulfate (FACS)
(3) Bone Resorption Assay Buffer (Cat. CSR-BRA-B1, sterilized, store below 4℃): 1 bottle
Buffer for measuring fluorescence intensity

Bone Resorption Assay Kit 48

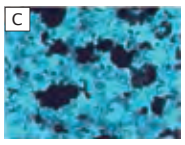
(1) Bone Resorption Assay Plate 48 (Cat. CSR-BRA-48P, sterilized): 1 plate
Calcium phosphate (CaP)-coated 48-well plate
(2) Bone Resorption Assay Facs (Cat. CSR-BRA-FACS1, PBS solution, sterilized, store below 4℃): 1 bottle
Fluoresceinamine-labeled chondroitin sulfate (FACS)
(3) Bone Resorption Assay Buffer (Cat. CSR-BRA-B1, sterilized, store below 4℃): 1 bottle
Buffer for measuring fluorescence intensity



A) Phase-contrast micrograph of RAW264 cells (day 6) cultured in CaP-coated plates stimulated with RANKL (Oriental Yeast Co., Ltd.,Tokyo, Japan; 100 ng/mℓ). Osteoclast-like cells (OC) were observed.



B) Photograph of the plate after removing cells. Pits can be observed macroscopically (Left: without RANKL; Right: with RANKL).



C) Micrograph of the pits in a CaP-coated plate (with RANKL).

Reference

- Tatsuya Miyazaki. *et al.,* Analytical Biochemistry 410 7-12 (2011)
- Jung-Lye Kim *et al.,* Journal of Cellular Biochemistry 113 247-259 (2012)
- Tatsuya Miyazaki. *et al.,* Dental Materials Journal 29 4:403-410 (2010)

Description	Cat. No.	Quantity
BONE RESORPTION ASSAY KIT 24	CSR-BRA-24KIT	1 kit
BONE RESORPTION ASSAY KIT 48	CSR-BRA-48KIT	1 kit
BONE RESORPTION ASSAY KIT 48×2	CSR-BRA-48X2KIT	2×1 kit
BONE RESORPTION ASSAY PLATE 24	CSR-BRA-24P	1 plate
BONE RESORPTION ASSAY PLATE 48	CSR-BRA-48P	1 plate
BONE RESORPTION ASSAY PLATE 48×2	CSR-BRA-48X2P	2×1 plate
BONE RESORPTION ASSAY FACS	CSR-BRA-FACS1	13 mℓ
BONE RESORPTION ASSAY BUFFER	CSR-BRA-B1	10 mℓ

Epididymal Adipocyte Culture Kit

Intended Use

For analyzing effects of drugs on metabolic syndrome such as obesity, diabetes and hypertension

Background

Epidimal Adipocyte Culture Kit H-1 contains preadipocytes isolated from mouse epididymal adipose tissues and culture medium that induces differentiation of precursor cells into mature adipocytes. The kit provides a convenient system for studying the mechanism of adipogenesis as well as for examining effectiveness of drugs on metabolic syndrome such as obesity, diabetes and hypertension.

Derived from

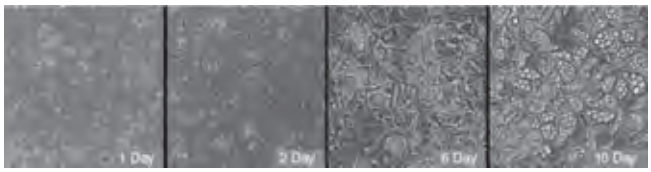
ICR Mouse Epididymal Adipose Tissue

Composition

- Epididymal Preadipocytes (Frozen, 1.5×10^6 cells)×1 vial
- Epididymal Adipocyte Culture Medium (Cat. No. PMC-EACMR-COS) (125 mℓ)×1 bottle

Reference

- Yoshida H. *et al.*, Biochem. Biophys. Res. Commun. 394 728-732 (2010)



Cellular morphology

Description	Cat. No.	Quantity
Epididymal Adipocyte Culture Kit H-1	PMC-EAC11-COS	1 set
Epididymal Adipocyte Culture Kit V-1	PMC-EAC01-COS	1 set
Epididymal Adipocyte Culture Medium	PMC-EACMR-COS	250 mℓ

Cardiomyocyte Culture Kit (Mouse)

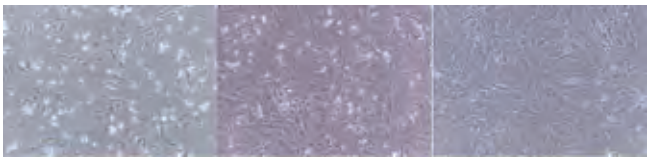
Intended Use

Useful for the research of cardiac hypertrophy, contraction and relaxation

Background

Cardiomyocytes are one of the cell groups that compose heart. Cardiomyocytes are known as beating involuntary striated muscle cells. The "beat" which are features of cardiomyocytes can be widely used for pharmacologic and electrophysiology assays, as it responds to a variety of stimuli including hormones, drugs and electricity.

The Cardiomyocyte Culture Kit contains cryopreserved cardiomyocytes, culture medium and fibronectin. Cells are isolated from mouse embryos' heart, and cardiomyocytes are enriched by removal of non-cardiomyocytes. The involuntary beat of cells can be seen in culture using the Cardiomyocyte Culture Kit (PMC-CMC12-COS)


Morphology of cardiomyocytes

Derived from

ICR Mouse Heart

Composition

- Cardiomyocytes (Frozen, 2×10^6 cells)×1 vial
- Culture Medium (Cat. No. PMC-CMCM-COS) (125 mℓ)×1 bottle
- Fibronectin (12 mℓ)×1 bottle

Protocols

< 1-1. Culturing with the 24-well plate >

A seeding density of 2.0×10^5 cells/well is recommended.

1. Thaw the Culture medium in at 37℃ water bath with gentle shaking.
2. Quickly thaw the Cardiomyocyte vial for 1 min 15 sec in a 37℃ water bath.
3. Transfer the vial contents of thawed cells into a 15 mℓ centrifuge tube containing 4.5 mℓ of Culture Medium.
4. Gently mix gently the cell suspension by slow pipetting up and down, and adjust cell density to 2.0×10^6 cells /5 mℓ solution in the tube.
5. Transfer 0.5 mℓ of cell suspension to each well offibronectin-coated 24-well plate.
6. Incubate the plate at 37℃ in a 5% CO_2 humidified incubator.
7. The next day, gently add 0.5 mℓ of fresh pre-warmed culture medium to each well.
8. Exchange the medium withfreshand pre-warmed culture medium every day or every other day until the culture reaches 80-100% of cell confluent.

* Culture reaches its confluent within 3-5 days, and cardiomyocytes begin beating.
* Do NOT use cold culture medium. Please pre-warm culture medium at 37℃ before use to ensure the viability of cardiomyocytes.

Reference

- Ito A. *et al.*, IEEE Trans. Biomed. Eng. 57 488-495 (2010)
- Ito A. *et al.*, Photochem. Photobiol. 87 199-207 (2011)
- Ono H. *et al.*, Inter. Med. 49 2039-2042 (2010)

Description	Cat. No.	Quantity
Cardiomyocyte Culture Kit	PMC-CMC12-COS	1 set
Cardiomyocyte Culture Medium	PMC-CMCM-COS	500 mℓ

Brown Adipocyte Culture Kit

Intended Use

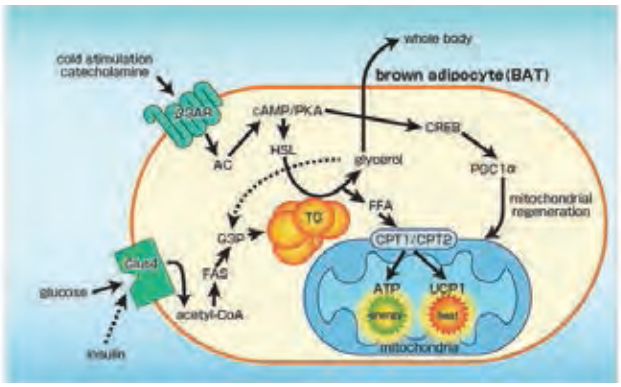
For drug development of obesity/diabetes/hypertension/ arteriosclerosis, function test of anti-obesity foods, and lipid metabolism analyses.

Derived from

SD Rat Interscapular Brown Adipose Tissue

Principle

BAT10 is preadipocyte isolated from rat brown adipose tissue. Adipose tissue plays an important role in mammalian energy equilibrium not only as a lipid-dissipating. White adipose tissue mainly has energy-storing function, but brown adipose tissue has very different function as energy-dissipating due to a unique mitochondrial uncoupling protein (UCP). Brown adipose tissue is especially abundant in newborns and in hibernating mammals. Its primary function is to generate body heat in animals or newborns that do not shiver. In contrast to white adipocyte, which contain a single lipid droplet, brown adipocyte contain numerous smaller droplets and a much higher number of mitochondria, which contain iron and make it brown. Brown fat also contains more capillaries than white fat, since it has a greater need for oxygen than most tissues.



Precautions

- Read the instructions carefully before beginning the culture.
- This kit is for research use only, not for human or diagnostic use.
- Always wear gloves and lab coat when handling the cell culture.

Composition

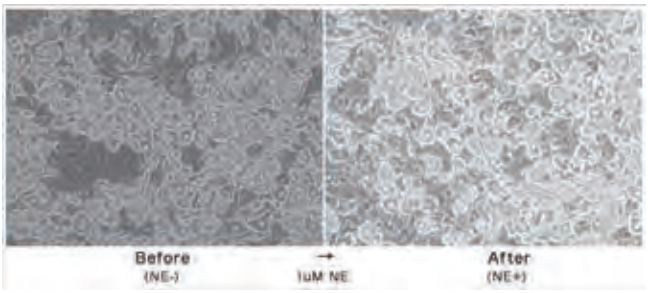
- Brown Preadipocytes (Frozen, 1×10^6 cells)×1 vial
- Brown Adipocyte Growth Medium (Cat. No. PMC-BATGM-COS) (125 mℓ)×1 bottle
- Brown Adipocyte Differentiation Medium (Cat. No. PMC-BATDM-COS) (100 mℓ)×1 bottle
- Brown Adipocyte Maintenance Medium (Cat. No. PMC-BATMM-COS) (125 mℓ)×1 bottle

Components of Media

BATGM, BATDM and BATMM are a complete media designed for optimal culture of rat brown preadipocytes *in vitro*. These are sterile, liquid basal medium (D-MEM, high glucose) which contain essential and non-essential amino acids, vitamins, other organic compounds, trace minerals, inorganic salts, growth factors, hormones, calf serum, and antibiotics. In addition, BATDM contains insulin and dexamethasone, and BATMM contains insulin. To differentiate preadipocytes to mature adipocytes, use BATDM and BATMM.

Materials required but not provided

- Variable volume pipettes
- Culture plate, 24-well, flat bottom



Comparion of UCP-1 gene expression between BAT and 3T3-L1

Reference

- Rehnmark S. *et al.*, Exp. Cell Res. 182 75-83 (1989)
- G. Ailhaud *et al.*, Annu. Rev. Nutr. 12 207-233 (1992)
- Yasutake Shimizu *et al.*, B.B.R.C. 202 660-665 (1994)
- Yasutake Shimizu *et al.*, Biochem. J.314 485-490 (1996)
- Hideki Nikami *et al.*, J. Biochem. 119 120-125 (1996)

Description	Cat. No.	Quantity
Brown Adipocyte Culture Kit D-i	PMC-BAT10-COS	1 set
Brown Adipocyte Culture kit N-i	PMC-BAT11-COS	1 set
Brown Adipocyte Culture Medium	PMC-BATFM-COS	250 mℓ
Brown Adipocyte Differentiation Medium	PMC-BATDM-COS	500 mℓ
Brown Adipocyte Maintenance Medium	PMC-BATMM-COS	500 mℓ
Brown Adipocyte Growth Medium	PMC-BATGM-COS	500 mℓ

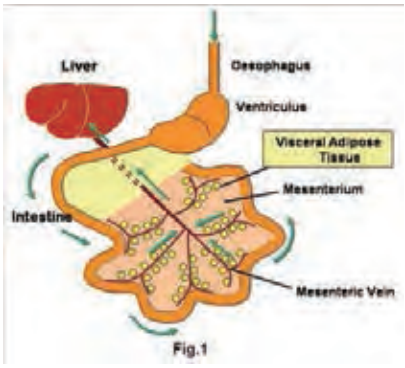
Visceral Adipocyte Culture Kit

Intended Use

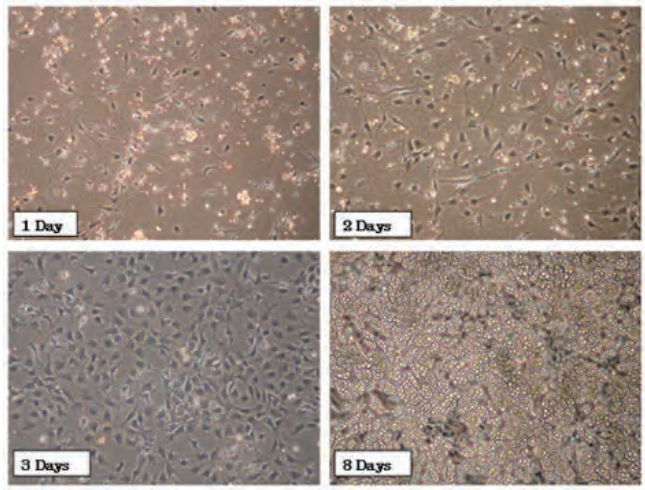
For drug development of obesity/diabetes/hypertension/ arteriosclerosis, function tests of anti-obesity foods, lipid metabolism analyses.

Background

Visceral adipose tissue, particularly mesenteric adipose tissue, is important in the pathogenesis of the metabolic syndrome. Increased delivery of free fatty acids from mesenteric adipose tissue to the liver may induce elevations in key risk factors for the metabolic syndrome, such as hyperinsulinemia and hypertriglycemia, resulting in glucose intolerance (insulin resistance). Furthermore, mesenteric adipose tissue contains adipocytes as well as macrophages, and releases a variety of bioactive factors known as adipokines, which include adipsin, angiotensinogen, leptin, MCP-1, tumor necrosis factor-α (TNF-α), and adiponectin. The kit provides a convenient system for studying the mechanism of adipogenesis as well as for screening drugs that prevent metabolic syndrome such as obesity, diabetes and hypertension by blocking the processes of adipogenesis.



Mesenteric adipocytes, a type of visceral adipocytes, are located along the portal vain that transports nutrients absorbed from the intestinal tract to the liver.



The Rat Visceral Adipocyte Culture Kit contains preadipocytes isolated from rat mesentery and culture medium that induces differentiation of precursor cells into mature adipocytes, finally causes hypertrophy.

Features & Usage

Production of adiponectin

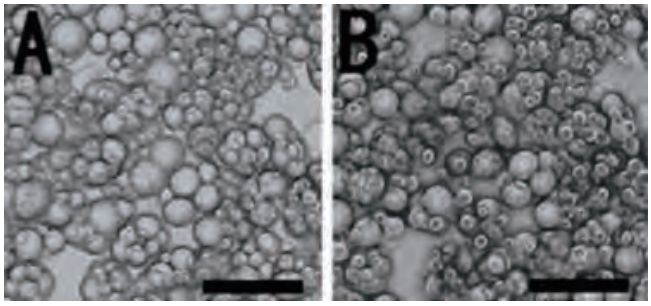
Time course of changes in adiponectin concentrations in the culture medium. The adiponectin concentration in the culture medium was measured from Day 1 to Day 7 after the beginning of cell culture. Open symbols indicate values significantly different to the value at Day 1 (control) according to Turkey's HSD test ($P < 0.05$).

Effect of norepinephrine on TG concentration adipocytes

Norepinephrine promoted lipolysis and decreased TG concentration in adipocytes. Photo-micrographs show rat matured VAs in the control before (A) and at 120 ㎷ after (B) norepinephrine application. Each horizontal bar represents 50 ㎜.

Experiment examples

- Search for obesity, diabetic, high blood pressure, and drug for arteriosclerosis
- Development of preventive food of lifestyle-related disease
- Functional test of antiobestic functional food
- Lipid metabolic experiment
- Insulin signal experiment
- Function clarification and Differentiation process of viceral Adipocyte



Effect of norepinephrine on TG concentration adipocytes: Norepinephrine promoted lipolysis and decreased TG concentration in adipocytes. Photo-micrographs show rat matured VAs in the control before (A) and at 120 ㎷ after (B) norepinephrine application. Each horizontal bar represents 50 ㎜.

Derived From

SD Rat Mesenteric Adipose Tissue

Reference

- Kissebah A.H. *et al.*, Int. J. Obes. 15 109-115 (1991)
- Bjorntorp P. *et al.*, Act.a Physio.l Scand. Suppl. 640 144-148 (1997)
- Trayhurn P. *et al.*, Proc. Nutr. Soc. 60 329-39 (2001)
- Kershaw E.E. *et al.*, J. Clin. Endocrinol Metab. 89 2548-2556 (2001)
- Shimizu K. *et al.*, Cell. Biol. Int. 30 381-388 (2006)
- Mineo H. *et al.*, Cell. Biol. Int. 7 703-710 (2007)
- Sato T. *et al.*, Cell. Biol. Int. 11 1397-1404 (2008)

Description	Composition	Cat. No.	Quantity
Visceral Adipocyte Culture Kit V-1	Visceral Preadipocytes (Frozen, 3×10^6 cells)×1 vial Visceral Adipocyte Culture Medium ver.1 (250 mℓ)×1 bottle (Cat. No. PMC-VACMR-COS)	PMC-VAC01-COS	1 set
Visceral Adipocyte Culture Kit H-2	Visceral Preadipocytes (Frozen, 1.5×10^6 cells)×2 vials Visceral Adipocyte Culture Medium ver.1 (250 mℓ)×1 bottle (Cat. No. PMC-VACMR-COS)	PMC-VACH2-COS	1 set
Visceral Adipocyte Culture Kit V-1 ver.2	Visceral Preadipocytes (Frozen, 3×10^6 cells)×1 vial Visceral Adipocyte Culture Medium ver.2 (250 mℓ)×1 bottle (Cat. No. PMC-VACM2-COS)	PMC-VAC21-COS	1 set
Visceral Adipocyte Culture Kit V-1 ver.2	Visceral Preadipocytes (Frozen, 1.5×10^6 cells)×2 vials Visceral Adipocyte Culture Medium ver.2 (250 mℓ)×1 bottle (Cat. No. PMC-VACM2-COS)	PMC-VAC22-COS	1 set
Visceral Adipocyte Culture kit PM01	Visceral Preadipocytes (Frozen, 3×10^6 cells)×1 vial Cosmedium VAC SF-V1 (250 mℓ)×1 bottle (Cat. No. CSR-COS-PM01)	PMC-VAC31-COS	1 set
Visceral Adipocyte Culture kit PM02	Visceral Preadipocytes (Frozen, 3×10^6 cells)×1 vial Cosmedium VAC SF-V2 (250 mℓ)×1 bottle (Cat. No. CSR-COS-PM02)	PMC-VAC41-COS	1 set
Visceral Adipocyte Culture Medium ver.1	Visceral Adipocyte Culture Medium ver.1 250mℓ	PMC-VACMR-COS	250 mℓ
Visceral Adipocyte Culture Medium ver.2		PMC-VACM2-COS	250 mℓ

Other Visceral Adipocyte Culture Media

Description	Composition	Cat. No.	Quantity
Cosmedium VAC SF-V1		CSR-COS-PM01	250 mℓ
Cosmedium VAC SF-V2		CSR-COS-PM02	250 mℓ

Osteogenesis Culture Kit

Intended Use

To evaluate osteogenesis ability

Background

There are hematopoietic stem cells and bone marrow stromal cells in bone marrow. Bone marrow stromal cells contain undifferentiated mesenchymal stem cells that can differentiate into a variety of cell types such as osteoblasts chondrocytes adipocytes and so on. Osteogenesis Culture Kit (Mouse) (PMC-OGC11-COS) contains cryopreserved cells isolated from mouse bone marrow and two types of culture medium. The cells in this product can be grown using Growth Medium (Code No. PMC-OGCMG-COS), and then can be differentiated into mature osteoblasts, which form calcified nodules, using Culture Medium (Mouse) (Code No. PMC-OGCMO-COS).

Derived from

ICR Mouse Bone Marrow

Application example
Cells are cultured according to protocol and subjected to activity staining of alkaline phosphatase or calcified nodules. The activity of alkaline phosphatase is detected by Alkaline Phosphatase Staining kit (Code: PMC-AK20-COS) and the calcium deposit is detected by Calcified nodule Staining kit (Code: PMC-AK21-COS).

Composition

- Bone Marrow Stromal Cells (Frozen, 1×10^6 cells)×1 vial
- Growth Medium (Cat. No. PMC-OGCMG-COS) (125 mℓ)×1 bottle
- Culture Medium (Cat. No. PMC-OGCMO-COS) (250 mℓ)×1 bottle

Reference

- SL Cheng *et al.*, Endocrinology 134 277-286 (1994)
- Ohgushi *et al.*, Journal of Biomedical Materials Research Part A 32 333-340 (1996)

Description	Cat. No.	Quantity
Osteogenesis Culture kit	PMC-OGC11-COS	1 vial
Osteogenesis Growth Medium	PMC-OGCMG-COS	250 mℓ
Osteogenesis Culture Medium	PMC-OGCMO-COS	250 mℓ

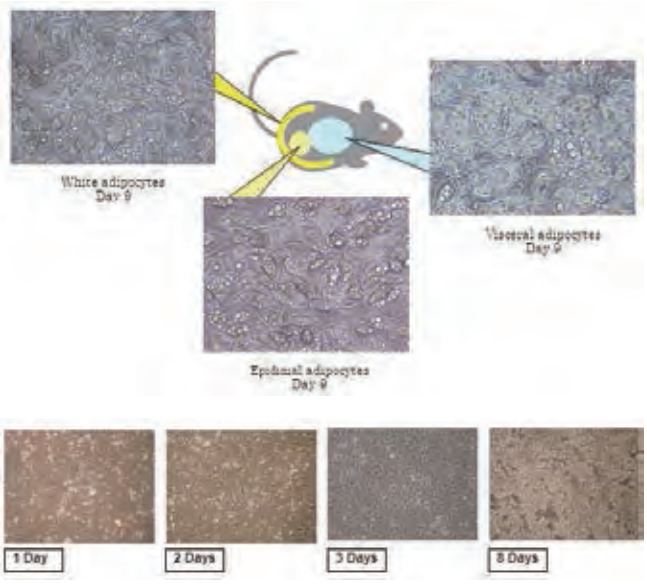
White Adipocyte Culture Kit

Intended Use

For drug development of obesity/diabetes/hypertension/arteriosclerosis, function test of anti-obesity foods, lipid metabolism analyses etc.

Background

White adipocytes play an important role in energy storage. White Adipocyte Culture Kit, V-1 (Rat) contains preadipocytes isolated from mouse subcutaneous adipose tissues and culture medium that induces differentiation of precursor cells into mature adipocytes. The kit provides a convenient system for studying the mechanism of adipogenesis as well as for analyzing effects of drugs on metabolic syndrome such as obesity, diabetes and hypertension.



Cellular Morphology

Derived From

SD Rat Waist Subcutaneous White Adipose Tissue

Feature and Advantages

- Search for obesity, diabetic, high blood pressure, and drug for arteriosclerosis
- Development of preventive food of lifestyle-related disease
- Functional test of antiobestic functional food
- Lipid metabolic experiment
- Thermal energy release experiment
- Function clarification of Brown Adipocyte
- Screening of new β3 agonist

Composition

- Subcutaneous White Preadipocytes (Frozen, 3×10^6 cells) ×1 vial
- White Adipocyte Culture Medium (250 mℓ)×1 bottle (Cat. No. PMC-SACMR-COS)

Reference

- Hashimoto, T. *et al*., J. Lipid Res. 50 602-610 (2009)
- Takahashi, K. *et al*., PLoS One. 4 e4104 (2009)
- Oguri, A. *et al*., Am. J. Physiol. Cell Physiol. 298 C1414℃ 1423 (2010)

Description	Cat. No.	Quantity
Subcutaneous Adipocyte Culture Kit V-1	PMC-SAC01-COS	1 set
White Adipocyte Culture Medium	PMC-SACMR-COS	250 mℓ

Preadipocyte Culture Kit

Intended Use

For the comparison of adipocytes functions between the different organs.

Derived from

SD Rat

Composition

- Visceral Preadipocytes (Frozen, 1.5×10^6 cells)×1 vial
- Epididymal Preadipocytes (Frozen, 1.5×10^6 cells)×1 vial
- Subcutaneous White Preadipocytes (Frozen, 1.5×10^6 cells)×1 vial
- Adipocyte Culture Medium (400 mℓ)×1 bottle

*All the cells are derived from the same individual.

Description	Cat. No.	Quantity
Preadipocyte Culture Kit H-3	PMC-VESH3-COS	1 set
Preadipocyte Culture Kit Q-3	PMC-VESQ3-COS	1 set

Monocyte Culture Kit

Intended Use

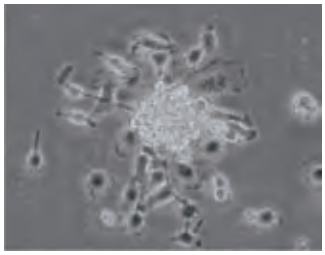
For culturing monocytes (rat)

Background

Monocytes are produced by the differentiation of monocyte precursor cells in the bone marrow. In tissue, monocytes mature into macrophages and are involved in immunity, recovering tissues and etc. Monocyte Culture Kit consists of cryopreserved monocyte precursor cells derived from rat bone marrow, Wash Medium and Culture Medium containing M-CSF, which induces the monocyte precursor-monocyte differentiation.

Derived from

SD Rat Bone Marrow



Phase Contrast

Anti-Mac1 FITC Staining

Composition

- Common Precursors (Frozen, 2×10^6 cells)×2 vials
- Wash Medium (Cat. No. PMC-BMMW-COS) (50 mℓ)×1 bottle
- Culture Medium (Cat. No. PMC-BMMG-COS) (25 mℓ)×1 bottle

Reference

- Sunao T. *et al.*, JOURNAL OF BONE AND MINERAL RESEARCH 15 1477-1488 (2000)

Description	Cat. No.	Quantity
Monocyte Culture Kit V-2	PMC-BMM01-COS	1 set
Monocyte Culture Medium	PMC-BMMG-COS	25 mℓ
Monocyte Wash Medium	PMC-BMMW-COS	50 mℓ
Monocyte Precusor Cell V-1	PMC-BMMC-COS	1 vial

Astrocyte Culture Kit

Intended Use

For culturing astrocytes

Derived from

SD Rat Cerebrum

Background

Astrocyte, is a type of glia cell existing in the central nervous system, which has an important role in nervous system architecture, maintenance of homeostasis of extracellular fluid and blood-brain barrier formation.

Description	Cat. No.	Quantity
Astrocyte Culture kit 【Composition】 Astrocytes (Frozen, 1×10^6 cells)×1 vial Astrocyte Culture Medium (250 mℓ)×1 bottle	PMC-AST01-COS	1 set
Astrocyte Culture medium	PMC-ASTM-COS	250 mℓ

Osteoblast From Cranial Bone Culture Kit

Intended Use

For osteogenic capability

Background

Bone metabolism is composed of balanced bone formation of osteoblasts and bone resorption of osteoclasts. Osteoblast Culture Kit (Rat) (PMC-OBC02-COS) contains frozen osteoblasts isolated from rat calvariae and culture medium. Osteoblast Culture Kit (Rat) (PMC-OBC02-COS) can be used to study osteoblast and osteogenesis.

Derived from

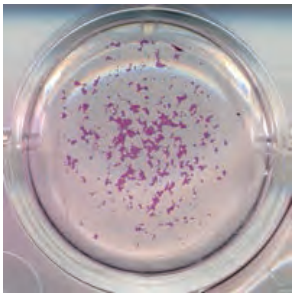
SD Rat Premature Cranial Bone

Composition

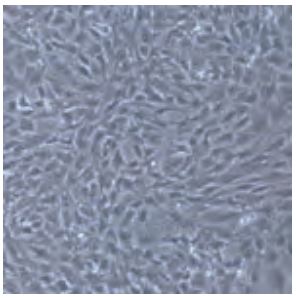
Osteoblasts (Frozen, 1×10^6 cells)×1 vial
Culture Medium (500 mℓ)×1 bottle (Cat. No. PMC-OBCM-COS)

Reference

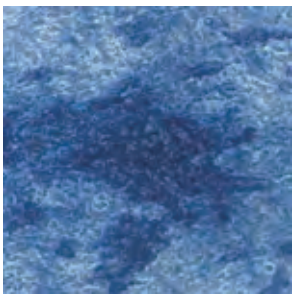
- Hisa, I., *et al* J. Biol. Chem. 286, 9787-9796 (2011)
- Itoh, T., *et al* J. Biol. Chem. 285, 27745-27752 (2010)



Staining with Calcified nodule Staining kit (Cat#PMC-AK21-cos) of Rat Osteoblast in confluent culture (12 well plate)



Rat Osteoblast



Staining with Alkaline Phosphatase Staining Kit (Cat#PMC-AK20-COS) of Rat Osteoblast

Protocols

Culturing with a 25 ㎠ flask

1. Thaw the culture media in a 37℃ water bath with gentle shaking.
2. Quickly place osteoblast vial in a 37℃ water bath until the contents are thawed.
3. Transfer thawed cells into a 15 mℓ centrifuge tube containing 10 mℓ of culture medium and centrifuge for 5 minutes at 4℃ at 600× g for 5 minutes.
4. Remove the supernatant, re-suspend cells in 10 mℓ of culture medium and centrifuge at 4℃ at 600× g for 5 minutes.
5. Remove the supernatant, and re-suspend the cell pellet in approximately 5 mℓ of culture medium.
6. Transfer the cell suspensionto 25 ㎠ flask and incubate the flask at 37℃ under 5% CO_2 and 100% humidity.
7. The next day, change the medium.

* Approximately 2-3 days of culture, cells become confluent. For subculture, please refer to the protocol below. Subcultureof the cells can be performed up to passage 2.

Subculturing

1. Subculture the cells when they are confluent.
2. Prepare sterile washing buffer (Hank's BSS or PBS(-)), and trypsin/EDTA solution. Warm washing buffer in a 37℃ water bath priortouse.
3. Rinse the cells with 5 mℓ of washing buffer twice.
4. Remove washing buffer and then add 3 mℓ of trypsin/EDTA solution into flask (25 ㎠ flask).
5. Gently rock the flask to make sure that the cells are covered by trypsin/EDTA solutionand thenimmediately remove trypsin/EDTA solution.
6. Incubate the flask in a 37℃ incubator until cells are completely rounded up (monitored with inverted microscope). Approximately it takes 2 to 3 minutes.
7. Add culture medium to the flask and transfer detached cells to centrifuge tube, and then centrifuge the centrifuge tube at 4℃ at 600× g for 5 minutes.
8. After removing the supernatant, re-suspend cells in culture medium and centrifuge for 5 minutes at 4℃ at 600× g for 5 minutes.
9. Remove the supernatant, and re-suspend cells in culture medium. Count cells and plate cells in a new plate or flask (Adjust cell density to the desired experiment).

* Approximately 2-3 days of culture, cells become confluent when seeding density is 30,000 cells/㎠

Description	Cat. No.	Quantity
Osteoblast Culture kit V-1	PMC-OBC02-COS	1 set
Osteoblast Culture Medium	PMC-OBCM-COS	500 mℓ

Mebiol® Gel 3D (PNIPAAm-PEG 3D Thermoreversible Hydrogel)

Intended Use

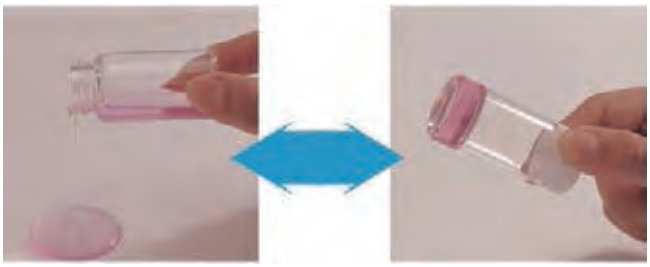
- Stem cell and pluripotent stem cell culture, expansion, and differentiation
- Spheroid culture
- Cell implantation
- Organ and Tissue Regeneration
- Drug Delivery
- Non-cell culture application

Background

The thermoreversible gelation polymer, "Mebiol® Gel" has been developed as a proprietary hydrogel. Mebiol® Gel has been commercialized as a cell and tissue culture reagent for ES cells, chondrocytes and cancer cells, etc. Mebiol Gel based intralumenal implants are being developed for occlusion of cancerous vascular system and brain aneurism.

An aqueous solution of Mebiol Gel is fluid liquid (sol state) at low temperatures (0℃, 15℃), however, it turns into an elastic hydrogel (gel state) at temperatures higher than room temperature (25℃). It is possible to mix it with various drugs or culture medium at the sol state. The sol-gel transformation of Mebiol Gel occurs fully thermoreversible. Elasticity of the hydrogel increases with temperature increase and is appropriate for three-dimensional culture of cells and tissues at around 37℃. Cells and tissues in the gel are clearly observed through optical microscope during cultivation at 37℃ owing to great transparency of the Mebiol® Gel.

Fibroblasts are alive but do not grow in Mebiol Gel, therefore other cells can be grown selectively. Cultured cells and tissues can be recovered easily from Mebiol® Gel by lowering the temperature without any damage on cells and tissues.

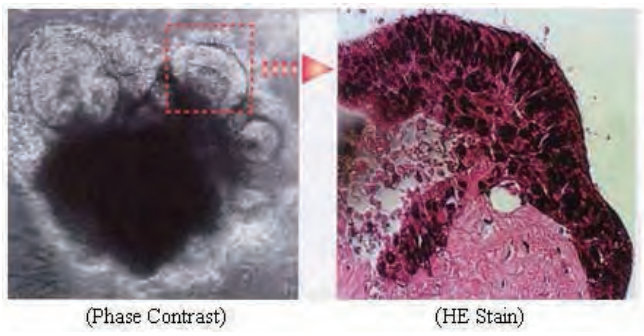


When cooled, Mebiol® Gel is a sol (handles like a liquid) but becomes a rigid hydrogel at higher temperatures

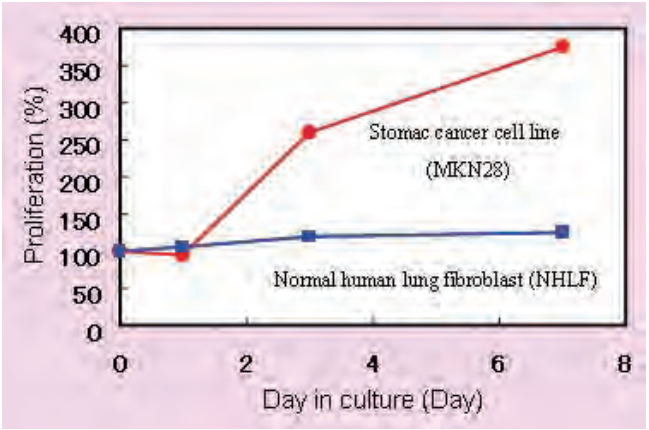
Features of Mebiol® Gel

- Easy handling
- Non-toxic, biocompatible
- 100% synthetic, pathogen free
- High transparency for cell observation Proven performance.

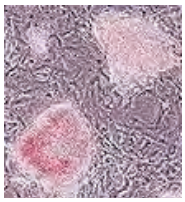
Freeze-drying Polymer is put in each flask as follows.
MBG-PMW20-1001 (10mℓ) : 1 g
MBG-PMW20-5001 (50mℓ) : 5 g



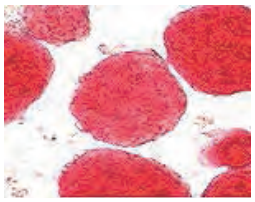
Culture of primary cancer cells in Mebiol® Gel
Selective growth of only primary cancer cells from human cancerous tissue in Mebiol® Gel (courtesy of Dr. S. Kubota, Dept. of General Surgery, St. Marianna University School of Medicine). This technology enables the characterization of patient-derived primary cancer cells and therefore enabling the evaluation of primary cells for chemosensitivity, malignancy, metastasis activity and other parameters that might influence patient therapy.



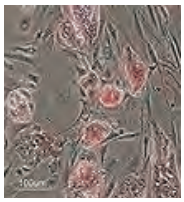
Human colon cancerous tissue was cultured in Mebiol® Gel for 10 days. Only primary cancer cells proliferate from the tissue in Mebiol® Gel. Fibroblasts growth in Mebiol® Gel is suppresed whereas In collagen and many other 3D gel culture matrices, fibroblasts overgrow and prevent proliferation of primary cancer cells.



2D on Feeder Cells
3D culture of undifferentiated mouse and Macaca ES cells cultured without LIF or feeder layer cells performed in collaboration with with Dr. K. Hishikawa, Dept. of Clinical Renal Regeneration, University of Tokyo



3D Culture in Mebiol® Gel (Day 7)
The strong positive alkaline phosphatase staining of Macaca (primate) ES cells cultured in Mebiol Gel suggests undifferentiation.



2D on Feeder Cells

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Reference

- Sugiyama, *et al*., A Novel Approach for Protein Crystallization by a Synthetic Hydrogel with Thermoreversible Gelation Polymer, Cryst. Growth Des., 2013, 13 (5), pp 1899-1904
- Yuguo Lei and David V. Schaffer, A fully defined and scalable 3D culture system for human pluripotent stem cell expansion and differentiation. PNAS. Nov 18, 2013, 10.1073/pnas.1309408110, PMID:24248365
- Yoshioka, H., Mikami, M., Mori, Y. and Tsuchida, E., "A synthetic hydrogel with thermoreversible gelation. I.: Preparation and rheological properties." J. Macromol. Sci., A31(1), 113-120 (1994)
- Yoshioka, H., Mikami, M., Mori, Y. and Tsuchida, E., "Asynthetic hydrogel with thermoreversible gelation. II.: Effect of added salts." J. Macromol.Sci., A31(1), 121-125 (1994)
- Yoshioka, H., Cushman, J.A., Mori, Y. and Tsuchida, E., "A synthetic hydrogel with thermoreversible gelation. III. : anNMR study of the sol-gel transition." Polym. Adv. Tech., 5, 122-127 (1994)
- Shimizu, S., Yamazaki , M., Kubota, S., T. Ozasa, H. Moriya, Kobayashi, K., Mikami, M., Mori, Y., and Yamaguchi, S.,"*In vitro* studies on a new method for islet microencapsulation using a thermoreversible gelation polymer, N-isopropylacrylamide-based copolymer," Artifcial Organs, 20(11), 1232 (1996)
- Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., "Thermoreversible gelation on heating and on cooling of an aqueous gelatin-poly(N-isopropylacrylamide) conjugate." Polym. Adv. Tech., 155-158 (1998)
- Tsukikawa, S., Matsuoka, H., Kurahashi, Y., Konno, Y., Satoh, K., Satoh, R., Isogai, A.,Kimura, K., Watanabe, Y., Nakano, S., Hayashi, J., Kubota, S.,"A new method to prepare multicellar spheroids in cancer cell lines using a thermo-reversible gelation polymer," Artifcial Organs, 27(7), 598 -604(2003)
- Yoshioka, H., Mori, Y. and Shimizu, M., "Separation and recovery of DNA fragments by electrophoresis through a thermoreversible hydrogel composed of poly (ethylene oxide) and poly(propylene oxide)." Analytical Biochemistry., 323 (2), 218-223 (2003)
- Hishikawa, K., Miura, S., Marumo, T., Yoshioka, H., Mori, Y., Takato, T., Fujita, T., "Gene expression profile ofhuman mesenchymal stem cells during osteogenesis in three-dimensional thermoreversible gelation polymer," Biochem. Biophys. Res. Commun., 317, 1103-1107 (2004).
- H. N. Madhavan, J. Malathi, Patricia, Rinku Joseph, Yuichi Mori, Samuel JK Abraham and Hiroshi Yoshioka, "A study on the growth of continuous culture cell lines embedded in Mebiol Gel," CURRENT SCIENCE 87(9), 1275-1277 (2004)
- M. Nagaya, S. Kubota, N. Suzuki, M. Tadokoro, K. Akashi, "Evaluation of thermoreversible gelation polymer for regeneration of focal liver injury," Eur. Surg. Res.,36, 95-103 (2004)
- Arai, T. Joki, M. Akiyama, M. Agawa, Y. Mori, H. Yoshioka, T. Abe, "Novel drug delivery system using thermoreversible gelation polymer for malignant glioma," J Neurooncol., 77,9-15 (2006)
- Shirasaki, J. Tanaka, H. Makazu, K. Tashiro, S. Shoji, S. Tsukita, T. Funatsu, "On-Chip Cell Sorting System Using Laser-Induced Heating of a Thermoreversible Gelation Polymer to Control Flow," Anal Chem., 78,695-701(2006)
- Reinhold J. Medina, Ken Kataoka, Mikiro Takaishi, Masahiro Miyazaki, Nam-ho Huh, "Isolation of epithelial stem cells from dermis by a three dimensional culture system," Journal of Cellular Biochemistry, 98(1), 174-184 (2006)
- Nagaya, M., Kubota, S., Suzuki, N.,Akashi,K., Mitaka, T., "Thermoreversible gelation polymer induces the emergence of hepatic stem cells in the partially injured rat liver," Hepatology, 43, 1053-1062 (2006)
- Yasuda, K. Kojima, K. W. Tinsley, H. Yoshioka, Y. Mori, C. A. Vacanti, "*In Vitro* Culture of Chondrocytes in a Novel Thermoreversible Gelation Polymer Scaffold Containing Growth Factors," Tissue Engineering,12(5), 1237-1245 (2006)
- K. Murakami, K. Ishii, Y. Ishihara, S. Yoshizaki, K. Tanaka. Y. Gotoh, H. Aizaki, M. Kohara, H.Yoshioka, Y. Mori, N. Manabe, I., Shoji, T. Sata, R. Bartenschlarger, Y. Matsuura, T. Miyamura, T. Suzuki, "Production of infectious hepatitis C virus particles in three-dimensional cultures of the cell line carrying the genome-length dicistronic viral RNA of genotype 1b," Virology, 351 (2), 381-392 (2006)
- B. Sudha, H. N. Madhavan, G. Sitalakshmi, J. Malathi, S. Krishnakumar, Y. Mori, H. Yoshioka, S. Abraham, "Cultivation of human corneal limbal stem cells in Mebiol Gel . A thermoreversible gelation polymer," Indian J. Med. Res., 124, 655-664 (2006)
- I. Kao, C. Yao, Y. Chang, T. Hsieh, S. Hwang, "Chondrogenic differentiation of human mesenchymal stem cells from umbilical cord blood in chemically synthesized
- Dev Cell. 2005 Nov;9(5):639-50.
- Development, Jan 2010; 137: 303 - 312.
- Anticancer Res. 2010 Apr;30(4):1057-64.
- Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033.
- J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19.

Description	Cat. No.	Quantity
Mebiol® Gel	MBG-PMW20-1001	1×10 mℓ
	MBG-PMW20-1005	5×10 mℓ
	MBG-PMW20-5001	1×50 mℓ
	MBG-PMW20-5005	5×50 mℓ
	MBG-PMW20-5020	20×50 mℓ

Alginate 3D Cell Culture Kit

Intended Use

3D cell culture system for a wide range of different cells types including tumor cells and chondrocytes.

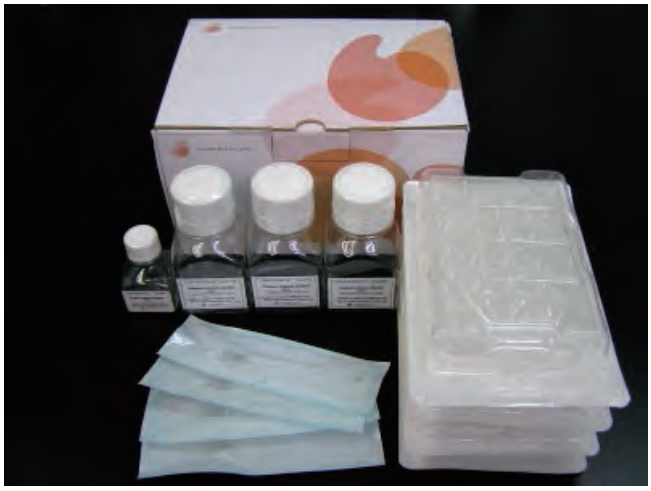
Background

Transformed cells, such as tumor cells, have the characteristic feature of anchorage-independent growth, unlike normal cells. Some normal cells, such as chondrocytes, are also capable of anchorage-independent growth, and the phenotypic expression of these cells is known to be stronger compared with monolayer cultures.

Soft agar culture is a method in which cultures are grown with cells suspended in soft agar gel, and has been used conventionally as a method to detect the ability of cells to undergo anchorage-independent growth. As agar solidifies on cooling, the temperature must be maintained at approx. 37℃ while preparing the seed culture plate. Since special reagents are required when harvesting the cells in the gel, the resulting culture is not suitable for analysis of cell function.

Alginate, which is an anionic polysaccharide derived from cell walls of brown algae, form a gel in the presence of calcium and liquefy to a solution upon addition of a calcium chelating agent. Alginate gel has been a choice for three-dimensional (3D) cell culture because only cultured cells can be easily harvested.

The Alginate 3D Cell Culture Kit is a convenient, kit optimized to produce alginate gel beads.

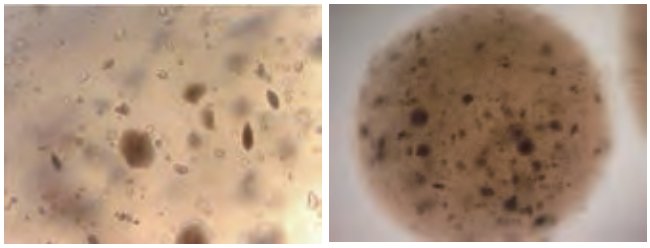


Composition

1. Sodium alginate solution (25 mℓ ×1 bottle, sterile)
2. Calcium chloride solution (100 mℓ ×2 bottles, sterile)
3. Sodium citrate solution (100 mℓ ×1 bottle, sterile)
4. Plastic flexible needle (4 pieces, sterile)
5. 24-well plate (4 pieces, for suspension culture, sterile)

Reference

- Chemotherapy screening assay using 3-dimensional cell culture. Cancer Lett, 51,11-16, 1990.
- Expression of a stable articular cartilage phenotype without evidence of hypertrophy by adult human articular chondrocytes *in vitro*. J Orthop Res. 16, 207-216, 1998.



HepG2 cell cultured in alginate beads

Description	Cat. No.	Quantity
Alginate 3D Cell Culture Kit	CSR-ABC-KIT	1 kit
Sodium Alginate Solution	CSR-ABC-AL	25 mℓ
Calcium Chloride Solution	CSR-ABC-CA	100 mℓ
Sodium Citrate Solution	CSR-ABC-CI	100 mℓ

Osteoclast Culture Kit

Intended Use

To evaluate osteoclast formation and activation

Background

Bone metabolism is composed of balanced osteogenesis and bone resorption. Research studies have shown that bone marrow cells can be differentiated into osteoclasts using M-CSF (Macrophage Colony Stimulating Factor) and RANKL (Receptor Activator of NF κ B Ligand).

Derived from

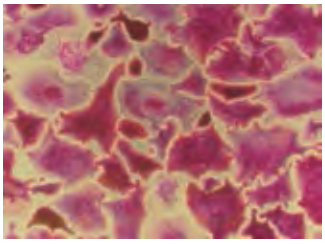
ICR Mouse Bone Marrow

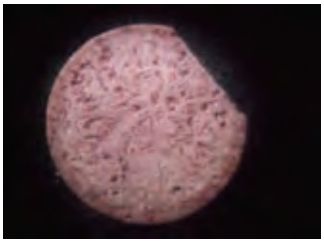
Composition

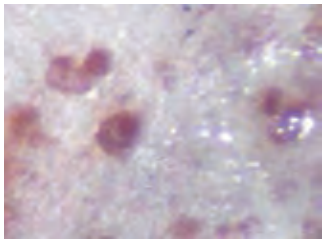
Osteoclast Precursor (Frozen, 2.0×10^6 cells)×1 vial
Wash Medium (Cat. No. PMC-OSCMW-COS) (50 mℓ)×1 bottle
Culture Medium (Cat. No. PMC-OSCMM-COS) (25 mℓ)×1 bottle

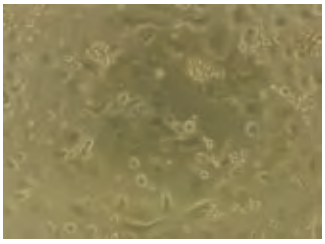
Reference

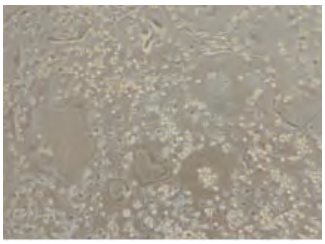
・Sunao T. *et al.*, JOURNAL OF BONE AND MINERAL RESEARCH 15 1477-1488 (2000)


HepG2 cells cultured in alginate beads.

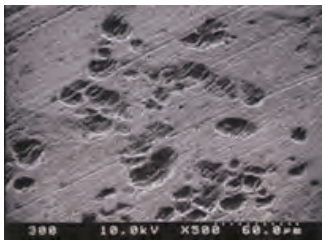

Pit on the slice of ivory

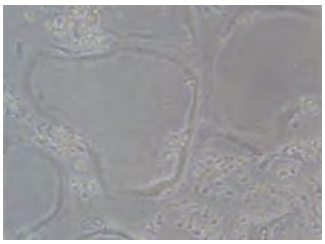

HepG2 cell cultured in alginate beads for 9 days (left : low magnification、right : high magnification)


Phase contrast microscopy of differentiated osteoclasts


Osteoclast inducted of differentiation with M-CSF/RANKL


Pit on the slice of ivory. (HE staining)


Pit on the slice of ivory. (SEM picture)


Rat Osteoclast

Description	Cat. No.	Quantity
Osteoclast Culture Kit V-1	PMC-OSC14-COS PMC-OSC15-COS PMC-OSC34-COS	1 set 1 set 1 set
Osteoclast Culture Kit V-2	PMC-OSC12-COS PMC-OSC13-COS PMC-OSC33-COS	1 set 1 set 1 set
Osteoclast Culture Kit V-2 (Osteoassay plate)	PMC-OSC32-COS	1 set
Osteoclast Culture Kit V-4	PMC-OSC11-COS	1 set
Osteoclast Culture Kit V-4 (Osteoassay plate)	PMC-OSC31-COS	1 set
Osteoclast Culture Medium (for Mouse)	PMC-OSCMM-COS	50 mℓ
Osteoclast Culture Medium (for Rat)	PMC-OSCMR-COS	50 mℓ
Osteoclast Wash Medium	PMC-OSCMW-COS	100 mℓ
RANKL (Human), Recombinant	PMC-AK30-COS	10 μg

Sodium Chondroitin Sulfate E (Squid Cartilage)

Intended Use

This product can be used as a non-labeled reference of Fluoresceinamine-labeled Sodium Chondroitin Sulfate E (E1) (Product code: CSR-FACS-E1).

Background

Chondroitin sulfate (CS) is a sulfated cosaminoglycan composed of repeating disaccharide units of N-cetyl-D-galactosamine (GalNAc) and D-glucuronic acid (GlcUA). CS is abundant in cartilage and exists as unbranched polysaccharide chains covalently linked to the protein core of proteoglycans.

This product is 10㎎ lyophilizate of sodium chondroitin sulfate E purified from squid cartilage. CSR-NaCS-E2(SqC)10 contains approximately 60% of disaccharide units with two sulfate groups as 4-O- and6-O-sulfation of GalNAc (E structure unit). This product can be used as a non-labeled reference of Fluoresceinamine-labeled Sodium Chondroitin Sulfate E (E1) (Product code: CSR-FACS-E1).

Description	Cat. No.	Quantity
Sodium Chondroitin Sulfate E (Squid Cartilage)	CSR-NACS-E2(SQC)3 CSR-NACS-E2(SQC)10 CSR-NACS-E2(SQC)100	3 ㎎ 10 ㎎ 100 ㎎

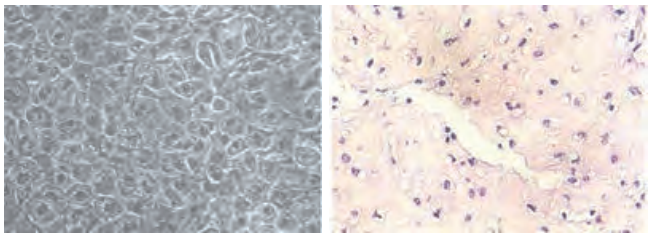
Chondrocyte Culturing

Intended Use

For functional analyses of chondrocytes, development of arthropathy therapeutic drugs, and cartilage regeneration research.

Derived from

Rabbit (Japanese Albino) Articular Cartilage



Composition

- Chondrocytes (Frozen, 2×10^6 cells)×1 vial
- Growth Medium (Cat. No. PMC-CHCG-COS) (125 ㎖)×1 bottle
- Differentiation Medium (Cat. No. PMC-CHCM-COS) (125 ㎖)×1 bottle

Description	Cat. No.	Quantity
Chondrocyte Culture Kit V-1	PMC-CHC04-COS	1 set
Chondrocyte Differentiation Medium	PMC-CHCM-COS	500 ㎖
Chondrocyte Growth Medium	PMC-CHCG-COS	500 ㎖

BINKIT® for NK cell expansion from PBMCs

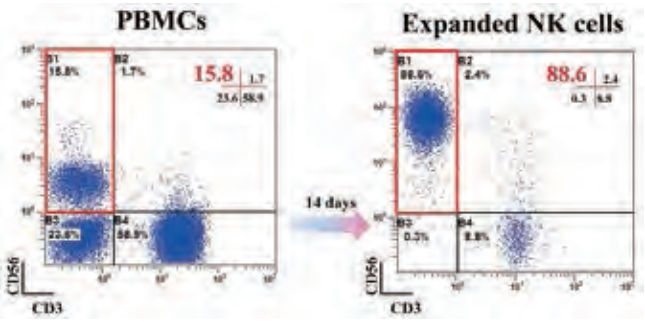
Intended Use

For culturing NK cells

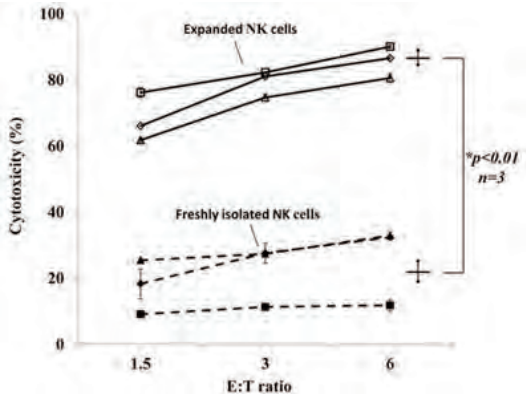
Product Features

Natural killer (NK) cells can be expanded from human peripheral blood mononuclear cells (PBMCs) without using feeder cells.

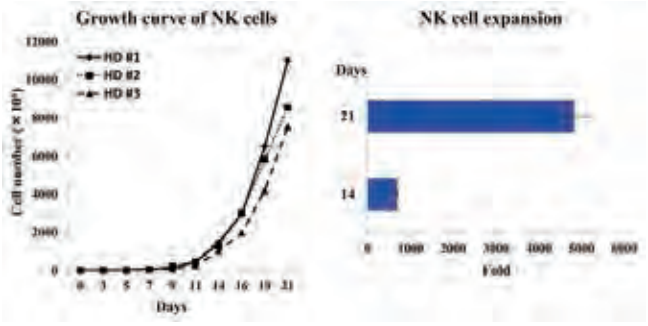
NK cells can be expanded from several hundred to several thousand-fold by 2-3 weeks of culturing.
One kit is sufficient to expand NK cells from 20-50 mℓ of whole blood.



NK cells were expanded from peripheral blood mononuclear cells (PBMCs) using BINKIT®. CD3-CD56+ cells were enriched from 15.8% to 88.6%.



NK cell cytotoxicity against K562cell line was measured for BINKIT-expanded NK cells (solid lines) and freshly isolated NK cells (dashed lines) from three independent donors. The expanded NK cells exhibited significantly enhanced cytotoxicity against K562 cell line compared with the freshly isolated NK cells ($P < 0.01$).



NK cells were expanded using BINKIT® from peripheral blood mononuclear cells (PBMCs) of healthy donors (HD; n=3). Cell count (left) and fold changes (right) indicate the efficient ex vivo expansion of NK cells.

Composition

NK Cell Initial Flask
NK Cell Initial Medium
NK Cell Initial Cock
NK Cell Subculture Medium

Other supplies required

Ficoll-Paque (GE Healthcare, Sweden)
Sterile PBS
FBS or autologous plasma (It is desirable to be heat-inactivated at 56℃ for 30 minutes)
Sterile conical centrifuge tubes

Reference

- Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605
- Xuewen Deng *et al.*, 18th ISCT Annual Meeting (2012)
- Xuewen Deng *et al.*, 19th ISCT Annual Meeting (2013)

Description	Cat. No.	Quantity
BINKIT® for NK cells expansion from PBMCs	BIJ-N501-1 BIJ-N501-2 BIJ-N501-4 BIJ-N501-8	1 kit 2 kit 4 kit 8 kit
NK cells	BIJ-FN100-1 BIJ-FN105-5 BIJ-FN105-10	1 vial 5 vial 10 vial

GIST-T1 Culture Kit

Intended Use

Human Cell Line GIST-T1 Culture Kit

Background

Gastrointestinal stromal tumors (GISTs) are one of the submucosal tumors, occuring in the stomach, the small intestine and the esophagus, unlike most gastrointestinal tumors. GISTs are considered to arise from the interstitial cells of Cajal, the pacemaker cells of the gut.

GIST-T1 is a cell line derived from GISTs of the stomach in a Japanese woman and established by Takahiro Taguchi; associate professor, Graduate School of Integrated Arts and Sciences, Kochi-University, Kochi, Japan.

General Information

Organism: Homo sapiens, human
Tissue: Stomach
Cultural Properties: Adherent
Biosafety: Level 1
Gender: Female
Ethnicity: Asian
Virus Check: HIV-1(-), HTLV-1(-), HBV(-), HCV(-), T.pallidum(-)
Quality Check: Mycoplasma (-)

Composition

- GIST-T1, cryopreserved : 1.0×10^6 cells / 1vial
- Culture Medium : 250 mℓ

Materials required but not provided

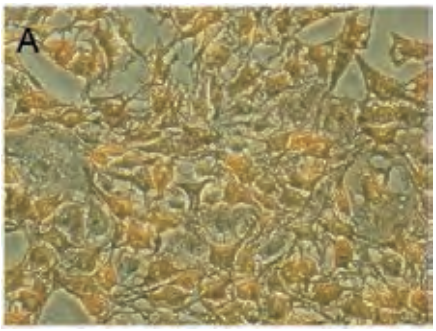
- Variable volume pipettes
- Culture vessels
- 0.25% Trypsin
- HBSS or PBS(-)

Reference

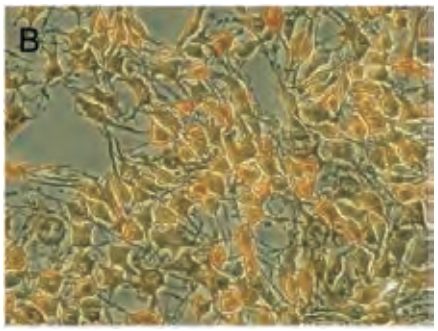
Takahiro Taguchi *et al.*, , Lab Invest.82(5):663-5, May(2002)

Precautions

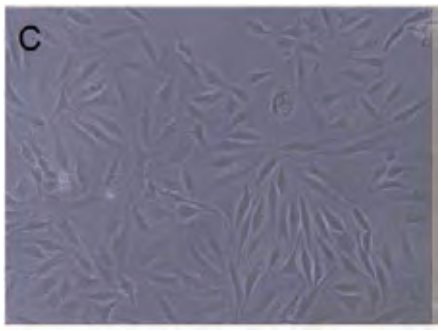
- Since cells are derived from human tissue, please always wear gloves and safety glasses when working with them.
- Upon receival of the kit, remove the cryovial from the dry ice packaging and immediately place it into liquid nitrogen storage until use.
- Based on the license agreement of Techno network Shikoku and Kochi University, GIST-T1 cells are prohibited to be provided (distribution, lending, transfer, licensing, etc.) to a third party.



Immunohistochemical and phase-contrast microscopic observation
A: Anti-CD34



Immunohistochemical and phase-contrast microscopic observation
B: Anti-c-kit



Immunohistochemical and phase-contrast microscopic observation
C: phase-contrast microscopic observation

Description	Cat. No.	Quantity
GIST-T1 Culture Kit	PMC-GIST01-COS	1 kit
GIST-T1 Culture Medium	PMC-GISTM-COS	500 mℓ

ACE mini INCUBATOR

Intended Use

Block incubator with latest microprocessor control

Features

- Compact size. Machine fits onto the palm of your hand.
- Display is easy-to-read.
- Built-in program function allows 9 possible combinations of temperature and time.
- Accurate and uniform temperature control. Temperature calibration function.
- The timer function of 1 minute to 99 hours 59 minutes. Alarm buzzer indicates the end of incubation.
- Alarm buzzer that automatically detects any failure in the machine.
- Complies with the safety provisions of the CE regulations.


FUK-H8100


FUK-H8200

Description	Specifications	Ampule breaker	Number of Ampule holes	Cat. No.	Quantity
ACE mini INCUBATOR	Temperature rise duration: RT + 5℃ to 80℃ Temperature accuracy: ±0.5℃ Timer: 1 min to 99 hours 59 minutes Display Temperature Unit: 0.1℃ Thermoblock Material: Aluminum Operation Temperature: 5℃ to 35℃ Size: W110㎜×D150㎜×H80㎜ Weight: 0.5kg Power Consumption: Max 35W, Avg 5W Power: AC100 to 240V, 50/60Hz, 80VA	○	22	FUK-H8100	1 unit
		×	15	FUK-H8200	1 unit

Chitosan Nanofiber Coated Culture ware

Intended Use

For primary culturing, subculturing and tissue culturing

Background

This kit product enables culture of hepatocytes in a spheroid state, allowing for long-term culture without deterioration of hepatocyte function. (Depending on the condition of the hepatocytes used and various other factors, the quality of cultured hepatocytes and the experimental results may vary in certain cases.

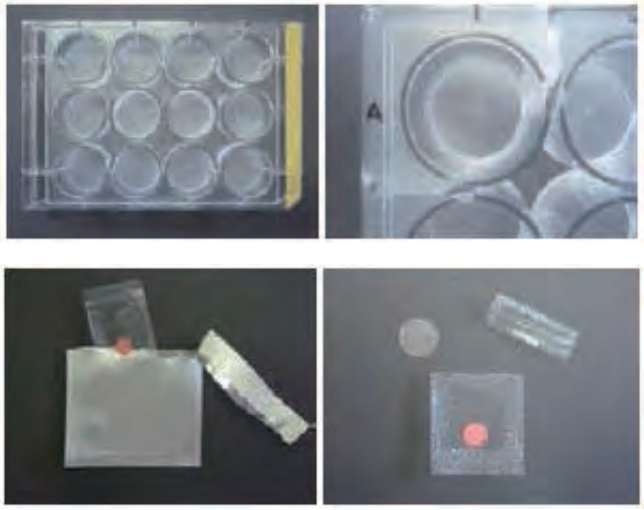
Note: When using the kit, always wear protective laboratory clothing, disposable gloves and safety goggles.

Composition

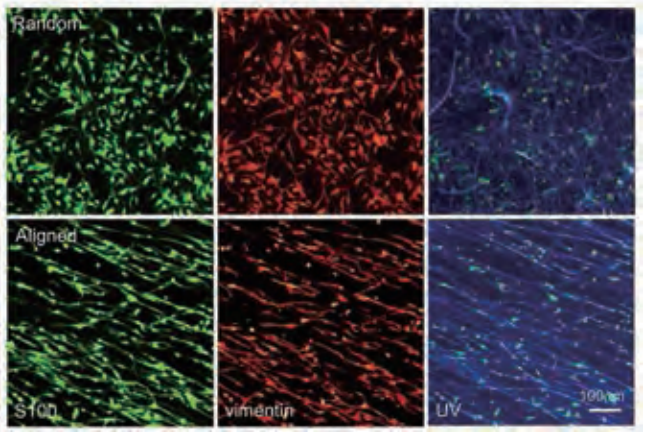
Cover Slip 13㎜ φ, 5 pc

Reference

- Tsuneo Ohkuma, *et al*., Chitin and Chitosan Research12(2) 190-191(2006) Preparation of Chitosan Nanofiber Mesh as a Scaffold for Regenerating Nerve Tissue
- Katsumi Konno, *et al*., Chitin and Chitosan Research13(2) 124-125(2007) Manufacturing chitosan nanofiber by electrospinning process
- Katsuyoshi Sakai, *et al*., Chitin and Chitosan Research 13(2) 126-127(2007) Manufacturing cell culture substrates on chitosan nanofiber and manufacturing chitosan gel, chitosan sponge
- Kazuhiko Watabe, *et al*., Chitin and Chitosan Research13(2) 128-129 (2007) Neural tissue culture on chitosan nanofiber matrices



When opening, at first, open from the incision of the aluminum laminate packing and take out the clear packings with tweezers etc. Next, cut the upper side of clear packing with scissors, and take out the cover slip with tweezers for use. The cover slip is wet in ethanol. Please use it after leaving it for about 30 minutes at room temperature in a clean bench. Use it after wetting the culture solution.



Cell culture on Chitosan Nanofiber coveslip: Schwann cell IM32 and primary mouse DRG (dispersed) were cultured on chitosan nanofiber. The affinity of cells to the aligned chitosan nanofiber was very good. Based on the evaluation of immunofluorescence assay, both schwann cells and neurite of DRG neuron almost grew in line with the axial direction of aligned nanofiber

Description	Cat. No.	Quantity
Chitosan Nanofiber Coated Culture ware : cover slip,13 mmφ	HKS-HSC13	5 sheet
Chitosan Nanofiber Coated Culture ware : cover slip,15 mmφ	HKS-HSC15	5 sheet
Chitosan Nanofiber Coated Culture ware : plate, 12 well plate	HKS-HSP12	1 plate
Chitosan Nanofiber Coated Culture ware : plate, 24 well plate	HKS-HSP24	1 plate
Chitosan Nanofiber Coated Culture ware : plate, 96 well plate	HKS-HSP96	1 plate

CNT Coat Dish

Intended Use

Carbon Nanotube Coated Dish

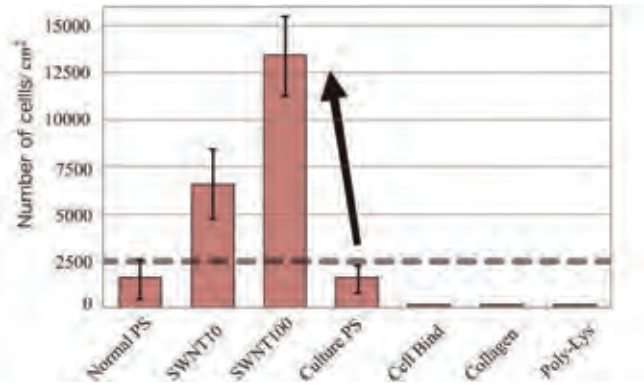
Background

CNT coated dishes are polystyrene dishes with cell culture vessels with wet-coated CNTs.

To the naked eye, the CNTs are effectively transparent. However, when viewed through an electron microscope, CNTs combined in a random mesh structure can be seen. This mesh structure is the scaffold for cells and can be used to verify improvement in the culturing function. The CNTs themselves are extremely thin, with diameters of about 1㎚, but the network itself is comprised of a bundle of several CNTs.

As for the cell proliferation mechenism, the CNTs themselves, which are the scaffold for cells, are extremely compatible with FBS and other serums, and it is thought that FBS components are absorbed effectively on the CNT network.

Also, with CNT coated dishes using single-walled CNTs (SWNT FH-p), proliferated cells can be easily removed, and if cell recovery is done in the usual way, the single-walled CNTs barely come away form the dish at all.
For adherent cells like osteoblast cells, excellent effects have been seen when serum concentration is low.
Also, the CNT network structure provides conductivity, and if electrodes are installed in the base, electric stiumulation can be easily given to the cells.



Specification

Types

Single-walled Carbon Nanotube

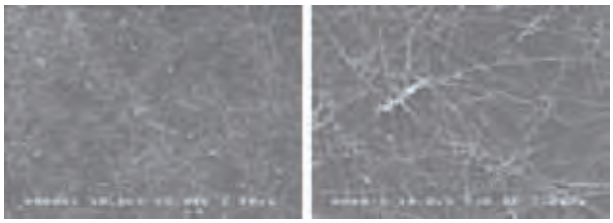
Type of dish

Polystyrene 35 ㎜ φ, 60 ㎜ φ

Amount of CNT coating

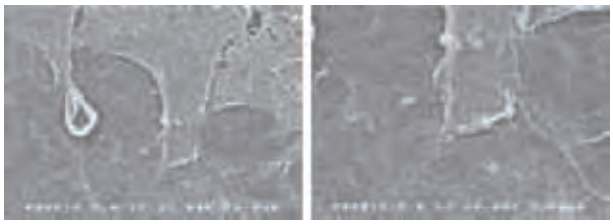
>3.6μg (35 ㎜ φ), >10μg (60 ㎜ φ)

CNT Coat Dish @ Meijo Tube FH-P



SEM x6k times　　SEM x30k times

CNT Coat Dish @ Meijo Tube FH-P
(The Saos-2 cells cultured on CNT Coat Dishes)



SEM x6k times　　SEM x30k times

Saos2 (1.0×10^{4}cells / 6㎝ dish): 10% FBS DMEM: 37℃: 5% CO_2: 1 week

Description	Cat. No.	Quantity
CNT Coat Dish	MNC-CD-1 MNC-CD-10 MNC-CD-50	6 pc 60 pc 300 pc

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

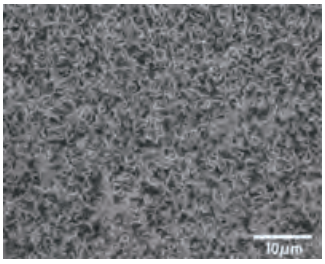
Atelocollagen coated β-TCP scaffold

Intended Use

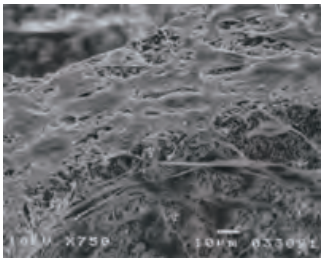
- For osteogenic research
- Bone remodeling studies (cell culture of osteoblast, osteoclast etc.)
- Functional analyses of osteogenesis related factors (bone morphogenetic proteins (BMPs) etc.)

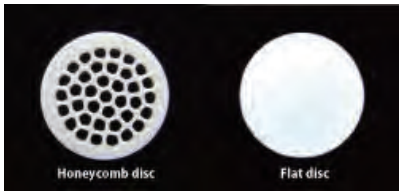
Background

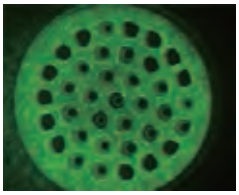
β-calcium phosphate (β-TCP) is generally used as bone prosthetic material due to its superior osteoconductive property. β-TCP is coated with atelocollagen that shows high biocompatibility. Atelocollagen coated β-TCP scaffold acts as a carrier for cell culture and transplant, and is suitable for *in vitro* /*in vivo* osteoinduction experiments using osteogenesis related factors.



SEM image of Atelocollagen coated β-TCP scaffold surface.


SEM image of cells inoculated on Atelocollagen coated β-TCP scaffold.




Micrograph of cells inoculated on Atelocollagen coated β-TCP scaffold (Living cell staining).

Composition

Two types of dishes, honeycomb and flat are included (5 pieces each)

Origin of collagen

Atelocollagen derived from Bovine dermis

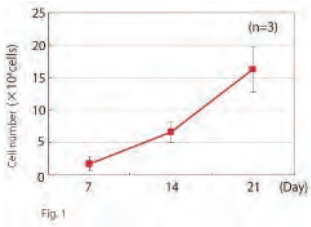


Fig. 1

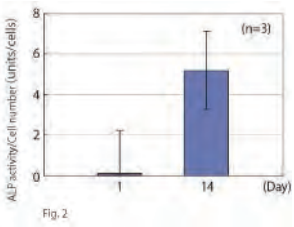


Fig. 2

MC3T3-E1 cells were inoculated on Atelocollagen coated β-TCP scaffold (using MEMalfa including 10% FBS). Cell number and gene expression level of bone differentiation markers were analyzed.

Description	Cat. No.	Quantity
Atelocollagen coated β-TCP scaffold	KOU-ACB-05S	10 pc

Atelocollagen, Bovine dermis

Intended Use

Collagen solutions for cell and tissue culturing

Background

Collagen solution for cell and tissue culturing is highly Purified collagen solution manufactured in KOUKEN (Tokyo) advanced technology with excellent quality control.
Cell and tissue cultures with Koken collagen solutions can express cellular functions like *in vivo* cells. Collagen not only plays the role of physical scaffold for the proliferating cells, but also enhances cell adhesion, proliferation and function. Collagen creates a natural extracellular environment that is important for cell communication and layer formation. The synthesizing capability of albumin, a function shared among hepatocytes, is maintained at a high level when cultured on plates coated with collagen solution. When skin fibroblasts are cultured three-dimensionally on collagen gel, the whole collagen contracts from the contractility of the cells producing a dermis model that closely resembles the structure of live dermis.

Delivery Note

The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified about its non-hazardous by each quarantine. Please confirm the possibility of importing such bovine related item in your country before ordering.

Reference

- An *In vitro* Multistep Carcinogenesis Model for Human Cervical Cancer. Narisawa-Saito M, Yoshimatsu Y, Ohno S, *et al*. Cancer Res. 2008 Jul 15;68(14):5699-705
- Proteomic analysis of hypoxia-induced tube breakdown of an *in vitro* capillary model composed of HUVECs : Potential role of p38-regulated reduction of HSP27. Eguchi R, Naitou H, Kunimasa K, *et al*. Proteomics. 2008 Jul;8(14):2897-906
- Construction of multifunctional proteins for tissue engineering: Epidermal growth factor with collagen binding and cell adhesive activities. Hannachi Imen E, Nakamura M, Mie M, Kobatake E. J Biotechnol. 2009 Jan 1;139(1) :19-25
- Possible involvement of caspase-6 and -7 but not caspase-3 in the regulation of hypoxia-induced apoptosis in tube-forming endothelial cells. Eguchi R, Tone S, Suzuki A, *et al*., Exp Cell Res. 2009 Jan 15

Description	Cat. No.	Quantity
Atelocollagen, Bovine dermis, 3mg/mℓ	KOU-IPC-30	50 mℓ
Atelocollagen, Bovine dermis, 5mg/mℓ	KOU-IPC-50	50 mℓ

Native collagen, Bovine dermis

Intended Use

Collagen solutions for cell and tissue culturing

Background

Collagen solution for cell and tissue culturing is highly Purified collagen solution manufactured in KOUKEN (Tokyo) advanced technology with excellent quality control.
Cell and tissue cultures with Koken collagen solutions can express cellular functions like *in vivo* cells. Collagen not only plays the role of physical scaffold for the proliferating cells, but also enhances cell adhesion, proliferation and function. Collagen creates a natural extracellular environment that is important for cell communication and layer formation. The synthesizing capability of albumin, a function shared among hepatocytes, is maintained at a high level when cultured on plates coated with collagen solution. When skin fibroblasts are cultured three-dimensionally on collagen gel, the whole collagen contracts from the contractility of the cells producing a dermis model that closely resembles the structure of live dermis.

Features and Advantages

- All products are sterilized. The used collagen are extracted from bovine dermis, solubilized and purified by our original methods.
- Acidic solutions, I-PC and I-AC, form fibrils when being neutralized at 37℃

Application

- Collagen coating of culture plates
- Three dimensional culture in a collagen gel
- Culture on a gel

Delivery Note

The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified about its non-hazardous by each quarantine. Please confirm the possibility of importing such bovine related item in your country before ordering.

Reference

- An *In vitro* Multistep Carcinogenesis Model for Human Cervical Cancer. Narisawa-Saito M, Yoshimatsu Y, Ohno S, *et al*. Cancer Res. 2008 Jul 15;68(14):5699-705
- Proteomic analysis of hypoxia-induced tube breakdown of an *in vitro* capillary model composed of HUVECs : Potential role of p38-regulated reduction of HSP27. Eguchi R, Naitou H, Kunimasa K, *et al*.Proteomics. 2008 Jul;8(14):2897-906
- Construction of multifunctional proteins for tissue engineering: Epidermal growth factor with collagen binding and cell adhesive activities. Hannachi Imen E, Nakamura M, Mie M, Kobatake E. J Biotechnol. 2009 Jan 1;139(1) :19-25
- Possible involvement of caspase-6 and -7 but not caspase-3 in the regulation of hypoxia-induced apoptosis in tube-forming endothelial cells. Eguchi R, Tone S, Suzuki A, *et al*., Exp Cell Res. 2009 Jan 15

Description	Cat. No.	Quantity
Native collagen, Bovine dermis, 3mg/mℓ	KOU-IAC-30	50 mℓ
Native collagen, Bovine dermis, 5mg/mℓ	KOU-IAC-50	50 mℓ

Type I and II Collagen

Intended Use

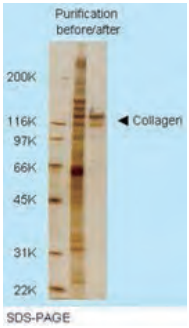
Collagen solutions for cell and tissue culturing

Background

Natural form of human type 1 atelo-collagen derived from nomal human fibroblast cell culture. It is not recombinant but naturally occurring type

Feature and Advantages

Soluble collagen released in the culture conditioned medium.
Only two bands of α1 and α2 chains are detected in a electrophoresis. It doesn't contain β and γ chains.
About β and γ chains: Collagen molecules consist of two α1 chains and one α2 chain and form a triple helix structure. When a tissue-extracted collagen sample is applied to SDS-PAGE, several bands representing binding of α chains to β and γ chains can be detected in addition to the bands representing α1 chain and α2 chain. Our collagen product does not contain β and γ chains.



Specification

Concentration 1㎎/㎖
Purity Single band in SDS-PAGE
Content: Not less than 98%
Product Code/Amount EC1-R105/0.1 ㎎
EC1-R205/0.5 ㎎

Description	Cat. No.	Quantity
Collagen Type 1 (Atelo-collagen)	ACE-EC1-R105-EX ACE-EC1-R205-EX	0.1 ㎖ 0.5 ㎖
TypeII Collagen	KOU-CL-22	10 ㎖

Atelocollagen, Eagle's MEM, Hanks' Medium, DMEM

Intended Use

Neutral collagen solutions for cell and tissue culture

Reference

1. Yokoo N, Saito T, Uesugi M, *et al*.:Repair of articular cartilage defect by autologous transplantation of basic fibroblast growth factor gene-transduced chondrocytes with adeno-associated virus vector.Arthritis Rheum, 52(1):164-70. 2005.
2. Geissinger E, Weisser C, Fischer P, *et al*.:Autocrine stimulation by osteopontin contributes to antiapoptotic signalling of melanocytes in dermal collagen. Cancer Res, 62(16):4820-8. 2002.
3. Kanke M, Fujii M, Kameyama K, *et al*.:Role of CD44 variant exon 6 in invasion of head and neck squamous cell carcinoma. Arch Otolaryngol Head Neck Surg, 126(10):1217-23. 2000.

Atelocollagen powder

Description	Cat. No.	Quantity
Atelocollagen DMEM High Glucose	KOU-DME-02H	20 ㎖
Atelocollagen DMEM Low Glucose	KOU-DME-02	20 ㎖
Atelocollagen Eagle's MEM	KOU-MEN-02	20 ㎖
Atelocollagen RPMI 1640	KOU-RPM-02	20 ㎖
Atelocollagen Powder	KOU-CLP-01	500 ㎎

Atelocollagen, Permeable Membrane for 6-well, 24-well Culture Plate

Background

Permeable collagen membrane is specially developed from highly purified bovine dermal type I Atelocollagen for single and double layer tissue culture. It is particularly suitable for studying the molecular interactions between two different cell types by culturing on both sides of the membrane. It may be applied for the study of artificial organs and in the emerging field of tissue engineering. The membrane is permeable and allows free passage of amino acids and small molecules, which is important for the absorption and exchange of molecules through the membrane using cell polarity.

This Collagen membrane is available for use with both 6 and 24-well culture plates.

Features and Advantages

- Membrane transparency enables microscopic observation of cells while culturing.
- Study of cell interaction is possible without co-culture.
- Cell culture in a collagen membrane creates a natural environment that resembles *in vivo* conditions.
- Collagen membranes is available for use with both 6 and 24-well culture plates.
- All products are manufactured under stringent quality control.
- All product are sterilized.

Delivery Note

The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified for its non-hazardous. Please find out whether you can import bovine-related item into your country before ordering.

Atelocollagen membrane

Atelocollagen, membrane for 6-well culture plate (left) and 24-well culture plate (right)

Application

- Study of interaction between cells
- Fundamental research of artificial internal organs
- Screening of medicine efficacy
- Study of cell metabolism and mechanism

Reference

1. Oyasu M, Fujimiya M, Kashiwagi K, *et al* Immunogold electron microscopic demonstration of distinct submembranous localization of the activated γ PKC depending on the stimulation. J Histochem Cytochem.2008 Mar;56(3):253-65.
2. Furuta A, Miyoshi S, Itabashi Y, *et al*. Pulsatile Cardiac Tissue Grafts Using a Novel Three Dimensional Cell Sheet Manipulation Technique Functionally Integrates With the Host Heart, *in vivo* Circ Res. 2006 Mar 17;98(5):705-12.
3. Orisaka M, Mizutani T, Tajima K, *et al*.:Effects of ovarian the ca cells on granulosa cell differentiation during gonadotropin-independent follicular growth in cattle. Mol Reprod Dev, 73(6):737-44. 2006.

Description	Cat. No.	Quantity
Atelocollagen membrane	KOU-CLF-01	1 sheet
Atelocollagen membrane for 6-well culture plate	KOU-CM-6	24 pc
Atelocollagen membrane for 24-well culture plate	KOU-CM-24	24 pc
Atelocollagen permeable membrane for 50mm culture dish	KOU-MEN-01	5 pc

Atelocollagen Sponge

Intended Use

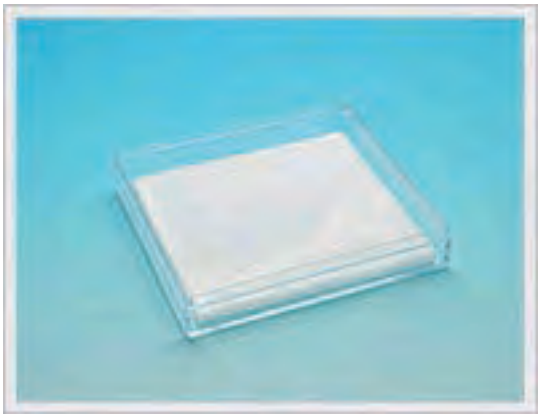
Useful tool for three dimensional culture and research of tissue engineering as a 3D scaffold

Background

The collagen sponge is a collagen-based device developed for three-dimensional cell culturing.

Delivery Note

The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified about its non-hazardous by each quarantine. Please confirm the possibility of importing such bovine related item in your country before ordering.



Description	Cat. No.	Quantity
Atelocollagen Sponge	KOU-CLS-01	1 pc

Collagen Sponge

Intended Use

Useful tool for three dimensional culture and research of tissue engineering as a 3D scaffold

Background

The collagen sponge for cell culturing is a collagen-based device developed for three-dimensional cell culturing. The collagen porous sponge is prepared from a insoluble type I collagen that is derived from bovine Achilles tendon. Cells can penetrate into the sponge and proliferate three-dimensionally. This technique is very useful for tissue engineering studies.

Application

Three dimensional culturing
Tissue engineering

Delivery Note

The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified about its non-hazardous by each quarantine. Please confirm the possibility of importing such bovine related item in your country before ordering.

Collagen sponge for 35㎜ culture dish

Electron microscope image of the surface of sponge

Reference

- Kitajima T, *et al*. A fusion protein of hepatocyte growth factor for immobilization to collagen. (2007) Biomaterials. 28(11):1989-1997.
- Okamoto N, *et al*. Artificial lymph nodes induce potent secondary immune responses in naive and immunodeficient mice. (2007) J Clin Invest. 117(4):997-1007.
- Ueno A, *et al*. Constitutive expression of thrombospondin 1 in MC3T3-E1 osteoblastic cells inhibits mineralization. (2006) J Cell Physiol. 209(2):322-332.
- Suematsu S, *et al*. Generation of a synthetic lymphoid tissue-like organoid in mice. (2004) Nat Biotechnol. 22(12):1539-1545.
- Yasui T, *et al*. Determination of collagen fiber orientation in human tissue by use of polarization measurement of molecular second-harmonic-generation light. (2004) ApplOpt. 43(14):2861-2867.
- Yamanouchi K, *et al*. Bone formation by transplanted human osteoblasts cultured within collagen sponge with dexamethasone *in vitro*. (2001) J Bone Miner Res. 16(5):857-867.
- Fujimoto E, *et al*. Beneficial effect of basic fibroblast growth factor on the repair of full-thickness defects in rabbit articular cartilage. (1999) Arch Orthop Trauma Surg. 119(3-4):139-145.

Description	Cat. No.	Quantity
Collagen Sponge for 35㎜ culture dish	KOU-CS-35	5 pc

Atelocollagen Honeycomb sponge

Intended Use

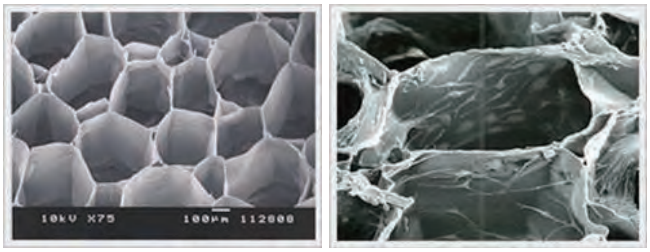
Useful tool for three dimensional culture and research of tissue engineering as 3D scaffolds

Background

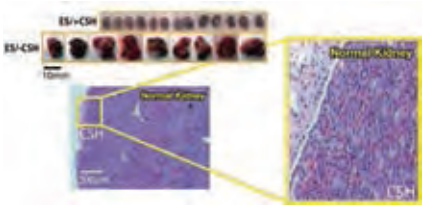
The 'Honeycomb' collagen sponge has a structure in which uniform pores (200-400 ㎛) are arranged densely in one direction, into which cells can penetrate and proliferate. This structure facilitates the ready supply of nutrients to the cells inside the sponge, and releases metabolic wastes and biochemical products. Cells can proliferate and fill the lumen to form a uniform cell mass.

Delivery Note

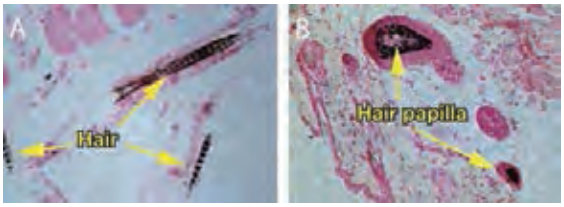
The product contains bovine collagen. It is supplied from Australia/New Zealand and is certified about its non-hazardous by each quarantine. Please confirm the possibility of importing such bovine related items in to your country before ordering.



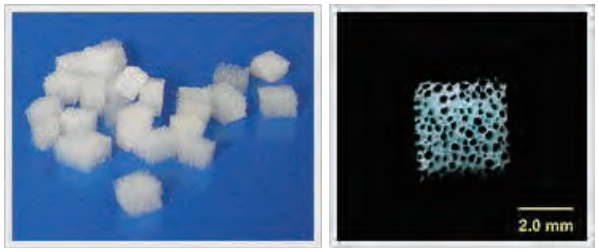
Electron microscope image of mouse fibroblast cell culture in Honeycomb collagen sponge



Pathological obervation at 12 weeks after the transplantation confirmed that none of th eEB adhered to KOU-CSH-10 (ES/+CSH) generated a teratoma, whereas teh ES cell-derived EB transplanted without KOU-CSH-10 (ES/-CSH) generated a teratoma in all mice. ES/+CSH transplanted in the mouse kidney did not look different from the adjacent normal renal tissue in histopathological image and spontaneously differentiated into the tissue without a specific differentiation induction (Coutesy of Dr. Mariko Yamaki, Matsumoto Dental University)



Hairs (A) and hair papillas (B) were clearly observed in all mice. (Coutesy of Dr. Mariko Yamaki, Matsumoto Dental University)



Left: Atelocollagen Honeycomb Sponge (KOU-CSH-10) is a 3㎜ cube with applications including cell scaffolding for 3-D cell culture and high density cell culture substrate for tissue engineering.
Right: Stereoscopic microscope image.

Reference

- Biodegradable honeycomb collagen scaffold for dermal tissue engineering George J, Onodera J, Miyata T, J Biomed Mater Res A. 2008 Dec 15;87(4):1103-11.
- Bone tissue engineering using human adipose-derived stem cells and honeycomb collagen scaffold. Kakudo N, Shimotsuma A, Miyake S, *et al*. J Biomed Mater Res A. 2008 Jan;84(1):191-7
- Growth inhibition and differentiation of cultured smooth muscle cells depend on cellular crossbridges across the tubular lumen of type I collagen matrix honeycombs. Suzuki T, Ishii I, Kotani A, *et al*. Microvasc Res. 2009 Mar;77(2):143-9
- Rodriguez AP, MissanItoh H, Aso Y, Furusea L, Nagatsuka H, *et al*.:Efficacy of atelocollagen honeycomb scaffold in bone formation using KUSA/A1 cells. J Biomed Mater Res A, 77(4):707-17. 2006
- George J, Kuboki Y, Miyata T, *et al*.:Differentiation of mesenchymal stem cells into osteoblasts on honeycomb collagen scaffolds. Biotechnol Bioeng, 95(3):404-11.2006
- Imamura T, Cui L, Teng R, *et al*.:Embryonic stem cell-derived embryoid bodies in three-dimensional culture system form hepatocyte-like cells *in vitro* and *in vivo*. Tissue Eng, 10(11-12):1716-24. 2004
- Ishii I, Tomizawa A, Kawachi H, *et al*.:Histological and functional analysis of vascular smooth muscle cells in a novel culture system with honeycomb-like structure. Atherosclerosis, 158(2):377-84. 2001
- Itoh H, Aso Y, Furuse M, *et al*.:A honeycomb collagen carrier for cell culture as a tissue engineering scaffold. Artif Organs,25(3):213-7.2001
- Moriyama T, Asahina I, Ishii M, *et al*.:Development of composite cultured oral mucosa utilizing collagen sponge matrix and contracted collagen gel: a preliminary study for clinical applications. Tissue Eng, 7(4):415-27.2001

Description	Cat. No.	Quantity
Atelocollagen Honeycomb Sponge	KOU-CSH-10	100 ㎎
Atelocollagen Honeycomb Disc 96	KOU-CSH-96	25 pc

Atelocollagen sponge Mighty

Intended Use

For three-dimensional culture and research of tissue engineering as 3D scaffold

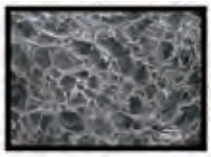
Background

Atelocollagen is a collagen solubilized by protease, but its physical properties are virtually identical to those of natural, unsolubilized collagen. Furthermore, atelocollagen additionally has superior characteristics

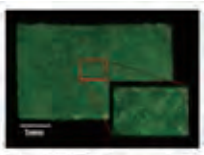
Features and Characteristics

1. Made from highly purified type I atelocollagen derived from bovine dermis.
2. Type I collagen is a major extracellular matrix and provides a scaffold for cultured cells.
3. Stands well to cyclic compression loading (repeated 10-20kPa load) and maintains constant strength enough to withstand compressive loading of up to 30 kPa (single time).
4. Applicable to a scaffold for three dimensional culturing
5. Suitable size for 96-well plates
6. Culturing cells in MIGHTY under cyclic compressive loading (cyclic load of 10 to 20 kPa) provides more *in vivo*-like environment to evaluate cell function. MIGHTY is also applicable as a scaffold for conventional 3D cell culture.

▲Strength to withstand a stress of 50kPa load



▲SEM image of cross section through "MIGHTY"



▲Cross-sectional image of "MIGHTY" seeded with Mouse Fibroblast cell (NIH3T3)

Low antigenicity

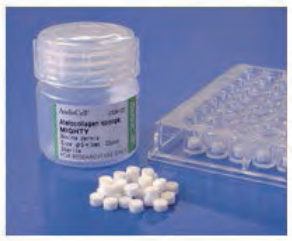
A collagen molecule has an amino acid sequence called a telopeptide at both N and C termini, which confers most of the collagen's antigenicity. Atelocollagen obtained by protease treatment is low in immunogenicity because it is free from telopeptides.

High purity

Atelocollagen is generally obtainable with a high degree of purity by protease degestion, which breaks down other protein contaminations.

High biocompatibility

Atelocollagen is biodegradable. Therefore, atelocollagen is used in a variety of fields such as medicine, medical devices and cosmetics as a raw material, and research in cell culture.



High placiticity

Atelocollagen can be engineered into many different physical shapes such as films, sponge-like structure, string-like configurations, powders and gels. It is possible to leverage the special properties of atelocollagen to produce the most appropriate configuration for any application. For example, atelocollagen is normally insoluble in water with neutral pH, but this characteristic can be altered to make it soluble. It is also possible to use atelocollagen equally as a coagulant or as an anticoagulant, and to control the rate at which it is absorbed by the body.

High safety

We ensures the safety of materials through the precise management of each and every bovine used as a source of material for atelocollagen production;

1. The bovine dermis used comes from Australia which has a national livestock traceability system in place. Only calves aged six months or younger are used.
2. Animal feed derived from bovine and sheep are not used. Only BSE-free, safe feed is used.
3. Only the dermal layer of the skin is used, which is classified as belonging to the "no detectable infectivity" category (WHO Guidelines on Tissue Infectivity Distribution in Transmissible Spongiform Encephalopathies). Great care is taken to prevent this layer from coming into contact with hazardous sites including the brain and the spine during collection.
4. Bovine used for KOKEN's collagen is trackable to their birthplace, and field research is conducted periodically.

Derived from

Consists primarily of type I atelocollagen derived from bovine dermis.

Reference

Muroi Y, *et al*. Effects of compressive loading on human synovium-derived cells. (2007) J Dent Res. 86(8):786-791.

Description	Cat. No.	Quantity
Atelocollagen Sponge Mighty 25pcs	KOU-CSM-25	25 pc
Atelocollagen Sponge Mighty 50pcs	KOU-CSM-50	50 pc

Cell Freezing Medium

Description	Cat. No.	Quantity
COS Banker [Cell Freezing Medium] (Chemical defined)	KOJ-COS-CFM01	120 mℓ
COS Banker II [Cell Freezing Medium]	KOJ-COS-CFM02	120 mℓ

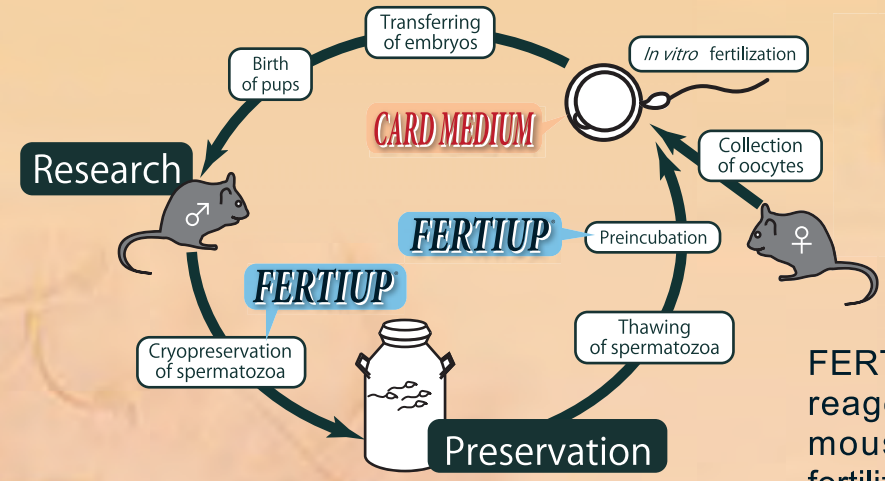
FERTIUP®

Mouse Sperm Cryoprotectant
Mouse Sperm Preincubation Medium

CARD MEDIUM

Mouse in vitro Fertilization Medium

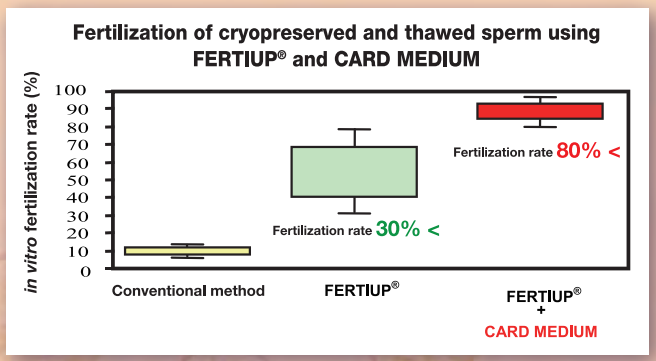
IVF Slump? FERTIUP® Will Get You Out!!



FERTIUP® and CARD MEDIUM are valuable reagents to improve the recovery of frozen mouse spermatazoa and improve *in vitro* fertilization efficiency of laboratory mice.

Combined usage of FERTIUP® Mouse Sperm Cryoprotectant, FERTIUP® Mouse Sperm Preincubation Medium and CARD MEDIUM Mouse Fertilization Medium offers the following benefits:

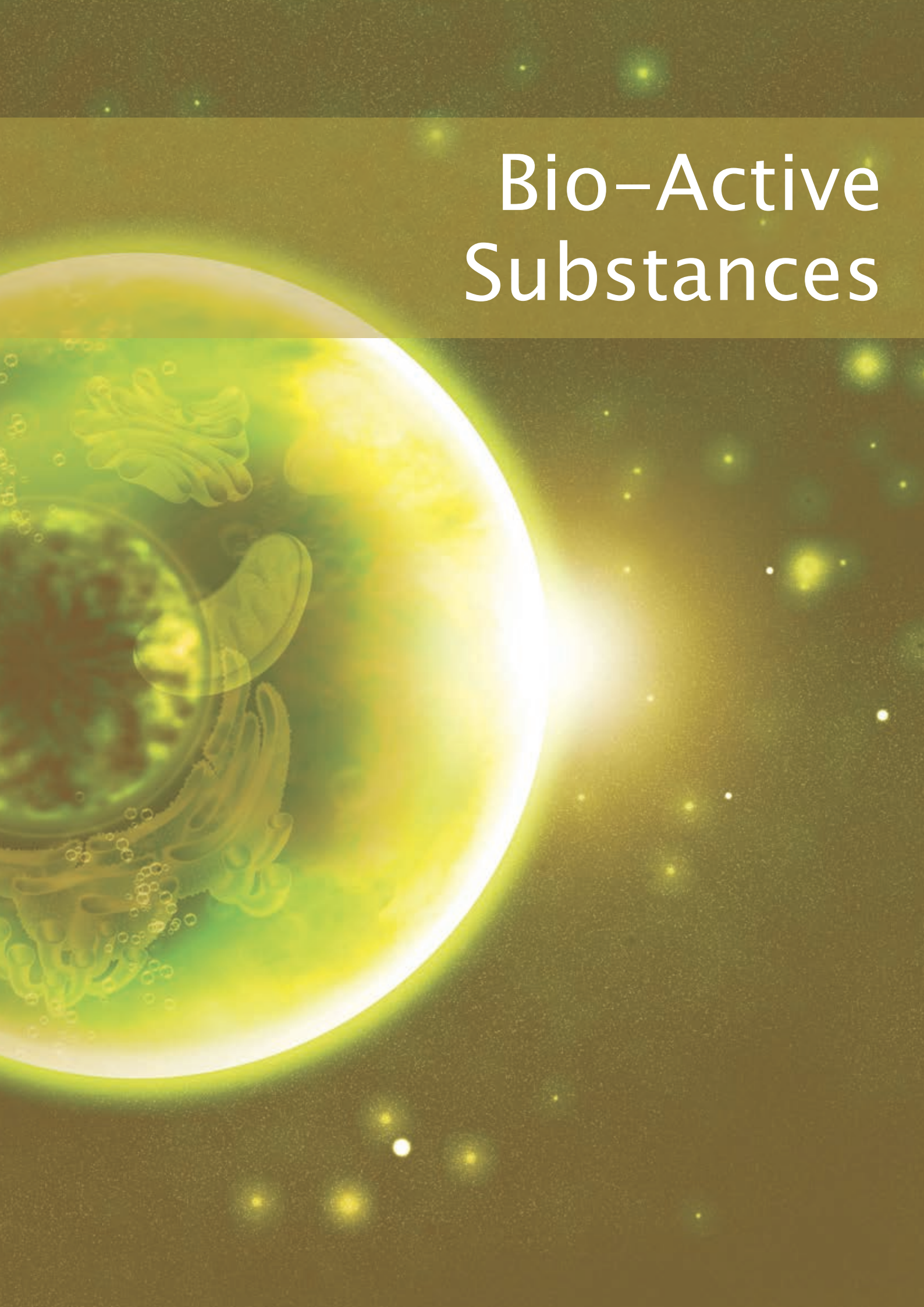
- **Fertilization rates over 80%**
- **Improved management of transgenic mouse**
- **Reduction of labor, facilities and breeding costs**
- **Reduction of colony expansion time**
- **Efficient production in difficult breeding**



Description	Cat. No.	Quantity
FERTIUP® Mouse Sperm Cryoprotectant: CPA	KYD-001-EX	1 mL
	KYD-001-EX-X5	5 x 1 mL
	KYD-001-05-EX	0.5 mL
	KYD-001-05-EX-X5	5 x 0.5 mL
FERTIUP® Mouse Sperm Preincubation Medium: PM	KYD-002-EX	1 mL
	KYD-002-EX-X5	5 x 1 mL
	KYD-002-05-EX	0.5 mL
	KYD-002-05-EX-X5	5 x 0.5 mL
CARD MEDIUM Kit includes 1 ampoule including medium (A), 1 vial including powder (B), a 1.5 mL plastic tube (C), a 1.5 mL plastic tube (D), a 2.5 mL disposable syringe, 1 needle, 1 filter unit (pore size: 0.22 µm)	KYD-003-EX	1 kit
FERTIUP® PM 1ML-CARD MEDIUM set FERTIUP® Mouse Sperm Preincubation Medium: PM (1 ml) x 1 vial, CARD MEDIUM x 1 kit	KYD-004-EX	1 set
FERTIUP® PM 0.5ML-CARD MEDIUM set FERTIUP® Mouse Sperm Preincubation Medium: PM (0.5 ml) x 1 vial, CARD MEDIUM x 1 kit	KYD-005-EX	1 set

COSMO BIO CO., LTD.

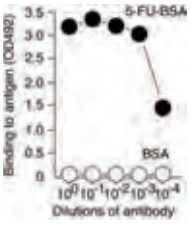
Bio-Active Substances



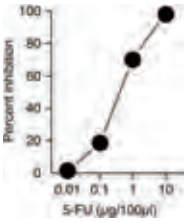
5-FU-BSA

Intended Use

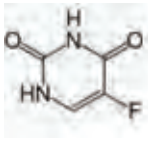
Direct ELISA
Competitive ELISA



Monoclonal antibody (H3-17) shows high binding to 5-FU-BSA but undetectable binding to BSA.
Different dilutions of antibody were tested for binding to immobilized antigens (100 ng / well) in a direct ELISA.



Monoclonal antibody (H3-17) is capable of binding to free 5-FU.
Free 5-FU efficiently inhibits the antibody binding to immobilized 5-FU-BSA (5 ng / well), which was detected by a competitive ELISA.



CAS.No.	51-21-8
Molecular Formula	C4H3FN2O2
Molecular Weight	130.08

Description

5FU / BSA molar ratio 11.91.

Concentration

1 mg/mℓ

Note: This conjugate was dialysed against PBS.
The dialysate was then frozen at -80 ℃.
No preservatives contained.

Description	Cat. No.	Quantity
5-FU-BSA	CSR-NM-MA-R001	1 vial

Cytokines, Chemokines and Growth Factors

Description	Cat. No.	Quantity
EGF, N-terminal ProX® tag, C-terminal His_6 tag	PRX-RP601	1 μg
EGF, N-terminal ProX®(ttt) tag, C-terminal His_6 tag	PRX-RP602	50 μg
Epidermal Growth Factor	BAM-03-001-EX BAM-03-001-5EX	50 μg 5×50 μg
FGF1, N-terminal ProX® tag, C-terminal His_6 tag	PRX-RP609	1 μg
FGF1, N-terminal ProX®(ttt) tag, C-terminal His_6 tag	PRX-RP610	25 μg
FGF2, N-terminal ProX® tag, C-terminal His_6 tag	PRX-RP607	1 μg
FGF2, N-terminal ProX®(ttt) tag, C-terminal His_6 tag	PRX-RP608	25 μg
Fibroblast Growth Factor 1	BAM-03-003-EX BAM-03-003-5EX	50 μg 5×50 μg
IL-2, N-terminal ProX® tag, C-terminal His_6 tag	PRX-RP603	1 μg
IL-2, N-terminal ProX®(ttt) tag, C-terminal His_6 tag	PRX-RP604	25 μg
Keratinocyte Growth Factor (KGF/FGF7)	BAM-03-005-EX BAM-03-005-5EX	50 μg 5×50 μg
TGFα, N-terminal ProX® tag, C-terminal His_6 tag	PRX-RP605	1 μg
TGFα, N-terminal ProX®(ttt) tag, C-terminal His_6 tag	PRX-RP606	25 μg

HBsAg with high antigenic activity (HBsAg-XT)

Background

The Hepatitis B virus surface antigen (HBsAg) is composed of L-, M- and S-antigen. Among them S-antigen activity is known to be the major antigen of human derived HBsAg. This product is specifically designed to exhibit high S antigen activity. Using ELISA analysis to detect S-antigen activity, the product showed almost equal antigen activity to that of partially purified HBsAg derived from HVB patients. The antigen resembles in structure to that of HBsAg derived from HBV patients, but is free from potential HBV infections, and thus can be used not only as a S-antigen but also to mimic HBsAg.

Structure

Nano size particles having antigen protein floating in lipid bilayer. The mean particle size is 50 to 60 nm as determined dynamic light scattering methods (20 nm as determined by electron microscopy).

Form

Lyophilized white powder

Content

30 μg (BCL-AGX-01), 360 μg (BCL-AGX-02), or 1 μg (BCL-AGX03) (dissolving instruction: For 30 μg vial, added 100 μℓ of water to the vial that makes an antigen solution at 300 μg /mℓ in PBS (137mM NaCl, 8.1mM Na_2HPO_4 $12H_2O$, 2.68mM KCl, 1.47mM KH_2PO_4, pH 7.2 - 7.4) containing 1% sucrose. For 360 μg vial, added 500 μℓ of water to the vial that makes a antigen solution at 720 μg/mℓ in PBS (137mM NaCl, 8.1mM Na_2HPO_4 $12H_2O$, 2.68mM KCl, 1.47mM KH_2PO_4, pH 7.2 - 7.4) containing 1% sucrose.)

Description	Cat. No.	Quantity
HBsAg with high antigenic activity (HBsAg-XT)	BEC-BCL-AGX-01 BEC-BCL-AGX-02	30 μg 100 μg

CD23

Quality
Culture Supernatant

Abbreviation
H-BERtwo

Solution
400 unit / mℓ soluble human CD23, 1% BSA 0.05% Tween20, 0.15M NaCl, 50mM Tris-HCl, pH 8.0 (1 mℓ)

Description	Cat. No.	Quantity
CD23	YMS-7591	1 μg

RecA Protein

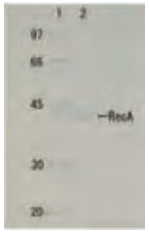
Purity
Over 90% by SDS-PAGE (CBB staining)

Protein concentration
0.9 mg/mℓ (Measured by BCA method)

Form
50% glycerol, 20 mM Tris-HCl (pH 8.0), 1 mM EDTA, 150 mM KCl, 7 mM mercaptoethanol

Reference

- Waker GC, Cold Spring Harb. Symp. Quant Biol. 65:1-10 (2000)
- Taidi-Laskowski B, Nucleic Acids Res. 16:8157-69 (1988)



Polyacrylamide gel electrophoresis of RecA

Description	Cat. No.	Quantity
RecA Protein	BAM-01-001EX	100 μg

LexA repressor

Background
E. coli LexA protein binds specifically to the SOS-box sequence and represses the genes belonging to the SOS regulon. In response to DNA damage, RecA protein is activated by ss-DNA accumulated in the damaged cells and promotes autocleavage of LexA repressor by its coprotease activity. DNA repair genes and error prone polymerases are induced, and DNA damage is repaired and mutation is induced. The lexA gene is used for yeast two-hybrid experiments as a target to identify the protein-protein interaction *in vivo*.

Usage
1) Studies on the mechanism of *E. coli* SOS response.
2) Used as an antigen for positive control in Western blotting to confirm that the Bait construct is expressed stably in the nucleus as protein of the expected size in the yeast two-hybrid method using the lexA gene.

Specification
Purity: Over 90% by SDS-PAGE (CBB staining) Protein concentration: 0.8 mg/mℓ as measured by BCA method

Form
50% glycerol, 10 mM Tris-HCl (pH 7.5), 2 mM EDTA, 100 mM NaCl, 5 mM mercaptoethanol

Reference

- Waker GC, Cold Spring Harb. Symp. Quant. Biol. 65:1-10 (2000)
- Sambrook J & Russell DW, Molecular Cloning 3rd Ed. Chapter 18.17-18.27 (2001) Cold Spring Harbor Laboratory Press

Description	Cat. No.	Quantity
LexA repressor	BAM-01-005-EX BAM-01-006-EX	20 μg 100 μg

Neuroscience

Description	Cat. No.	Quantity
Amyloid β peptide 40 (Aβ40)	CSR-KN-TOYU-M03	1 mg
Amyloid β peptide 42 (Aβ42)	CSR-KN-TOYU-M04	1 mg
TAMRA-β-amyloid (1-42)	PMC-AK13-COS	0.5 mg
Transthyretin (His-Tag)	CSR-KN-TOYU-M01	1 mg
Transthyretin (Met)	CSR-KN-TOYU-M02	1 mg

Cell Signaling

Intended Use

- Research for DNA replication, recombination and repair.
- Identification of proteins that interact with PCNA.
- Useful for studying autoimmune diseases such as systemic lupus erythematosus.

Background

Proliferating cell nuclear antigen (PCNA) is a 36 kDa homotrimeric protein known to act as a co-factor for DNA polymerase δ, which is responsible for leading strand DNA replication. PCNA was originally identified as an antigen that is expressed in the nuclei of cells during the DNA synthesis phase of the cell cycle. A cell cycle-dependent protein called cyclin was shown to be identical to PCNA. Crystal structure data suggests that a PCNA homotrimer ring can encircle and slide along the DNA double helix. Multiple proteins involved in DNA replication, DNA repair, and cell cycle control bind to PCNA rather than directly associating with DNA, thus facilitating fast processing of DNA. PCNA is a useful marker for DNA synthesis and is highly conserved among most species. Human PCNA was over-expressed in *E. coli* as a recombinant full-size protein without any tag and highly purified.

Data Link

Swiss-Prot P12004 (human), P04961 (rat), P17918 (mouse), Q9PTP1 (Zebrafish)

Storage

-70℃

Form

0 ㎎/㎖ in 25 mM HEPES (pH7.9), 1 mM EDTA, 0.01% NP40, 1 mM DTT, 2 ㎍/㎖ leupeptin, 0.1 mM PMSF, 75 mM NaCl, 50% glycerol

Quarity

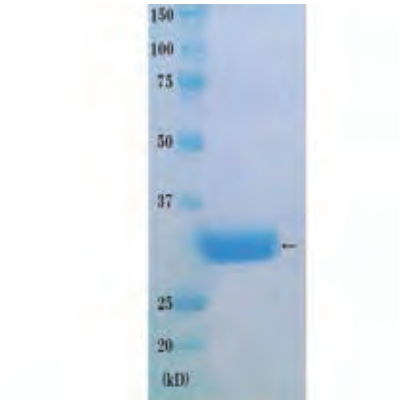
Greater than 98% Purity determined by SDS-PAGE (CBB staining)

Activities

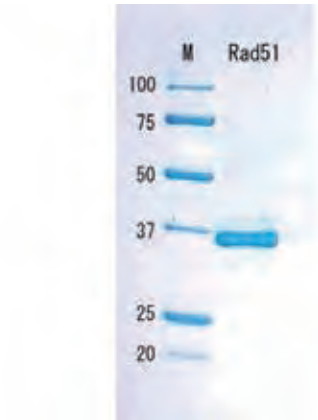
Promotes DNA replication

Reference

- Friedberg EC *et al* (2006) DNA repair and mutagenesis, 2nd Edition, ASM Press Washington,D.C.
- Ohta S. *et al* (2002) A proteomics approach to identify proliferating cell nuclear antigen (PCNA)-binding proteins in human cell lysates. Identification of the human CHL12/RFCs2-5 complex as a novel PCNA-binding protein. J Biol Chem 277: 40362-40367 PMID: 12171929.
- Iida T. *et al* (2002) "PCNA clamp facilitates action of DNA cytosine methyltransferase 1 on hemimethylated DNA. Genes Cells 7: 997-1007 PMID: 12354094.
- Shiomi Y, *et al* (2004) The reconstituted human Chl12-RFC complex functions as a second PCNA loader. Genes Cells, 9:279-90. PMID: 15066120.
- Watanabe K, *et al*. (2004) Rad18 guides pol eta to replication stalling sites through physical interaction and PCNA monoubiquitination. EMBO J. 23:3886-96 PMID : 15359278.
- Tsurimoto T, *et al*. (2005) Human Werner helicase interacting protein 1 (WRNIP1) functions as a novel modulator for DNA polymerase δ. Genes Cells. 10:13-2 PMID 15670210.
- Nishitani H, *et al*. (2006) Two E3 ubiquitin ligases, SCF-Skp2 and DDB1-Cul4, target human Cdt1 for proteolysis. EMBO J. 25:1126-3 PMID: 1648221.
- Shiomi Y, *et al*. (2007) A second proliferating cell nuclear antigen loader complex, Ctf18-replication factor C, stimulates DNA polymerase eta activity. J Biol Chem. 282:20906-1 PMID: 1754516.
- Masuda Y, *et al*. (2007) Dynamics of human replication factors in the elongation phase of DNA replication. Nucleic Acids Res. 35:6904-1 PMID: 1793204.
- Tomida J, *et al*. (2008) DNA damage-induced ubiquitylation of RFC2 subunit of replication factor C complex. J Biol Chem. 283:9071- PMID: 1824577.
- Tsuji Y, *et al*. (2008) Recognition of forked and single-stranded DNA structures by human RAD18 complexed with RAD6B protein triggers its recruitment to stalled replication forks. Genes Cells. 13:343-5 PMID: 1836396.



SDS-PAGE of PCNA



Analysis of purified human Rad51 protein by SDS-PAGE

Description	Cat. No.	Quantity
PCNA	BAM-10-151-EX BAM-10-152-EX	20 ㎍ 100 ㎍
Rad51 Protein	BAM-10-001-EX BAM-10-002-EX	20 ㎍ 100 ㎍
Rad52 Protein	BAM-10-003-EX BAM-10-004-EX	20 ㎍ 100 ㎍

Enzymes and Substrates

Description	Cat. No.	Quantity
Cdk5/p25 (active)	CSR-SDT-02-CP25	10 μg
DNA (cytosine-5) methyltransferase	BAM-10-201-EX	300 unit
DNA Polymerase β	BAM-10-101-EX BAM-10-102-EX	20 μg 100 μg
DNA Polymerase κ	BAM-10-105-EX	50 μg
Glutathion SuLfhydryl Oxidase from Penicillium sp.	YMS-7805	50 unit
L-Glutamate Oxidase 25	YMS-80049	25 unit
Pepsin for Human collagen Type IELISA kit	ACE-EC1-E110EX	500 mg
RecQ DNA helicase	BAM-01-003-EX BAM-01-004-EX	20 μg 100 μg
Ribonuclease H	BAM-02-060-EX BAM-02-060-5EX	1000 unit 5×1000 unit
RuvA Protein	BAM-01-007-EX BAM-01-008-EX	20 μg 100 μg
RuvB Protein	BAM-01-009-EX BAM-01-010-EX	20 μg 100 μg
RuvC Protein	BAM-01-011-EX BAM-01-012-EX	20 μg 100 μg

Labiase™ Bacterial Cell Lytic Enzymes

Intended Use

Digestive enzyme of cell walls of lactic acid bacterium

Background

Labiase™ , produced by a submerged culture of Streptomyces fulvissimus TU-6, is a new enzyme that lyses cell walls of numerous lactic acid bacterium effectively. This enzyme is used as a tool for studies of cell walls structure of lactic acid bacterium and preparation of plasmid DNA, intracellular enzyme and protoplasts from lactic acid bacterium.

Storage

Lyophilized preparation is stable for at least 1 year when stored at 4℃

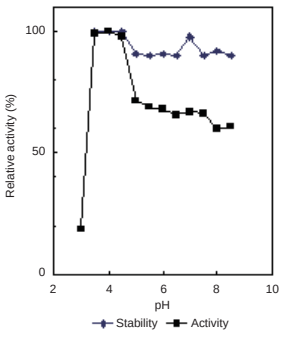


Fig.1 pH-stability and activity
Stability:18 hours treatment at 25℃
Activity:37℃

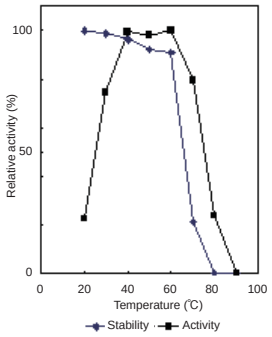


Fig.2 Thermal-stability and activity
Stability:10 minutes treatment
Activity:pH4.0

Appearance

Lyophilized powder (containing lactose)

Activity

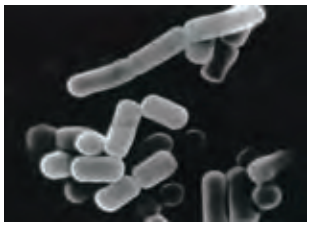
10 units / g (β-N-Acetyl-D-glucosaminidase)

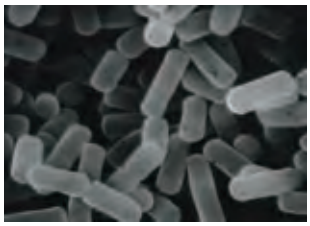
Other activities contained

Lysozyme≦2×10^4 units / g

Reference

・Ohbuchi K. *et al*., (2001) J. Biosci.Bioeng.91. 487.





Description	Cat. No.	Quantity
Labiase™ Bacterial Cell Lytic Enzymes	OZK-OZ-30EX	500 mg

Yatalase™ Fungal Cell Lytic Enzymes

Background

Yatalase is used to lyse cell walls of filamentous fungi. The product is prepared from culture supernatants of Corynebacterium sp. OZ-21 and consists mainly of chitinase, chitobiase and β-1,3-glucanase.

Features and Advantages

- Has excellent thermostability and can be stored at room temperature.
- Efficiently digests native chitin.
- Has the revitalization of Chitinase, Chitobiase, Chitosanase, and β-1,3-Glucanarse
- Can be used alone to prepare protoplasts from filamentous fungi.

Specific Activities

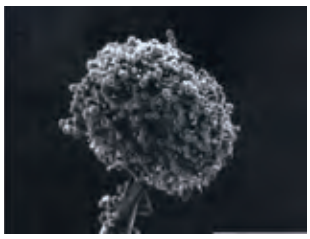
Chitinase activity : Approximately 50 units / g powder
Chitobiase activity : Approximately 500 units / g powder
Lytic activity against cell walls : Approximately 10,000 units/ g powder

Table 1 Enzyme activities found in Yatalase

Enzyme activity	Activity (units/g power)
Chitinase	50
Chitobiase	500
Chitosanase	19
-1,3-glucanase	300
Protease	31
Cell-well lysing activity	10,000

Table 2 Yields of protoplasts

Species	Yield of protoplasts (× 10⁸ wet cells)
Aspergillus oryzae	70
Aspergillus kawachi	2
Aspergillus terreus	21
Penicillium citrinum	20
Penicillium lanosum	50
Trichoderma koningii	100
Monascus sp.	14
Mucor hiemalis	8
Rhizopus nigricans	21
Pleurotus ostreatus	11
Coprinus cinereus	20
Lentinus edodes	2



Unit Definition

Chitinase activity:
One unit of chitinase activity is determined as the amount required to release 1 μmol of N-acetylglucosamine from chitin in 1 minute.

Chitobiase activity:
One unit of chitobiase activity is definedas the amount ofenzyme required to release 1 μmol of p-nitrophenol from p-nitrophenyl-N-acetyl-β-D-glucosaminide in 1 minute.

Lytic activity:
One unit of enzyme activity is defined as the amount required to cause a 1% decrease in absorbance in 1 hour.

Specification

Source
Corynebacterium sp. OZ-21
Package Size 2 g

Form
Lyophilized powder (containing lactose)

Description	Cat. No.	Quantity
Yatalase™ Fungal Cell Lytic Enzymes	OZK-OZ-10EX	2 g

Westase™ Yeast Cell Lytic Enzymes

Intended Use

Digestive enzyme of cell walls of yeast

Background

Westase was prepared from liquid culture supernatant of Streptomyces rochei DB-34. This product has complex lytic activities of yeast cell mainly consisting of β-1,6 glucanase and β-1,3 glucanase activity.

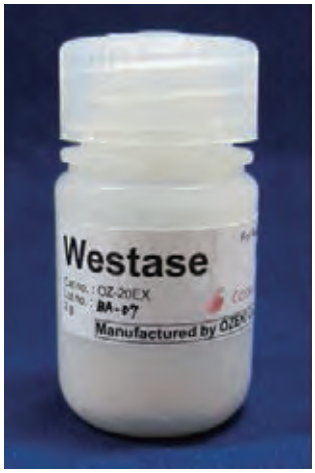
This enzyme works well for Ascosporogenous yeasts such as Saccharomyces cerevisiae. However, it is also available for fission yeasts such as Schizosaccharomyces pombe which cannot be protoplasted just with Zymolyase treatment or Basidiosporogenous yeasts, Imperfect yeasts such as Ustilago maydis, Phaffia rhodozyma, and Cryptococcus albidus which are rarely protoplasted, and make them efficiently into protoplasts.

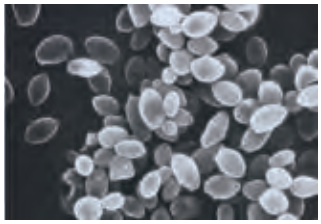
Definition of Activity

β-1,6 glucanase activity
One unit is defined as the amount required to release 1 μmol reducing sugar from 10 mg/mℓ Pustulan solution in 1 min. at 37℃, pH6.0.

Lytic activity

One unit is defined as the amount required to cause a 1% decrease in absorbance at 660 nm in 1 min. at 30℃, pH6.0 when using cell wall fraction of Cryptococcus albidus IFO 0612





Specific activities

β-1,6 glucanase activity : >400 units / g
Lytic activity : >35,000 units / g
DNase activity : ND (McIlvain Buffer, pH6.0)

Storage

Lyophilized preparation is stable for at least 1 year when stored at 4℃.

Appearance

Lyophilized powder (containing celite as the excipient)

Description	Cat. No.	Quantity
Westase™ Yeast Cell Lytic Enzymes	OZK-OZ-20EX	2 g

HBsAg L-protein-ST

Background

Hepatitis B virus (HBV) expresses three types of surface antigens, i.e. S-, M-, and L-protein. L-protein is composed of S-, Pre-S2, and Pre-S1 region. The deletion of Pre-S1 region Forms M-protein and further deletion of Pre-S2 region results in S-protein. Most of commercially available HBsAg is composed of either S-protein alone or a mixture of S- and M-proteins. HBV-infected patients generally possess antibody against S-protein, since most circulating antigen is S-protein. HBsAgL-protein-ST type contains all the three components in one protein. The S-protein region, however, is so modified that the regular human antibody to S-protein does not recognize. The Pre-S1 and Pre-S2 region is intact and shows high antigen activity.The Pre-S1 region is known to be the hepatic cell recognition site and to be important in the HBV infection. And Pre-S2 region is also known to play important role in HBV infection. Thus, the product can be used as a unique tool to investigate the mechanism of HBV infection as well as antigens for both Pre-S1 and Pre-S2. The product is also used as an antibody-escapable mimic antigen.

Purity
over 95% (see SDS-PAGE data)

Source
Yeast (*Saccharomyces cerevisiae*)

Appearance
Lyophilized white powder

Activity
Pre-S1 activity is approximately 1000 units / mg protein (One unit is an arbitrary scale which is determined by using Pre-S1detecting ELISA system developed by Beacle)

Description	Cat. No.	Quantity
HBsAg L-protein-ST	BEC-BCL-AGS-01	30 μg

HBs Antigen

Manufacturing Process
HBsAg positive human plasma

Purification
Potassium bromide equilibrium density-gradient centrifugation. Sucrose density-gradient rate zonal centrifugation.

Buffer
Saline (containing 0.1% NaN_3)

Protein Concentration
1 mg/mℓ

Package
1 mℓ

Storage
Below -20℃

Note: This product is not inactivated by heat-treatment at 60℃ for 10 hours.
It should be handled as if it were capable of transmitting, because it is derived from human plasma.

Description	Cat. No.	Quantity
HBs Antigen	IIM-6Z11	1 mg

Hepatitis B Virus Surface Antigen (HBsAg), L-protein

Intended Use

The immunological study in HBV and the research of the infection mechanism

Background

Hepatitis B virus (HBV) expresses three types of surface antigens, i.e. S-, M-, and L-protein. L-protein is composed of S-, Pre-S2, and Pre-S1 region. The deletion of Pre-S1 region forms M-protein, and further deletion of Pre-S2 region results in S-protein. Most of commercially available HBsAgs is composed of either S-protein alone or S- plus M-proteins. This product, HBsAg, L-protein contains all the three components in one protein. The Pre-S1 region is known to be the hepatic cell recognition site and to be important in the HBV infection. Thus, the product can be used as a mimic HBV for immunological studies or as a tool for studying infection mechanism.

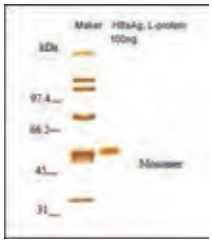
Structure
Nano size particles having antigen protein floating in lipid bilayer. The mean particle size is 60 to 70nm as determined dynamic light scattering methods (20nm as determined by electron microscopy)

Purity
over 95% (see SDS-PAGE data)

Source
Yeast (*Saccharomyces cerevisiae*)

Appearance
Lyophilized white powder

Activity
Pre-S1 activity is more than 1000 units (Unit are arbitrary scale determined in Beacle using Pre-S1 detecting ELISA system)



Description	Cat. No.	Quantity
Hepatitis B Virus Surface Antigen (HBsAg), L-protein	BEC-BCLAG01	100 μg

HIV-1 Gag p15

Intended Use

- A substrate for HIV-1 protease in the presence of HIV-1 genomic RNA.
- For studies of structure and function of the AIDS virus as a precursor of nucleocapsid p7 protein that binds to HIV-1 genome RNA.
- It can be used as a p15 antigen to detect the anti-HIV-1 p15 antibody in Western blotting or ELISA.
- A standard for the quantitative analysis of the HIV-1 p15 antigen.

Background

HIV-1 Gag p15 is processed by the digestion of its precursor Gag p55 by HIV-1 protease. This protein is further digested into nuclocapsid protein p7 and into p6 and p1 of unknown function. This digestion is promoted by the bindingof HIV-1 genome RNA and the two Zn finger motifs that exist in the p7 region. The produced nucleocapsid protein p7 regulates the RNA function by directly binding to HIV-1 genome RNA. The product is over-expressed as a recombinant protein in *E.coli* with a plasmid carrying the Gag p15 coding region of HIV-1 virus, subtype B, and highly purified by several steps of chromatography. Its molecular size is 15 kD, same as that of p15 purified from AIDS virus particles.

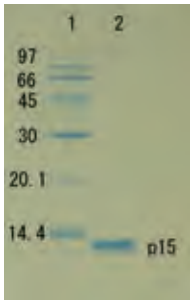
Purity
Over 90% by SDS-PAGE (CBB staining)

Protein concentration
0.42 ㎎/㎖ as measured by BCA method

Form
50% glycerol, 20 mM Tris-HCl (pH 7.5), 50 mM NaCl, 10 mM mercaptoethanol

Reference

- Freed EO, Virology 251:1-15 (1998) Review
- Adachi A, *et al*., J. Virol. 59, 284 (1986)
- Saito A, *et al*., Microbiol. Immunol. 39:473-483 (1995)



SDS-PAGE of HIV-1 p15

Description	Cat. No.	Quantity
HIV-1 Gag p15	BAM-05-007-EX BAM-05-008-EX	20 ㎍ 100 ㎍

HIV-1 Gag p17

Intended Use

- p17 antigen to detect anti-HIV-1 p17 antibody in Western blotting or ELISA.
- Standard for quantitative analysis of HIV-1 p17 antigen.
- For studies of structure and function of the AIDS virus as matrix protein that constitutes HIV-1 core.

Background

HIV-1 Gag p17 is the matrix protein of AIDS virus HIV-1 and is processed by the digestion of its precursor Gag p55 by HIV-1 protease. This protein is indispensable to the reproduction of AIDS virus and constitute the essential element of the of AIDS virus particle construction. The product is over-expressed as a recombinant protein in *E. coli* with a plasmid carrying the Gag p17 coding region of HIV-1 virus, subtype B, and highly purified by several steps of chromatography. Its molecular weight is 17 kD, same as that of p17 purified from AIDS virus particles.

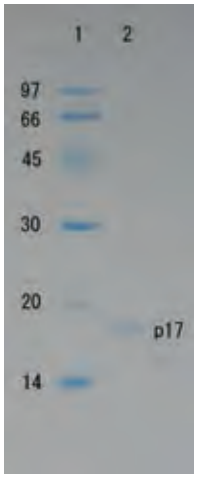
Purity
Over 90% by SDS-PAGE (CBB staining)

Protein concentration
0.23 ㎎/㎖ as measured by BCA method

Form
50% glycerol, 20 mM Tris-HCl (pH7.5), 50 mM NaCl, 10mM mercaptoethanol

Reference

- Freed EO, Virology 251:1-15 (1998) Review
- Adachi A, *et al*., J. Virol. 59, 284 (1986)
- Saitoh A, *et al*., Microbiol. Immunol. 36:105-111 (1992)
- Saito A, *et al*., Microbiol. Immunol. 39:473-483 (1995)



SDS-PAGE of HIV-1 p17

Description	Cat. No.	Quantity
HIV-1 Gag p17	BAM-05-003-EX BAM-05-004-EX	20 ㎍ 100 ㎍

HIV-1 Gag p24

Intended Use

- Standard in titration of p24 antigens as it indicates the amount of HIV-1 virus. This measurement is useful for diagnosis of virus infection and assessing the amount of virus during and after treatment.
- An antigen for Western blotting or ELISA of anti-HIV-1 p24 antibody.
- For studies of structure and function of HIV-1 virus as it constitutes HIV-1 core as a capsid protein.

Background

HIV-1 Gag p24 is a capsid protein that constitutes the core of AIDS virus, HIV-1, and is produced by digestion of its precursor, Gag p55, by HIV-1 protease. This protein is indispensable for reproduction of AIDS virus and constitutes an essential element in the virus particle. As this protein is detectable from the early stage of AIDS virus infection, and reflects the amount of virus in the blood, it is used as a marker for observing the patient's condition during and after treatment.
This protein was over-expressed as a recombinant protein in *E. coli* with a plasmid carrying the Gag p24 coding region of HIV-1 virus, subtype B, and highly purified by several steps of chromatography. Its molecular weight is 24kD, same as that of p24 purified from HIV-1 virus particles.

Purity
Over 90% Purity by SDS-PAGE (CBB staining)

Protein concentration
1 mg/mℓ measured by BCA method

Form
50% glycerol, 20 mM Tris-HCl (pH7.5), 50 mM NaCl, 10 mM mercaptoethanol

Measurement of the activity
The ED50 as determined by a cell proliferation assay using MTS assay kit (CellTiter 96, Promega) with human keratinocytes JCRB141 cells was <10 ng/mℓ.

Reference

- Freed EO, Virology 251:1-15 (1998) Review
- Adachi A, *et al*., J. Virol. 59, 284 (1986)
- Tanaka N, *et al*., Microbiol. Immunol. 36:823-831 (1992)
- Saito A, *et al*., Microbiol. Immunol. 39:473-483 (1995)

Description	Cat. No.	Quantity
HIV-1 Gag p24	BAM-05-005-EX BAM-05-006-EX	20 μg 100 μg

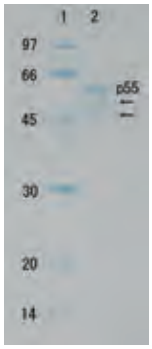
HIV-1 Gag p55

Intended Use

- A substrate for the HIV-1 protease activity assay.
- To detect anti-HIV-1 Gag antibody in Western blotting or ELISA. All the anti-HIV-1 Gag antibodies such as anti-p17 antibody, anti-p24 antibody and anti-p15 antibody can be measured at the same time.

Background

HIV-1 Gag p55 is a precursor protein of several proteins that form the core structure of AIDS virus, indispensable to its reproduction. This protein is digested by HIV-1 protease, first into intermediate products p41 and p15. Thenp41 is digested into matrix protein p17 and capsid protein p24. Protein p15 is further digested into nucleocapsid protein p7 and to p6 and p1 both of unknown function. The product is over-expressed as a recombinant protein in *E. coli* with a plasmid carrying the Gag p55 coding region of HIV-1 virus, subtype B, and highly purified by several steps of chromatography. Its molecular weight is 55 kD, same as that of p55 purified from AIDS virus particles. The protein bands at lower positions are degradation products of p55 which could not be separated during purification steps.



Polyacrylamide gel electrophoresis of HIV-1 p55 protein (The arrows show degradation products)

Purity
Over 90% by SDS-PAGE (CBB staining)

Protein concentration
0.44 mg/mℓ as determined by BCA method.

Form
50% glycerol, 20mM Tris-HCl (pH7.5), 50mM NaCl, 10mM mercaptoethanol

Reference

- Freed EO,Virology 251:1-15 (1998) Review
- Adachi A, *et al*., J. Virol. 59, 284 (1986)
- Saito A, *et al*., Microbiol. Immunol. 39:473-483 (1995)

Description	Cat. No.	Quantity
HIV-1 Gag p55	BAM-05-009-EX BAM-05-010-EX	20 μg 100 μg

HIV-1 Nef

Intended Use

- For functional studies of HIV-1 Nef protein.
- A standard for the titration analysis of HIV-1 Nef antigen.
- A Nef antigen in detection of anti-HIV-1 Nef antibody by Western blotting or ELISA.

Background

HIV-1 Nef is one of the accessory proteins synthesized in the early stage of AIDS virus reproduction and is abundantly found in infected cells. The protein interacts directly with the signal transduction protein of the host T cell and works effectively on AIDS infection or on long term survival of the infected cells or induces apoptosis of non-infected cells. It is also involved in the endocytosis and degradation of receptor protein of the cell surface such as CD4 and MH4, important for AIDS virus infection. The product is over-expressed as a recombinant protein in *E. coli* with a plasmid carrying the nef gene of HIV-1 virus, subtype B and highly purified by several steps of chromatography. Its molecular size is 27kD, like that of Nef purified from AIDS virus particles (Fig 1).

Purity

Over 90% by SDS-PAGE (CBB staining)

Protein concentration

0.48 ㎎/㎖ as determined by BCA method

Form

50% glycerol, 20 mM Tris-HCl (pH 7.5), 50 mM NaCl, 10 mM mercaptoethanol

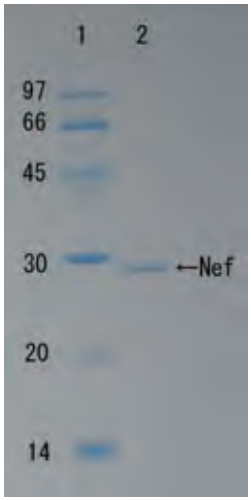


Fig.1 Polyacrylamide gel electrophoresis of HIV-1 Nef protein.

Reference

- Arora VK, *et al*., Micorb. Infect. 4:189-199 (2002) Review
- Fackler OT, *et al*., Immunity 16:493-497 (2002) Review
- Adachi A, *et al*., J. Virol. 59, 284 (1986)

Description	Cat. No.	Quantity
HIV-1 Nef	BAM-05-011-EX BAM-05-012-EX	20 ㎍ 100 ㎍

HIV-1 Reverse transcriptase

Intended Use

- For the screening of specific inhibitors for new AIDS treatment.
- Gag and Env proteins are employed as antigens for detecting anti-HIV-1 antibody. However, by using this enzyme in combination as an antigen, the detection will be more sensitive.
- For the first step of RT-PCR reaction for converting RNA to DNA. The HIV-1 reverse transcriptase can also be applied for RT-PCR method.
- Standards for SDS-PAGE (Fig.1), Western blotting (Fig.2), Dot blotting, ELISA.

Background

HIV-1 reverse transcriptase is an RNA-dependent DNA polymerase of HIV-1 (AIDS virus), subtype B origin. It also has RNaseH activity and is an enzyme indispensable to the reproduction of AIDS virus. The product is uniquely over-expressed as a recombinant protein in *E. coli* by a patented method and highly purified. It is composed of two subunits (molecular weight of 66 kD and 51 kD), like the enzyme purified from AIDS virus particles (Fig 1).

Purity

Over 90% by SDS-PAGE (CBB staining)

Protein concentration

0.37 ㎎/㎖ as measured by BCA method

Specific activity

10,000-20,000 units / ㎎

Form

50% glycerol, 40 mM Tris-HCl (pH8.3), 50 mM NaCl, 5 mM $MgCl_2$ 0.1% Triton X-100, 1 mM DTT

Reference

- Adachi A, *et al*., J. Virol. 59, 284 (1986)
- Saito A, *et al*., Microbiol. Immunol. 34:509-521 (1990)
- Fischl MA, *et al*., N. Engl. J. Med. 317,185 (1987)

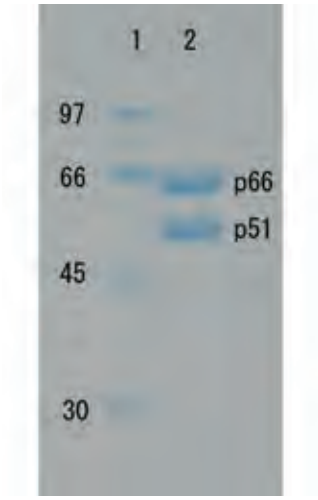


Fig.1 Polyacrylamide gel electrophoresis of HIV-1 reverse transcriptase protein

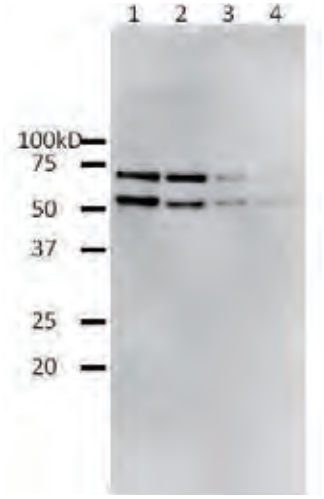


Fig.2. Western blotting of functional recombinant full-length HIV-1 reverse transcriptase by using anti-HIV-1 Reverse Transriptase antibody (#65-001).
1; 40 ng / lane
2; 20 ng / lane
3; 4 ng / lane
4; 2 ng /lane
Anti-HIV-1 RT antibody was used at 1/2,000 dilution. As second antibody, goat anti-rabbit IgG antibody conjugated with HRP was used at 1/5,000 dilution. ECL system was used.

Description	Cat. No.	Quantity
HIV-1Reverse transcriptase	BAM-05-001-EX BAM-05-002-EX	200 unit 1000 unit

Streptolysin O

Intended Use

- Antigen for the measurement of anti-streptolysin 0 antibody (AS0) (diagnostic reagent).
- Reagent for membrane pore formation to introduce small to macromolecules into living cells.
  It should be handled carefully to avoid injection (mouse LD50. 8㎍/kg).

Background

Streptolysin O (SLO) is a membrane-damaging extracellular toxin produced by hemolytic streptococci. The membrane-damaging activity is measured by hemolysis of red-blood cell. SL0 is oxygen-sensitive and is easily inactivated in its presence but can be reactivated by thiol compounds, so it is also called thiol-activated cytolysin. SL0 is produced not only by Group A hemolytic streptococci but also by Group C and Group G strains. The amino acid sequences are highly conserved among them and their homology is over 98%. The product was highly purified from *E.coli* over-expressing SL0 of Group C hemolytic streptococci. The specific activity is as high as >900,000 hemolytic units (HU) / ㎎ and Forms a big hole on the cell membrane, which enables the introduction of protein inside the cells *in vivo*.

Purity

Over 98% is SLO by SDS-PAGE

Form

1 ㎎/㎖ in PBS (-), 1 mM DTT, 50% glycerol, sterilized by filtration

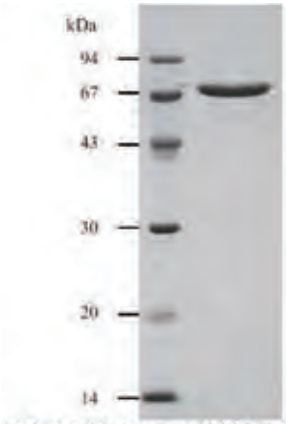


Fig. Purified SLO analysed by SDS-PAGE of 50% hemolysis on 3% sheep red blood cell

Description	Cat. No.	Quantity
Streptolysin O	BAM-01-531-EX BAM-01-532-EX	20 ㎍ 100 ㎍

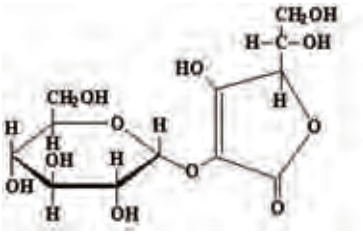
ASCORBIC Acid 2-GluCOSIDE

MW
338.27

Purity
Not less than 99.9%

Other
Analytical Standard

Chemical Formula
$C_{12}H_{18}O_{11}$



Description	Cat. No.	Quantity
ASCORBIC Acid 2-GluCOSIDE	HBL-AG-121	25 g

Medaka Vitellogenin standard for ELISA

Intended Use
Standard for ELISA

Background
Vitellogenin, the egg yolk precursor protein, is induced by estrogens. On the other hand, environmental estrogens are known to disrupt endocrine system in animals. Recently, vitellogenin has proven to be an ideal marker for enviromental estrogen.

Concentration
100 ng/mℓ

Components
Standard (100 ng/mℓ) 0.5 mℓ + dilution buffer 1 mℓ

Source
Ascites of 17 β-estradiol treated female medaka

Appearance
Clear liquid

Description	Cat. No.	Quantity
Medaka Vitellogenin standard for ELISA	EBT-MV-STD-EX	1 set

Stachybotrydial

Background
Stachybotrydial is a tripenylphenol metabolite (molecular mass of 386.5) produced by the fungus *Stachybotrys* sp.(e.g. *S.cylindrospora, S. nephrospora*).
Stachybotrydial inhibits pancreatic cholesterol esterase at IC50 of 60 μM. When administered to normal rats (100 mg / kg , po), reduced cholesterol absorption by 50-60%.
In cholesterol-fed mice, dietary supplementation of stachybotrydial (0.1%) for 14 days resulted in 20% reduction in serum total cholesterol level without causing significant change in the high density lipoprotein cholesterol level.

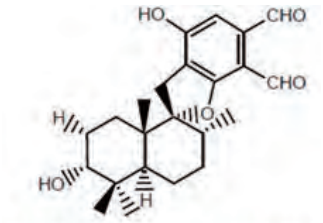
Stachybotrydial inhibits avian myeloblastosis virus protease, myo-inositol monophosphatase, fucosyltransferases and syalyltransferases at IC50 of 7.8 μM, 70 μM, 0.6-10 μg / mℓ and 11-21 μg / mℓ , respectively. Stachybotrydial has antiviral activity against herpes simplex virus 1 (IC50 = 4.32 μg / mℓ), anti plasmodial activity (IC50 = 0.85 μg / mℓ).
Stachybotrydial enhanced fibrin binding and activation of plasmingen (2- to 4-fold at 60-120 μM).

MW
386.48

Purity
>80% by HPLC

Other
Crystalline Powder

Chemical Formula
$C_{23}H_{30}O_5$



CAS Number : 149598-70-9
Molecular Formula : $C_{23}H_{30}O_5$
Molecular mass : 386.5

Description	Cat. No.	Quantity
Stachybotrydial	CSR-TIM-003	5 mg

5-Aminolevulinic Acid hydrochloride (5-ALA)

Intended Use

5-ALA is applied in a variety of scientific fields with a wide range. Please refer to published papers for the details of specific applications.

- Application in production of Cytochrome P450
- Improvement of harvest yield or increase of plant greenness
- Supplement for culture of microorganism or cells from animals
- Research relating production of active oxygen derived from accumulation of excess amount of porphirins
- Photodynamic diagnosis for cancer research

Background

5-Aminolevulinic acid (ALA) is a compound which is widely present in the biosphere and plays an important role in the living body as an intermediate of the tetrapyrrole compound biosynthesis pathway for vitamin B12, heme, chlorophyll, etc. ALA is of interest as a biodegradable herbicide (1), an insecticide (2), a growth regulator for plants (3), a precursor of heme proteins (4), and an effective agent used in photodynamic therapy of cancer (5).

(1) Rebeiz, CA *et al*. Enzyme Microb. Technol. 6, 390-401, 1984.
(2) Rebeiz CA *et al*. Pesticide Biochem. Physiol. 30, 11-27, 1988.
(3) Hotta, Y. *et al*. Plant Growth Regulation, 22, 109-114, 1997.
(4) Verderber, E. *et al*. J. Bacteriol. 14, 4583-4590, 1997.
(5) Grant, WE *et al*. The Lancet, 342, 147-148, 1993.

Purity
>95%

MW
167.6

Reference

- Mauzerall D. *et al*. J. Biol. Chem. 219: 435-446 (1956).
- Okayama A. *et al*. Clin. Chem. 36: 1494-1497 (1990).
- Elfsson, B *et al*. Pharmceutical Science, 7, 87-91, (1998).
- Imai T. *et al*. J. Biol. Chem.. 268, 19681-19689, (1993).
- Hotta Y.*et al*. Plant Growth Regulation, 22, 109-114, (1997).
- Nakayashiki T. *et al*. Genes Genet. Syst. 71, 237-241, (1996).
- Rebeiz CA *et al*. Enzyme Microb. Technol. 6, 390-401, (1984).
- Grant WE *et al*. The Lancet, 342, 147-148, (1993).
- Kamasaki N. *et al*. J. Jpn. Soc. Laser Surgery Medicine, 22, 255-262, (2001)

Description	Cat. No.	Quantity
5-Aminolevulinic Acid hydrochloride (5-ALA)	CRI-AL-00-1 CRI-AL-00-2	1 g 5 g
5-Aminolevulinic acid hydrochloride (5-ALA) (Cell Culture Tested)	CRI-AL-05-1	1 g

IgE, Myeloma

Quality

Purified from serum of a IgE myeloma patient by column chromatographies. This preparation is negative for HBs antigen, HCV antibody and HIV-1 antibody.

Abbreviation

H-IgE

Storage and Handling

The solution should be stored below -20℃
Repeated freezing and thawing should be avoided.

Solution

1 mg/mℓ IgE, PBS, pH,7.4 (100 μℓ)

Description	Cat. No.	Quantity
IgE, Myeloma	YMS-7677	100 μℓ

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Anti H Recombinant Lectin

Description	Conjugation	Cat. No.	Quantity
Anti H Recombinant Lectin This product are made introducing gene (UEL1) which have a genetic sequence of lectin UEA-I derived from Ulex europaeus into cigarette BY-2, culturing transformed cells and refined the lectin. *High agglutinin titer *You can control adjustment ofthe titer and the density depending on a use *Available for an examination of blood type from the samples such as a bloodstain, body fluid (irregularity), the nail *Superior in preservation stability;at 4C (after dissolution) Agglutinin titer : Cohere by 128 times dilution for a human O-type blood corpuscle using solution (2% BSA component) prepared to 0.25 mg/mℓ	–	IIM-7YUEL28	1 mg

Agaricus bisporus

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Agaricus bisporus [ABA] [Sugar Specificity] β-D-Galactose, GlcNAc [Molecular Weight] 16,185Da [Amino Acids Residue] 143A.A.	*Agaricus bisporus*	– Biotin FITC	Q00022	JOM-J102 JOM-J202 JOM-J502	5 mg 1 mg 1 mg

Aleuria aurantia

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Aleuria aurantia Lectin [AAL] [Sugar Specificity] L-Fucose [Molecular Weight] 33,529Da [Amino Acids Residue] 313A.A.	*Aleuria aurantia*	– Agarose FITC	P18891	JOM-J101 JOM-J301 JOM-J501	2 mg 1 mℓ 1 mg
Aleuria aurantia Lectin (AAL), Recombinant [Product form] Liquid (PBS + 0.02% Sodium azide) ※PBS: Phosphate-buffered saline, pH 7.2 [Activity] Agglutinates a 2% suspension of rabbit erythrocytes.	*Aleuria aurantia*	– Biotin	P18891	JOM-J101-R JOM-J201-R	1 mg 1 mg

Arachis hypogaea

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Arachis hypogaea (peanut) [PNA] [Sugar Specificity] D-Galactose [Molecular Weight] 29,325Da [Amino Acids Residue] 273A.A.	*Arachis hypogaea* *Peanut*	– Agarose Biotin FITC HRP	P02872	JOM-J114 JOM-J314 JOM-J214 JOM-J514 JOM-J414	5 mg 2 mℓ 1 mg 1 mg 1 mg

Canavalia ensiformis

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Canavalia ensiformis (Jack Bean) [Con A] [Sugar Specificity] α-D-Mannose, α-D-Glucose [Molecular Weight] 31,480Da [Amino Acids Residue] 290A.A.	*Canavalia ensiformis* Jack bean	– Agarose Agarose Biotin FITC HRP	P02866	JOM-J103 JOM-J303-10ML JOM-J303-100ML JOM-J203 JOM-J503 JOM-J403	500 mg 10 mℓ 100 mℓ 5 mg 10 mg 2 mg

Datura stramonium

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Datura stramonium [DSA] [Sugar Specificity] β-D-GlcNAc [Molecular Weight] 86,000Da	*Datura stramonium*	– Agarose Biotin FITC HRP	–	JOM-J105 JOM-J305 JOM-J205 JOM-J505 JOM-J405	5 mg 2 mℓ 1 mg 1 mg 1 mg

Dolichos biflorus

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Dolichos biflorus [DBA] [Sugar Specificity] D-GalNAc [Molecular Weight] 29,406Da [Amino Acids Residue] 275A.A.	*Dolichos biflorus*	– Biotin FITC HRP	P05045	JOM-J104 JOM-J204 JOM-J504 JOM-J404	5 mg 1 mg 1 mg 1 mg

Erythrina cristagalli

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Erythrina cristagalli [ECA] [Sugar Specificity] Gal β1-4GlcNAc>Lac>GalNAc>Gal [Molecular Weight] 26,231Da [Amino Acids Residue] 239A.A.	*Erythrina cristagalli*	– Agarose Biotin	P83410	JOM-J106 JOM-J306 JOM-J206	5 mg 2 mℓ 1 mg

Glycine max

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Glycine max (soybean) [SBA] [Sugar Specificity] D-GalNAc [Molecular Weight] 30,928Da [Amino Acids Residue] 285A.A.	*Glycine max* Soybean	– Agarose Biotin FITC HRP	P05046	JOM-J117 JOM-J317 JOM-J217 JOM-J517 JOM-J417	5 mg 2 mℓ 1 mg 1 mg 1 mg

Lectin Anti-H

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Lectin Anti-H	*Ulex europaeus*	–	–	JOM-J121	8 mℓ
Lectin Anti-H Strong	*Ulex europaeus*	–	–	JOM-J122	2 mℓ

Lectin Set

Description	Conjugation	Cat. No.	Quantity
Lectin Set-Agarose 1 (for elution) Sugar Set-1	–	JOM-J3S4	1 set
Lectin Set-Agarose 1 (Con A/LCA/ECA/WGA)	Agarose	JOM-J3S1	1 set
Lectin Set-Agarose 2 (for elution) Sugar Set-2	–	JOM-J3S5	1 set
Lectin Set-Agarose 2 (PHA-E4/PHA-L4/PNA/UEA-I)	Agarose	JOM-J3S2	1 set
Lectin Set-Agarose 3 (for elution) Sugar Set-3	–	JOM-J3S6	1 set
Lectin Set-Agarose 3 (AAL/DSA/MAM/SSA)	Agarose	JOM-J3S3	1 set
Lectin Set-Biotin 1 (Con A/DBA/LCA/PHA-E4/PNA/ECA/UEA-I/WGA)	Biotin	JOM-J2S1	1 set
Lectin Set-Biotin 2 (ABA/DSA/Lotus/MAM/PHA-L4/SBA/SSA)	Biotin	JOM-J2S2	1 set
Lectin Set-FITC 1 (Con A/DBA/LCA/PHA-E4/PNA/ECA/UEA-I/WGA)	FITC	JOM-J5S1	1 set
Lectin Set-FITC 2 (ABA/DSA/Lotus/MAM/PHA-L4/SBA/SSA)	FITC	JOM-J5S2	1 set
Lectin Set-HRP 1 (CON A/LCA/PHA-E4/PNA/ECA/WGA)	HRP	JOM-J4S1	1 set
Lectin Set-HRP 2 (CON A/DBA/LCA/PHA-E4/PNA/ECA/UEA-I/WGA)	HRP	JOM-J4S2	1 set

Lens culinaris

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Lens culinaris [LCA] [Sugar Specificity] D-Mannose, D-Glucose [Molecular Weight] 30,352Da [Amino Acids Residue] 275A.A.	*Lens culinaris*	– Agarose Biotin FITC HRP	P02870	JOM-J107 JOM-J307 JOM-J207 JOM-J507 JOM-J407	5 mg 5 mℓ 1 mg 1 mg 1 mg
Lens culinaris [LCA-A(isolectin A)] [Sugar Specificity] D-Mannose, D-Glucose [Molecular Weight] 30,352Da [Amino Acids Residue] 275A.A.	*Lens culinaris*	–	P02870	JOM-J108	5 mg

Lotus tetragonolobus

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Lotus tetragonolobus [Lotus] [Sugar Specificity] L-Fucose [Molecular Weight] 26,298Da [Amino Acids Residue] 240A.A.	*Lotus tetragonolobus*	– Agarose Biotin FITC	P19664	JOM-J109 JOM-J309 JOM-J209 JOM-J509	5 mg 2 mℓ 1 mg 1 mg

Maackia amurensis

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Maackia amurensis [MAM] [Sugar Specificity] Sia α2-3Gal [Amino Acids Residue] 287A.A.	*Maackia amurensis*	– Agarose Biotin FITC	–	JOM-J110 JOM-J310 JOM-J210 JOM-J510	2 mg 2 mℓ 1 mg 1 mg

Phaseolus vulgaris

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Phaseolus vulgaris [PHA-E4] [Sugar Specificity] D-GalNAc [Molecular Weight] 29,746Da [Amino Acids Residue] 275A.A.	*Phaseolus vulgaris*	– Agarose Agarose Biotin FITC HRP	P05088	JOM-J111 JOM-J311-2ML JOM-J311-5ML JOM-J211 JOM-J511 JOM-J411	5 mg 2 mℓ 5 mℓ 1 mg 1 mg 1 mg
Phaseolus vulgaris [PHA-L4] [Sugar Specificity] D-GalNAc [Molecular Weight] 29,556Da [Amino Acids Residue] 272A.A.	*Phaseolus vulgaris*	– Agarose Biotin FITC HRP	P05087	JOM-J112 JOM-J312 JOM-J212 JOM-J512 JOM-J412	5 mg 2 mℓ 1 mg 1 mg 1 mg
Phaseolus vulgaris [PHA-P] [Sugar Specificity] D-GalNAc	*Phaseolus vulgaris*	–	P05087	JOM-J113	50 mg

Phytolacca americana

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Phytolacca americana [PWM] [Molecular Weight] 9,103Da [Amino Acids Residue] 82A.A.	*Phytolacca americana*	– Agarose	P83790	JOM-J116 JOM-J316	5 mg 5 mℓ

Pisum sativum

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Pisum sativum [PSA] [Sugar Specificity] D-Mannose, D-Glucose [Molecular Weight] 30,270Da [Amino Acids Residue] 275A.A.	*Pisum sativum*	– Agarose	P02867	J0M-J115 J0M-J315	5 mg 2 mℓ

Sambucus sieboldiana

Description	Immunogen	Conjugation	Cat. No.	Quantity
Sambucus sieboldiana [SSA] [Sugar Specificity] Sia α2-6Gal / GalNAc	*Sambucus sieboldiana*	– Agarose Biotin FITC	J0M-J118 J0M-J318 J0M-J218 J0M-J518	5 mg 2 mℓ 1 mg 1 mg

Triticum vulgare

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Triticum vulgare (wheat germ) [WGA] [Sugar Specificity] D-GalNAc, NeuAc [Molecular Weight] 21,239Da [Amino Acids Residue] 212A.A.	*Triticum vulgare* Wheat germ	– Agarose Agarose Biotin FITC HRP	P10968	J0M-J120 J0M-J320-2ML J0M-J320-5ML J0M-J220 J0M-J520 J0M-J420	5 mg 2 mℓ 5 mℓ 1 mg 1 mg 1 mg

Ulex europaeus

Description	Immunogen	Conjugation	Accession No	Cat. No.	Quantity
Ulex europaeus [UEA-I] [Sugar Specificity] α-L-Fucose [Molecular Weight] 26,670Da [Amino Acids Residue] 243A.A.	*Ulex europaeus*	– Agarose Biotin FITC HRP	P22972	J0M-J119 J0M-J319 J0M-J219 J0M-J519 J0M-J419	2 mg 2 mℓ 1 mg 1 mg 1 mg

Sugars

Description	Conjugation	Structure	Cat. No.	Quantity
Amylose EX-I [Concentration] Protein<0.1% [Configuration] Ash<0.1%	–		HBL-AM-101	10 g
Amylose EX-III [Concentration] Protein<0.3% [Configuration] Ash<0.3%	–		HBL-AM-103	10 g
CEL-BSA	–		CSR-AGE-GP02	200 µl
CML-BSA	–		CSR-AGE-GP01	200 µl
Erlose [Purity] >97.0% [Configuration] White powder [MW] 504.44	–	$C_{18}H_{32}O_{16}$	HBL-GF131	100 mg
Fluoresceinamine-labeled Sodium Chondroitin Sulfate C [Appearance] Yellow green lyophilizate [CAS number of sodium chondroitin sulfate] 12678-07-8 [Fluorescent probe] Fluoresceinamine [CAS number of fluorescent probe] 3326-34-9	Label (Fluoresceinamine)		CSR-FACS-C2(SHC)3	3 mg
Fluoresceinamine-labeled Sodium Chondroitin Sulfate E [Appearance] Yellow green lyophilizate [Source of sodium chondroitin sulfate E] Squid cartilage [Fluorescent probe] Fluoresceinamine [CAS number of fluorescent probe] 3326-34-9	Label (Fluoresceinamine)		CSR-FACS-E2(SQC)3	3 mg
Fluoresceinamine-labeled Sodium Heparan Sulfate [Appearance] Yellow green lyophilizate [Source of sodium heparan sulfate] Pig kidney [Fluorescent probe] Fluoresceinamine [CAS number of fluorescent probe] 3326-34-9	Label (Fluoresceinamine)		CSR-FAHS-P2(PGK)3	3 mg
GA-BSA	–		CSR-AGE-GP03	200 µl
Isomaltose [Purity] >97.0% [Configuration] clear water solution [MW] 342.30	–	$C_{12}H_{22}O_{11}$	HBL-IM-121	1 g
Lipopolysaccharide	–		IAT-MAC0001	1 mg
Maltoheptaose [Purity] >97.0%	–	$C_{42}H_{72}O_{36}$	HBL-MA-171	1 g
Maltopentaose [Purity] >97.0%	–	$C_{30}H_{52}O_{26}$	HBL-MA-151	1 g
Maltose H [Purity] >92.0% [Configuration] White powder	–	$C_{12}H_{22}O_{11} \cdot H_2O$	HBL-MA-121	500 g
Maltose HH [Purity] >95.0%	–	$C_{12}H_{22}O_{11} \cdot H_2O$	HBL-MA-122	500 g
Maltose HHH [Purity] >99.0%	–	$C_{12}H_{22}O_{11} \cdot H_2O$	HBL-MA-123	500 g
Maltotetraose [Purity] >97.0%	–	$C_{24}H_{42}O_{21}$	HBL-MA-141	1 g
Maltotriose [Purity] >97.0% [Configuration] White powder	–	$C_{18}H_{32}O_{16}$	HBL-MA-131	10 g
Mild-AGE-BSA	–		CSR-AGE-GP05	200 µl
Neo trehalose [Purity] >95.0% [Configuration] White crystalline powder	–	$C_{12}H_{22}O_{11} \cdot H_2O$	HBL-TH122	100 mg
Panose [Purity] >97.0% [Configuration] White powder	–	$C_{18}H_{32}O_{16}$	HBL-IM-231	1 g
Pullulan [Concentration] Protein<0.1% [Configuration] Ash<0.1%	–		HBL-PU-101	10 g
Ribose-gelatin	–		CSR-AGE-GP04	500 µl
Trehalose [Purity] >99.0% [Configuration] White powder	–	$C_{12}H_{22}O_{11} \cdot {}_2H_2O$	HBL-TH-222	500 g
Trehalose, Anhydrous [Purity] >99.0% [Configuration] White powder	–	$C_{12}H_{22}O_{11}$	HBL-TH-221	100 g
Trehalose, Endotoxin Free [Purity] >99.0% [Configuration] White powder	–	$C_{12}H_{22}O_{11} \cdot {}_2H_2O$	HBL-TH-223	100 g

Fluoresceinamine Labeled Sodium Chondroitin Sulfate

Intended Use

For research of chondroitin sulfate

Background

Chondroitin sulfate (CS) is a sulfated glycosaminoglycan composed of repeating disaccharide units of N-acetyl-D-galactosamine (GalNAc) and D-glucuronic acid (GlcUA). CS is abundant in cartilage and exists as unbranched polysaccharidechains covalently linked to the protein core of proteoglycans. These products are prepared by the fluorescent labeling of CS derived from whale cartilage (FACS-A1), shark cartilage (FACS-C1 and D1), squid cartilage (FACS-E1) according to the method of Ogamo *et al*. Fluoresceinamine molecules are chemically attached to carboxyl groups of the glucuronic acid of CS. These solutions are dissolved in PBS (-) and sterilized by filtration. The endotoxin content is in accordance with the product specifications. The excitation wavelength is 490～500 ㎚ and the emission wavelength is 515～525 ㎚.

Specifications
3 ㎖ (1 ㎎/㎖, in phosphate buffered saline (PBS) (-))

Appearance
Yellow green solution

Fluorescent probe
Fluoresceinamine

CAS number of fluorescent probe
3326-34-9

Reference

・Ogamo A, *et al*.: Carbohydr. Res., 105, 69 (1982)

Description	Cat. No.	Quantity
Fluoresceinamine Labeled Sodium Chondroitin Poly-Sulfate (P1)	CSR-FACS-P1	3 ㎖
Fluoresceinamine Labeled Sodium Chondroitin Sulfate A (A1)	CSR-FACS-A1	3 ㎖
Fluoresceinamine Labeled Sodium Chondroitin Sulfate (C1)	CSR-FACS-C1	3 ㎖
Fluoresceinamine Labeled Sodium Chondroitin Sulfate D (D1)	CSR-FACS-D1	3 ㎖
Fluoresceinamine Labeled Sodium Chondroitin Sulfate E (E1)	CSR-FACS-E1	3 ㎖

Fluoresceinamine Labeled Sodium Dermatan Sulfate

Intended Use

For research of chondroitin sulfate

Background

Dermatan sulfate (DS) is a sulfated glycosaminoglycan composed of repeating disaccharide units of N-acetyl-D-galactosamine (GalNAc) and D-glucuronic acid (GlcUA) or D-iduronic acid (IdoUA). DS is abundant in skin and exists as unbranched polysaccharide chains covalently linked to the protein core of proteoglycans. This product is prepared by the fluorescent labeling of DS derived from porcine skin according to the method of Ogamo *et al*.1). Fluoresceinamine molecules are chemically attached to carboxyl groups of the GlcUA or IdoUA of DS. FADS-B1 contains approximately 80 % of disaccharide units with one sulfate groups as 4-O-sulfation of GalNAc. This solution is dissolved in PBS (-) and sterilized by filtration. The endotoxin content is in accordance with the product specifications. The excitation wavelength is 490～500 ㎚ and the emission wavelength is 515～525 ㎚.

Specifications
3 ㎖ (1 ㎎/㎖ , in phosphate buffered saline (PBS) (-))

Appearance
Yellow green solution

Source of sodium heparin sulfate
Porcine kidney

Fluorescent probe
Fluoresceinamine

CAS number of fluorescent probe
3326-34-9

Reference

・Ogamo A, *et al*.: Carbohydr. Res., 105, 69 (1982)

Description	Cat. No.	Quantity
Fluoresceinamine Labeled Sodium Dermatan Sulfate (B1)	CSR-FADS-B1	3 ㎖

Fluoresceinamine Labeled Sodium Heparan Sulfate

Intended Use

For research of chondroitin sulfate

Background

Heparan sulfate (HS) is a sulfated glycosaminoglycan composed of repeating disaccharide units of D-iduronic acid (IdoUA) or D-glucuronic acid (GlcUA) and N-acetyl-D-glucosamine or N-sulfo-glucosamine. HS is abundant in basement membrane of kidney and blood vessel exists as unbranched polysaccharide chains. This product is prepared by the fluorescent labeling of HS derived from porcine kidney according to the method of Ogamo *et al*. Fluoresceinamine molecules are chemically attached to carboxyl groups of the GlcUA or IdoUA of HS. This solution is dissolved in PBS (-) and sterilized by filtration. The excitation wavelength is 490～500 nm and the emission wavelength is 515～525 nm.

Specifications
1 mℓ (1 mg/mℓ , in phosphate buffered saline (PBS) (-))

Appearance
Yellow green solution

Source of sodium heparin sulfate
Porcine kidney

Fluorescent probe
Fluoresceinamine

CAS number of fluorescent probe
3326-34-9

Reference

・Ogamo A, *et al*.: Carbohydr. Res., 105, 69 (1982)

Description	Cat. No.	Quantity
Fluoresceinamine Labeled Sodium Heparan Sulfate (P1)	CSR-FAHS-P1	1 mℓ
Fluoresceinamine Labeled Sodium Heparin (N1)	CSR-FAHEP-N1	3 mℓ

Fluoresceinamine labeled Sodium Hyaluronate

Intended Use

For research of chondroitin sulfate

Background

Hyaluronan (HA) is a glycosaminoglycan composed of repeating disaccharide units of N-acetyl-D-glucosamine (GlcNAc) and D-glucuronic acid (GlcUA). HA is abundant in synovial fluid, skin, umbilical cord, and vitreous body exists as unbranched polysaccharide chains. This product is prepared by the fluorescent labeling of HA according to the method of Ogamo *et al*. Fluoresceinamine molecules are chemically attached to carboxyl groups of the GlcUA of HA. This solution is dissolved inPBS (-) and sterilized by filtration. The endotoxin content is in accordance with the product specifications. The excitation wavelength is 490～500 nm and the emission wavelengthis 515～525 nm.

Appearance
Yellow green solution or lyophilizate

Source of sodium hyaluronate
Streptococcus sp.

CAS number of sodium hyaluronate
9067-32-7

Fluorescent probe
Fluoresceinamine

CAS number of fluorescent probe
3326-34-9

Reference

・Ogamo A, *et al*.: Carbohydr. Res., 105, 69 (1982)

Description	Cat. No.	Quantity
Fluoresceinamine Labeled Sodium Hyaluronate (H1)	CSR-FAHA-H1	3 mℓ
Fluoresceinamine Labeled Sodium Hyaluronate (H2)	CSR-FAHA-H2	3 mg
Fluoresceinamine Labeled Sodium Hyaluronate (L1)	CSR-FAHA-L1	3 mℓ
Fluoresceinamine Labeled Sodium Hyaluronate (L2)	CSR-FAHA-L2	3 mg
Fluoresceinamine Labeled Sodium Hyaluronate (M1)	CSR-FAHA-M1	3 mℓ
Fluoresceinamine Labeled Sodium Hyaluronate (M2)	CSR-FAHA-M2	3 mg
Fluoresceinamine Labeled Sodium Hyaluronate (S1)	CSR-FAHA-S1	3 mℓ
Fluoresceinamine Labeled Sodium Hyaluronate (T1)	CSR-FAHA-T1	3 mℓ

Hyaluronic Acid Oligosaccharides

Intended Use

Useful for the research of various activities which high molecular hyaluronic acid does not have

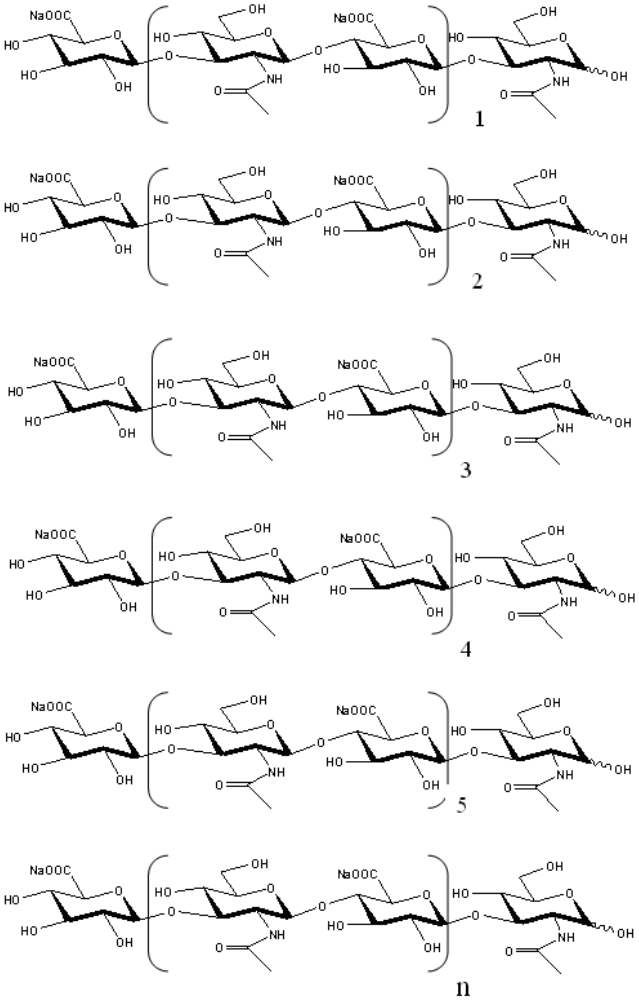
Background

Hyaluronic acid is a glycosaminoglycan, which does not include sulfate ester function, and was isolated from the vitreous body of cow's eye by Dr. Karl Meyer and his assistant Dr. John Palmer in 1934. Hyaluronic acid is constructed from disaccharide repeating units, each consisting of a D-glucronic acid and N-acetyl-D-glucosamine. The number of disaccharide repeating units are 10,000 or more in hyaluronic acid. Hyaluronic acid existe almost of vertebrate, and distributed in all parts of body, especially distributed in vitreous body, synovial fluid, skin, egg cell, and brain. Biological features of high molecular hyaluronic acid is water-retention, maintenance of cell, and differentiation control.
Recently, low molecular hyaluronic acid and hyaluronan oligosaccharide become known to have various activities which high molecular hyaluronic acid does not have. As shown in the reference, many papers show that changing molecular weight the product exhibits opposite activities. For example, HA6 shows "Induction of NO and MMPs in chondrocytes". PG Research has isolated and purified these hyaluronic acid oligosaccharides (HA Oligosaccharides)as shown below to have endotoxicin-free Oligosaccharides, and has been presenting them for *in vitro* use.

Molecular Weight

820.61

HA Oligosaccharide 4mer: GlcAβ1→3(GlcNAcβ1→4 GlcA)1β1→3GlcNAc



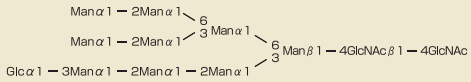
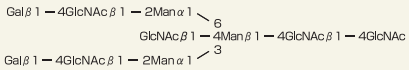
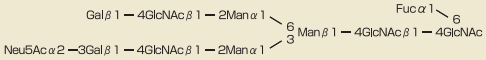
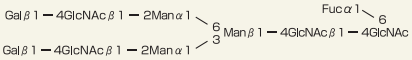
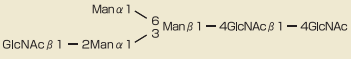
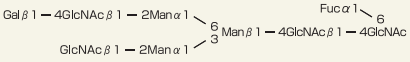
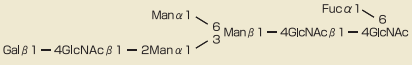
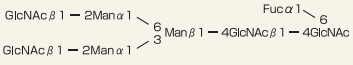
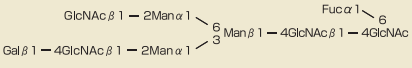
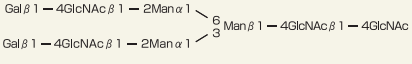
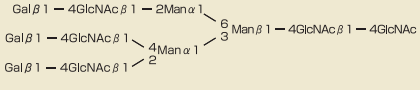
	Tetramer	Hexamer	Octamer	Decamer	Dodecamer
n	1	2	3	4	5
M. W.	820	1221.29	1607.21	1992.51	2393.81

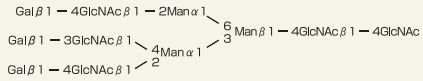
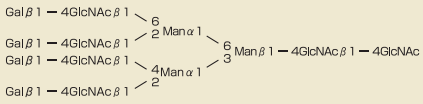
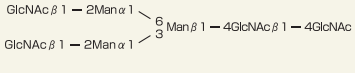
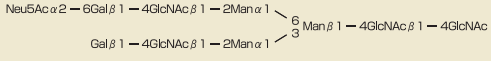
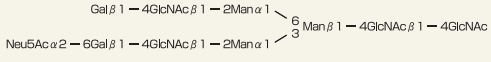
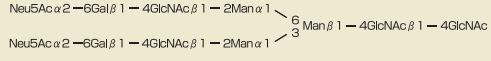
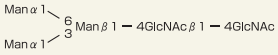
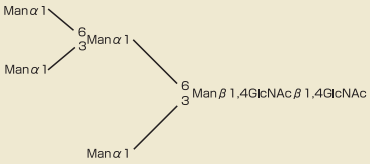
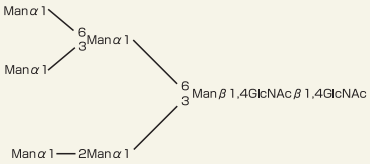
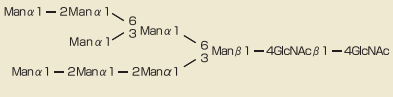
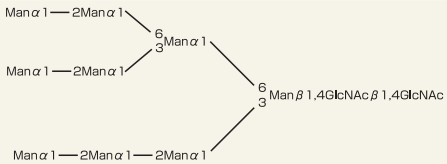
Reference

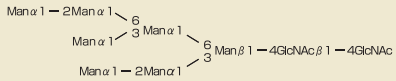
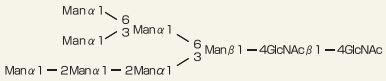
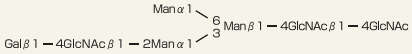
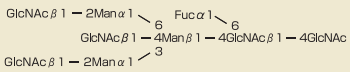
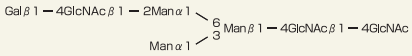
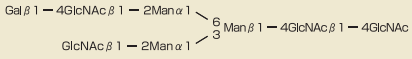
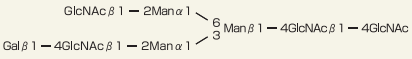
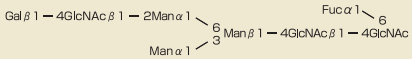
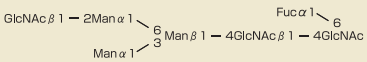
- Stern R, *et al*. Eur. J. Cell. Biol.85 (2006) 699-715
- Tawada A, *et al*. Glycobiology, 2002; 12(7),421 (2002)

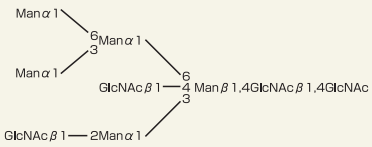
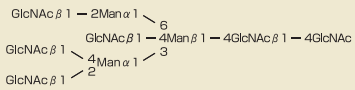
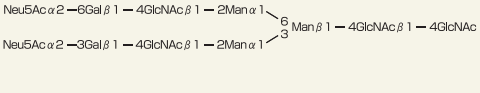
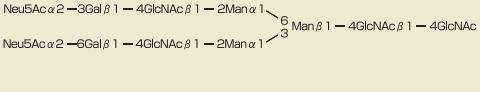
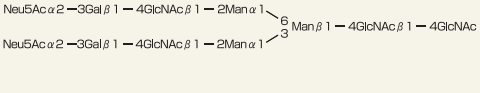
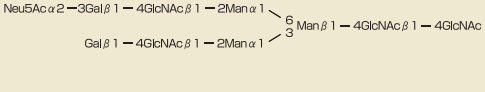
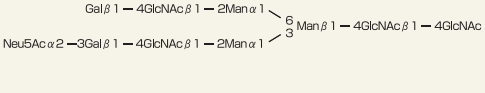
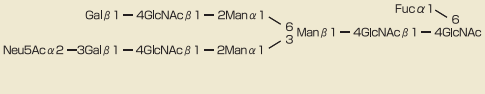
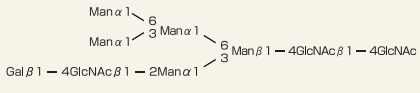
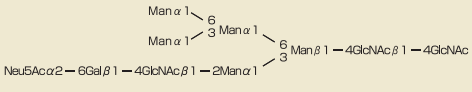
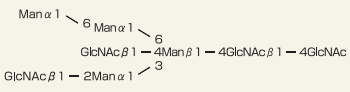
Description	Conjugation	Cat. No.	Quantity
Hyaluronan Oligosaccharide 4mer (HA4)	–	CSR-11001	3 mg
Hyaluronan Oligosaccharide 4mer (HA4), Endotoxin Free	–	CSR-11006	3 mg
Hyaluronan Oligosaccharide 6mer (HA6)	–	CSR-11002	3 mg
Hyaluronan Oligosaccharide 6mer (HA6), Endotoxin Free	–	CSR-11007	3 mg
Hyaluronan Oligosaccharide 8mer (HA8)	–	CSR-11003	3 mg
Hyaluronan Oligosaccharide 8mer (HA8), Endotoxin Free	–	CSR-11008	3 mg
Hyaluronan Oligosaccharide 10mer (HA10)	–	CSR-11004	3 mg
Hyaluronan Oligosaccharide 10mer (HA10), Endotoxin Free	–	CSR-11009	3 mg
Hyaluronan Oligosaccharide 12mer (HA12)	–	CSR-11005	1 mg
Hyaluronan Oligosaccharide 12mer (HA12), Endotoxin Free	–	CSR-11010	1 mg
Hyaluronan oligosaccharide assortment (HA4, HA6, HA8, HA10, HA12)	–	CSR-93001	1 set
Hyaluronan oligosaccharide assortment (HA4, HA6, HA8, HA10, HA12), Endotoxin Free	–	CSR-93002	1 set

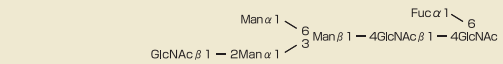
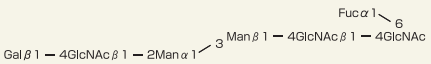
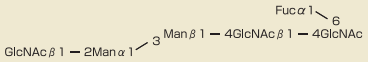
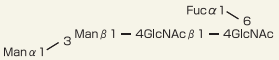
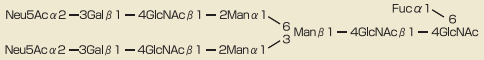
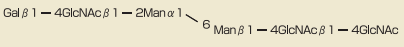
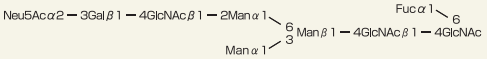
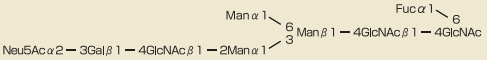
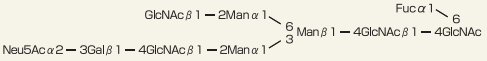
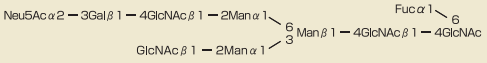
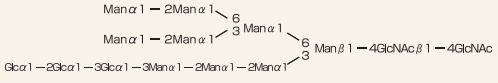
Standard Sugar Chain

Description	Structure	Abbreviation	Conjugation	Cat. No.	Quantity
Standard Sugar Chain PA-001		–	2-AP	MCI-PA-001	100 pM
Asialo-, galactosylated biantennary with bisecting GlcNAc		NA2B	2-AP	MCI-PA-002	100 pM
Asialo-, galactosylated biantennary, core-substituted with fucose and with bisecting GlcNAc		NGA2FB	2-AP	MCI-PA-003	100 pM
Standard Sugar Chain PA-004		–	2-AP	MCI-PA-004	100 pM
Asialo-, agalacto-, mono GlcNAc, biantennary		–	2-AP	MCI-PA-005	100 pM
Asialo-, mono-agalacto-, biantennary, core-substituted with fucose		NA2G1F	2-AP	MCI-PA-008	100 pM
Asialo-, mono-agalacto-, mono-GlcNAc-, biantennary core-substituted with fucose (1)		–	2-AP	MCI-PA-009	100 pM
Standard Sugar Chain PA-010		–	2-AP	MCI-PA-010	100 pM
Asialo-, mono-agalacto-, biantennary with fucose		NA2G1F	2-AP	MCI-PA-011	100 pM
Standard Sugar Chain PA-012		–	2-AP	MCI-PA-012	100 pM
Asialo-, galactosylated triantennary (1)		NA3-1	2-AP	MCI-PA-013	100 pM

Description	Structure	Abbreviation	Conjugation	Cat. No.	Quantity
Asialo-, galactosylated triantennary (2)		NA3-2	2-AP	MCI-PA-014	100 pM
Standard Sugar Chain PA-015		–	2-AP	MCI-PA-015	100 pM
Standard Sugar Chain PA-020		–	2-AP	MCI-PA-020	100 pM
Mono-sialylated-, galactosylated biantennary (1)		A1	2-AP	MCI-PA-024	100 pM
Mono-sialylated-, galactosylated biantennary (2)		A1	2-AP	MCI-PA-025	100 pM
Di-sialylated-, galactosylated biantennary (1)		A2	2-AP	MCI-PA-026	100 pM
Standard Sugar Chain PA-029		–	2-AP	MCI-PA-029	100 pM
Man-5 Glycan		MAN-5	2-AP	MCI-PA-030	100 pM
Man-6 Glycan		MAN-6	2-AP	MCI-PA-031	100 pM
Man-8 Glycan		MAN-8	2-AP	MCI-PA-032	100 pM
Man-9 Glycan		MAN-9	2-AP	MCI-PA-033	100 pM

Description	Structure	Abbreviation	Conjugation	Cat. No.	Quantity
Man-7 Glycan (1)		MAN-7	2-AP	MCI-PA-035	100 pM
Man-7 Glycan (2)		MAN-7	2-AP	MCI-PA-036	100 pM
Conserved trimannosyl core, substituted with fucose		M3N2F	2-AP	MCI-PA-042	100 pM
Asialo-, mono-agalacto-, mono-GlcNAc-, biantennary (1)		–	2-AP	MCI-PA-043	100 pM
Asialo-, agalacto-, biantennary, core-substituted with fucose and with bisecting GlcNAc		NGA2FB	2-AP	MCI-PA-044	100 pM
Asialo-, mono-agalacto-, mono-GlcNAc-, biantennary (2)		–	2-AP	MCI-PA-045	100 pM
Asialo-, mono-agalacto-, biantennary (1)		–	2-AP	MCI-PA-046	100 pM
Asialo-, mono-agalacto-, biantennary (2)		–	2-AP	MCI-PA-047	100 pM
Asialo-, mono-agalacto-, mono-GlcNAc-, biantennary core-substituted with fucose (2)		–	2-AP	MCI-PA-048	100 pM
Asialo-, agalacto-, mono GlcNAc with bisecting GlcNAC, biantennary		–	2-AP	MCI-PA-050	100 pM
Asialo-, agalacto-, mono GlcNAc, biantennary core-substituted with fucose (1)		–	2-AP	MCI-PA-051	100 pM

Description	Structure	Abbreviation	Conjugation	Cat. No.	Quantity
Hybrid-type with bisecting GlcNAc		HUBR	2-AP	MCI-PA-055	100 pM
Asialo-, agalacto-, triantennary with bisecting GlcNAc (1)		–	2-AP	MCI-PA-056	100 pM
Di-sialylated-, galactosylated biantennary, coresubstituted with fucose (1)		A2	2-AP	MCI-PA-057	100 pM
Di-sialylated-, galactosylated biantennary (3)		A2	2-AP	MCI-PA-058	100 pM
Di-sialylated-, galactosylated biantennary (2)		A2	2-AP	MCI-PA-059	100 pM
Mono-sialylated-, galactosylated biantennary (3)		A1	2-AP	MCI-PA-060	100 pM
Mono-sialylated-, galactosylated biantennary (4)		A1	2-AP	MCI-PA-061	100 pM
Mono-sialylated-, galactosylated biantennary, coresubstituted with fucose (2)		A1F	2-AP	MCI-PA-062	100 pM
Standard Sugar Chain PA-066		–	2-AP	MCI-PA-066	100 pM
Standard Sugar Chain PA-067		–	2-AP	MCI-PA-067	100 pM
Standard Sugar Chain PA-068		–	2-AP	MCI-PA-068	100 pM

Description	Structure	Abbreviation	Conjugation	Cat. No.	Quantity
Asialo-, agalacto-, mono GlcNAc, biantennary core-substituted with fucose (2)		—	2-AP	MCI-PA-075	100 pM
Standard Sugar Chain PA-076		—	2-AP	MCI-PA-076	100 pM
Standard Sugar Chain PA-077		—	2-AP	MCI-PA-077	100 pM
Standard Sugar Chain PA-078		—	2-AP	MCI-PA-078	100 pM
Di-sialylated-, galactosylated biantennary, coresubstituted with fucose (2)		A2F	2-AP	MCI-PA-083	100 pM
Standard Sugar Chain PA-084		—	2-AP	MCI-PA-084	100 pM
Standard Sugar Chain PA-085		—	2-AP	MCI-PA-085	100 pM
Mono-asialo-, mono-agalacto-, mono-GlcNAc, biantennary core-substituted with fucose (1)		—	2-AP	MCI-PA-505	100 pM
Mono-asialo-, mono-agalacto-, mono-GlcNAc, biantennary core-substituted with fucose (2)		—	2-AP	MCI-PA-507	100 pM
Mono-asialo-, mono-agalacto-, biantennary, core-substituted with fucose (1)		—	2-AP	MCI-PA-508	100 pM
Mono-asialo-, mono-agalacto-, biantennary, core-substituted with fucose (2)		—	2-AP	MCI-PA-514	100 pM
Standard Sugar Chain PA-541		—	2-AP	MCI-PA-541	100 pM

Allergens

Description	Cat. No.	Quantity
DNP-Ascaris [Form] Lyophilized protein powder / 2,4-dinitrophenylated Ascaris Extract [Volume] Protein: 10 ㎎ / Conjugation ratio: 19.3 DNP groups/molecule (Lot #XXXXXX) (As average of molecular weight: 100,000) [Concentration] Add 1.0 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0009	1 vial
TNP-Ascaris [Form] Lyophilized protein powder / 2,4,6-trinitrophenyl Ascaris Crude Extract [Volume] Protein: 5 ㎎ / Conjugation ratio: 33.7 TNP groups/molecule (Lot #XXXXXX) (As average of molecular weight: 100,000) [Concentration] Add 0.5 ㎖ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-1109	1 vial
Ascaris Extract [Form] Lyophilized protein powder Ascaris Crude Extract This product extracted from Ascaris. Ascaris were homogenized with 10-fold 50 mM Phosphate buffer (pH7.2) in an ice bath, and the homogenate were stirred at 4℃ for 24 hours, and centrifuged at dialyzed 4 times by BBS. [Concentration] Add 1.6 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5009	1 vial
DNP-Mite-Df [Form] Lyophilized protein powder Ascaris Crude Extract / 2,4-dinitrophenylated Mite-Df Crude Extract [Volume] Protein: 5 ㎎ / Conjugation ratio: 4.6 DNP groups/molecule (Lot #XXXXXX) (As average of molecular weight: 50,000) [Concentration] Add 1.7 ㎖ of of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0533	1 vial
DNP-Mite-Dp [Form] Lyophilized protein powder Ascaris Crude Extract / 2,4-dinitrophenylated Mite-Dp Crude Extract [Volume] Protein: 5 ㎎ / Conjugation ratio: 8.5 DNP groups/molecule (Lot #XXXXXX) (As average of molecular weight: 50,000) [Concentration] Add 1.2 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0544	1 vial
Mite-Df Feces AG (Mite DfF AG) [Form] Lyophilized protein powder / Mite-Df Feces Crude Extract This product extracted from feed and superficial of House Dust Mites, Dermatophagoides farinae (Hughes) Feed and mite body were stirred with PBS, and centrifuged and the supernatant was dialyzed at 4℃ by PBS. [Concentration] Add 3.4 ㎖ of distilled water. It will become PBS (Dulbeco, pH7.4) solution.	LSL-LG-2334	1 vial
Mite Extract-Df [Form] Lyophilized protein powder Mite-Df Crude Extract This product extracted from House Dust Mites, Dermatophagoides farinae (Hughes)*. Mites were homogenized with 10-fold 50 mM Phosphate buffer (pH7.2) in an ice bath, and the homogenate were stirre were stirred at 4℃ for 24 hours, and centrifuged at dialyzed 4 times by BBS. [Concentration] Add 2.5 ㎖ of distilled water. It will become PBS (Dulbeco, pH7.4) solution.	LSL-LG-5339	1 vial
Mite-Dp Feces AG (Mite DpF AG) [Form] Lyophilized protein powder / Mite-Dp Feces Crude Extract This product extracted from feed and superficial of House Dust Mites, Dermatophagoides pteronyssinus (Trouessari) Feed and mite body were stirred with PBS, and centrifuged and the supernatant was dialyzed at 4℃ by PBS. [Concentration] Add 4.2 ㎖ of distilled water. It will become PBS (Dulbeco, pH7.4) solution.	LSL-LG-2444	1 vial
Mite Extract-Dp [Form] Lyophilized protein powder Mite-Dp Crude Extract This product extracted from House Dust Mites, Dermatophagoides pteronyssinus (Trouessari) Mites were homogenized with 10-fold 50 mM Phosphate buffer (pH7.2) in an ice bath, and the homogenate were stirred at 4℃ for 24 hours, and centrifuged at dialyzed 4 times by BBS. [Concentration] Add 2.0 ㎖ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5449	1 vial
Mite Extract-Tp [Form] Lyophilized protein powder Mite-Tp Crude Extract This product extracted from House Dust Mites, Tyrophagus putrescentiae (Schrank) Mites were homogenized with 10-fold 50 mM Phosphate buffer (pH7.2) in an ice bath, and the homogenate were stirred at 4℃ for 24 hours, and centrifuged at dialyzed 4 times by BBS. [Concentration] Add 3.3 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5559	1 vial

Description	Cat. No.	Quantity
DNP-Cedar Pollen-Cj [Form] Lyophilized protein powder / 2,4-dinitrophenylated Japanese Cedar Pollen-Cj Crude Extract [Volume] Protein: 2 mg / Conjugation ratio: 11.3 DNP groups/molecule (As average of molecular weight: 30,000) [Concentration] Add 3.3 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0528	1 vial
Cedar Pollen Extract [Form] Lyophilized protein powder / Cedar Pollen Crude Extract This product extracted from Mountain Cedar, Juniperus asheii Pollen*. [Volume] Protein: 5 mg [Concentration] Add 3.0 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5229	1 vial
Cedar Pollen Extract-Cj [Form] Lyophilized protein powder / Cedar Pollen-Cj Crude Extract This product extracted from Japanese cedar, Cryptomeria Japonica Pollen Pollens were stirred with 10-fold 0.125M NaHCO3 (pH8) at 4℃, and homogenized lightly, and centrifuged at dialyzed 4 times by BBS. [Concentration] Add 2.3 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5280	1 vial
Hinoki Cypress, Pollen Crude Extract [Form] Lyophilized protein powder / Hinoki Pollen Crude Extract This product extracted from Hinoki Cypress, Chamaecyparis obtusa Pollen Pollens were stirred with 20 volumes of 0.125 M NaHCO3 (pH8) at 4℃ for 16 hours, homogenized, centrifuged, and the supernatant dialyzed against BBS. [Concentration] Add 2.0 mℓ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5779	1 vial
Ragweed Pollen Extract [Form] Lyophilized protein powder / Ragweed Pollen Crude Extract This product produced from Short Ragweed, Ambrosia artemisiifolia Acetone treated pollen was stirred with 20 volumes of 0.125 M sodium bicarbonate (pH 8) at 4℃ for 16 hours, centrifuged, and the supernatant dialyzed against BBS. [Concentration] Add 1.0 mℓ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5889	1 vial
DNP-BSA [Form] Lyophilized protein powder / 2,4-dinitrophenylated Bovine Serum Albumin [Volume] Protein: 30 mg / Conjugation ratio: 5.6 DNP groups/molecule (As average of molecular weight: 69,000) [Concentration] Add 1.8 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution	LSL-LG-0017	1 vial
DNP-BSA (30) [Form] Lyophilized protein powder / 2,4-dinitrophenylated Bovine Serum Albumin [Volume] Protein: 20 mg / Conjugation ratio: 32.7 DNP groups/molecule (As average of molecular weight: 69,000) [Concentration] Add 2.2 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-3017	1 vial
BPO-BSA [Form] Lyophilized protein powder / Benzylpenicilloyl Bovine Serum Albumin [Volume] Protein: 30 mg / Conjugation ratio: 3.5 BPO groups/molecule (As average of molecular weight: 69,000) [Concentration] Add 1.6 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0317	1 vial
BPO-BGG [Form] Lyophilized protein powder / Benzylpenicilloyl Bovine γ-Globulin [Volume] Protein: 20 mg / Conjugation ratio: 5.3 BPO groups/molecule (As average of molecular weight: 170,000) [Concentration] Add 1.0 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0577	1 vial
TNP-BSA [Form] Lyophilized protein powder / 2,4,6-trinitrophenyl Bovine Serum Albumin [Volume] Protein: 10 mg / Conjugation ratio: 25.4 TNP groups/molecule (As average of molecular weight: 170,000) [Concentration] Add 0.8 mℓ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-1117	1 vial
DNP-OA (Ovalbumin) [Form] Lyophilized protein powder / 2,4-dinitrophenylated Chicken Egg Albumin [Volume] Protein: 20 mg / Conjugation ratio: 9.6 DNP groups/molecule (As average of molecular weight: 45,000) [Concentration] Add 1.5 mℓ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution	LSL-LG-0024	1 vial

Allergens

Description	Cat. No.	Quantity
DNP-Casein [Form] Lyophilized protein powder / 2,4-dinitrophenylated Bovine Casei [Volume] Protein: 30 ㎎ / Conjugation ratio: 17.8 DNP groups/molecule (As average of molecular weight: 45,000) [Concentration] Add 1.6 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution	LSL-LG-0047	1 vial
DNP-LG (β-Lactoglobulin) [Form] Lyophilized protein powder / 2,4-dinitrophenylated Bovine β-Lactoglobulins A&B [Volume] Protein: 30 ㎎ / Conjugation ratio: 4.9 DNP groups/molecule (As average of molecular weight: 18,400) [Concentration] Add 1.5 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0067	1 vial
DNP-KLH [Form] Lyophilized protein powder / 2,4-dinitrophenylated Hemocyanin, Keyhole Limpet [Volume] Protein: 10 ㎎ / Conjugation ratio: 3.7 DNP groups/molecule (As average of molecular weight: 100,000) [Concentration] Add 1.1 ㎖ of distilled water. It will become 5 mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-0089	1 vial
Wormwood Pollen Extract [Form] Lyophilized protein powder / Wormwood Pollen Extract [Volume] Protein: 5 ㎎ / Conjugation ratio: ratio: 3.7 DNP groups/molecule (As average of molecular weight: 100,000) [Concentration] Add 1.1㎖ of distilled water. It will become 5mM Borate buffered saline [BBS] (pH 8.0), 0.9% NaCl solution.	LSL-LG-5999	1 vial

β-2 GPI (Apolipoprotein H)

Background

β_2-Glycoprotein I (also termed apolipoprotein H) is an inhibitor of the intrinsic blood coagulation pathway, ADP-dependent aggregation, and prothrombinase activity of activated platelets. The protein is also involved in binding of anticardiolipin antibodies to solid phase cardiolipin in ELISA.

Solution

2 ㎎ /0.5 ㎖ , 10mM HEPES, pH7.4, 150 mM NaCl (0.5㎖)

Quality

Purified from normal human sera. The preparation is negative for HBs antigen and HTLV-Ⅲ antibody.

Reference

- Schlutze, H.E., *et al*. Naturwissenshaften 48, 719 (1961)
- Schousboe, I. Blood 66, 1086 (1986)
- Nimpf, J., *et al*. Atherosclerosis 63, 109 (1987)
- Nimpf, J., *et al*. Biochim. Biophys. Acta 884, 142 (1986)
- Matsuura, E., *et al*. J. Immunol. 148,3885 (1992)

Description	Cat. No.	Quantity
β-2 GPI (Apolipoprotein H)	YMS-7660	2 ㎎

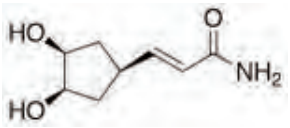
Drosophila Diptericin Inhibitor TPS-17

Intended Use

A unique tool which inhibits the innate immunity of insects

Background

Innate immunity comprises evolutionarily conserved self-defense mechanisms against microbial infections. In mammals, innate immunity interacts with adaptive immunity and has a key role in the regulated immune response. Therefore, innate immunity is a pharmaceutical target for the development of immune regulators. Using Drosophila *ex vivo* culture systems (Yajima *et al*. Biochem. J. 371, 205-210, 2003), a cyclopentanediol analogue is isolated from Aspergillus sp. as an immunosuppressive substance (Sekiya *et al*. Biochem. Pharm. 75, 2165-2174, 2008). This compound selectively suppresses activation of the imd pathway in Drosophila *in vivo* and the target molecules of the compound lie between the Imd adaptor protein and dTAK1 kinase in the imd pathway. In human cells, the compound suppresses TNF-a, but not IL-1β, stimulation-induced activation of NF-kB, suggesting that its target molecules are upstream of TAK1 in mammalian innate immunity. The compounds, TPS-17 and TPS-19, are developed from the cyclopentanediol analogue (Kikuchi *et al*. Eur. J.Med.Chem 46. 1263-1273, 2011).



(E)-3-(c-3,c-4-dihydroxycyclopent-r-1-yl)propenamide

Reference

- M. Yajima, M. Takada, N. Takahashi, H. Kikuchi, S. Natori, Y. Oshima, and S. Kurata: "A Newly Established *in Vitro* Culture Using Transgenic Drosophila Reveals Functional Coupling between the Phospholipase A2-generated Fatty Acid Cascade and Lipopolysaccharide-dependent Activation of the immune deficiency (imd) Pathway in Insect Immunity" Biochem. J., 371, 205-210 (2003).
- M. Sekiya, K. Ueda, K. Okazaki, H. Kikuchi, S. Kurata, and Y. Oshima."A Cyclopentanediol Analogue Selectively Suppresses the Conserved Innate Immunity Pathways, Drosophila IMD and TNF-a Pathways" Biochem. Pharmacol., 75, 2165-2174 (2008).
- H. Kikuchi, K. Okazaki, M. Sekiya, Y. Uryu, Y. Katou, K. Ueda, S. Kurata, Y. Oshima: "Synthesis and innate immunosuppressive effect of 1,2-cyclopentanediol derivatives" Eur. J.Med.Chem 46. 1263-1273 (2011).

Description	Cat. No.	Quantity
Drosophila Diptericin Inhibitor TPS-17	CSR-TPS-17	500 μg

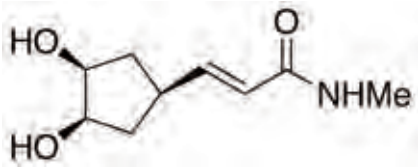
Drosophila Diptericin Inhibitor TPS-19

Intended Use

A unique tool which inhibits the innate immunity of insects

Background

Innate immunity comprises evolutionarily conserved self-defense mechanisms against microbial infections. In mammals, innate immunity interacts with adaptive immunity and has a key role in the regulated immune response. Therefore, innate immunity is a pharmaceutical target for the development of immune regulators. Using Drosophila *ex vivo* culture systems (Yajima *et al*. Biochem. J. 371, 205-210, 2003), a cyclopentanediol analogue is isolated from *Aspergillus sp*. as an immunosuppressive substance (Sekiya *et al*. Biochem. Pharm. 75, 2165-2174, 2008). This compound selectively suppresses activation of the imd pathway in Drosophila *in vivo* and the target molecules of the compound lie between the Imd adaptor protein and dTAK1 kinase in the imd pathway. In human cells, the compound suppresses TNF-a, but not IL-1β, stimulation-induced activation of NF-kB, suggesting that its target molecules are upstream of TAK1 in mammalian innate immunity. The compounds, TPS-17 and TPS-19, are developed from the cyclopentanediol analogue (Kikuchi *et al*. Eur. J.Med.Chem 46. 1263-1273, 2011).



(E)-N-methyl-3-(c-3,c-4-dihydroxycyclopent-r-1-yl)propenamide

Reference

- M. Yajima, M. Takada, N. Takahashi, H. Kikuchi, S. Natori, Y. Oshima, and S. Kurata: "A Newly Established *in Vitro* Culture Using Transgenic Drosophila Reveals Functional Coupling between the Phospholipase A2-generated Fatty Acid Cascade and Lipopolysaccharide-dependent Activation of the immune deficiency (imd) Pathway in Insect Immunity" Biochem. J., 371, 205-210 (2003).
- M. Sekiya, K. Ueda, K. Okazaki, H. Kikuchi, S. Kurata, and Y. Oshima."A Cyclopentanediol Analogue Selectively Suppresses the Conserved Innate Immunity Pathways, Drosophila IMD and TNF-a Pathways" Biochem. Pharmacol., 75, 2165-2174 (2008).
- H. Kikuchi, K. Okazaki, M. Sekiya, Y. Uryu, Y. Katou, K. Ueda, S. Kurata, Y. Oshima: "Synthesis and innate immunosuppressive effect of 1,2-cyclopentanediol derivatives" Eur. J.Med.Chem 46. 1263-1273 (2011).

Description	Cat. No.	Quantity
Drosophila Diptericin Inhibitor TPS-19	CSR-TPS-19	500 μg

IL-1Receptor-Ig heterodimer-containing medium for IL-1 inhibition

Intended Use

IL-1 inhibition

Source

Condition medium (RPMI 1640, 10% FBS, 100 unit/mℓ penicillin, 100 μg/mℓ streptomycin) was obtained from Cos-7 cells cotransfected with pCAGGS- Rat GRO/CINC2 alfa N- Human IL-1R acp- Human IgG1Fc- 6His and pCAGGS- Human IL-1R II- Human IgG1 Fc- Rat GRO/CINC2 alfa C- Myc by Fugene 6 (Roche, Indianapolis, IN). It was filtered by Millex-GV Filter Unit, 0.22 μm (Millipore, Billerica, MA). It contains not only human IL-1R-Ig heterodimer but also IL-1R acp- IgG1Fc homodimer and IL-1R II- IgG1Fc homodimer. However, IL-1 inhibition effect by IL-1R-Ig heterodimer is much stronger than that by their homodimers. MOCK medium was obtained from them trasfected with pCAGGS.

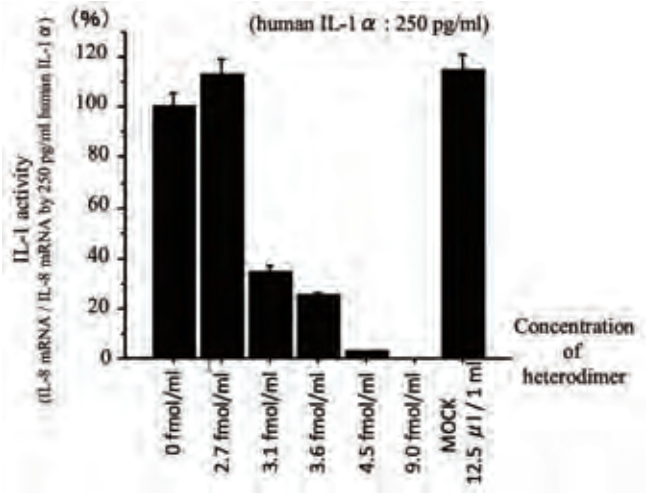
Background

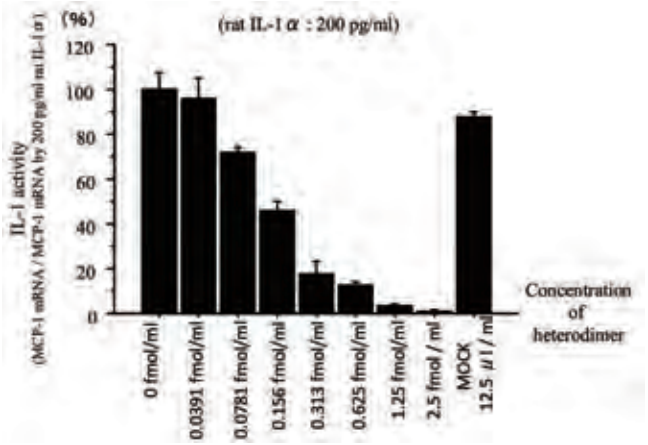
Interleukin-l (IL-l α and IL-1 β) is a proinflammatory cytokine involved in immune responses including both innate and acquired immunity. IL-1 is thought to play a role in many diseases, including arthritis, heart disease, pancreatitis, multiple myeloma, and stroke. IL-1 receptor (IL1R) I, also known as CD121a, is an 80 kDa type I transmembrane (TM) protein that binds cytokines IL1 α and IL1 β and transduces a signal. Whereas IL1RII, also known as CD121b, is an 65 kDa protein that binds cytokines IL1 α and IL1 β but does not transduce a signal. Signal transduction requires complex formation with the IL1R accessory protein (IL1R acp), another type I TM protein. Soluble IL1R acp and soluble IL-1RII is present in normal serum and soluble form of the IL-1 receptor accessory protein (acp) increases the affinity of binding of IL-1 α and IL-1 β to the soluble IL1RII

1). Inhibition of IL-1 is beneficial in many animal models of disease and is expected to offer a new therapy for various human diseases.
Smith DE. *et al.,* Immunity 18 87-96 (2003)
J Clin Immunol. 2010 Dec 22. (PMID: 21181432)

Form

Liquid (control medium is attached)





Reference

・IL-1 Receptor Accessory Protein-Ig/IL-1 Receptor Type II-Ig Heterodimer Inhibits IL-1 Response More Strongly than Other IL-1 Blocking Biopharmaceutical Agents. J Clin Immunol. 2010 Dec 22. (PMID: 21181432)

Description	Cat. No.	Quantity
IL-1Receptor-Ig heterodimer-containing medium for IL-1 inhibition	CSR-KN-NIGU-M01 CSR-KN-NIGU-M02	500 μℓ 500 μℓ

Koningic Acid

Intended Use

Anticancer agent development of new action mechanism

Background

Koningic acid (CAS No. 57710-57-3) (Figure 1) is a sesquiterpene lactone (molecular mass of 280.3) produced by the fungus Trichoderma koningii. Koningic acid inhibits glyceraldehyde 3-phosphate dehydrogenase (GAPDH) from various species by binding to the essential Cys residue in the catalytic site through a thioether bond. The covalent modification of the essential Cys by koningic acid leads to irreversible inactivation of GAPDH. The affinity of koningic binding to GAPDH for the inactivation is 1.6 μM Koningic acid is effective in inhibiting GAPDH of cells in culture at 10-50 μM. Koningic acid produces glucose-dependent ATP depletion in malignant cells. There are many examples ofthe Application of koningic acid in biochemical and biomedical researches.

Specification

Synonym
Heptelidic acid

Molecular Weight
280.32

Form
100 mM DMSO solution

Appearance
Clear liquid

Purity
>80% by HPLC

Reference

- Endo, A., K. Hasumi, *et al*. (1985). "Specific inhibition of glyceraldehyde-3-phosphate dehydrogenase by koningic acid (heptelidic acid)." J Antibiot (Tokyo) 38(7): 920-5.
- Sakai, K., K. Hasumi, *et al*. (1988). "Inactivation of rabbit muscle glyceraldehyde-3-phosphate dehydrogenase by koningic acid." Biochim Biophys Acta 952(3): 297-303.
- Sakai, K., K. Hasumi, *et al*. (1991). "Identification of koningic acid (heptelidic acid)-modified site in rabbit muscle glyceraldehyde-3-phosphate dehydrogenase." Biochim Biophys Acta 1077(2): 192-6.
- Kato, M., K. Sakai, *et al*. (1992). "Koningic acid (heptelidic acid) inhibition of glyceraldehyde-3-phosphate dehydrogenases from various sources." Biochim Biophys Acta 1120(1): 113-6.
- Kumagai, S., R. Narasaki, *et al*. (2008). "Glucose-dependent active ATP depletion by koningic acid kills high-glycolytic cells." Biochem Biophys Res Commun 365(2): 362-8.
- Colell, A., D. R. Green, *et al*. (2009). "Novel roles for GAPDH in cell death and carcinogenesis." Cell Death Differ 16(12): 1573-81.
- Markos, A., A. Miretsky, *et al*. (1993). "A glyceraldehyde-3-phosphate dehydrogenase with eubacterial features in the amitochondriate eukaryote, Trichomonas vaginalis." J Mol Evol 37(6): 631-43.
- McDonald, B., B. Reep, *et al*. (1993). "Glyceraldehyde-3-phosphate dehydrogenase is required for the transport of nitric oxide in platelets." Proc Natl Acad Sci U S A 90(23): 11122-6.
- Nakazawa, M., T. Uehara, *et al*. (1997). "Koningic acid (a potent glyceraldehyde-3-phosphate dehydrogenase inhibitor)-induced fragmentation and condensation of DNA in NG108-15 cells." J Neurochem 68(6): 2493-9.
- Nomura, Y. (1998). "A transient brain ischemia- and bacterial endotoxin-induced glial iNOS expression and NO-induced neuronal apoptosis." Toxicol Lett 102-103: 65-9.
- Beisswenger, P. J., S. K. Howell, *et al*. (2003). "Glyceraldehyde-3-phosphate dehydrogenase activity as an independent modifier of methylglyoxal levels in diabetes." Biochim Biophys Acta 1637(1): 98-106.
- Kim, J. H., S. Lee, *et al*. (2003). "Hydrogen peroxide induces association between glyceraldehyde 3-phosphate dehydrogenase and phospholipase D2 to facilitate phospholipase D2 activation in PC12 cells." J Neurochem 85(5): 1228-36.
- Takahashi, H., P. O. Tran, *et al*. (2004). "D-Glyceraldehyde causes production of intracellular peroxide in pancreatic islets, oxidative stress, and defective beta cell function via non-mitochondrial pathways." J Biol Chem 279(36): 37316-23.
- Gregus, Z. and B. Nemeti (2005). "The glycolytic enzyme glyceraldehyde-3-phosphate dehydrogenase works as an arsenate reductase in human red blood cells and ratliver cytosol." Toxicol Sci 85(2): 859-69.
- Yasuda, Y., Y. Miyamoto, *et al*. (2006). "Mechanism of the stress-induced collapse of the Ran distribution." Exp Cell Res 312(4): 512-20.
- Nemeti, B. and Z. Gregus (2009). "Mechanism ofthiol-supported arsenate reduction mediated by phosphorolytic-arsenolytic enzymes: I. The role of arsenolysis." Toxicol Sci 110(2): 270-81.
- Gregus, Z., G. Roos, *et al*. (2009). "Mechanism of thiol-supported arsenate reduction mediated by phosphorolytic-arsenolytic enzymes: II. Enzymatic formation of arsenylated products susceptible for reduction to arsenite by thiols." Toxicol Sci 110(2): 282-92.
- Rogers, S. C., A. Said, *et al*. (2009). "Hypoxia limits antioxidant capacity in red blood cells by altering glycolytic pathway dominance." FASEB J 23(9): 3159-70.
- Zaid, H., I. Talior Volodarsky, *et al*. (2009). "GAPDH binds GLUT4 reciprocally to hexokinase-II and regulates glucose transport activity." Biochem J 419(2): 475-84.

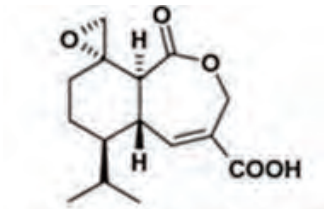
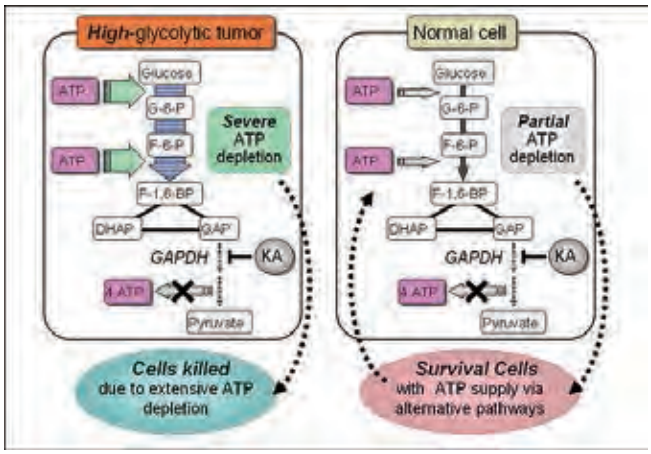


Figure 1. Koningic acid

CAS Number : 57710-57-3
Molecular Formula : C15H20O5
Molecular Weight : 280.32



Description	Cat. No.	Quantity
Koningic Acid	CSR-TIM-001	5 mg

RNase Inhibitor

Description	Cat. No.	Quantity
RNase Inhibitor	TYB-SIN-101 TYB-SIN-101X5	1×2500 unit 1 set

RNase Inhibitor, Recombinant

Description	Cat. No.	Quantity
RNase Inhibitor, Recombinant	TYB-SIN-201 TYB-SIN-201X5	1×2500 unit 1 set

Adjuvants

Description	Cat. No.	Quantity
ALUM [Form] Aluminium hydroxide hydrate gel suspension [Volume] 100 ㎎ : 0.9% NaCl solution (20 ㎎/㎖) [Molecular Weight] 78.00 (anhydrous basis) [Immunity grade] adjuvant use	LSL-LG-6000	1 vial

Pristane synthetic

Applications

Adjuvant for research of pristane-induced arthritis and antibody production

Background

The isoprenoid alkane Pristane (2,6,10,14-tetramethylp entadecane) has found several important applications in medical research and biotechnology including the induction of autoimmune and arthritis symptoms in rodents, the induction of rodent plasmacytomas with properties similar to those of multiple myeloma patients. It is perhaps most widely used as an adjuvant for preconditioning the peritoneal cavity of mice and rats to increase production of ascites fluid following injection of hybridoma cells for the isolation of monoclonal antibodies.

Until recently, the primary commercial feedstock for the purification of natural pristane has been shark liver oil from the Basking Shark (*Cetorhinus maximus*). Recently the availability of natural pristane has decreased sharply following protection to the Basking Shark and other shark species agreed to by international conventions. Synthetic pristane is therefore growing in importance as a commercial substitute for natural pristane.

Purity (GC)
95%
2,6,10,14-tetramethylpentadecane

Specific Gravity
d≒0.785

Boiling Point
296℃

Molecular Weight
268.52

Description	Cat. No.	Quantity
Pristane synthetic	CSR-42-001 CSR-42-002 CSR-42-003	25 ㎖ 100 ㎖ 500 ㎖

AGEs [Advanced Glycation End Products]-BSA

Intended Use

For research of potencial role of AGEs modification in nomal ging as well as age-enhanced disease processes

Background

The products of the nonenzymatic glycation and oxidation of proteins, lipids and nucleic acids, the advanced glycation end-products (AGEs), accumulate in various pathological conditions, such as diabetes, inflammation, renal failure, and aging. AGEs accumulate at site of microvascular injury in diabetes, including the kidney, the retina, and within the vasculature. The enhanced formation of AGEs also exists in various disease, such as atherosclerosis, Alzheimer's disease, end-stage renal disease (ESRD), rheumatoid arthritis and liver cirrhosis. AGEs can arise not only from glucose, but also from dicarbonyl compounds, short chain-reducing sugars and other metabolic pathways of glucose. This was prepared from D-glucose and BSA.

Volume

1 mg (1 mℓ /vial)

Reference

- Takeuchi M, Makita Z, Bucala R, Suzuki T, Koike T, Kameda Y. Immunological evidence that non-carboxymethyllysine advanced glycation end-products are produced from short chain sugars and dicarbonyl compounds *in vivo*. Mol Med. 2000 Feb;6(2):114-25
- Takeuchi M, Yanase Y, Matsuura N, Yamagishi Si S, Kameda Y, Bucala R, Makita Z. Immunological detection of a novel advanced glycation end-product. Mol Med. 2001 Nov;7(11):783-91

Description	Cat. No.	Quantity
AGEs BSA	KAL-KH001-A	1 vial

Macrokiller V300

Intended Use

For researching diseases such as allergy, Alzheimer's disease and cancer, by inhibiting macrophage activity.

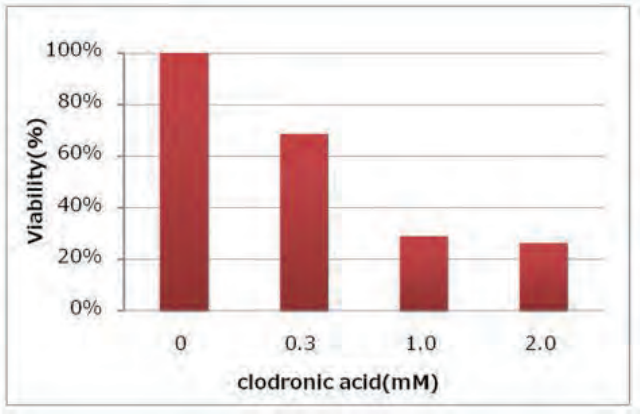
Background

Macrokiller V300 is liposomes containing clodronic acid, which has the cytocidal effect of macrophages (e.g. osteoclast and microglia). Due to the low cell permeability by itself, clodronic acid was contained into liposome to increase phagocytic efficiency of macrophages. In recent years, there are reports those macrophages play roles in many kind of diseases such as allergy, Alzheimer's disease and cancer, furthermore, in tissue regeneration. Macrokiller V300 will be a useful tool for researching these diseases by inhibiting macrophage activity.

Composition

Macrokiller V300
Amount: 1 mℓ/vial
Quantity: 1 vial
Stability: 1 year

Empty liposomes for control
Amount: 1 mℓ /vial
Quantity: 1 vial
Stability: 1 year



Cytocidal effect of Macrokiller V300 against primary rat microglia.
Dose-dependent cytocidal effect of Macrokiller V300 against primary rat microglia. A cell viability determined by the XTT assay after 48 hours treated with Macrokiller V300.

Description	Cat. No.	Quantity
Macrokiller V300	PMC-MKV300-COS	1 set

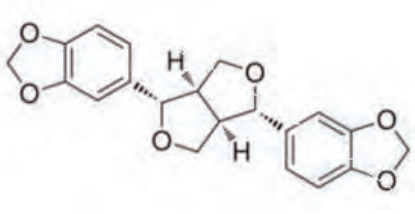
Sesamin

Intended Use

99% for Analytical standard

Specification

- Form: White Crystalline
- CAS number: 607-80-7
- Molecular Formula: $C_{20}H_{18}O_6$



Description	Cat. No.	Quantity
Sesamin, 99% for Analytical standard	CSR-JBM-001	20 mg

Hyaluronan Binding Protein

Intended Use

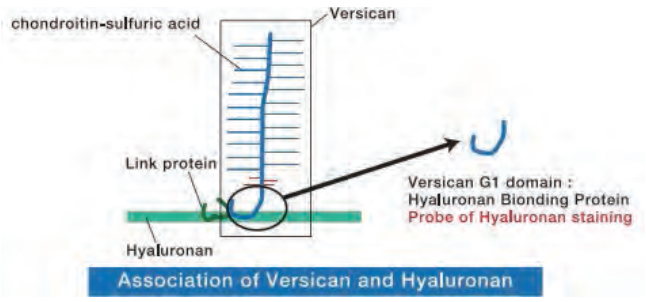
Useful for detection of the hyaluronan (HA)

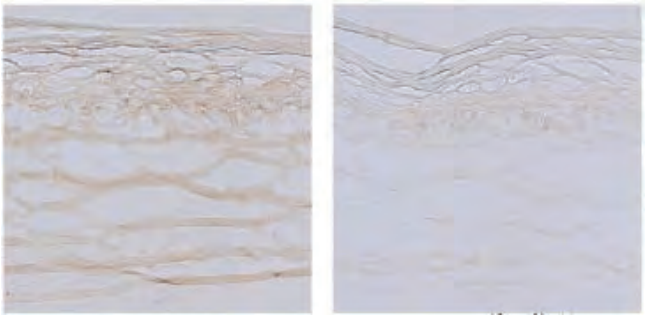
Applications

Immunohistochemistry, ELISA

Background

Hyaluronan binding protein rHABP is produced by expression induced culturing in the presence of IPTG using *E.coli* BL21(DE3)RIL transfected with human versican G1-domain expression vector pRK172VG1. As compared with animal-derived HABP,the high biological safety is confirmed. rHAB doesn't bind to other Glycosaminoglycan and DNA and specifically detects the hyaluronan (HA). Biotin is attached to rHAB to make the biotin-HABP.





Biotin-rHABP 2u/mℓ
Left: No hyaluronidase tratment, Right: Hyaluronidase tratment

Description

Versican G1 domain bind specifically to hyaluronan and doesn't bind to other glycosaminoglycan DNA. Versican G1 domain can be used for hyaluronan detection probe.

Reference

- Seyfried NT, *et al* J Biol Chem. 2005 Feb 18;280(7):5435-48 Epub 2004 Dec 8.
- Zimmermann DR, Ruoslahti E. EMBO J. 1989 Oct;8(10):2975-81
- Tengblad A. A comparative study of the binding of cartilage link protein and the hyaluronate-binding region of the cartilage proteoglycan to hyaluronate-substituted Sepharose gel. Biochem J. 1981 Nov 1;199(2):297-305
- Tengblad A. Quantitative analysis of hyaluronate in nanogram amounts. Biochem J. 1980 Jan 1;185(1):101-5

Description	Label	Cat. No.	Quantity
Hyaluronan Binding Protein [HABP]	— Biotin	HKD-BC40 HKD-BC41	50 μg 50 μg

Psoralen

Background

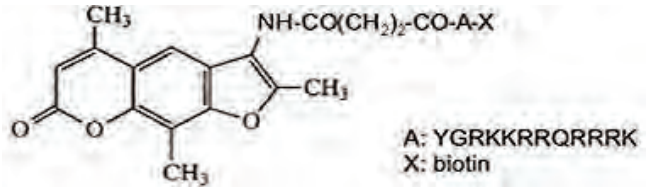
As an RNA polymerase tracks along helical DNA during transcription, positive supercoils of DNA are produced in front of the polymerase and negative supercoils are generated behind it. These supercoils are then relaxed by topoisomerases. Matsumoto and Hirose developed a method to visualize the transcription-coupled negative supercoils in an interphase genome. The technique relies on the ability of 4, 5', 8-trimethyl psoralen (abbreviated as psoralen below) to intercalate into DNA. Upon exposure to 365 nm light, the intercalated psoralen crosslinks DNA strands at a rate that depends on the degree of negative superhelicity in the DNA. Using biotinylated psoralen and fluorescent streptavidine, the unconstrained negative supercoils can be visualized within a cell. The psoralen reagent was further improved by replacing a linker region between psoralen and biotin with a delivery peptide derived from HIV Tat protein. This allows rapid incorporation of the reagent into cells without prior treatment with a detergent. The method is applicable to cultured cells, tissue slices and dissected out small tissues where transcription is being carried out.

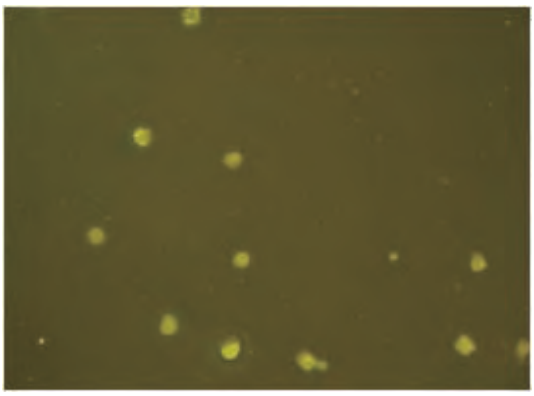
Form

Lyophilized powder

Reference

- Liu, L.F. and Wang, J.C. Natl. Acad. Sci. USA 84, 7024-7027 (1987)
- Matsumoto, K. and Hirose, S. Visualization of unconstrained negative supercoils of DNA on polytene chromosomes of Drosophila.
- Wadia, J. S. and Dowdy, S. F.Curr. Opin. Biotech. 12, 52-56 (2002)





Strong signals of the psoralen reagent detected on the nuclei of human cancer cells

Description	Cat. No.	Quantity
Psoralen	CSR-NIG-L1-R1	3×4 ng

Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Cell and DNA Engineering

Restriction Enzymes

Description	Conjugation	Recognition Sequence	Source	Cat. No.	Quantity
AluI	–	5'AG↓CT...3' 3'TC↑GA...5'	*Arthrobacter luteus*	TYB-ALU-101 TYB-ALU-101X5	1×500 unit 1 set
AseI	–	5'AT↓TAAT···3' 3'TAAT↑TA···5'	*Aquaspirillum serpens*	TYB-ASE-101	1×800 unit
BamHI	–	5'G↓GATCC...3' 3'CCTAG↑G···5'	*Bacillus subtilus* MT-2 (pBamH I RM22)	TYB-BAH-111 TYB-BAH-111X5	1×12000 unit 1 set
BclI	–	5'T↓GATCA···3' 5'ACTAG↑T···3'	*Bacillus caldolyticus*	TYB-BCL-101	1×500 unit
BglI	–	5'GCCNNNN↓NGGC···3' 5'CGGN↑NNNNCCG···3'	*Bacillus globigii*	TYB-BGL-101	1×1000 unit
BglII	–	5'A↓GATCT···3' 5'TCTAG↑A···3'	*Bacillus globigii*	TYB-BGL-211	1×6000 unit
DdeI	–	5'C↓TNAG···3' 5'GANT↑C···3'	*Desulfovibrio desulfuricans*	TYB-DDE-101 TYB-DDE-101X5	1×500 unit 1 set
DpnI	–	5'GA(CH_3)↓TC···3' 5'CT↑A(CH_3G···3'	*Diplococcus pnuemoniae* *G41*	TYB-DPN-101 TYB-DPN-101X5	1×1000 unit 1 set
EcoRI	–	5'G↓AATTC···3' 5'CTTAA↑G···3'	*Escherichia coli* *RY13*	TYB-ECO-111 TYB-ECO-111X5	1×12000 unit 1 set
EcoRV	–	5'GAT↓ATC···3' 5'CTA↑TAG···3'	*Escherichia coli* *J62PLG74*	TYB-ER5-101W TYB-ER5-101WX5	1×4000 unit 1 set
HaeIII	–	5'GAT↓ATC···3' 5'CTA↑TAG···3'	*Haemophilus aegypticus*	TYB-HAE-311	1×7000 unit
HincII	–	5'GTPy↓PuAC···3' 5'CAPu↑pyTG···3'	*Haemophilus influenzae Rc*	TYB-HNC-211	1×2000 unit
HindIII	–	5'A↓AGCTT···3' 5'TTCGA↑A···3'	*Haemophilus influenzae Rd*	TYB-HND-311 TYB-HND-311X5	1×12000 unit 1 set
HinfI	–	5'G↓ANTC···3' 5'CTNA↑G···3'	*Haemophilus influenzae Rf*	TYB-HNF-101W	1×2000 unit
KpnI	–	5'GGTAC↓C···3' 5'C↑CATGG···3'	*Klebsiella pneumoniae OK8*	TYB-KPN-111	1×10000 unit
MluI	–	5'A↓CGCGT···3' 5'TGCGC↑A···3'	*Micrococcus luteus*	TYB-MLU-101 TYB-MLU-101X5	1×1000 unit 1 set
MroI	–	5'T↓CCGGA···3' 5'AGGCC↑T···3'	*Micrococcus roseus*	TYB-MRO-101 TYB-MRO-101X5	1×40 unit 1 set
MscI	–	5'TGG↓CCA···3' 5'ACC↑TTT···3'	*Micrococcus species*	TYB-MSC-101 TYB-MSC-101X5	1×40 unit 1 set
NcoI	–	5'C↓CATGG···3' 5'GGTAC↑C···3'	*Nocardia corallina*	TYB-NCO-101 TYB-NCO-101X5	1×200 unit 1 set
NheI	–	5'G↓CTAGC···3' 5'CGATC↑G···3'	*Neisseria mucosa heidelbergensis*	TYB-NHE-101 TYB-NHE-101X5	1×250 unit 1 set
NotI	–	5'GC↓GGCCGC···3' 5'CGCCGG↑CG···3'	*Nocardia otitidis-caviarum*	TYB-NOT-111X TYB-NOT-111XX5	1×1000 unit 1 set
PacI	–	5'TTAAT↓TAA···3' 5'AAT↑TAATT···3'	*Pseudomonas alcaligenes*	TYB-PAC-101 TYB-PAC-101X5	1×50 unit 1 set
PstI	–	5'CTGCA↓G···3' 5'G↑ACGTC···3'	*Providencia stuartii* 1641pPst 101	TYB-PST-111 TYB-PST-111X5	1×12000 unit 1 set
PvuI	–	5'CGAT↓CG···3' 5'GC↑TAGC···3'	*Proteus vulgaris* ATCC 13315	TYB-PVU-101W TYB-PVU-101WX5	1×200 unit 1 set
PvuII	–	5'CAG↓CTG···3' 5'GTC↑GAC···3'	*Proteus vulgaris* ATCC 13315	TYB-PVU-211	1×5000 unit
SacI	–	5'GAGCT↓C···3' 5'C↑TCGAG···3'	*Streptomyces achromogenes* ATCC 12767	TYB-SAC-111 TYB-SAC-111X5	1×5000 unit 1 set
SacII	–	5'CCGC↓GG···3' 5'CC↑CGCC···3'	*Streptomyces achromogenes* ATCC 12767	TYB-SAC-211	1×3000 unit
SalI	–	5'G↓TCGAC···3' 5'CAGCT↑G···3'	*Streptomyces albus* G	TYB-SAL-111 TYB-SAL-111X5	1×5000 unit 1 set
ScaI	–	5'AGT↓ACT···3' 5'TCA↑TGAG···3'	*Streptomyces caespitosus*	TYB-SCA-103 TYB-SCA-103X5	1×1000 unit 1 set
SfiI	–	5'GGCCNNNN↓NGGCC···3' 5'CCGGN↑NNNNGGCC···3'	*Streptomyces fimbriatus* ATCC15051	TYB-SFI-111 TYB-SFI-111X5	1×2000 unit 1 set
SmaI	–	5'CCC↓GGG···3' 5'GGG↑CCC···3'	*Serratia marcescens Sb*	TYB-SMA-111	1×3000 unit
SpeI	–	5'A↓CTAGT···3' 5'TGATC↑A···3'	*Sphaerotilus natans* ATCC 13923	TYB-SPE-101 TYB-SPE-101X5	1×200 unit 1 set
SphI	–	5'GCATG↓C···3' 5'C↑GTAACG···3'	*Streptomyces phaeochromogenes*	TYB-SPH-111 TYB-SPH-111X5	1×600 unit 1 set
SphI (Highly concentrated)	–	5'GCATG↓C···3' 5'C↑GTAACG···3'	*Streptomyces phaeochromogenes*	TYB-SPH-162	1×3000 unit
XbaI	–	5'T↓CTAGA···3' 5'AGATC↑T···3'	*Xanthomonas badrii* ATCC 11672	TYB-XBA-101W TYB-XBA-101WX5	1×4000 unit 1 set
XhoI	–	5'C↓TCGAG···3' 5'GAGCT↑C···3'	*Xanthomonas holcicola* ATCC 13461	TYB-XHO-101 TYB-XHO-101X5	1×3000 unit 1 set

Restriction Enzyme Buffers

Description	Cat. No.	Quantity
10X BSA	TYB-10-BSA	1×1 mℓ
10X Triton	TYB-10-TRIT	1×1 mℓ
H Buffer	TYB-H-BUFF	1 mℓ
L Buffer	TYB-L-BUFF	1×1 mℓ
M Buffer	TYB-M-BUFF	1 mℓ
Pvu I Buffer	TYB-PVU-1R	1 mℓ
Pvu II Buffer	TYB-PVU-2R	1 mℓ
Sma I Buffer	TYB-SMA-1R	1 mℓ
TA Buffer	TYB-TA-BUFF	1 mℓ

Modification Enzymes

Description	Cat. No.	Quantity
Alkaline Phosphatase (Calf Intestine)	TYB-CAP-101 TYB-CAP-101X5	1×1000 unit 1 set
Alkaline Phosphatase (*E.coli*)	TYB-BAP-111 TYB-BAP-111X5	1×100 unit 1 set
Klenow Fragment (DNA Polymerasel, Large Fragment)	TYB-PLA-111	1×400 unit
T4 DNA Polymerase	TYB-TPL-101	1×100 unit
T4 Polynucleotide Kinase	TYB-PNK-111 TYB-PNK-111X5	1×1500 unit 1 set
T4 Polynucleotide Kinase 10X Protruding End Kinase Buffer	TYB-PNK-1P	1 mℓ
T4 Polynucleotide Kinase Denaturation Buffer	TYB-PNK-1D	1 mℓ
T4 RNA Ligase	PRX-RP701 PRX-RP702	1000 unit 5000 unit

Modification Enzyme Buffers

Description	Cat. No.	Quantity
Alkaline Phosphatase Buffer (*E.coli*)	TYB-BAP-1R	1×1 mℓ
Calf Intestine Alkaline Phosphatase Buffer	TYB-CAP-1B	1×1 mℓ
T4 DNA Polymerase Buffer	TYB-TPL-1R	1 mℓ
T4 Polynucleotide Kinase 10X Blunt End Kinase Buffer	TYB-PNK-1B	1 mℓ

CellEase®II Series

Intended Use

For DNA extraction

Features

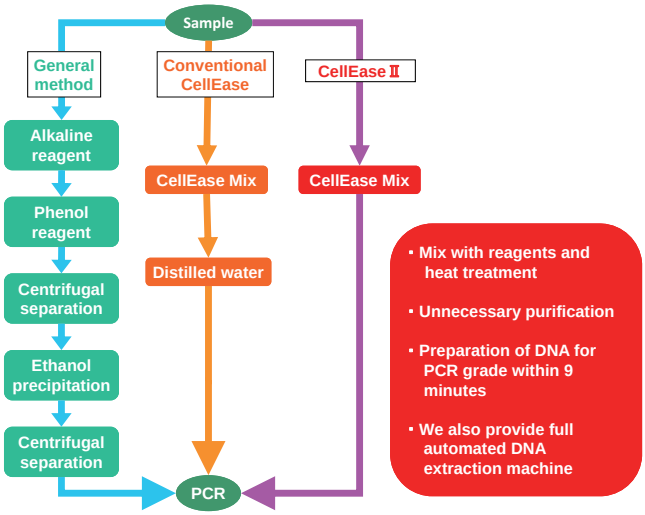
- Process only takes 9 minutes
- Only temperature control is necessary

The original reagents which enables DNA extraction by using heat treatment only.

Only 9 minutes !
Without purification !
Without separation !
Without dillution !
Only temp. control !

Background

This product, developed for DNA extraction from cells, enables easy preparation of DNA samples for PCR without any purification steps only in 9 minutes. Compared to ordinary CellEase®, CellEase®II doesn't require dilution steps and efficiency of extraction has been improved. The method is very simple. Mix the vials of CellEase® A and B to samples and incubate in two temperatures.
DNA samples can be prepared from animal tissue, microorganisms including plant cells. We have several series of kits available for animal cell, microorganisms and processed meat. Low cost and easy DNA extraction kits are provided not only for laboratory use, but also for risk management in contamination control in the food industry.



Application

DNA extraction and detection from mouse tail samples

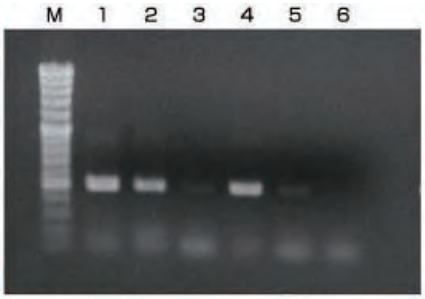


Figure DNA extraction and detection from mouse tail samples
M : Marker (100bp ladder)
1 : CellEase®II, Extracted solution was undiluted
2 : CellEase®II, Extracted solution was ×10 diluted
3 : CellEase®II, Extracted solution was ×100 diluted
4 : Conventional CellEase®, Extracted solution was undiluted
5 : Conventional CellEase®, Extracted solution was ×10 diluted
6 : Conventional CellEase®, Extracted solution was ×100 diluted

Series	Use	Time (minutes)
CellEase® Tissue II	Mouse tail, Animal tissue etc.	9
CellEase® Bacteria II	Bacteria, Yeast etc.	9
CellEase® Meat II	Chicken, Pork, Beef, Processed meats (Meat ball etc.)	9
CellEase purification kit	Fast purification with above kit	20

Description	Composition	Cat. No.	Quantity
CellEase® Bacteria II	Reagent A: 100 μg Reagent B: 100 μg	BIC-BCR10-00002	50 rxn
CellEase® Blood	Reagent A: 500 μℓ Reagent B: 500 μℓ Reagent C: 500 μℓ	BIC-BCR11-00001	50 rxn
CellEase® Meat II	Reagent A: 1.0 mℓ Reagent B: 1.0 mℓ	BIC-BCR10-00003	50 rxn
CellEase® Plant	Reagent A: 750 μℓ Reagent B: 750 μℓ Reagent C: 750 μℓ	BIC-BCR11-00002	50 rxn
CellEase® Tissue II	Reagent A: 1.0 mℓ Reagent B: 1.0 mℓ	BIC-BCR10-00001	50 rxn

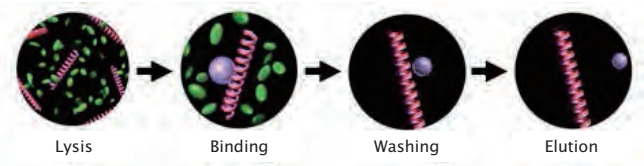
MagExtractor™ -Genome-

Intended Use

For extraction of high purity genomes with magnetic silica beads

Background

This kit is for the extraction of high purity genomic DNA from biological samples such as blood and cultured cells. The recovered genomic DNA can be used in enzymatic reactions such as PCR. Since this kit employs the principle that magnetic silica beads bind genomic DNA present in a lysate solutions, deproteinization using harmful reagents such as phenol, ethanol precipitation, or high-speed centrifugation is not necessary, thus simplifying the extraction process. This kit is suitable for the MFX Series automatic nucleic acids extraction system and can also be used as a manual kit for B/F (solid-liquid) separation using a magnetic beads separation stand. When extracting genomic DNA from blood, whole blood can be used for DNA extraction. Leukocyte separation is not necessary as required by conventional methods.



The selectivity of extracted nucleic acids can be changed by optimization of the binding and washing solutions. MagExtractor™ -Genome- (Cat No. TYB-NPK-101) extracts genomic DNA from various specimens (e.g. whole blood, cultured cells or animal tissues etc.). MagExtractor™ -RNA- (Cat No. TYB-NPK-201) extracts total RNA from various specimens (e.g. cultured cells or animal tissues). MagExtractor™ -Plasmid- (Cat No. TYB-NPK-301) extracts plasmids from *E. coli* cells, MagExtractor™ -Viral RNA- (Cat No.TYB-NPK-401) is a kit for extracting viral RNA from serum or plasma specimens. MagExtractor™ -Plant Genome- (Cat No. TYB-NPK-501) is a kit for extracting genomic DNA from various plant specimens (e.g., leaf, cultured cells, etc.). MagExtractor™ -PCR & Gel Clean up- (Cat No. TYB-NPK-601) extracts DNA fragments from a PCR solution, enzyme solution, or agarose gel slices.

Feature and Advantages

- **Suitable for various kinds of samples**
  Allows the extraction of genomic DNA from samples such as whole blood, cultured animal cells, animal tissue, and mouse-tails.
- **Quick, Simple Extraction**
  Magnetic silica beads bind genomic DNA, allowing quick and simple extraction. Whole blood can be used when extracting genomic DNA from blood.
- **No Phenol or Chloroform Extraction**
  This kit does not require the use of harmful phenol or chloroform. Thus, no hazardous waste is produced.
- **Produces High Purity Genomic DNA**
  Genomic DNA extracted with this kit hardly contains any impurities such as RNA or proteins, allowing direct use in various experiments.

Application

Genomic DNA extraction from whole blood, cultured animal cells, animal tissue, and mouse-tails.
The recovered genomic DNA can be used directly, mainly in PCR or other enzymatic reactions.

1. Examination of Yield and Purity

Genomic DNA was extracted from 100 μℓ of whole blood using this kit and others commercially available. The yield obtained with this kit was approximately equivalent to those obtained with the commercially available ones. With regard to purity, impurities such as proteins or RNA were more likely to have been present with use of the other commercially available kits (companies A and C), whereas such impurities were not detected with the use of this kit. The results show that use of this kit allows extraction of high purity genomic DNA from biological samples such as whole blood.

2. Example PCR Using Extracted DNA

PCR was carried out after extracting genomic DNA from 100 μℓ of whole blood collected from ten healthy, unrelated donors. Using 1/20 of the total amount of the extracted DNA, PCR was performed with Taq DNA polymerase with a single-locus probe of the VNTR regions of DNA, MCT 118, as a target. Approximately 1.4-2.2 μg of high purity genomic DNA with an A260/280 ratio between1.83 and 1.84 was obtained.
MCT118 is a repeated sequence of 16 bases, and by determining the number of these repeats, profiling can be performed. Specific bands for each individual were detected In this PCR with MCT118 as a target.

Reference

- B. Vogelstein *et al.*, Proc. Natl. Acad. Sci. USA. 76 615-619 (1979)
- R. Boom, C. *et al.*, J. Clin. Microbiol. 28 495-503 (1990)

Description	Cat. No.	Quantity
MagExtractor™ -Genome-	TYB-NPK-101	100 rxn
	TYB-NPK-102	500 rxn
	TYB-NPK-192	500 rxn

MagExtractor™ -PCR & Gel Clean up-

Intended Use

For purification of DNA fragments from various solutions and slices of agarose gel

Background

This kit is for purification of high purity DNA from DNA solutions after enzymatic reactions or from agarose gels after electrophoresing. DNA purified with this kit hardly contains any impurities such as proteins or salts, allowing its use in various applications including PCR sequencing, restriction endonuclease digestion and ligation. Since this kit employs the principle that magnetic silica beads bind genomic DNA present in a lysate solution, it is not necessary to perform deproteinization using harmful reagents such as phenol, ethanol precipitation, or high-speed centrifugation. Simple extraction is possible at a low cost. Unlike commercially available spin columns using silica gel or matrix, this kit allows free adjustment of process scales according to sample amounts, providing convenient, economic extraction. This kit can be used in various applications such as removal of primers and dNTPs after PCR reactions, deproteinizing treatments (including BAP control after reactions), dechlorination of DNA samples prior to electroporation and displacement in buffer after enzymatic reactions. With regard to purification of DNA from agarose gels after electrophoresis, this kit uses a stronger chaotropic agent than the NaI generally used to melt agarose, allowing the agarose to melt at room temperature in a short time. This kit is suitable for the MFX Series automatic nucleic acids purification system and can also be used as a manual kit for B/F (solid-liquid) separation using a magnetic beads separation stand.

Features

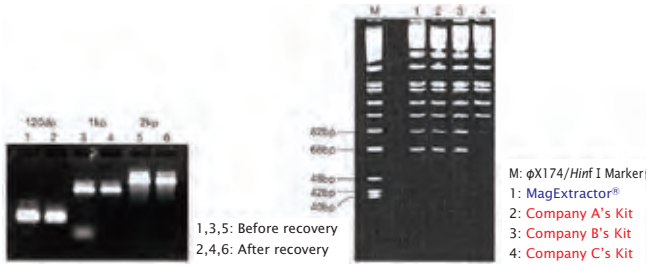
- Extracts DNA fragments from 100 μℓ PCR solutions or enzyme solutions within 5 minutes.
- Extracts DNA fragment from 0.3 g agarose gel slices (TAE or TBE) whithin 15 minutes.
- Agarose slices can be melted at room temperature. Typical yields from solution or gel slices are approximately 60-70%
- DNA fragments of approximately 100 bp to 50 kb can be recovered effectively. Small fragments (< 40 bp) can be removed.
- Purified DNA fragments can be applied to sequencing, restriction enzyme treatment, labelling, ligation, transformation, etc.

Application

Purification of DNA from DNA solutions after enzymatic reactions or agarose gels. Recovered DNA can be used in various applications including sequencing, restriction endonuclease digestion and ligation.

1. Recovery of DNA from Solution

Purification was performed with 100 μℓ of each reaction solution generated from PCR using λ DNA as a template (120 bp, 1 kb and 2 kb) and φX 174/Hinf I Marker (0.25 μg/μℓ), in accordance with the protocol for this kit, for recovery in 100 μℓ of sterile water.
After recovery, the PCR products and the marker were analyzed by agarose gel electrophoresis and acrylamide electrophoresis, respectively.
The results showed that target DNA fragments had a high level of purity, and had primer dimers eliminated in the PCR products (1 kb). Moreover, the limit range of cut off values was estimated at between 40 and 60 bp.



2. Recovery of DNA from the Agarose Gel Block

40 μℓ of each PCR solution (120 bp, 1 kb and 2 kb) and the λ DNA solution (48.5 kb) were electrophoresed using TBE and TAE agarose gels, respectively, and then the target bands were digested and purified for recovery in 40 μℓ of sterile water.
After recovery, DNA was detected by electrophoresis.
It is estimated that the recovery of each PCR product was approximately 70-80% and that of λ DNA at most 60% based on the results of the experiment.
In addition, results show other commercially available kits produced low yield.
In the electrophoretograms, the difference is observed in the mobility of the λ DNA before and after recovery, attributed to the variation in salt concentration of the DNA solution.
The results of other experiments also demonstrated that the recovered DNA can be used in various applications including sequencing, restriction enzyme digestion and ligation.

Description	Cat. No.	Quantity
MagExtractor™ -PCR & Gel Clean up-	TYB-NPK-601	200 rxn

MagExtractor™ -Plant Genome-

Intended Use

For purification of genomic DNA from plant specimen

Background

MagExtractor™ -Plant Genome- provides a simple and reliable method for the rapid purification of genomic DNA from various plant specimens (e.g. leaf and cultured cells) using magnetic silica beads. This kit is based on binding properties of DNA to a silica surface in the presence of chaotropic agents (1). Purified genomic DNA can be used directly for PCR experiments.

Features

- Purified genomic DNA can be used directly for PCR.
- The pretreatment step of this kit is effective in removing polysaccharides.
- This kit is suitable for the high-throughput extraction of genomic DNA from various plant specimens. The following tables show typical sample amounts, yields, and applications for purified genomic DNA.

Composition

Lysis Solution	40 mℓ
Binding Solution	90 mℓ
Washing Solution	200 mℓ
Magnetic Beads	6 mℓ

Reference

- B. Vogelstein *et al.*, Proc. Natl. Acad. Sci. USA. 76 615-619 (1979)

Description	Cat. No.	Quantity
MagExtractor™ -Plant Genome-	TYB-NPK-501	100 rxn

MagExtractor™ -Plasmid-

Intended Use

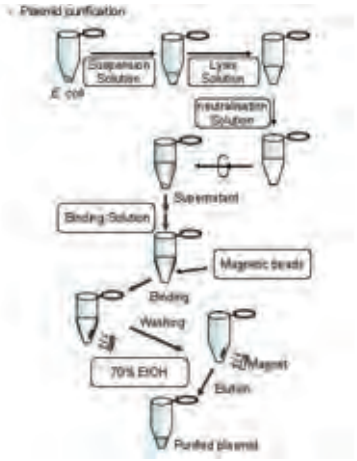
For plasmid extraction with magnetic silica beads

Background

This kit is for extraction of high purity plasmid DNA from bacteria such as *E.coli*. The recovered plasmid DNA can be used directly in enzymatic reactions including restriction endonuclease digestion, PCR sequencing and transformation. Magnetic silica beads bind plasmid DNA present in a lysate solution. Deproteinization using harmful reagents such as phenol, or ethanol precipitation is not necessary. Furthermore, high-speed centrifugation is minimized, and is not necessary if the MFX Series automatic nucleic acids extraction system is used. This kit is suitable for the MFX series automatic nucleic acids extraction system and can also be used as a manual kit for B/F (solid-liquid) separation using a magnetic beads separation stand.

Features

- Typical plasmid yield from an *E. coli* cell line carrying a high-copy plasmid is approx. 3-6 μg.
- This kit is suitable for high throughput extraction of plasmid from *E. coli* cells. The extraction time is 10-15 minutes.
- Purified plasmid can be applied directly to sequencing, enzyme reaction, transformation, etc.
- This kit does not contain hazardous substances, such as phenol or chloroform.



Description	Cat. No.	Quantity
MagExtractor™ -Plasmid-	TYB-NPK-301 TYB-NPK-391	500 rxn 500 rxn

MagExtractor™ -RNA-

Intended Use

For extraction of high purity RNA from cells, tissues, and yeast samples using magnetic silica beads

Background

This kit extracts of high purity total RNA from biological samples such as cultured cells and tissues. The recovered total RNA can be used mainly in enzymatic reactions such as RT-PCR. Since this kit employs the principle that magnetic silica beads bind total RNA present in a lysate solution, it is not necessary to perform deproteinization using harmful reagents such as phenol, ethanol precipitation, or high-speed centrifugation like the conventional AGPC method. This kit is suitable for the MFX Series automatic nucleic acids extraction system and can also be used as a manual kit for B/F (solid-liquid) separation using a magnetic beads separation stand.

Features

Suitable for Various Samples
Allows extraction of total RNA from cultured cells, tissues, and yeast, etc. Total RNA mainly contains rRNA and mRNA.

Quick, Simple Extraction
MagExtractor™ -RNA- is based on the principle that magnetic silica beads bind total RNA, enabling quick simple extraction.

No Phenol or Chloroform Extraction
This kit does not require the use of harmful phenol or chloroform for deproteinization so there is no hazardous waste problem.

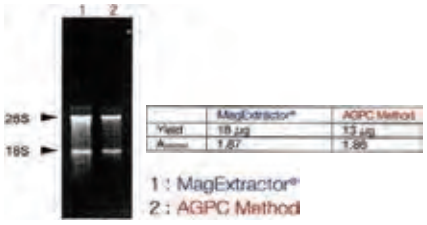
Produces High Purity Total RNA
The total RNA extracted withthis kit rarely contains impurities such as DNA or proteins, allowing for use in enzymatic reactions such as RT-PCR.

Application

Extraction of Total RNA from Cultured Cells, Tissue, and Yeast, etc. The recovered total RNA can be used in enzymatic reactions such as RT-PCR.

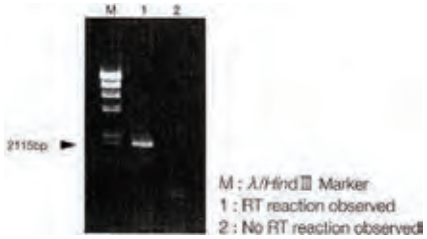
1. Examination of Yield and Purity

Total RNA was extracted from 2×10^6 HeLa cells using this kit and the widely used AGPC RNA extraction method. The yield obtained with this kit was approximately equivalent to that obtained by AGPC method. With regard to purity, the electrophoretic patterns and OD ratios indicate that this kit extracts high purity RNA with almost no contamination by impurities such as proteins and DNA.



2. Example PCR with Extracted RNA

1 μg of the total RNA extracted from 2×10^6 HeLa cells was used to perform RT-PCR with transferrin receptor mRNA as a target (2115 bp). As a result, amplification of the target was detected onlyin the reverse transcription reactions, and expression of the normally low-volume expression transferrin receptor gene was confirmed. The result showed that using RNA obtained with various targets.



Description	Cat. No.	Quantity
MagExtractor™ -RNA-	TYB-NPK-201F TYB-NPK-292F	100 rxn 500 rxn

MagExtractor™ -Viral RNA-

Intended Use

For Purification of viral RNA from serum or plasma specimens.

Background

MagExtractor™ -Viral RNA- provides a simple and reliable method for the rapid purification of viral RNA from serum or plasma specimens using magnetic silica beads. This kit is based on the principle that RNA can be absorbed onto a silica surface in the presence of chaotropic agents (1), (2) and an RNA-binding accelerator. The purified viral RNA can be used directly for RT-PCR experiments.

Features

- This kit is suitable for the high-throughput extraction of viral RNA from serum or plasma specimen using magnetic silica beads.
- This kit does not contain hazardous substances such as phenol or chloroform.
- No ethanol is used in the washing steps.

Reference

- B. Vogelstein *et al.*, Proc. Natl. Acad. Sci. USA. 76 615-619 (1979)
- R. Boom, C. *et al.*, J. Clin. Microbiol. 28 495-503 (1990)

Description	Cat. No.	Quantity
MagExtractor™ -Viral RNA-	TYB-NPK-401F	100 rxn

MagExtractor™ -His-tag-

Intended Use

For the rapid purification of 6x histidine (His)-tagged proteins from bacterial lysate, utilizing magnetic nickel agarose beads

Reference

- J. Schmitt, H. Hess and H.G.Stunnenberg, Molecular Biology Reports., 18: 223 (1993)

Features

- Purification can be completed within 15 minutes minimum.
- This method is suitable for high-throughput purification using bacterial lysates containing cell debris, and utilizes magnetic separation as a purification principle.
- The binding capacity of the beads is 5-10 μg per 1 μℓ magnetic beads.

Description	Cat. No.	Quantity
MagExtractor™ -His-tag-	TYB-NPK-701	100 rxn

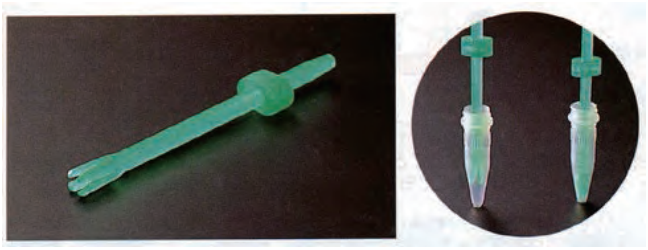
Handy Pestle®

Intended Use

Crushing of tissue in liquid

Background

This pestle is a disposible pestle designed to crush animal tissues and gels in a 1.5 mℓ micro tube. The tip of the pestle is divided into 4 fingers which open and close depending on the shape of the tube.



Reference

- M. Kusumoto *et al*., Analytical Biochem. 294 185-186(2001)

Description	Cat. No.	Quantity
Handy Pestle®	TYB-HMX-301	100 each

Magical Trapper

Intended Use

Low-Price Multifunction Magnetic Beads Separation Stand

Background

Magical Trapper is a magnetic particle concentrator for use with various kits containing magnetic beads. The product is designed to hold ten 1.5-2.0 mℓ-microcentrifuge tubes in the front side and one 15 mℓ-centrifuge tube in the back.

Features

- Holds ten 1.5-2.0 mℓ-microcentrifuge tubes and one 15 mℓ -centrifuge tube.
- Holder arms tightly grip tubes
- Light weight (129 g)

Description	Cat. No.	Quantity
Magical Trapper	TYB-MGS-101	1 set

GoldMAN

Intended Use

For transfection of adenovirus

Background

GoldMAN is a gold/iron-oxide composite nanoparticles as a new type of magnetic beads for in-vitro and in-vivo applications. Au particles with sizes of less than 10 nm are homogeneously immobilized on the surface of support magnetic nanopaticles. As the gold part can be used as a general tag for various functional molecules, the composite nanoparticles can be easily functionalized for each application. We are developing magnetic beads for separation/purification of biomolecules, immunodiagnosis, gene transfection reagents, and MRI contrast agents. The dispersibility and magnetic property of the magnetic beads are optimized for each application. For example, it can be applied for transfection of adenovirus.

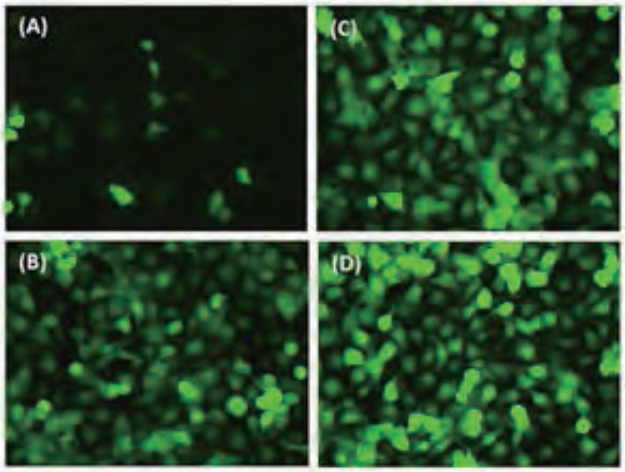


Figure 1 Gene transduction of the Ad/GoldMAN complex into B16BL6 CAR (-) cells.
Efficient gene transfer by Ad/GoldMAN complex was assessed by 1.0×10^8 vp of Ad-EGFP. Gene expression of EGFP in B16BL6 cells was observed under fluorescence microscopy. (A) Transfection using Ad-EGFP/GoldMAN complex without magnetic force. (B)-(D) Transfection using Ad-EGFP/GoldMAN complex under magnetic force for (B) 15 min, (C) 30 min, (D) 60 min.

Reference

- Kamei K. *et al*., Biomaterials. 30(9) 1809-14 (2009)
- Kinoshita T. *et al*., J Magn Magn Mater. 311255-258 (2007)
- Seino S. *et al*., J Appl Phys. 99:08H101 (2006)

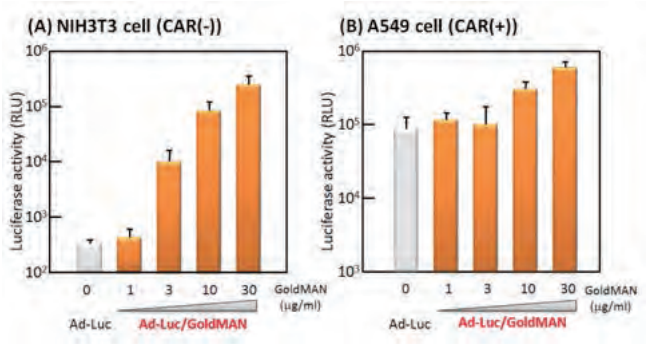


Figure 2 Gene transduction of the Ad/GoldMAN complex into NIH3T3 and A549 cells.
Efficient gene transfer by Ad/GoldMAN complex was assessed by 1.0×10^8 vp of Ad-Luc (Luciferase expressing Ad). (A) NIH3T3 CAR(-) cell, (B) A549 CAR (+) cell.

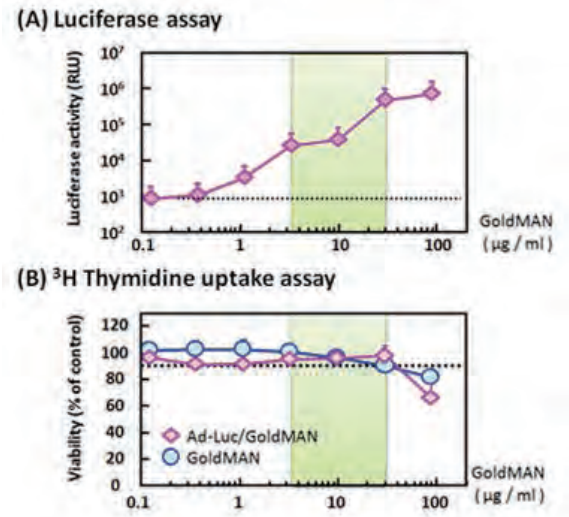


Figure 3 Optimization of GoldMAN in terms of both transduction efficiency and safety.
(A) Quantitative gene expression of Ad/GoldMAN was assessed using 1.0×10^8 vp of Ad-Luc. Serially-diluted GoldMAN was mixed with Ad-Luc, and luciferase expression (RLU, relative light units.) was determined using a commercial assay system. Each bar represents the mean ± SD. Shaded region represents optimal conditions in terms of both transduction efficiency and safety. (B) The cytotoxicity of Ad/GoldMAN was assessed by [3H]-thymidine incorporation. Assay using a method similar to that described in Fig. 2A. Each bar represents the mean ± SD. (◆) GoldMAN-treated cells (○) Ad/GoldMAN-treated cells. Shaded region represents optimal conditions in terms of both transduction efficiency and safety.

Description	Cat. No.	Quantity
GoldMAN Magnetic Gold nanoparticle complex	CSR-A1000	2 mℓ

KOD -Plus- Mutagenesis Kit

Intended Use

For various mutations, such as substitutions, insertions, and deletion mutations.

Background

This kit is an inverse PCR (iPCR)-based site-directed mutagenesis kit using KOD DNA polymerase as a high-fidelity PCR enzyme. This reagent was developed based on a high fidelity and efficient PCR reagent, KOD-Plus- (Code No. KOD-201), which consists of KOD DNA polymerase and anti-KOD DNA polymerase antibodies for Hot Start PCR.
This kit enables not only the introduction of point mutations, but also the introduction of large insertions and deletions. The PCR fidelity of KOD-Plus- is greater than Taq DNA polymerase (ca. 80-fold); therefore, unexpected, 2nd-site mutations can be reduced. PCR reactions can be performed using standard PCR primers and do not require phosphorylated primers, because this protocol contains a Phosphorylation Step of PCR products.

Features

- High efficiency (95% maximum) can be obtained.
- Simple protocol facilitates speedy experiments.
- Phosphorylated primers are not required.

Application

*Site-directed mutagenesis
Substitution (e.g. Point mutation, Point mutation library)
Deletion (e.g. 1 bp several kbp deletion)
Insertion (e.g. Introduction of His-tag sequence)

Composition

The KOD -Plus- Mutagenesis Kit contains enough reagents for 20 mutagenesis reactions, including 5 control reactions.

KOD-Plus-(1 U/ μℓ)	25 μℓ
10x Buffer for iPCR	125 μℓ
2 mM dNTPs	125 μℓ
DpnI (10 U/ μℓ)	50 μℓ
T4 Polynucleotide Kinase (5 U/ μℓ)	50 μℓ
Ligation high (T4 Ligase + Buffer Mixture)	250 μℓ
Control Plasmid pAK119M (50 ng/μℓ)	10 μℓ
Control Primer #1 (10 pmol/ μℓ)	10 μℓ
Control Primer #2 (10 pmol / μℓ)	10 μℓ

Principle

A) Inverse PCR of plasmid DNA, using a mutation primer.

B) Plasmid DNA is digested by Dpn I.
Note: Dpn I digests methylated DNA, such as plasmid DNA from typical *E. coli* cell lines (e.g. JM109 and DH5 α).

C) Self-ligation of PCR products is performed by a reaction with T4 polynucleotide kinase and ligase.

D) Transformation of *E. coli* cell lines using self-ligated PCR products.

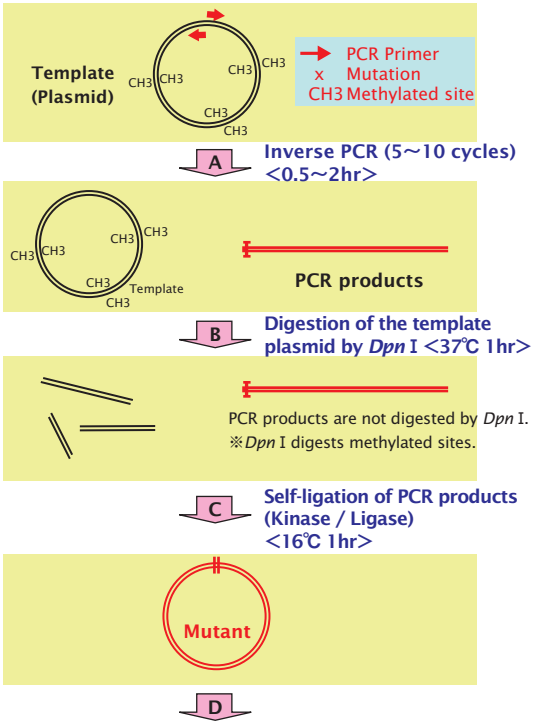


Figure 1. Flow chart of KOD -Plus- Mutagenesis Kit

Reference

- Takagi M. *et al*., Appl Environ Microbiol., 63: 4504-10 (1997)
- Hashimoto H. *et al*., J Mol Biol., 306: 469-77 (2001)
- Mizuguchi H. *et al*., J Biochem., 126: 762-8 (1999)

Description	Cat. No.	Quantity
KOD -Plus- Mutagenesis Kit	TYB-SMK-101	1 kit

LipoTrust™

Intended Use

For gene / nucleic acid transfection

Background

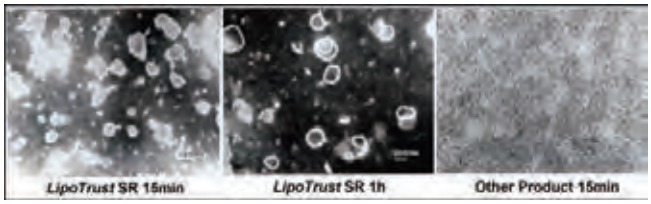
This is cationic liposome which consists of three highly effective transfection formulations strictly selected from more than three hundreds. What makes them unique is that no conversion to serum-free medium is required at the transfection. And they show high gene expression activity both *in vitro* and *in vivo*.

LipoTrust™ SR : shows high gene expression activity to many kinds of cells in the presence of serum

LipoTrust™ PE : shows constant gene expression activity in the presence or absence of serum

LipoTrust™ CH : shows remarkably high gene expression activity in the serum-free medium, and is available for transfection into non-adherent type cells.

As most transfection reagents have little gene expression activity in serum-containing medium, use of serum-free medium is recommended. LipoTrust™ has enough gene expression activity in serum-containing medium as well, so that it can be used in both type of experiments with or without serum either *in vitro* or *in vivo*.
Though general transfection reagents are known to be cytotoxic, LipoTrust™ causes much less cytotoxicity. Moreover, the product form, lyophilizate, makes it possible to choose from two types depend on your purpose. Oneis Coating Type, which is to be used by dissolving the empty LipoTrust™ with nucleic acid solution to reconstruct liposomal membrane without compromising effective nucleic acid retention. The other Lipoplex Type is the general type which is used by mixing the transfection reagent solution with nucleic acid solution.



These pictures show change of liposome form when they are disposed in the medium containing 5% FBS. The nanoparticle structures disappeared in the medium with 15min in the case of other product, while spherical forms are still retained after one hour with LipoTrust™ SR.

Cell type	Transfection Efficiency	Cell type	Transfection Efficiency
293	Excellent	HRA	Excellent
3T3	Good	Jurkat	Good
A431	Good	MDCK	Good
A549	Good	mEIL	Excellent
B95a	Good	Molms	Excellent
C33A	Good	Neuro-2A	Excellent
COS-1	Good	PC3	Good
COS-7	Excellent	RBL-2H3	Excellent
ES	Excellent	Walker-256	Excellent
H322	Good	Mouse Fibroblast	Excellent
H520	Good	Mouse Granule Cell (Neuron)	Excellent
HeLa	Excellent	Calf Vascular Endothelial Cell	Good
HepG2	Good	Dorsal Root Ganglion	Excellent

Successful examples of cell transfection

Reference

- T Kato *et al*., Gene Therapy, 1-9 (2010)
- Robert Langer *et al*., Nature Review siRNA delivery 129-138
- Kammei Rai *et al*., 100th AACR in April 19, (2009)
- Hum. Gene Ther., 10,947-955 (1999)
- J. Control.Release,62,269-277 (1999)
- Biochim.Biophys.Acta,1467,419-430 (2000)
- J.Control.Release,69,139-148 (2000)
- J.Biochem.,128,989-998 (2000)
- Pharm.Res.,19,377-381 (2002)
- J.Biochem.,131.533-540 (2002)
- Hypertension,40,148-154 (2002)
- PHARM TECH JAPAN, 19,419-433 (2003)
- Biotherapy,18,353-360 (2004)

Description	Composition	Cat. No.	Quantity
LipoTrust™ Set	LipoTrust™ Set: SR, PE, CH Lyophilizate for 1mℓ×1 for each Storage tube for the solution×1 for each Instruction manual	CSR-LTS-01-EX	1 set
LipoTrust™ CH	LipoTrust™ CH Lyophilizate for 1mℓ×1 Storage tube for the solution×1 Instruction manual	CSR-LCH-01-EX	1 mℓ
LipoTrust™ PE	Lipo Trust™ PE Lyophilizate for 1mℓ×1 Storage tube for the solution×1 Instruction manual	CSR-LPE-01-EX	1 mℓ
LipoTrust™ SR	Lipo Trust™ SR Lyophilizate for 1mℓ×1 Storage tube for the solution×1 Instruction manual	CSR-LSR-01-EX	1 mℓ

LipoTrust™ EX Gene

Intended Use

Transfection reagent for plasmid DNA

Background

LipoTrust™ EX Gene Reagent is a proprietary cationic liposome formulation that facilitates highly efficient delivery of Plasmid DNA to mammalian cells.

Feature and Advantages

- Excellent transfection efficiency with minimizing cytotoxicity.
- Transfection is available in the presence of serum.
- Medium replacement after transfection is not necessary.

Cell type	Transfection Efficiency Level
HeLa Cell	Excellent
HT1080 Cell	Excellent
NB1RGB Cell	Good
293T Cell	Excellent
COS-1 Cell	Excellent

Successful examples of cell transfection

Description	Composition	Cat. No.	Quantity
LipoTrust™ EX Gene	LipoTrust™ Gene Lyophilizate for 1mℓ×1 Instruction manual	CSR-LEG-01-EX	1 mℓ

LipoTrust™ Oligo for *in vitro* and *in vivo*

Intended Use

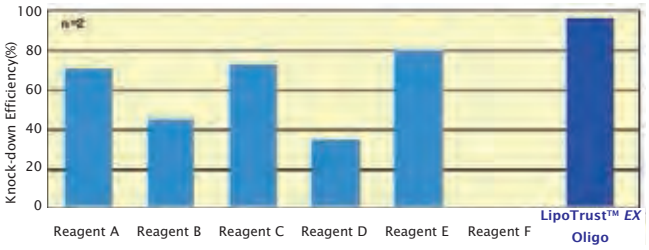
Transfection reagent for short oligonucleotides (e.g. siRNA, antisense DNA, miRNA etc.)

Background

They are proprietary cationic liposome formulation that facilitates highly efficient delivery of short oligonucleotides such as siRNA, antisense DNA or miRNA to mammalian cells.

Feature and Advantages

- Higher knock-down efficiency is expected with low concentration of short oligonucleotide.
- Transfection is available in the presence of serum.
- Higher level transfection would be expected *in vivo* use with minimizing cytotoxicity.



This graph shows knock-down efficiency in the experiment of 40nM anti-Luciferase siRNA transfection into HeLa cell which carries Luciferase genes. The height of bars shows knock-down efficiency, and 100% means that Luciferase activities are completely knocked down to zero. Loading quantity of each transfection reagent is according to respective protocols.

Description	Composition	Cat. No.	Quantity
LipoTrust™ EX Oligo for *in vitro*	Lipo Trust™ Oligo for *in vitro* Lyophilizate for 1mℓ×1 Instruction manual	CSR-LEO-01-EX	1 mℓ
LipoTrust™ EX Oligo for *in vivo*	Lipo Trust™ Oligo for *in vivo* Lyophilizate for 1mℓ×1 Instruction manual	CSR-LEO-10-EX	1 mℓ

SAFETRANS (α-CDE)

Intended Use

Superior nucleic acids carrier without severe cytotoxicity *in vitro* and *in vivo*

Background

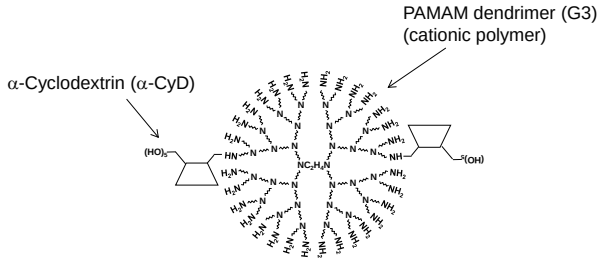
Gene and oligonucleotide therapies are emerging as a potential strategy for the treatment of genetic diseases, cancers, cardiovascular diseases and infectious diseases. Recently, polyamidoamine (PAMAM) dendrimer (generation (G) 3) conjugate with α-cyclodextrin (α-CDE) has been known as novel DNA, shRNA and siRNA carriers. α-CDE works as a superior nucleic acids carrier without severe cytotoxicity *in vitro* and *in vivo*.

Application

pDNA, shRNA, siRNA, shRNA, miRNA Transfection
Reverse Transfection

Cells with compatibility

A549
NIH3T3
Colon-26
HepG2
NR8383
RAW264.7
KB



SAFETRANCE (α-CDE)

Description	Cat. No.	Quantity
SAFETRANS (α-CDE)	CSR-KMU-T01	2 mg

SAFETRANS (GUG-β-CDE)

Intended Use

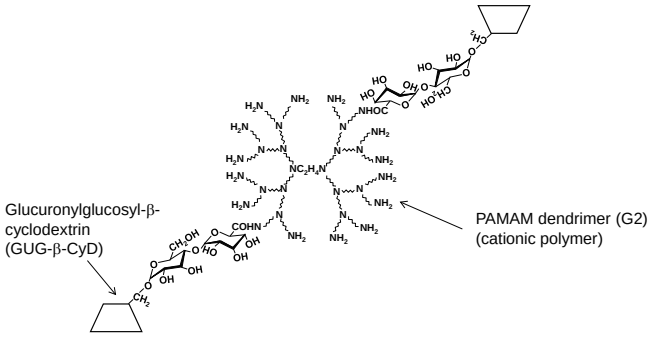
Superior nucleic acids carrier without severe cytotoxicity *in vitro* and *in vivo*

Background

The polyamidoamine (PAMAM) starburst dendrimer (generation 2, G2) conjugates with 6-O-α-(4-O-α-D-glucuronyl)-D-glucosyl-β-cyclodextrin (GUG-β-CDE (G2)) having glucose as a spacer between dendrimer and cyclodextrin(CyD) was newly prepared as a novel gene transfer carrier. GUG-β-CDE (G2) was found to have lower hemolytic activity than dendrimer (G2), suggesting that GUG-β-CDE (G2) had lower local irritation than dendrimer (G2). In sharp contrast to linear polyethyleneimine (10 kDa, PEI), GUG-β-CDE (G2, DS 1.8) had negligible cytotoxicity. GUG-β-CDE works as a superior nucleic acids carrier without severe cytotoxicity *in vitro* and *in vivo*.

Application

pDNA, shRNA, siRNA, shRNA, miRNA Transfection



SAFETRANCE (GUG-β-CDE)

Description	Cat. No.	Quantity
SAFETRANS (GUG-β-CDE)	CSR-KMU-T02	2 mg

SAFETRANS (Lac-α-CDE)

Intended Use

pDNA and siRNA transfection

Background

It is well-known that asialoglycoprotein receptor (ASGPR) is highly expresses on the hepatocyte cell surface. Recently, lactosylated polyamidoamine (PAMAM) dendrimer (generation (G) 2) conjugate with a-cyclodextrin (Lac-α-CDE) has been known as hepatocyte-selective DNA and siRNA carriers through ASGPR-mediated endocytosis with negligible cytotoxicity *in vitro* and *in vivo*.

Application

pDNA, siRNA Transfection

Description	Cat. No.	Quantity
SAFETRANS (Lac-α-CDE)	CSR-KMU-T03	2 mg

Ab-Carrier™- Antibody Transfection Reagent

Intended Use

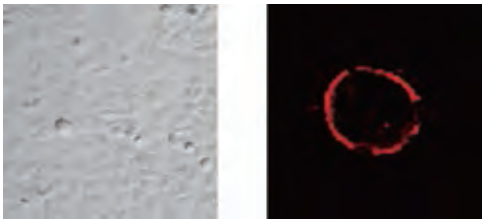
To deliver antibodies into living cells.

Background

It can easily introduce antibodies into living cells efficiently by using the function of an artificial cell penetrating peptide, there by controlling cytotoxicity.

Features

- Suitable for use with 10% serum-containing media.
- Ready-to-use. Easy and quick procedure.
- Very low cytotoxicity.
- Suitable for various antibodies (polyclonal, monoclonal)
- Suitable for transfection of fluorescent-labeled or enzyme-conjugated antibodies.

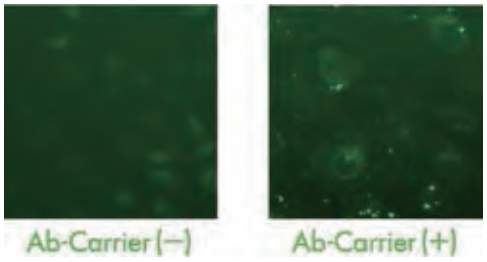


Two hours after introduction to HeLa cell, fix a cell , and observes the fluorescence of anti NPC antibody (mouse IgG1) by cofocus laser microscope after processing with 594 Alexa marks anti mouse IgG antibody.

Specificity

- Endotoxin level < 0.05 EU / μℓ
- Antibody transfection activity (relative value)* 80 - 150 %

* β -galactosidase-conjugated goat IgG was transfected to HeLa cells and incubated for 4 hrs. Antibody transfection activity was estimated by β- galactosidase activity in lysates of the cells. The values represent relative activity (%) to that of Lot N12J15 as standard.



Mix with GFP with an anti GFP antibody (rabbit IgG). Add Ab-Carrier in reaction liquid after a one hour reaction at room temperature. React at room temperature for 20 minutes. Add reaction liquid in a cell. After incubation under 37℃, 5% CO2 existence for four hours, it is observed the fluorescence by cofocus laser microscope.

Description	Composition	Cat. No.	Quantity
Ab-Carrier™	Ab-Carrier 12.5 μℓ×1 Solution : PBS	PTN-P-101-25	25 test
Ab-Carrier™	Ab-Carrier 12.5 μℓ×4 Solution : PBS	PTN-P-101-100	100 test

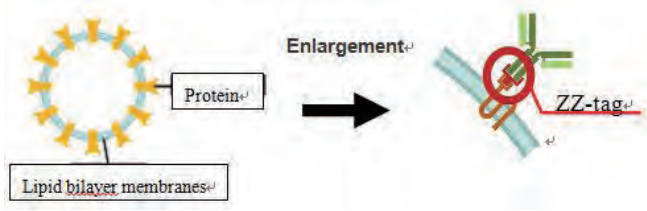
Bionanocapsule-ZZ(BNC-ZZ)

Intended Use

For cell specific transfection of DNA, and detection probe for antigen-antibody complex

Background

The BNC-ZZ is a type of bionanocapsule (hepatitis B virus surface antigen expressing hollow nano-particle) that can easily bind with desired antibodies by simple mixing, and developed for the purposes that 1) recognition and delivery of desired cells using the specificity of antibody against cell surface antigen such as receptors, and 2) easy-to-use detection tool of antigen-antibody complexes.
Basic type of BNC (BNC-L) is composed of L-protein of hepatitis B virus surface antigen which is floating on the particle made from lipid bi-layer. The BNC itself has ability to deliver its content into cytoplasm. Among three regions of L-protein, BNC-ZZ expresses zz-tag amino acids sequence in Pre-S1 region, the outmost region. Because zz-tag binds Fc region of antibodies, BNC-ZZ can binds to antibodies without affecting the antigen recognition site.
Thus, BNC-ZZ can be used for, depending on the antibody used, cell-specific DNA delivery *in vitro*, detection of antigen-antibody complex by using pre-labeled BNC-ZZ, and other applications.



Application

- Cell specific transfection for DNA and others
- Detection probe for antigen-antibody complex. For example, as a replacement of the secondary antibody in various systems, such as western blotting and ELISA.

Reference

- Tsutsui Y. *et al.*, J Control Release, 122(2) 159-64 (2007)
- Kurata N. *et al.*, J Biochem, 144(6) 701-7 (2008)

Description	Cat. No.	Quantity
Bionanocapsule-ZZ (BNC-ZZ)	BEC-BCLDC02	100 μg

AteloGene® Local & Systemic Use

Intended Use

To deliver siRNA into animal tissues by local or systemic administration in mice and then efficiently introducing it into cells

Background

RNA interference (RNAi) is a mechanism where fragments of double-strand ribonucleic acid (dsRNA) interfere with the expression of a specific gene whose sequence is complementary to the dsRNA. Recently, RNAi medicines, which inhibit the expression of genes responsible for diseases, have been studied activitely. However, the delivery of siRNA *in vivo* has become a big issue as siRNA is unstable *in vivo*. AteloGene® consists of a system mediated by atelocollagen, a solubilized collagen obtained by protease treatment. Atelogene transfects siRNA *in vivo* efficiently and safety in either local or systemic administration.

Atelocollagen, the main component of AteloGene®, forms siRNA/miRNA-atelocollagen complexes by mixing with appropriate quantity and ratio of synthetic siRNA/miRNA. Because siRNA-atelocollagen complexes repress the degradation of nucleic acid, it is optimal for *in vivo* transfection, and siRNA/miRNA is effectively delivered and introduced into the cells.

AteloGene® Local Use is designed for localized administration because of its gelation capability. Gelated siRNA/miRNA-atelocollagen complexes remain at the injection site and siRNA/miRNA is delivered into the cells effectively.

AteloGene® Systemic Use is suitable for systemic administration via tail vein injection because it does not gelate, and siRNA/miRNA is delivered effectively via the bloodstream throughout the whole body.

Feature and Advantages

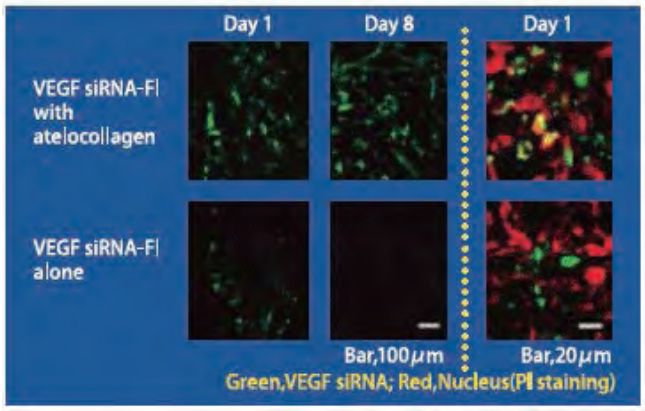
- Immediate administration to experimental animals by simple mixing the synthetic siRNA with AteloGene®
- Efficient *in vivo* transfection of siRNA.
- Effect of RNAi of preventing degradation by RNase persists for a long time.
- AteloGene® has no toxicity, and its main component, atelocollagen, demonstrates high biological compatibility.

Principle

When mixed with synthetic siRNA at an appropriate concentration and ratio, atelocollagen, which is a major component of AteloGene® forms a complex appropriate for administration into the body. siRNA that is prepared into a complex with atelocollagen is efficiently delivered *in vivo* and introduced into the cells

Stabilization of siRNA *in vivo* by AteloGene®

AteloGene® injection has little effect on background gene expression.
Inhibition of tumor proliferation by administration of VEGF siRNA



AteloGene® Local Use formula was mixed with fluorescent labeled vascular endothelial growth factor (VEGF) siRNA and injected into a subcutaneous tumor. Compared to VEGF siRNA alone, siRNA complexed with AteloGene® was delivered to tumor cells effectively and siRNA was still detected after 8 days. Remarkable inhibition of tumor proliferation was also confirmed.

AteloGene® injection has little effect on background gene expression.

Comparison of hepatotoxicity from microarray results

Up-regulated gene ontology category	P-Value < 0.0001	
	AteloGene	Liposome
0009607: response to biotic stimulus	P>0.05	2.37×10^{-6}
0006952: defense response	P>0.05	1.09×10^{-6}
0006955: immune response	0.0375	9.84×10^{-5}
0009613: response to pest, pathogen or parasite	P>0.05	1.15×10^{-2}
0043207: response to external biotic stimulus	P>0.05	6.45×10^{-2}
0009615: response to virus	P>0.05	1.25×10^{-1}
0009605: response to external stimulus	P>0.05	1.71×10^{-1}
0019882: antigen presentation	0.0047	6.59×10^{-1}
0006950: response to stress	P>0.05	6.17×10^{-1}
0006954: inflammatory response	P>0.05	2.30×10^{-1}
0006953: acute-phase response	P>0.05	1.07×10^{-1}
0045087: innate immune response	P>0.05	7.55×10^{-1}
0006917: induction of apoptosis	P>0.05	9.98×10^{-1}
0012502: induction of programmed cell death	P>0.05	9.98×10^{-1}
0043068: positive regulation of programmed cell death	P>0.05	8.33×10^{-1}

The effects of AteloGene® Systemic Use injection versus liposome injection on mouse liver-cell gene expression was compared by microarray analysis. Expression levels of genes from several ontological categories, including apoptosis-related genes, were upregulated strongly by liposome injection where as AteloGene® injection showed hardly any effect.

Composition

This kit is intended for 10 times of administration.

- Prefilled syringe (filled with "AteloGene®")
  Each syringe is for 5 times of administration - 600 μℓ ×2 syringes
- 10×siRNA buffer - 3mℓ×1 bottle
- Sterilized water 3mℓ×1 bottle
- Microtube - 2 mℓ×2 tubes
- Disposable syringe - 1 mℓ × 2 syringes
- 18G needle (for ejection and suction) - 4 needles
- 26G needle (for injection) - 2 needles
- Instruction manual - 1 leaflet

Reference

*Local adiministration / Cancer research

- Deng Q. *et al*., Hepatology. (2013)
- Endo H. *et al*., Carcinogenesis.34(3):560-569. (2013)
- Fujiwara-Okada Y. *et al*., Br J Cancer.108(4):836-847. (2013)
- Kabuta T. *etal*., J Biol Chem. (2013)
- Nomura T. *et al*., Mol Cancer.12:27. (2013)
- Takeuchi A. *et al*., Cancer Immunol Immunother.62(3):517-527. (2013)
- Yamaki T. *et al*., Sci Rep.3:1160. (2013)
- Kawamura M. *et al*., Cell Death Differ.19(1):170-179. (2012)
- Kim BC. *et al*., EMBO J. 31(22):4289-4303. (2012)
- Koike K. *et al*., Curr Cancer Drug Targets.12(7):847-856. (2012)
- Okazaki T. *et al*., Cancer Lett.323(2):199-207. (2012)
- El Sayed SM. *et al*., Cancer Gene Ther.19(1):1-18. (2012)
- Shimada K. *et al*., Clin Cancer Res.18(19):5247-5255. (2012)
- Sudo H. *et al*., Cancer Sci.103(2):203-209. (2012)
- Ushida H. *et al*., J Urol.187(5):1876-1881. (2012)
- Yamaguchi T. *et al*., Cancer Cell.21(3):348-361. (2012)
- Yamato I. *et al*., Cancer Res.72(18):4829-4839. (2012)
- Andradas C. *et al*., Oncogene.30(2):245-252. (2011)
- Arai A. *et al*., Cancer Res.71(13):4598-4607. (2011)
- Hashimoto A. *et al*., PLoS One.6(8):e23359. (2011)
- Kobayashi T. *et al*., Clin Exp Metastasis.28(4):367-376. (2011)
- Lorente M. *et al*., Cell Death Differ.18(6):959-973. (2011)
- Matsuyama H. *et al*., Blood.118(26):6881-6892. (2011)
- Oh BY. *et al*., World J Gastroenterol.17(20):2563-2571. (2011)
- Shigematsu S. *et al*., Exp Cell Res.317(13):1851-1859. (2011)
- Takei Y. *et al*., Cancer Res.71(4):1442-1453. (2011)
- Takigami I. *et al*., Int J Cancer.128(1):216-226. (2011)
- Tasaki M. *et al*., Br J Cancer.104(4):700-706. (2011)
- Tomita S. *et al*., Cancer Sci.102(1):57-63. (2011)
- Tsuruta T. *et al*., Cancer Res.71(20):6450-6462. (2011)
- Vara D. *et al*., Cell Death Differ.18(7):1099-1111. (2011)
- Zeng Y. *et al*., J Biol Chem.286(16):13985-13994. (2011)
- Cheng L. *et al*., Oncogene.29(42):5700-5711. (2010)
- Forootan SS. *et al*., Int J Oncol.36(1):69-76. (2010)
- He L. *et al*., J Clin Invest.120(6):2094-2108. (2010)
- Liu CJ. *et al*., Cancer Res.70(4):1635-1644. (2010)
- Marsaud V. *et al*., Mol Cancer.9:103. (2010)
- Nagano A. *et al*., Int J Cancer.126(12):2790-2798. (2010)
- Satow R. *et al*., Clin Cancer Res 16(9):2518-2528. (2010)
- Shitashige M. *et al*., Cancer Res.70(12):5024-5033. (2010)
- Sudo H. *et al*., Genomics. 95(4):210-216. (2010)
- Tanooka H. *et al*., Cancer Gene Ther.17(1):1-10. (2010)
- Ashihara E. *et al*., Clin Cancer Res.15(8):2731-2738. (2009)
- Lorente M. *et al*., Glia.57(13):1374-1385. (2009)
- Mashima T. *et al*., Oncogene.28(1):9-19. (2009)
- Shimada K. *et al*., Cancer Res.69(7):3157-3164. (2009)
- Shimada K. *et al*., Cancer Sci.100(7):1248-1254. (2009)
- Yamaguchi U. *et al*., Cancer Sci.100(12):2268-2274. (2009)
- Bernard-Pierrot I. *et al*., Cancer Res.68(17):7165-7175. (2008)
- Honma K. *et al*., Nat Med.14(9):939-948. (2008)
- Iwaki K. *et al*., Int J Cancer.122(3):658-663. (2008)
- Migita T. *et al*., Cancer Res.68(20):8547-8554. (2008)
- Shirasaki T. *et al*., BMC Cancer.8:348. (2008)
- Ueno Y. *et al*., Int J Cancer.123(2):340-347. (2008)
- Yamato K. *et al*., Cancer Gene Ther.15(3):140-153. (2008)
- Yu D. *et al*., Cancer Sci.99(4):810-815. (2008)
- Kokuryo T. *et al*., Cancer Res.67(20):9637-9642. (2007)
- Nakazawa K. *et al*., Cancer.109(5):993-1002. (2007)
- Tazawa H. *et al*., Proc Natl Acad Sci U S A.104(39):15472-15477. (2007)
- Yamashita M. *et al*., Int J Cancer.120(10):2243-2250. (2007)
- Fujii T. *et al*., Int J Oncol.29(3):541-548. (2006)
- Nozawa H. *et al*., Cancer Sci.97(10):1115-1124. (2006)
- Takei Y. *et al*., Cancer.107(4):864-873. (2006)
- Kuroda M. *et al*., Br J Cancer.92(2):290-293. (2005)
- Takei Y. *et al*., Int J Cancer.114(3):490-497. (2005)
- Minakuchi Y. *et al*., Nucleic Acids Res.32(13):e109. (2004)
- Takei Y. *etal*., Cancer Res.64(10):3365-3370. (2004)
- Hirai K. *et al*., J Gene Med.5(11):951-957. (2003)
- Takei Y. *et al*., J Biol Chem.277(26):23800-23806. (2002)
- Takei Y. *et al*., Cancer Res.61(23):8486-8491. (2001)

*Local administration / Various research

- Kawakami E. *et al*., PLoS One.8(5):e64719. (2013)
- Kawakami Y. *et al*., Lab Invest. (2013)
- Makino K. *et al*., J Immunol. 190(8):3905-3915. (2013)
- Matsukawa R. *et al*., Am J Hypertens. 26 (1): 51-57. (2013)
- Ando T. *et al*., PLoS One 7(12): e51744. (2012)
- Distler A. *et al*., Ann Rheum Dis.72(9):1575-1580. (2012)
- Horn A. *et al*., Ann Rheum Dis. 71:785-789. (2012)
- Khodzhigorova A. *et al*., Ann Rheum Dis. (2012)
- Liu S. *et al*., Immunol Cell Biol. 90(3):337-345. (2012)
- Bellner L. *et al*., Mol Vis. 17:1144-1152. (2011)
- Matsukawa R. *et al*., J Hypertens.29(9):1735-1742. (2011)
- Toyooka T. *et al*., J Neurotrauma.28(4):607-618. (2011)
- Watanabe M. *et al*., PLoS One.6(4):e19017. (2011)
- Nakasa T. *et al*., J Cell Mol Med.14(10):2495-2505. (2010)
- Yusuke O. *et al*., J CellSci. 122(Pt 24):4427-4438. (2009)
- Nagata Y. *et al*., Arthritis Rheum.60(9):2677-2683. (2009)
- Matoba T. *et al*., Neuropathology.28(3):286-294. (2008)
- Banno H. *et al*., J Vasc Surg. 44(3):633-641. (2006)
- Shinozaki K. *et al*., Cardiovasc Pharmacol.46(4):505-512. (2005)
- Nakamura M. *et al*., Gene Ther. 11(10):838-846. (2004)
- Ochiya T. *et al*., Curr Gene Ther. 1(1):31-52. (2001)

*Systemic administration / Cancer research

- Takahashi M. *et al*., PLoS One 8(8): e73214. (2013)
- Tanaka H. *et al*., Oral Oncol. 49(6):551-559. (2013)
- Mochizuki S. *et al*., J Natl Cancer Inst.104(12):906-922. (2012)
- Osaki M. *et al*., Mol Ther. 19(6):1123-1130. (2011)
- Azuma K. *et al*., Biochem Biophys Res Commun. 391(1):1075-1079. (2010)
- Sasaki T. *et al*., Biochem Biophys Res Commun. 399(1):79-83. (2010)
- Takeshita F. *et al*., Mol Ther. 18(1):181-187. (2010)
- Mu P. *et al*., Int J Cancer. 125(12):2978-2990. (2009)
- Hokaiwado N. *et al*., Carcinogenesis.29(6):1134-1138. (2008)
- Kawata E. *et al*., Mol Cancer Ther. 7(9):2904-2912. (2008)
- Takeshita F. *et al*., Proc Natl Acad Sci USA.102(34):12177-12182. (2005)

*Systemic administration / Various research

- Raveney BJ. *et al*., PLoS One. 8(2):e56595. (2013)
- Hanai K. *et al*., J Drug Delivery. Article ID 245835. (2012)
- Inaba S. *et al*., Mol Ther. 20(2):356-366. (2012)
- Lian G. *et al*., J Immunol. 188(5):2227-2234. (2012)
- Sun X. *et al*., J Clin Invest. 122(6):1973-1990. (2012)
- Yoshikawa Y. *et al*., Toxicol Appl Pharmacol. (2012)
- Kawakami E. *et al*., Dev Growth Differ. 53(1):48-54. (2011)
- Nakasa T. *et al*., Arthritis Rheum. Jun;63(6):1582-1590. (2011)
- Ogawa S. *et al*., J Toxicol Sci. 36(6):751-762. (2011)
- Yamada A. *et al*., PLoS One. 5(9):e12894. (2010)
- Ishimoto T. *et al*., Mol Ther. 16(2):387-395. (2008)
- Kinouchi N. *et al*., Gene Ther. 15(15):1126-1130. (2008)
- Hanai K. *et al*., Hum Gene Ther. 15(3):263-272. (2004)

Description	Cat. No.	Quantity
AteloGene® Local Use	KOU-1392	1 kit
AteloGene® Systemic Use	KOU-1393	1 kit

GenomONE™- CF EX SeV-E (HVJ-E) 1 vial Cell Fusion Reagents

Intended Use

For hybridoma preparation and other cell fusion procedures

Background

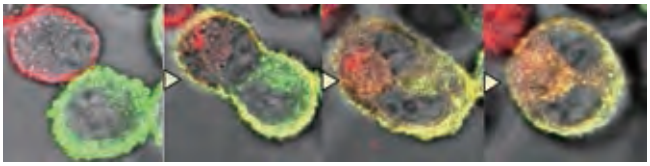
GenomONE™-CF EX is a cell fusion kit comprised of Sendai virus envelope (SeV-E, HVJ Envelope, HVJ-E) and special buffers. It can be used with both adhering cells and suspension cells. Fusion of the same or different cell types can be completed in only 30 minutes.

Feature and Advantages

GenomONE™ - CF EX produces more antibody secreting hybridomas than PEG. (following cell fusion, cells were grown in media containing hybridoma growth supplement as indicated).
Normal BALB/c mouse splenocytes (1×10^8 cells) not sensitized with antigen were fused to X63-Ag8.653 myeloma cells (1×10^7 cells) using GenomONE™-CF EX or PEG1500. The fused cells obtained with each agent were inoculated onto five 96-well plates (Day 0). Beginning the following day, half of the culture medium (10%FBS/RPMI1640) was replaced with HAT medium at five points of time (Days 1, 2, 3, 5, and 8), and the growth of colonies in each well was assessed on Days 10 -11 to determine the hybridoma-positive rate (an indicator of efficiency of fusion). On Day 12, mouse antibody level (IgG + IgA + IgM) in the supernatant was measured by ELISA, to calculate the antibody production-positive rate. The effect of adding a commercially available hybridoma supplement to the medium after fusion was also assessed (supplement was also added to the HAT medium).

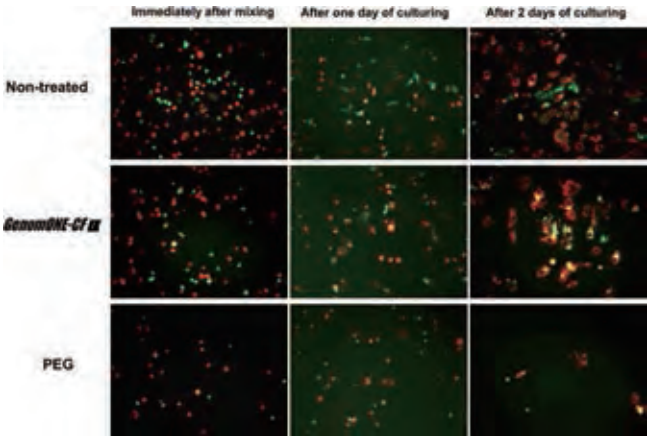
Application

1. Hybridoma preparation
   Cell fusion involving PEG and electrofusion
   Preparation of monoclonal antibodies
   Fusion of antigen-sensitized B cells and myeloma cells
2. Fusion of suspension cells
3. Fusion of adherent cell and suspension cell
4. Application in premature chromosome condensation (PCC)
   Detection of chromosomal damage and repair by fusion of different types of cells in different cell phases
5. Research on regenerative medicine and cytotherapy
   Fusion of somatic cells and stem cells, etc.
6. Research on embryonic development/differentiation
   Nuclear transfer (nuclear replacement)

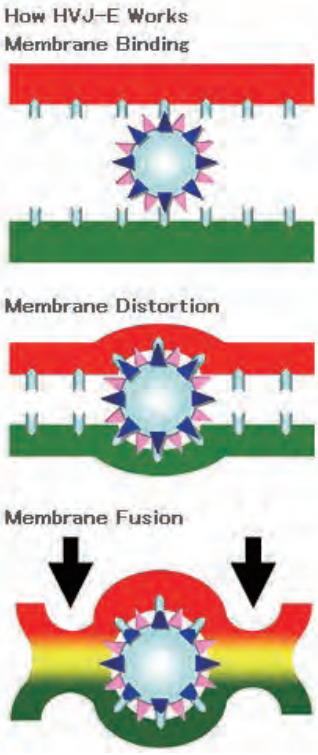


BHK-21 cells labeled with red and green fluorescent dyes incubated at 37℃ in the presence of HVJ-E and observed under a confocal laser scanning microscope.

Comparison with PEG method in the fusion of different types of cell



Rat MSC cells (rat bone marrow-derived mesenchymal stem cells) labeled with red fluorescence*1 were combined with rat primary cardiac myocytes labeled with green fluorescence*2 (each 2×10^5 cells) in 50 μℓ of a buffer for cell fusion. The mixture was incubated on ice for 5 minutes and then at 37℃ for 15 minutes. As a result, fused cells (yellow) were formed (GenomONE-CF suspension method). Fused cells adhering to the plate were also observed after 1-2 days of culturing. In the PEG-treated group, high cytotoxicity appeared immediately after cell fusion, reducing the number of fused cells obtained.



If HVJ-E is added in amounts of more than several hundred HVJ-E per cell at low temperatures (0-8℃), HVJ-E is immediately adsorbed on the cell surface mediated by the receptor (acetyl type sialic acid recognized by HN protein) (Membrane Binding), and cells undergo agglutination cross-linked by HVJ-E particles (Membrane Distortion). At this stage, the hydrophobic domain at the N-terminal of cleaved F protein (F1) penetrates into the double lipid layer of the cell membrane, causing distortion of the membrane severe enough to allow an inflow of ions.

If this cell/HVJ-E complex is heated at 37℃, the distortion of the cell membrane is further expanded, accompanied by temporary alteration of the cell membrane lining structure. This change is transient and the membrane soon returns to its normal structure. However, if a strong hydrophobic connective force is applied at this stage, fusion between cell membranes takes place (Membrane Fusion).

Reference

- K. Hiraoka *et al*., Journal of Immunology, 173, 4297-4307 (2004).
- M. Okada *et al*., Mutation Research, 562(1-2), 11-17 (2004).
- R. Okayasu *et al*., Radiation Research, 165(1), 59-67 (2006).
- S. Yamaguchi *et al*., Chromosome Science , 9, 65-73 (2006).
- N. Uekawa *et al*., Hybridoma (Larchmt), 26(6), 381-385 (2007).
- T. Nishioka *et al*., Immunol,Lett, 121(2), 97-104 (2008).
- A. Inoue *et al*., Human Reproduction, 23, 1377-1384 (2008).
- D. Matsuyama *et al*., Biosystems, 92(3), 226-232 (2008).
- K. Riento *et al*., Journal of Cell Science,122, 912- 918 (2009).
- S. Yanai *et al*., Int. J. Oncol., 35(2), 249-255 (2009).
- M. Tachibana *et al*., Nature, 461(7262), 367-372 (2009).
- D. M. Mattiske *et al*., Reproduction, 137(4), 625-632 (2009).
- Y. Kato *et al*., Biochem. Biophys. Res. Commun., 390(3), 547-551 (2009).
- R. Kaushik *et al*., Cell Host Microbe., 6, 68-80 (2009).
- Y. Kato *et al*., Biochem. Biophys. Res. Commun., 391(1), 750-755 (2010).
- A. Kunisato *et al*., Stem Cells Dev., 19(2), 229-238 (2010).
- XS.Yue *et al*., Biochem. Biophys. Res. Commun., 394(4), 1053-1057 (2010).
- L. Craven *et al*., Nature, 465, 82-85 (2010).
- M.Tachibana *et al*., Nature Protocols, 5(6), 1138-1147 (2010).
- H. Nakamura *et al*., Hybridoma (Larchmt), 29(1), 7-11 (2010).
- K. Hasegawa *et al*., Stem Cells. 28(8), 1338-1348 (2010).
- J. Nakata *et al*., Vet. Immunol. Immunopathol., 138(3), 231-234 (2010).
- C. Liua *et al*., Radiat. Res.,174(5), 566-573 (2010).
- R. Metzele *et al*., FASEB J., 25(3), 830-839 (2011).
- M K Kaneko *et al*., Biochem. Biophys. Res. Commun., 406(4), 608-613 (2011).
- A. Inoue *et al*., Biol. Reprod., 85, 70-77 (2011).
- N. Ogonuki *et al*., J. Reprod. Dev., 57, 534-538 (2011).
- YH Song *et al*., Cell Cycle, 10(14), 2281-2286 (2011).
- P. Comizzoli *et al*., Hum. Reprod., 26(8), 2165-2177 (2011).
- S. Noggle *et al*., Nature, 478, 70-75 (2011).
- H. Nawata *et al*., PLoS One, 6(9), e25319 (2011).
- H. Hayashi *et al*., FASEB J., 26(6), 2306-2317 (2012).
- S. Takano *et al*., J. Neurooncol.,108(3), 361-373 (2012).
- HS. Lee *et al*., Cell Reports 1(5), 506-515 (2012).
- YW. Yang *et al*., Nucleic Acids Res., 40(19)e148 (2012).
- T. Shibata *et al*., Int. Immunol., 24(10), 613-623 (2012).
- C. Kaji *et al*., Acta. Histochem. Cytochem., 45(4), 227-237 (2012).
- H. Moribe *et al*., PLoS Genet., 8(9), e1002957 (2012).
- Y. Isaji *et al*., J. Reprod. Dev., 59(2) 196-204 (2013).
- M K Kaneko *et al*., Biochem. Biophys. Res. Commun.,432(1), 40-45 (2013).
- H. Watanabe *et al*., Hum. Reprod., 28(2), 531-537 (2013).
- Y. Fujii *et al*., Int. J. Radiat. Biol.,89(6) 401-410 (2013).
- R. Willett *et al*., Nat. Commun., 4, 1553 (2013).
- K. Shien *et al*., Cancer Res.,73(10) 3051-3061 (2013).
- M. Tachibana *et al*., Nature, 493 (7434) 627-631 (2013).
- D. Paull *et al*., Nature, 493 (7434) 632-637 (2013).
- C. Liu *et al*., J. Radiat. Res., 54(6) 989-997 (2013).
- NC Lee *et al*., Cell Mol. Life Sci.,70(19),3723-3737 (2013).
- M. Tachibana *et al*., Cell, 153(6) 1228-1238 (2013).
- MK. Paudel *et al*., J. Nat. Prod., 76 (9), 1654-1660 (2013).
- GD. Greggains *et al*., Scientific Reports, 4, 3844 (2014).
- E. Kang *et al*., Nature, 509 (7498) 101-104 (2014).

Description	Composition	Cat. No.	Quantity
GenomONE™- CF EX SeV-E (HVJ-E) 1 vial Cell Fusion Reagents	• Freeze-dried Sendai virus envelope (HVJ-E) - 1Vial (Approx. 0.26mℓ) • HVJ-E suspending buffer - 1Vial (0.5mℓ) • Cell fusion buffer (20×concentrate) - 1Vial (10mℓ) • Instruction Manual - 1leaflet	ISK-CF-001-EX	1 set

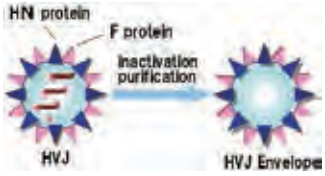
GenomONE™- Neo EX HVJ-E Transfection Reagents

Intended Use

GenomONE™ -Neo EX is a non-viral reagent for transfection. Unique, efficient transfection of siRNA, DNA oligonucleotides, proteins. Low toxicity with primary cells. Protocols for *in vivo* transfection.

Background

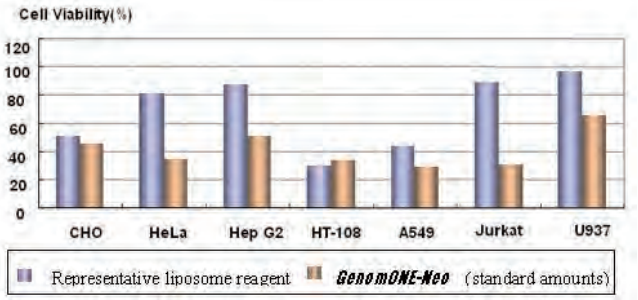
HVJ (hemagglutinating virus of Japan) Envelope VECTOR KIT is a tool for transfection of molecules (plasmid DNAs, siRNAs, oligonucleotides, proteins, antibodies etc.) into cells and animal tissue by means of membrane fusion. The HVJ envelope, carrying the molecule to be transfected, is composed of a completely inactivated and purified HVJ (Sendai virus) while preserving the cell membrane-fusing capability of the envelope.
GenomONE provides ready-to-use kits containing the HVJ envelope and auxiliary reagents (incorporation enhancer, incorporation reagent, introduction enhancer, buffer).



Principle

What is HVJ Envelope (HVJ-E)?

HVJ Envelope is a purified product prepared through complete inactivation of Sendai virus (HVJ*). It is a vesicle in which only the cell membrane-fusing capability of the envelope protein of Sendai virus is retained.
It is known that the HN protein in the tunica externa of the Sendai virus recognizes the receptor (possessing sialic acid atthe terminal of sugar chain) on the cell membrane and adsorbs it, leading to the induction of membrane fusion mediated by F protein (another component of the envelope). The genomic RNA of the Sendai virus contained in HVJ-E has been inactivated completely and has neither infective nor proliferative potentials in humans or experimental animals. HVJ-E can be used safely at ordinary laboratories, without requiring any special operations or facilities.
*HVJ: Hemagglutinating Virus of Japan.
Conventional non-viral transfection tools, including cationic lipids, are incorporated into cells through endocytosis which results in degradation of the transferred DNA by lysosomes. On the other hand, HVJ Envelope VECTOR resists degradation by lysosomes, making it easy to transfer the specified DNA. Therefore, HVJ Envelope VECTOR yields highly efficient gene expression. Sialic acid receptors, which are needed to trigger binding with HN protein, exist in almost all animal cells. Thus, HVJ Envelope VECTOR is useful for a wide range of targets.



Feature and Advantages

1. Wide usability GenomONE™ HVJ Envelope VECTOR KIT is a highly flexible tool for transfecting a wide variety of molecules (plasmid DNAs, siRNAs, oligonucleotides, proteins, antibodies etc.) into cultured cells (adherent and non-adherent) and tissue. GenomONE is useful for transfecting sensitive primary cells and is further distinguished by its ability to deliver contents into live animals. Many literature citations are available for each GenomONE-Neo application.
2. Safety Unlike cationic lipids, GenomONE-Neo delivers the molecule of interest into cells via membrane fusion, not by endocytosis where cargo may be degraded by lysosomal enzymes. Since GenomeONE™-Neo is a purified HVJ (Sendai virus) product, prepared from virus particles completely inactivated for infectious ability and proliferative potential it is completely safe to use without special precautions.
3. GenomONE™ provides ready-to-use kits containing the HVJ envelope and required auxiliary reagents (incorporation enhancer, incorporation reagent, introduction enhancer, and buffer). Suggested protocols for all major applications are included.

Application

1. siRNA transfection

***in vivo*:**
Primary T cell (Human peripheral blood)
Primary cardiac myocyte (Rat cardiac myocyte)
Differentiated C2C12 (Mouse myoblast)
monkey ES cells
Min6 (Mouse pancreatic β cell)
U937 (Human myelomonocytic cell)
***in vivo*:**
Intradermally transplanted human cervix cancer /HeLa (SCID mouse)
Submandibular gland (rat)

2. Protein delivery

***in vitro*:**
Primary macrophage (C3H mouse peritoneal resident)
Swiss 3T3 cell (Mouse embryonic fibroblasts)
***in vivo*:**
Nucleus tractus solitarius (Rat brain)

3. Oligo DNA transfection

***in vitro*:**
Primary HDMECs (Human dermal microvascular endothelial cell)
Primary CD34+ cell (Human blood)
***in vivo*:**
Uterus (Mouse)
Skin, ear lobe (Mouse)
Lung (Mouse)

4. Plasmid DNA transfection

***in vivo*:**
Uterus(Mouse)
Palatal periodontal tissue (Rat)
Myocardium (Rat heart)
Lung (neonatal porcine)
Subcutaneously transplanted human colon cancer /LoVo (nude mouse)

Reference

in vitro

Antisense/decoy ODN transfection (*in vitro*)

- S. Akagi *et al*., J. Am. Soc. Nephrol., 15, 3215-3224 (2004).
- S. F Feigl *et al*., J. Clin. Invest.,115, 3057-3071 (2005).
- S. F Feigl *et al*., Nature Med., 12, 99-106 (2006).
- Y. Miyazaki *et al*., Am. J. Pathol.,169, 697-707 (2006).
- Y. Kubota *et al*., J. Immunol., 178, 2923-2931 (2007).
- G. Son *et al*., Am J Physiol Gastrointest Liver Physiol., 293, 631-639 (2007).
- KF.Takahashi *et al*., BMC Dev Biol. 10(1), 115. (2010).
- Y. Nakamura *et al*., Int. Arch. Allergy Immunol.,155, 129-140 (2011).
- Y. F. Ookuma *et al*., Histochem. Cell Biol., 139(2) 355-370 (2013).

siRNA transfection /miRNA transfection (*in vitro*)

- Y. Itoh *et al*., Nature, 422(13), 173-176 (2003).
- T. Ishii *et al*., J. Immunol., 170(1), 3653-3661 (2003).
- C. Kojima *et al*., EMBO J., 23, 4413-4422 (2004).
- K. Ohnuma *et al*., Proc. Natl. Acad. Sci. USA, 101(39),14186-14191 (2004).
- A. Watanabe *et al*., J. Mol. Cell. Cardiol., 37(3), 691-698 (2004).
- M. Asada *et al*., Mol. Cell. Biol., 24(18), 8236-8243 (2004).
- R. Kuribara *et al*., Mol.Cell. Biol., 24(14), 6172-6183 (2004).
- T. Matsumoto *et al*., EMBO J., 24, 2342-2353 (2005).
- T. Takada *et al*., Biochem. Biophys. Res. Commun., 331(4),1039-1044 (2005).
- K. Ohnuma *et al*., Mol. Cell. Biol., 25,7743-7757 (2005).
- S. Sangkhathat *et al*., Int. J. Oncology, 28, 715-722 (2006).
- S. F Feigl *et al*., Nature Med., 12, 99-106 (2006).
- D. D Feng *et al*., Endocrinology, 147, 674-682 (2006).
- K. Ohnuma *et al*., J. Biol. Chem., 282(13), 10117-10131 (2007).
- Y. Nakamichi *et al*., J. Immunol., 178, 192-200 (2007).
- A. Masuda *et al*., J. Immunol., 178, 360-368 (2007).
- H. Iguchi *et al*., J. Biol. Chem., 282(26), 19052-19061 (2007).
- Y. Kubota *et al*., J. Immunol., 178, 2923-2931 (2007).
- M. Shimada *et al*., Mol. Endocrinol., 21, 2487-2502 (2007).
- Y. Yamashita *et al*., Endocrinology, 148, 6164-6175 (2007).
- E. Saito *et al*., J. Atheroscler.Thromb., 14, 317-324 (2007).
- Y. Tsuchiya *et al*., Free Radical Biology and Medicine, 43(12),1604-1615 (2007).
- Y. Nimura *et al*., Int. J. Oncol., 30(6), 1477-1484 (2007).
- Y. Sawa *et al*., J. Histochem. Cytochem., 56, 97-109 (2008).
- T. Saito *et al*., British J. Cancer, 98, 345-355 (2008).
- M. Shimada *et al*., Development, 135, 2001-2011 (2008).
- H-Y Fan *et al*., Development, 135, 2127-2137 (2008).
- H. Mukaide *et al*., Cancer Invest., 26,385-390 (2008).
- J J. Conkright *et al*., Am. J. Respir. Cell Mol. Biol., 42, 181-189 (2010).
- J P. Bridges *et al*., J. Clin. Invest., 120(5), 1736-1748 (2010).
- A. Watanabe *et al*., Cardiovasc. Res., 90(1), 57-67 (2011).
- F. Jafarifar *et al*., EMBO J., 30, 1324-1334 (2011).
- S. Koyanagi *et al*., J. Biol. Chem., 286 32416-32423 (2011).
- B. Kosmider *et al*., PLoS One. 6(12), e26059 (2011).
- Y. Kobayashi*et al*., PLoS One. 6(12), e27627 (2011).
- S. M. Tietz *et al*., J. Biomol. Tech.,12, 2302-2305 (2012).
- B. Kosmider *et al*., Respir. Res., 13(1), 43, (2012).
- Y. Kobayashi *et al*., Pulm. Pharmacol. Ther., 25(3), 201-207 (2012).
- T. Saito *et al*., Circulation, 127(1) 104-114 (2013).
- A. Funayama *et al*., Cardiovasc. Res., S99(4) 657-664 (2013).
- M. Fujiya *et al*., Oncogene 2013 <in press>
- Y. Tanaka *et al*., BMC Cancer, 14(1), 27 (2014).

Protein/Peptide transfection (*in vitro*)

- S. Yuki *et al*., Eur. J. Biochem., 271(17), 3567-3572 (2004).
- Y. Kubota *et al*., Int. J. Radiat. Biol., 81(6), 459-472 (2005).
- T. Matsumoto *et al*., EMBO J., 24, 2342-2353 (2005).
- K. Kitadokoro *et al*., Proc. Natl. Acad. Sci. USA, 104(12), 5139-5144 (2007).
- S. Kamitani *et al*., J. Biol. Chem., 285(33), 25467-25475 (2010).
- S. Matsuda *et al*., PLoS Pathog., 8(7), e1002803 (2012).
- E. Hernandez-Cuellar *et al*., J. Immunol., 189(11), 5113-5117 (2012).
- H. Hara *et al*., Nature Immunol., 14, 1247-1255 (2013).

Antibody delivery into living cells (*in vitro*)

- Y. Kondo *et al*., J. Immunol. Methods, 332, 10-17 (2008).
- S. Balasubramanian *et al*., PLoS One., 5(7), e11470 (2010).

Bioimaging (*in vitro* , ex vivo)

- K. Toyoda *et al*., Neuroreport, 15 (4), 589-593 (2004).
- JA Flexman *et al*., Conf Proc IEEE Eng Med Biol Soc. 7, 5246-5249 (2004).
- S. Miyoshi *et al*., Mol. Imaging Biol.,7(4), 286-295 (2005).
- Y. Song *et al*., Histol. Histopathol., 21(7), 705-711 (2006).
- K.Takata *et al*., FEBS Letters, 581,475-478 (2007).
- N.Takehara *et al*., J. Am. Coll. Cardiol., 52(23), 1858-1865 (2008).
- T.Takimoto *et al*., Chem. Mater., 22 (11) 3462-3471 (2010).
- JA. Flexman *et al*., Mol. Imaging Biol.,13(1), 104-111 (2011).
- M. Kawamura *et al*., Circulation, 128, S87-594 (2013).

Plasmid DNA transfection (*in vitro*, ex vivo)

- T. Watanabe *et al*., Nature Immunol., 5, 800-808 (2004).
- Y. Ikeda *et al*., Hypertens. Res., 27(2), 119-228 (2004).
- J. Eguchi *et al*., Biochem. J., 387, 343-353 (2005).
- J. Ohishi *et al*., J. Control. Release, 110(2), 431-436 (2006).
- T. Nishikawa *et al*., Hum. Gene Ther., 17(4), 470-475 (2006).
- Y. Nakamichi *et al*., J. Immunol., 178, 192-200 (2007).
- T. Shimamura *et al*., J. Immunol., 181, 4656-4665 (2008).
- T. Akaike *et al*., J. Biol. Chem., 284(36), 24025-24034 (2009).
- M. Sato *et al*., J. Biol. Chem.,284(45), 31431-31440 (2009).
- J. L Espinoza *et al*., PLoS One,7(12) e51306 (2012).
- R. Zhou *et al*., J. Biol. Chem., 288, 5389-5397 (2013).
- Y. Kitamura *et al*., J. Biol. Chem., 289, 2788-2800 (2014).
- Y. Kaneda *et al*., Mol. Ther.,6(2), 219-226 (2002).
- Y. Kaneda Curr. Drug Targets, 4(8), 599-602 (2003).
- H. Kotani *et al*., Curr. Gene Ther., 4(2), 183-194 (2004).
- Y. Kaneda *et al*., Adv. Genet., 53, 307-332 (2005).
- Y. Kaneda *et al*., CancerSci., 97(5), 348-354 (2006).
- Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008).
- Q. Zhang *et al*., Biochem Biophys Res Commun, 373, 345-349 (2008).
- P E.Lund *et al*., Pharm. Res., 27(3), 400-420 (2010).
- Y. Kondo*et al*., Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010).
- Y. Kondo *et al*., Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010).
- T. Amatsubo *et al*., Magn. Reson. Med. Sci.,9(3) 95-99 (2010).
- Y. Kaneda, Expert. Opin. Drug Deliv., (9), 1079-1093 (2010).
- A. Kitani *et al*., Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010).
- Y. Kaneda, BMB Rep., 43(12) 773-780 (2010).
- Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012).
- F. Kato *et al*., J. Genet. Syndr. Gene Ther., 4, 178 (2013).

Cell Transfection

in vivo

Decoy ODN transfection (*in vivo*)

- K. Sumi *et al*., Gene Ther.,11(24), 1763-1771 (2004).
- N. Matsuda *et al*., Mol. Pharmacol., 67, 1018-1025 (2005).
- S. F Feigl *et al*., J. Clin. Invest.,115, 3057-3071 (2005).
- H. Nakamura *et al*., FEBS Lett., 580(11), 2717-2722 (2006).
- N. Matsuda *et al*., J. Pharmacol. Exp.Ther., 332(3), 730-737 (2010).
- T. Watanabe *et al*., J. Clin. Invest..,120(5), 1645-1662 (2010).
- T. Kimura *et al*., Indian J. Physiol. Pharmacol., 54(5),27-32 (2010).
- Y. Oishi *et al*., Am. J. Physiol. Lung Cell Mol. Physiol., 303(2), 130-140 (2012).

siRNA transfection / miRNA transfection (*in vivo*)

- M. Ito *et al*., J.Gene Med., 7(8), 1044-1052 (2005).
- S. F Feigl *et al*., Nature Med.,12, 99-106 (2006).
- K. Ishibashi *et al*., J. Dent. Res., 85(12), 1101-1105 (2006).
- S. F Feigl *et al*., J. Immunol., 178, 5859 - 5870 (2007).
- Y. Nimura *et al*., Int. J. Oncol., 30(6), 1477-1484 (2007).
- T. Watanabe *et al*., J. Clin. Invest., 118(2), 545-559 (2008).
- K. Ishibashi *et al*., Am J Physiol Regulatory Integrative Comp Physiol., 294, 1729-1736 (2008).
- Y. Doi *et al*., Proc. Natl. Acad. Sci. USA, 105(24), 8381-8386 (2008).
- H. Kato *et al*., J. Exp. Med., 205, 1601-1610 (2008).
- K. Morita *et al*., J. Pharmacol. Exp. Ther., 326, 633-645 (2008).
- M. Boirivant *et al*., Gastroenterology, 135(5), 1612-1623 (2008).
- K. Morita *et al*., Pain,138(3), 525-536 (2008).
- M. Matsuda *et al*., Gene Ther.,16(12), 1465-1476 (2009).
- N. Matsuda *et al*., J. Pharmacol. Exp.Ther., 332(3), 730-737 (2010).
- T. Watanabe *et al*., J. Clin. Invest., 120(5), 1645-1662 (2010).
- T.Takahashi *et al*., Pain, 150(1), 183-191 (2010).
- E.Tskitishvili *et al*., Am. J. Obstet. Gynecol., 203(4), 364.e6-e12 (2010).
- T. Fujioka *et al*., J. Pharmacol, Sci., 113(4), 353-361 (2010).
- L. Chen *et al*., Circulation, 122, 910-919 (2010).
- R. Naono-Nakayama *et al*., Eur. J. Pharmacol., 670, 448-457 (2011).
- Y. Mitsuishi *et al*., Cancer Cell, 22(1), 66-79 (2012).
- J. Jin *et al*., Am. J. Transl. Res., 4(3) 302-315 (2012).
- E. Kiyohara *et al*., Gene Ther., 19(7), 734-741(2012).
- N. Motoyama *et al*., Eur. J. Pain, 17(8), 1156-1167 (2013).
- T. Kitayama *et al*., Molecular Pain, 9, 23 (2013).
- M. Fujiya *et al*., Oncogene, 2013 <in press>
- SM. Brunner *et al*., Transplant Res., 2(1) 16 (2013).
- K. Morita *et al*., PLoS One. 9(3) e91746 (2014).

Protein (antibody) transfection (*in vivo*)

- K. Owada-Makabe *et al*., Neurosci. Lett., 378(1), 18-21 (2005).
- E. Yasuoka *et al*., J. Mol. Med., 85(3), 279-288 (2007).
- K. Shintani-Ishida *et al*., Biochim.Biophys.Acta.,1812(7), 743-751 (2011).
- K. Shintani-Ishida *et al*., J.Mol. Cell.Cardiol., 53(2), 233-239 (2012).

Plasmid DNA transfection (*in vivo*)

- H. Nakamura *et al*., Mol. Hum. Reprod., 9(10), 603-609 (2003).
- K. Oshima *et al*., FASEB J., 18(1), 212-214 (2003).
- H. Kanzaki *et al*., J. Dent. Res., 83(12), 920-925 (2004).
- M. Ono *et al*., Circulation,110, 2896-2902 (2004).
- H. Nakamura *et al*., Biochem. Biophys. Res. Commun., 321(4), 886-892 (2004).
- M. Takeno *et al*., Clin. Exp. Allergy, 34(6), 965-970 (2004).
- T. Itani *et al*., Int.J. Mol. Med.,16, 821-825 (2005).
- T. Matsuoka *et al*., Diabetes, 54, 2882-2890 (2005).
- M. Ono *et al*., J. Thorac. Cardiovasc. Surg.,129, 740-745 (2005).
- N. Shigemura *et al*., Circulation, 111, 1407-1414 (2005).
- N. Shigemura *et al*., Am. J. Respir. Crit. Care Med.,171, 1237-1245 (2005).
- H. Futamatsu *et al*., Circ. Res.,96, 823-830 (2005).
- Y. D. Kim *et al*., Gene Ther., 13(3), 216-224 (2006).
- H. Kanzaki *et al*., Gene Ther., 13(8), 678-685 (2006).
- H. Suzuki *et al*., Cancer Biol. Ther., 5(11), 1487-1491 (2006).
- Y. Zhang *et al*., J. Am. Soc. Nephrol., 17, 1090-1101 (2006).
- M. Ieda *et al*., Circulation, 114, 2351-2363 (2006).
- T. Hamada *et al*., Am. J. Pathol., 171,872-881 (2007).
- T. Watanabe *et al*., J. Clin. Invest., 118(2), 545-559 (2008).
- Y. Mitani *et al*., J. Thorac. Cardiovasc. Surg.,136(1), 142-149 (2008).
- H. Matsubara *et al*., Clin Orthop Relat Res. 466(12), 2962-2672 (2008).
- M. Okada *et al*., Vaccine, 27, 3267-3270 (2009).
- T. Fujita *et al*., Cancer Res., 69(12), 5142-5150 (2009).
- H. Kidoya *et al*., Blood. 115(15), 3166-3174 (2010).
- T. Okabayashi *et al*., PLoS One, 5(9), e13034 (2010).
- M. Tomomura *et al*., *In Vivo*, 25, 157-163 (2011).
- M. Okada *et al*., Clin. Dev. Immunol.,549281 (2011)
- M. S. Salker *et al*., Nature Med., 17, 1509-1513 (2011).
- N. Zhao *et al*., Am.J.Orthod Dentofacial Orthop.,141, 30-40 (2012).
- N. Zhao *et al*., Orthod. Craniofac. Res.,15(1),10-20, (2012).
- N. Zhao *et al*., Orthod. Craniofac. Res.,15(1),10-20, (2012).
- H. Kanzaki *et al*., J. Biol. Chem., 288(32) 23009-23020 (2013).
- K. Hasegawa *et al*., NatureMedicine, 19, 1496-1504 (2013).
- T. Watanabe *et al*., Mucosal Immunology <in press> 2014

Bioimaging (*in vivo*)

- J A Flexman *et al*., IEEE Trans Nanobioscience, 7(3), 223-232(2008).
- Y. Kaneda *et al*., Mol. Ther.,6(2), 219-226 (2002).
- Y. Kaneda, Curr. Drug Targets, 4(8), 599-602 (2003).
- H. Kotani *et al*., Curr. Gene Ther., 4(2), 183-194 (2004).
- Y. Kaneda *et al*., Adv. Genet., 53, 307-332 (2005).
- Y. Kaneda *et al*., Cancer Sci., 97(5), 348-354 (2006).
- Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008).
- Q. Zhang *et al*., Biochem Biophys Res Commun, 373, 345-349 (2008).
- P E. Lund *et al*., Pharm. Res., 27(3), 400-420 (2010).
- Y. Kondo *et al*., Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010).
- Y. Kondo *et al*., Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010).
- T. Amatsubo *et al*., Magn. Reson. Med. Sci.,9(3) 95-99 (2010).
- Y. Kaneda, Expert. Opin. Drug Deliv., (9), 1079-1093 (2010).
- A. Kitani *et al*., Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010).
- Y. Kaneda, BMB Rep., 43(12) 773-780 (2010).
- Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012).
- F. Kato *et al*., J. Genet. Syndr. Gene Ther., 4, 178 (2013).

Description	Composition	Cat. No.	Quantity
GenomONE™- Neo EX HVJ-E 1 vial Transfection Reagents	Freeze-dried HVJ-E (inactivated HVJ) - 1 vial (0.26 mℓ /via) Reagent A (enhancer for incorporation) - 1 vial (0.5 mℓ/vial) Reagent B (reagent for incorporation) - 1 vial (0.3 mℓ/vial) Reagent C (enhancer for introduction) - 1 vial (1.0 mℓ/vial) Buffer (for suspension and dilution) - 1 vial (6.5 mℓ/vial)	ISK-GN-001-EX	1 set
GenomONE™- Neo EX HVJ-E 4 vials Transfection Reagents	Freeze-dried HVJ-E (inactivated HVJ) - 4 vials (0.26 mℓ /via) Reagent A (enhancer for incorporation) - 1 vial (0.5 mℓ/vial) Reagent B (reagent for incorporation) - 1 vial (0.3 mℓ/vial) Reagent C (enhancer for introduction) - 1 vial (1.0 mℓ/vial) Buffer (for suspension and dilution) - 1 vial (6.5 mℓ/vial)	ISK-GN-004-EX	1 set

GenomONE™- CAb EX Antibody Delivery Reagents

Intended Use

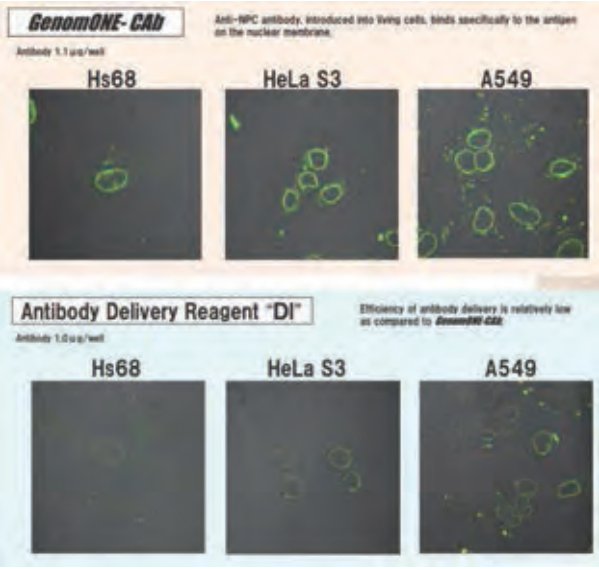
A tool for efficient introduction of IgG antibodies into living cells using HVJ-E envelope (HVJ-E) vector for the purpose of analysis of the functions of cells and intracellular proteins.

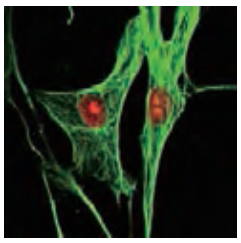
Background

Because antibodies cannot enter cells, past experiments using antibodies focused primarily on extracellular molecules. If target molecules in living cells can be exposed to antibodies, it will be possible to pursue new dimensions of research related to cell function analysis, exploration of target molecules for disease diagnosis and treatment, and so on. GenomONE™-CAb Antibody Delivery Reagent is a next-generation tool for antibody introduction into cells which can meet such needs.With this kit, antibody can be incorporated into the HVJ Envelope (HVJ-E), a transfection tool making use of the membrane fusing ability of inactivated Sendai virus (HVJ: Hemagglutinating Virus of Japan). If cells are treated with HVJ-E including antibody, it will be possible to achieve efficient introduction of IgG antibodies into the cytoplasm. This kit provides a totally new methodology for experiments, overcoming the difficulties involved in experiments using conventional lipid-based reagents by which antibodies are introduced into cells by means of endocytosis.

Principle

With this system, the IgG antibody incorporation enhancer, which was developed by our company, improves the efficiency of inclusion of IgG molecules into HVJ-E markedly compared to the existing HVJ-E vectors (GenomONE™, GenomONE™-Neo) marketed in 2002. Thanks to this feature, this system allows efficient introduction of IgG molecules into the cytoplasm.





Specific binding to tubulin filaments is visible
Nucleus of each cell was stained with SYTO 82 (red)

Features

Analysis of intracellular function

- An antibody is introduced into living cells to examine the distribution of the target molecule within them
- An antibody is introduced into living cells to suppress and clarify the function of target molecules
- Live cell imaging is performed

Screening of antibodies reacting to intracellular antigens

- Antibodies binding to intact antigens in living cells and showing neutralization activity are screened for

Application to testing, diagnosis, and treatment

- New agents for testing and diagnosis are developed using antibodies capable of detecting target molecules in living cells
- Next-generation antibody-based drugs are created, which exert therapeutic effects through acting on intracellular target molecules

Advantages of intracellular antibody introduction (differences from existing knockout method)

- Unlike post-transcriptional gene silencing (RNAi method, etc.), this method is expected to achieve specific inhibition by recognizing protein-protein interactions or post-translational modifications (addition of sugar chains, etc.)
- Nonspecific reactions (off-target effects of RNAi method, etc.) are unlikely to occur
- Unlike gene transfer and expression methods, introduction of antibody in amounts sufficient to exert efficacy can be achieved rapidly and simply, and this method is applicable to a wider range of types of experiments

Advantages

- The presence of 1% BSA, 0.1% gelatin or 0.1% NaN3 (sodium azide) does not affect the efficiency of antibody incorporation into HVJ-E
- Serum in culture medium does not affect the efficiency of antibody introduction into cells

Reference

- Y. Kondo, *et al*., J. Immunol. Methods, 332, 10-17 (2008)
- Kondo,Y. *et al*., Protoc. Immunol., Chapter 2, Unit 2.16, 1-12 (2010)

Description	Composition	Cat. No.	Quantity
GenomONE™- CAb EX 1 vial Antibody Delivery Reagents	HVJ-E (inactivated HVJ) - 1 vial (Freeze-dried 0.26 mℓ/vial) Reagent I (antibody incorporation enhancer) - 1 vial (Freeze-dried 0.26 mℓ / vial) Reagent II (incorporation reagent) - 1 vial (0.3 mℓ/vial) Reagent III (introduction enhancer) - 1 vial (1 mℓ/vial) Buffer (for suspension and dilution) - 1 vial (6.5 mℓ/vial)	ISK-AB-001-EX	1 set
GenomONE™- CAb EX 4 vials Antibody Delivery Reagents	HVJ-E (inactivated HVJ) - 4 vials (Freeze-dried 0.26 mℓ/vial) Reagent I (antibody incorporation enhancer) - 4 vials (Freeze-dried 0.26 mℓ / vial) Reagent II (incorporation reagent) - 1 vial (0.3 mℓ/vial) Reagent III (introduction enhancer) - 4 vials (1 mℓ/vial) Buffer (for suspension and dilution) - 1 vial (6.5 mℓ/vial)	ISK-AB-004-EX	1 set

Cell Disruption Tools

Description	Cat. No.	Quantity
Cool Mill set (2pc)	TKY-TK-CM20S-EX	2 pc
Crusher 10pc	TKY-SK-100-D10-EX	10 pc
Crusher 100pc	TKY-SK-100-D100-EX	100 pc
Frost Mill short	TKY-SK-100-EX	1 unit
Frost Mill long	TKY-SK-200-EX	1 unit
Frost Mill long autoclavable	TKY-SK-200X-EX	1 unit

Ligation Reagents

Description	Cat. No.	Quantity
Blunting high	TYB-BLK-101	20 rxn
Insert Check -Ready- (Primers included)	TYB-PIK-101	100 rxn
Insert Check -Ready- (Primers not included)	TYB-PIK-151	100 rxn
Ligation high	TYB-LGK-101	50 rxn
Ligation high Ver.2	TYB-LGK-201	750 μℓ
T4 DNA Ligase	TYB-LGA-111 TYB-LGA-111X5	1×400 unit 1 set
T4 DNA Ligase Buffer	TYB-LGA-1B	1 mℓ
T4 DNA Ligase	BAM-02-050-EX BAM-02-050-5EX	20000 unit 5×20000 unit
rATP	TYB-ATP-111	1×0.5 mℓ

TArget Clone™Series

Description	Composition	Cat. No.	Quantity
TArget Clone™	pTA2 Vector（50 ng/μℓ） - 10μℓ 2x Ligation Buffer - 50 μℓ T4 DNA Ligase - 10 μℓ	TYB-TAK-101	10 rxn
TArget Clone™ -Plus-	pTA2 Vector（50 ng/μℓ） - 10 μℓ 2x Ligation Buffer - 50 μℓ T4 DNA Ligase - 10 μℓ 10x A-attachment Mix - 10 μℓ	TYB-TAK-201	10 rxn
10x A-attachment Mix		TYB-TAK-301	25 μℓ

accura-expRACE KIT

Intended Use

Next-generation RACE

Background

- In RACE (Rapid Amplification of cDNA Ends) by the single-primer method* of this kit, the targeted cDNA is amplified by PCR with only a gene-specific primer using ds cDNA as a template.
- The mechanism is based on that the terminal region of the ds cDNA is partially denatured at 68℃ for the extension reaction and that the linear DNA molecule tends to circularize.
- Upon reaching the 5' end of the template DNA, thermostable DNA polymerase switches templates to the 5' terminal region of the newly synthesized daughter strand at a certain probability and synthesizes DNA sequences complementary to the gene-specific primer.
- Using this daughter strand as a template, the targeted cDNA is amplified with only a gene-specific primer.

Feature and Advantages

- By using the accura-expRACE KIT, both 5' and 3' RACE can easily and efficiently be performed under simple conditions, such as RT-PCR.
- Long cDNA and rare cDNA unidentified previously can be isolated.
- The synthesized ds cDNA can be used as a cDNA library. You can perform ~400 screenings of a cDNA library by RACE.
- The cDNA synthesized by this kit contains a high proportion of full-length cDNA because an "advanced type M-MLV Reverse Transcriptase" is used.

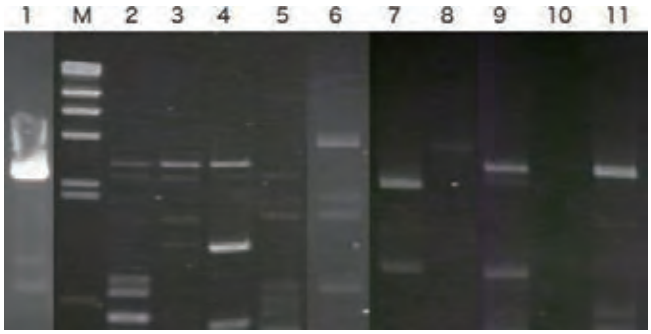


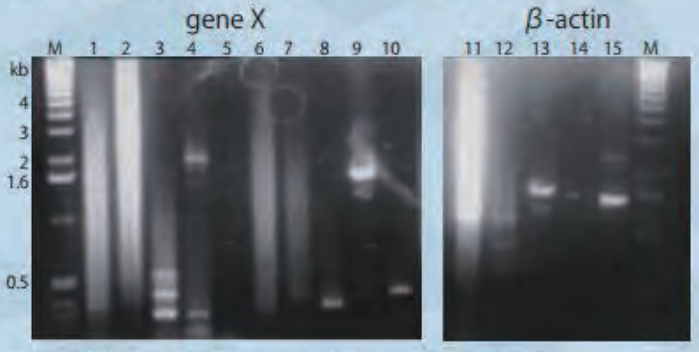
Figure 3. Results of 5' RACE and RT-PCR.
Lane 1: RT-PCR. Lane M: HindIII-digested λ DNA. Lanes 2～11: 5' RACE PCR. Lanes 2～5: Results of a single RACE experiment. Lane 6: Extension time set to 8 min; cDNA was diluted 10-fold. Lanes 7, 8: Extension time set to 4 min; cDNA was diluted 2- and 5-fold, respectively. Lane 9: Same conditions as above. Lanes 10, 11: Extension time set to 4 min; cDNA was diluted 2-fold.

Reference

- Okayama, H. *et al*., ,Mol. Cell. Biol. 2, 161-170 (1982).
- Gubler, U. *et al*.,Gene 25, 263-269 (1983).
- Frohman, M.A., *et al*., Proc. Natl. Acad. Sci. USA 85, 8998-9002 (1988)
- Chenchik, A., *et al*.,Bio Techniques 21, 526-534

Performance comparison with another brand kit

5' RACE of the mouse gene "X" and β-actin



Lane 1, 2, 3, 6, 7, 8, 11, 12: RACE KIT produced by B company
Lane 4, 5, 9, 10, 13, 14, 15: accura-expRACE KIT
Lane M: DNA size marker

Lane 1-10: gene X 5' RACE primer
Lane 11-15: β-actin 5' RACE primer

Lane 4: full-length gene X cDNA
Lane 13: full-length β-actin cDNA

94℃ 30 sec
60℃ 1 min
68℃ 4 min
35 cycles x2 (gene X)
35 cycles (β-actin)

cDNA synthesis using mouse testis poly (A)⁺ RNA.
Both PCR reactions performed at identical conditions.

Description	Cat. No.	Quantity
accura-expRACE KIT	ELP-EPI001-EX	5 rxn

Blend Taq® Series

Description	Cat. No.	Quantity
Blend Taq	TYB-BTQ-101 TYB-BTQ-101X5 TYB-BTQ-101X10	1×250 unit 5×250 unit 10×250 unit
Blend Taq -Plus-	TYB-BTQ-201 TYB-BTQ-201X5	1×250 unit 5×250 unit
Blend Taq / Blend Taq -Plus-Blend Taq -Plus- Buffer	TYB-BTQ-1B	1 mℓ

PCR Tools

Description	Cat. No.	Quantity
anti-Taq high Buffer	TYB-TCP-1B	1 mℓ
dNTPs Mixture(2mM)	TYB-NTP-201	1×1 mℓ
dNTPs Mixture(10mM)	TYB-NTP-301	1×0.2 mℓ
dNTPs Set (dATP,dCTP,dGTP,dTTP Set)	TYB-NTP-101	4×0.5 mℓ
Pfu DNA polymerase (+dNTPs), Economy	BAM-02-021-EX BAM-02-021-5EX	200 unit 5×200 unit
Pfu DNA polymerase (-dNTPs), Economy, with reaction buffer	BAM-02-031-EX BAM-02-031-5EX	200 unit 5×200 unit
Quick Taq® HS DyeMix	TYB-DTM-101 TYB-DTM-101X10	100 rxn 1000 rxn
Realtime PCR Master Mix	TYB-QPK-101 TYB-QPK-101X5	5×1 mℓ 25×1 mℓ
Real Time PCR Primer Set For Adipose	PMC-PCRM2-COS PMC-PCRR1-COS	1 set 1 set
RNA-direct™ Realtime PCR Master Mix	TYB-QRT-101 TYB-QRT-101X5	5×500 μℓ 5×5×500 μℓ
RNA-direct™ SYBR® Green Realtime PCR Master Mix	TYB-QRT-201 TYB-QRT-201X5	5×500 μℓ 5×5×500 μℓ
rTaq DNA Polymerase / KOD DNA Polymerase 25mM MgCl2	TYB-TAP-2S	1 mℓ
rTaq DNA Polymerase (Mg Contained Type)	TYB-TAP-211	1×250 unit
rTaq DNA Polymerase (Mg Contained Type) Buffer	TYB-TAP-2M	1 mℓ
rTaq DNA Polymerase (Mg Separate Type)	TYB-TAP-201	1×250 unit
rTaq DNA Polymerase (Mg Separate Type) Buffer	TYB-TAP-2B	1 mℓ
rTth DNA Polymerase	TYB-TTH-301	1×250 unit
rTth DNA Polymerase Buffer	TYB-TTH-3R	1 mℓ
rTth DNA Polymerase Dilution Buffer	TYB-TTH-3D	1 mℓ
T4 DNA Polymerase	TYB-TPL-101X5	1 set
T7 RNA polymerase	PRX-RP6T7 PRX-RP6T7X5	10000 unit 50000 unit
Taq DNA polymerase (+dNTPs), with Standard buffer	BAM-02-001-EX BAM-02-001-5EX	200 unit 5×200 unit
Taq DNA polymerase (-dNTPs), with Standard buffer	BAM-02-011-EX BAM-02-011-5EX	200 unit 5×200 unit
Taq DNA polymerase Economy (+dNTPs) with Enhancer for High GC template and Robust buffer	BAM-02-003-EX BAM-02-003-5EX	200 unit 5×200 unit
Taq DNA polymerase Economy (-dNTPs) with Enhancer for High GC template and Robust buffer	BAM-02-013-EX BAM-02-013-5EX	200 unit 5×200 unit
Taq DNA polymerase Economy (+dNTPs) with Robust buffer	BAM-02-002-EX BAM-02-002-5EX	200 unit 5×200 unit
Taq DNA polymerase Economy (-dNTPs) with Robust buffer	BAM-02-012-EX BAM-02-012-5EX	200 unit 5×200 unit
TG-Sure Expression (IR/MAR)	KAL-IR-MAR-DNA01	10 μg
Thermo T7 RNA Polymerase Buffer	TYB-TRL-2B	1 mℓ
Thermo T7 RNA Polymerase (TT7)	TYB-TRL-201 TYB-TRL-201X5	1×7500 unit 5×7500 unit
Thermo T7 RNA Polymerase ((TT7)) (Highly concentrated)	TYB-TRL-252	1×50000 unit
Tth DNA Polymerase	TYB-TTH-103 TYB-TTH-103X5	1×200 unit 5×200 unit
Tth DNA Polymerase Buffer	TYB-TTH-1R	1 mℓ
Tth DNA Polymerase Dilution Buffer	TYB-TTH-1D	1 mℓ

Normal mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj, 8-week-old)

Description	Cat. No.	Quantity
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Brain	CSR-MD-01	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Heart	CSR-MD-02	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Lung	CSR-MD-03	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Liver	CSR-MD-04	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Stomach	CSR-MD-05	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Small Intestine	CSR-MD-06	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Large Intestine	CSR-MD-07	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Pancreas	CSR-MD-08	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Skin	CSR-MD-09	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Muscle	CSR-MD-10	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Kidney	CSR-MD-11	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Spleen	CSR-MD-12	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Testis	CSR-MD-13	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Placenta	CSR-MD-14	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Ovary	CSR-MD-15	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Uterus	CSR-MD-16	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Duodenum	CSR-MD-17	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Ileum	CSR-MD-18	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Jejunum	CSR-MD-19	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Brown adipose	CSR-MD-20	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA White adipose	CSR-MD-21	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Eye	CSR-MD-22	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Spinal cord	CSR-MD-23	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Bone marrow	CSR-MD-24	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Prostate	CSR-MD-25	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Thymus	CSR-MD-26	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Adrenal gland	CSR-MD-27	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Rectum	CSR-MD-28	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Pituitary gland	CSR-MD-29	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Femur	CSR-MD-30	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj) 1st strand cDNA Epiphysis	CSR-MD-31	15 rxn
Mouse 1st strand cDNA Islet	CSR-MD-L	15 rxn
Mouse (C57BL/6N CrlCrlj) Tissue cDNA mix - Brain, Heart, Lung, Liver, Stomach, Small Intestine, Large Intestine, Pancreas, Skin, Muscle, Kidney, Spleen, Testis, Placenta, Ovary -	CSR-MDM-01	30 rxn
Mouse (C57BL/6N CrlCrlj) Embryo day-old cDNA mix - E9.5, E10.5, E11.5, E12.5, E13.5, E14.5, E15.5, E16. 5, E17.5, E18.5 -	CSR-MDM-02	30 rxn

Normal mouse tissue Brain 1st strand cDNA (C57BL/6N CrlCrlj, 8-week-old)

Description	Cat. No.	Quantity
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Cerebral cortex	CSR-MBR-01	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Cerebellum	CSR-MBR-02	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Olfactory bulb	CSR-MBR-03	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Hippocampus	CSR-MBR-04	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Medulla oblongata	CSR-MBR-05	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Striatum	CSR-MBR-06	15 rxn
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Thalamus, Hypothalamus, Pons	CSR-MBR-07	15 rxn

Normal mouse tissue Bone 1st strand cDNA SET (C57BL/6N CrlCrlj, 8-week-old)

Description	Cat. No.	Quantity
Mouse (8-week-old C57BL/6N CrlCrlj)1st strand cDNA Femur, Epiphysis, Bone marrow	CSR-MB-SET	15 rxn×3 each

Diabetic Mouse tissue Pancreas "Islets of Langerhans" 1st strand cDNA SET (C57BL/6N CrlCrlj, 8-week-old)

Description	Cat. No.	Quantity
Diabetic mouse (db/db) 1st strand cDNA Islet	CSR-MD-L2	15 rxn
Diabetic mouse (ob/ob) 1st strand cDNA Islet	CSR-MD-L3	15 rxn

Newborn mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj)

Description	Cat. No.	Quantity
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Brain	CSR-MDE-11A	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Heart	CSR-MDE-11B	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Lung	CSR-MDE-11C	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Liver	CSR-MDE-11D	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Stomach	CSR-MDE-11E	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Intestine	CSR-MDE-11F	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Spleen	CSR-MDE-11H	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Kidney	CSR-MDE-11I	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Eye	CSR-MDE-11J	15 rxn
Newborn mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Neonate-Testis	CSR-MDE-11K	15 rxn

Fetal mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj)

Description	Cat. No.	Quantity
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 9.5	CSR-MDE-01	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 10.5	CSR-MDE-02	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 11.5	CSR-MDE-03	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 12.5	CSR-MDE-04	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 13.5	CSR-MDE-05	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5	CSR-MDE-06	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 15.5	CSR-MDE-07	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5	CSR-MDE-08	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 17.5	CSR-MDE-09	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5	CSR-MDE-10	15 rxn

Fetal mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj, 14.5-day-old)

Description	Cat. No.	Quantity
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Brain	CSR-MDE-06A	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Heart	CSR-MDE-06B	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Lung	CSR-MDE-06C	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Liver	CSR-MDE-06D	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Digestive organs (Stomach + Intestine)	CSR-MDE-06G	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Kidney	CSR-MDE-06I	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 14.5-Eye	CSR-MDE-06J	15 rxn

Fetal mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj, 16.5-day-old)

Description	Cat. No.	Quantity
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Brain	CSR-MDE-08A	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Heart	CSR-MDE-08B	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Lung	CSR-MDE-08C	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Liver	CSR-MDE-08D	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Digestive organs (Stomach + Intestine)	CSR-MDE-08G	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Kidney	CSR-MDE-08I	15 rxn
Mouse (C57BL/6N CrlCrlj) 1st strand cDNA Embryo 16.5-Eye	CSR-MDE-08J	15 rxn

Fetal mouse tissue 1st strand cDNA (C57BL/6N CrlCrlj, 18.5-day-old)

Description	Cat. No.	Quantity
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Brain	CSR-MDE-10A	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Heart	CSR-MDE-10B	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Lung	CSR-MDE-10C	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Liver	CSR-MDE-10D	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Stomach	CSR-MDE-10E	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Intestine	CSR-MDE-10F	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Spleen	CSR-MDE-10H	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Kidney	CSR-MDE-10I	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Eye	CSR-MDE-10J	15 rxn
Fetal mouse (18.5-day-old C57BL/6N CrlCrlj) 1st strand cDNA Embryo 18.5-Testis	CSR-MDE-10K	15 rxn

Dermatitic mouse tissue 1st strand cDNA (NC/NgaSlc, 11-week-old)

Description	Cat. No.	Quantity
Dermatitic mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Skin	CSR-MDD-01	15 rxn
Dermatitic mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Spleen	CSR-MDD-02	15 rxn
Dermatitic mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Thymus	CSR-MDD-03	15 rxn
SPF mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Skin	CSR-MDD-01C	15 rxn
SPF mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Spleen	CSR-MDD-02C	15 rxn
SPF mouse (11-weel-old NC/NgaSlc) 1st strand cDNA Thymus	CSR-MDD-03C	15 rxn

CIA (Collagen Induced Arthritis) mouse tissue 1st strand cDNA (DBA/1JJmsSlc, 13-week-old)

Description	Cat. No.	Quantity
CIA mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Ankle joint	CSR-MDA-01	15 rxn
CIA mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Spleen	CSR-MDA-02	15 rxn
CIA mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Thymus	CSR-MDA-03	15 rxn

Normal mouse tissue 1st strand cDNA (DBA/1JJmsSlc, 13-week-old)

Description	Cat. No.	Quantity
Control mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Ankle joint	CSR-MDA-01C	15 rxn
Control mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Spleen	CSR-MDA-02C	15 rxn
Control mouse (13-week-old DBA/1JmsSlc) 1st strand cDNA Thymus	CSR-MDA-03C	15 rxn

Normal mouse tissue 1st strand cDNA (ICR, 7-10-week-old)

Description	Cat. No.	Quantity
Mouse Pancreas First Strand cDNA	PMC-MPCDNA-COS	50 µℓ
Mouse Pancreas First Strand cDNA (dT)	PMC-MPCDNA-DT-COS	50 µℓ

Normal rat tissue 1st strand cDNA (Wistar/Crlj:WI, 8-week-old)

Description	Cat. No.	Quantity
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Brain	CSR-RD-01	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Heart	CSR-RD-02	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Lung	CSR-RD-03	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Liver	CSR-RD-04	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Stomach	CSR-RD-05	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Small Intestine	CSR-RD-06	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Large Intestine	CSR-RD-07	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Pancreas	CSR-RD-08	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Skin	CSR-RD-09	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Muscle	CSR-RD-10	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Kidney	CSR-RD-11	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Spleen	CSR-RD-12	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Testis	CSR-RD-13	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Placenta	CSR-RD-14	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Ovary	CSR-RD-15	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Uterus	CSR-RD-16	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Duodenum	CSR-RD-17	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Ileum	CSR-RD-18	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Jejunum	CSR-RD-19	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Brown adipose	CSR-RD-20	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA White adipose	CSR-RD-21	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Eye	CSR-RD-22	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Spinal cord	CSR-RD-23	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Bone marrow	CSR-RD-24	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Prostate	CSR-RD-25	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Thymus	CSR-RD-26	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Adrenal gland	CSR-RD-27	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Rectum	CSR-RD-28	15 rxn
Rat (8-week-old Wistar (Crlj:WI)) 1st strand cDNA Pituitary gland	CSR-RD-29	15 rxn
Rat (Wistar (Crlj:WI)) Tissue cDNA mix - Brain, Heart, Lung, Liver, Stomach, Small Intestine, Large Intestine, Pancreas, Skin, Muscle, Kidney, Spleen, Testis, Placenta, Ovary -	CSR-RDM-01	30 rxn

Fetal rat tissue 1st strand cDNA (Wistar/Crlj:WI)

Description	Cat. No.	Quantity
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 9.5	CSR-RDE-01	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 10.5	CSR-RDE-02	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 11.5	CSR-RDE-03	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 12.5	CSR-RDE-04	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 13.5	CSR-RDE-05	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 14.5	CSR-RDE-06	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 15.5	CSR-RDE-07	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 16.5	CSR-RDE-08	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 17.5	CSR-RDE-09	15 rxn
Rat (Wistar (Crlj:WI)) 1st strand cDNA Embryo 18.5	CSR-RDE-10	15 rxn

Diabetic rat tissue 1st strand cDNA (ZDF-Leprfa/CrlCrlj, 13-week-old)

Description	Cat. No.	Quantity
Diabetic rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Pancreas	CSR-RDD-01	15 rxn
Diabetic rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Eye	CSR-RDD-02	15 rxn
Diabetic rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Kidney	CSR-RDD-03	15 rxn
Diabetic rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Aorta	CSR-RDD-04	15 rxn
Diabetic rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Liver	CSR-RDD-05	15 rxn

Normal rat tissue 1st strand cDNA (ZDF-Leprfa/CrlCrlj, 13-week-old)

Description	Cat. No.	Quantity
Control rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Pancreas	CSR-RDD-01C	15 rxn
Control rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Eye	CSR-RDD-02C	15 rxn
Control rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Kidney	CSR-RDD-03C	15 rxn
Control rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Aorta	CSR-RDD-04C	15 rxn
Control rat (13-week-old ZDF-Leprfa/CrlCrlj) 1st strand cDNA Liver	CSR-RDD-05C	15 rxn

Normal rat tissue 1st strand cDNA (SD, 7-10-week-old)

Description	Cat. No.	Quantity
Rat Pancreas First Strand cDNA	PMC-RPCDNA-COS	50 µℓ
Rat Pancreas First Strand cDNA (dT)	PMC-RPCDNA-DT-COS	50 µℓ

Normal human tissue 1st strand cDNA

Description	Cat. No.	Quantity
Human Pancreatic Islet First Strand cDNA (TypeII diabetes) [Derived From] Human Female (56), Pancreas (type II diabetes)	PMC-HICDNA-130-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA (non diabetes) [Derived From] Human Female (52), Pancreas (nondiabetic)	PMC-HICDNA-135-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA (non diabetes) [Derived From] Human Male (43), Pancreas (nondiabetic)	PMC-HICDNA-138-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA (non diabetic) [Derived From] Human Female (44), Pancreas (nondiabetic)	PMC-HICDNA-149-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA (non diabetes) [Derived From] Human Female (36), Pancreas (nondiabetic)	PMC-HICDNA-171-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA(dT) (non diabetes) [Derived From] Human Male (51), Pancreas (nondiabetic)	PMC-HICDNA-133DT-COS	50 μℓ
Human Pancreatic Islet First Strand cDNA (dT) (non diabetes) [Derived From] Human Female (36), Pancreas (nondiabetic)	PMC-HICDNA-171DT-COS	50 μℓ
Human Tissue cDNA MIX - Brain, Heart, Lung, Liver, Stomach, Small Intestine, Large Intestine, Muscle, Kidney, Spleen, Testis, Placenta -	CSR-HDM-01	30 rxn

cDNA Libraries

Description	Immunogen	Cat. No.	Quantity
cDNA Library, Human ; 293T [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 2.2×10^6 2) Average insert size : longer than 1 kb	Human	BAM-02-729-EX	500 ng
cDNA Library, Human contact inhibition state [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 50×10^6 2) Average insert size : longer than 1 kb	Human	BAM-02-727-EX	500 ng
cDNA Library, Human ; Fibroblast Primary culture [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 8.6×10^6 2) Average insert size : longer than 1 kb	Human	BAM-02-725-EX	500 ng
cDNA Library, Human ; HeLa (#1) [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 5.6×10^6 2) Average insert size : longer than 1 kb	Human	BAM-02-723-EX	500 ng
cDNA Library, Human ; Umbilical Vein Endothelial Cells [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 1.8×10^6 2) Average insert size : longer than 1 kb	Human	BAM-02-721-EX	500 ng
cDNA Library, Mouse ; Testis [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: $6\times10_6$ 2) Average insert size : longer than 1 kb	Mouse	BAM-02-715-EX	500 ng
cDNA Library, Mouse ; Thymocyte [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 5.6×10^6 2) Average insert size : longer than 1 kb	Mouse	BAM-02-713-EX	500 ng
cDNA Library, Planaria ; Planaria [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 14×10^6 2) Average insert size : longer than 1 kb	–	BAM-02-709-EX	500 ng
cDNA Library, Rat NRK Cell Log Phase [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 1.4×10^6 2) Average insert size : longer than 1 kb	Rat	BAM-02-719-EX	500 ng
cDNA Library, Rat ; Rat embryonic fibroblast [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 62×10^6 2) Average insert size : longer than 1 kb	Rat	BAM-02-717-EX	500 ng
cDNA Library, S.cerevisiae Log Phase [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 3.6×10^6 2) Average insert size : longer than 1 kb	*Saccharomyces cerevisiae*	BAM-02-701-EX	500 ng
cDNA Library, S.pombe ; After + HU, γ , MMS h-L972 [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 7.7×10^6 2) Average insert size: longer than 1 kb	*Schizosaccharomyces pombe*	BAM-02-707-EX	500 ng
cDNA Library, S.pombe ; Meiosis [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 1.3×10^6 2) Average insert size: longer than 1 kb	*Schizosaccharomyces pombe*	BAM-02-705-EX	500 ng
cDNA Library, S.pombe ; mitosis [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 28×10^6 2) Average insert size: longer than 1 kb	*Schizosaccharomyces pombe*	BAM-02-703-EX	500 ng
cDNA Library, Xenopus ; oocyte [Size] 500 ng (40 ng/μℓ , 13μℓ) in 10 mM Tris-HCl-1mM EDTA (pH 7.5) [Quality] 1) Number of independent clones: 1.1×10^6 2) Average insert size : longer than 1 kb	–	BAM-02-711-EX	500 ng

Protein

Description	Cat. No.	Quantity
single-stranded DNA binding protein (SSB)	BAM-02-042-EX BAM-02-042-5EX	200 μg 5×200 μg
T4 gene 32 protein (Single-stranded DNA binding protein, SSB)	BAM-02-040-EX BAM-02-040-5EX	200 μg 5×200 μg
Taq RecA protein	BAM-02-048-EX	100 μg
Taq single-stranded DNA binding protein (SSB)	BAM-02-044-EX	100 μg

THUNDERBIRD® Series

Intended Use

For real time PCR

Background

THUNDERBIRD® qPCR Mix is a highly effective master mix (2×concentration) for realtime PCR which has been developed with Taq DNA polymerase as a base.
THUNDERBIRD®Probe qPCR Mix is a highly efficient 2x Master Mix for real-time PCR using TaqMan® probes. The master mix contains all required components, except for ROX reference dye, probe and primers (50x ROX reference dye is individually supplied with this kit). The master mix facilitates reaction setup, and improves the reproducibility of experiments. This product is an improved version of Realtime PCR Master Mix (Code No. TYB-QPK-101). In particular, reaction specificity and PCR efficiency is enhanced.

Features

- **High specificity**
  The specificity for the detection of low-copy targets is improved.
- **Homogeneous amplification**
  The dispersion of PCR efficiency between targets is reduced by a new PCR enhancer*. (*Patent pending)
- **Broad dynamic range**
  High specificity and effective amplification enable the detection of a broad dynamic range.
- **Compatibility for various real-time cyclers.**
  The reagent is applicable to most real-time cyclers (i.e. Block type and glass capillary type). Because the 50x ROX reference dye is individually supplied with this kit, the kit can be applied to real-time cyclers that require a passive reference dye.
- **Hot start PCR**
  The master mix contains anti-Taq DNA polymerase antibodies for hot start technology.
  The antibodies are easily inactivated in the first denaturation step, thereby activating the DNA polymerase.

Description	Cat. No.	Quantity
THUNDERBIRD® Probe qPCR Mix 【Composition】 THUNDERBIRD® Probe qPCR Mix, 50×ROX reference dye	TYB-QPS-101T TYB-QPS-101 TYB-QPS-101X5	1×1 mℓ 3×1.67 mℓ 1 set
THUNDERBIRD® SYBR® qPCR Mix 【Composition】 THUNDERBIRD® SYBR® qPCR Mix, 50×ROX reference dye	TYB-QPS-201T TYB-QPS-201 TYB-QPS-201X5	1×1 mℓ 3×1.67 mℓ 1 set

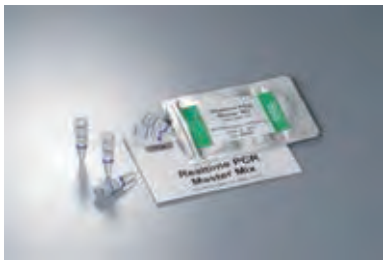
SYBR® Green Realtime PCR Master Mix Series

Intended Use

- Quantitative Determination of Gene Expression by Two-Step RT-PCR
- SNP Typing

Features

- This reagent can be used in glass capillary systems (e.g., LightCycler, Roche Molecular Systems, Inc.).
- This reagent can be used in a passive reference system (e.g., ABI PRISM® 7700, Applied Biosystems, Inc.). The passive reference dye does not affect any other systems.
- Hot Start technology with anti-Taq DNA polymerase antibodies enables high specificity and reproducible amplification



Background

This product is a Taq DNA polymerase-based 2×master mix for real-time PCR, which contains all components, except for the primer. This reagent is applicable for intercalation assay with SYBR® Green I.

Description	Cat. No.	Quantity
SYBR® Green Realtime PCR Master Mix	TYB-QPK-201 TYB-QPK-201X5	5×1 mℓ 25×1 mℓ
SYBR® Green Realtime PCR Master Mix -Plus-	TYB-QPK-212 TYB-QPK-212X5	5×1 mℓ 5×5×1 mℓ

Protein Engineering

Remarkable Yield Translation System

Intended Use

E.coli Cell-free Protein Synthesis System

Background

The Remarkable Yield Translation System (RYTS) Kit is a cell-free protein synthesis system. This kit includes an *E.coli* extract and all essential components for coupled transcription/translation reaction. The RYTS Kit contains the *E.coli* Lysate, which is prepared according to a unique method developed for highly efficient production of extensive protein by RIKEN.
RYTS Linear Template Set is a reagent to create a template for protein expression. By using this set, you are able to create an expression template with a His-tag on either the N or C termini.

Features

- Highly efficient, convenient and fast
- Maximum yield of protein can reach 150 μg per 300 μℓ reaction
- Clover Direct™ allows incorporation of unnatural amino acids at defined positions of proteins using *in vitro* translation

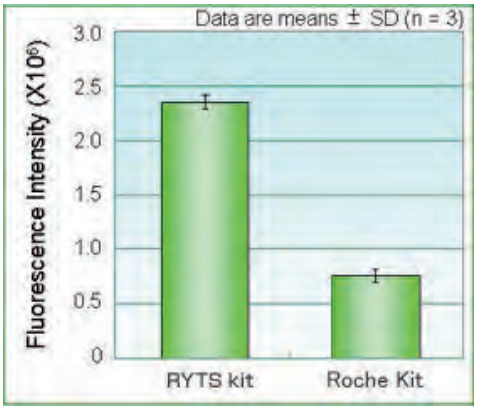
Construction and preparation of expression template

DNA template

The DNA template (circular DNA or linear DNA) for protein synthesis should be contained such that the protein-coding sequence be under the control of a T7 promoter and located downstream of a ribosomal binding site (RBS) sequence. Additionally, the T7 terminator sequence is located downstream of the coding sequence. The distance between the T7 promoter and start ATG should not exceed 100 base pairs, and the distance between the RBS sequence and start ATG should not be more than 5-8 base pairs.

mRNA template

Messenger RNA, which is generally synthesized from a circular or linear DNA template using a commercial transcription kit or RNA polymerase, is also available for the RYTS reaction. In such case, the DNA template for transcription of mRNA should also be constructed according to section 5.1 of the product manual DNA template. However, the T7 promoter, which is recognized by T7 RNA polymerase, can be replaced by other promoters recognized by other RNA polymerase (e.g., SP6 promoter recognized by SP6 RNA polymerase).



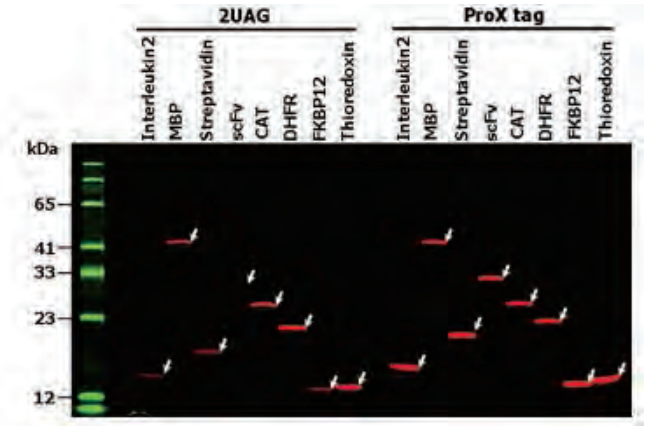
Comparison of produced GFP activity
Applied volume : 50 ㎕ of translational reaction mix Fluorescence detection (Ex : 488 ㎚ / Em : 520 ㎚)

Composition

- *E.coli* Lysate
- 2×Reaction Mix
- Methionine
- Enzyme Mix
- CAT Control Vector
- Nuclease Free Water

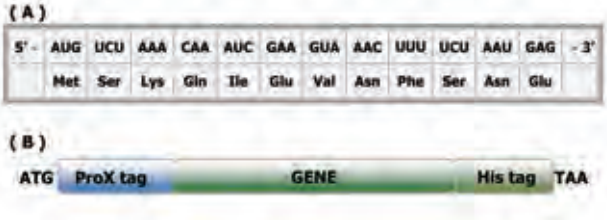
Reference

- Cell-free protein synthesis system from Escherichia coli cells cultured at decreased temperatures improves productivity by decreasing DNA template degradation. Eiko Seki, Natuko Matsuda, Shigeyuki Yokoyama and Takanori Kigawa. Analytical Biochemistry, 377, 156-161 (2008).
- A highly efficient cell-free protein synthesis system from Escherichia coli. Dong-Myung Kim, Takanori Kigawa, Cha-Yong Choi and Shigeyuki Yokoyama. Eur. J. Biochem., 239, 881 -886 (1996)
- Preparation of Escherichia coli cell extract for highly productive cell-free protein expression. Takanori Kigawa, Takashi Yabuki, Natsuko Matsuda, Takayoshi Matsuda, Rie Nakajima, Akiko Tanaka and Shigeyuki Yokoyama. Journal of Structural and Functional Genomics, 5, 63-68 (2004).
- Automated system for high-throughput protein production using the dialysis cell-free method. Masaaki Aoki, Takayoshi Matsuda, Yasuko Tomo, Yukako Miyata, Makoto Inoue, Takanori Kigawa and Shigeyuki Yokoyama. Protein Expression and Purification, 68, 128-136 (2009).
- Chloramphenicol Acetyltransferase from Chloramphenicol-Resistant Bacteria. W. V. Shaw. Methods Enzymol., 43, 737-755 (1975).
- FRET analysis of protein conformational change through position-specific incorporation of fluorescent amino acids Daisuke Kajihara, Ryoji Abe, Issei Iijima, Chie Komiyama, Masahiko Sisido and Takahiro Hosaka Nature Methods., 3, 923-929 (2006).
- Position-specific incorporation of fluorescent non-natural amino acids into maltose-binding protein for detection of ligand binding by FRET and fluorescence quenching Issei Iijima and Takahiro Hosaka Chem Bio Chem., 2009, 10, 999-1006.



Expression of site-directly labeled proteins
A typical result of the protein labeling using RYTS and CloverDirect TAMRA (Product Code, #PRX-CLD02 and #PRX-CLD06) is shown. In-gel detection of produced TAMRA labeled proteins
2UAG: UAG codon is inserted after initiator AUG codon
ProX tag*: ProX tag is fused to the N-terminus
Applied volume: 0.25 μℓ of RYTS translational reaction mix
White arrow: TAMRA labeled proteins

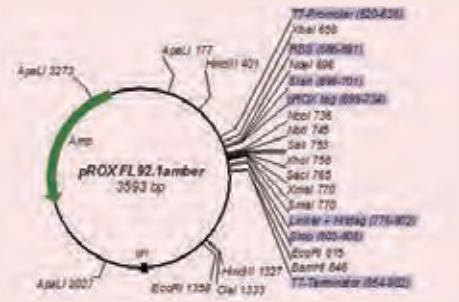
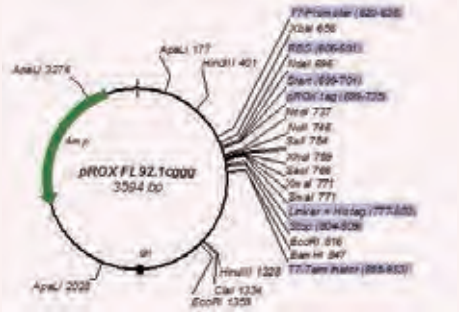
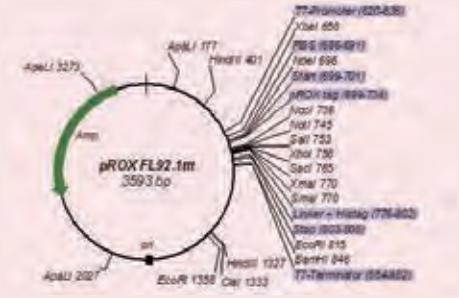
Example of a template
In case of very low protein yield, optimization of nucleotide sequence (codon usage, addition of N-terminal tags, etc.) is required to improve protein productivity. We recommend the use of ProX tag, which is original N-terminal peptide tag developed for efficient expression in *E.coli* cell-free protein synthesis system.



(A) ProX tag sequence, and (B) example of a template.

Description	Cat. No.	Quantity
RYTS Trial Kit	PRX-CF001	0.3 mℓ
RYTS Kit	PRX-CF002	5×0.3 mℓ
RYTS Linear Template Set for *E.coli* (His-tag)	PRX-TS001	48 rxn
RYTS Linear Template Set for *E.coli* (ProX-tag)	PRX-TS002	48 rxn

pROX Vectors

Description		Cat. No.	Quantity
pROX-FL92.1amber		PRX-TS011	20 μg
pROX-FL92.1cggg		PRX-TS012	20 μg
pROX-FL92.1ttt		PRX-TS013	20 μg

PUREfrex® & PUREfrex®SS

Intended Use

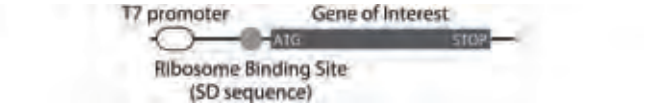
For preparation of prokaryotic proteins, eukaryotic proteins, membrane proteins, and unnatural amino acids. For basic research in protein science, translation, folding of proteins after synthesis. For *in vitro* display, ribosome display, and mRNA display.

Background

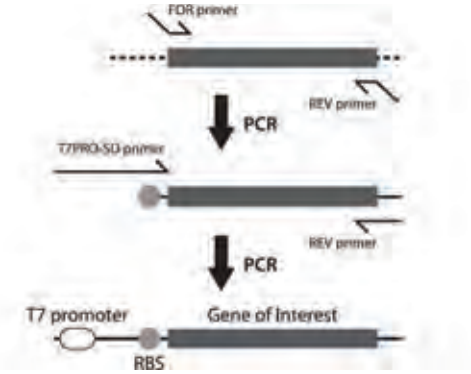
PURE*frex*®

PURE*frex*® kit is a reagent based on the original concept of PURE system technology, which is a "reaction system consisting of translation system only." So, one of the big improvements of PURE*frex*® kit is improved purity of components of the kit. Especially, lipopolysaccharide (LPS) is reduced less than 0.1 EU per 1 μℓ of reaction mixture of PURE*frex*®. Contamination of RNase and β-galactosidase are also reduced.

PCR products, circular DNA, and linear DNA are available as the template DNA for PURE*frex*®. The template DNA must contain a T7 promoter and ribosome binding site (SD sequence) upstream of the gene of interest. The gene of interest must contain an ATG initiation codon and a stop codon. All stop codons, amber, ocher and opal, are available. More than 10 nucleotides are necessary following the stop codon.



To generate template DNA using circular DNA, T7 terminator is necessarily following the gene of interest. To generate template DNA using linear DNA, including PCR product and digested circular DNA by restriction enzyme, T7 terminator is not necessary in the downstream of the stop codon. To generate template DNA using PCR product, overlap extension PCR can be used by steps shown in figure below.



PURE*frex*®SS

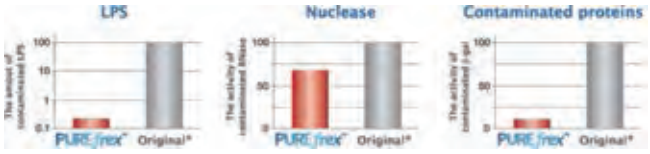
PURE*frex*®SS is a newly developed reconstituted cell-free protein synthesis reagent based on PURE system technology. PURE*frex*®SS includes oxidized glutathione (GSSG; Solution IV) and DsbC protein (disulfide bond isomerase; Solution V) as a supplement with PURE*frex*® (GFK-PF001-EX). PURE*frex*® SS enables proteins including disulfide bonds (SS-bond) to be synthesized in active form.

For some proteins, such as secretory proteins to the extracellular, formation of disulfide bond is important for folding and stability. Disulfide bonds are usually formed from the oxidation of sulfhydryl (SH-) groups of adjacent cysteine residues. So, oxidized environment is necessary to form disulfide bonds. Additionally, disulfide bond isomerase which can catalyze the disulfide bridge exchange is also necessary to form a correct paring of cysteines. Using PURE*frex*®SS, the protein can be synthesized under oxidized environment with isomerase.

	PURE*frex*®	Original*
Proteins		
Tag	None	Histag
Number of column	3	1
Wash with detergent	+	–
Ribosome		
Wash with detergent	+	–
tRNA		
Wash with detergent	+	–

Original*: The reaction mixture prepared according to Shimizu *et al.* (2005) *Methods*, vol.36, p.299

Comparison of purification methods of components between PURE*frex*® and original PURE system

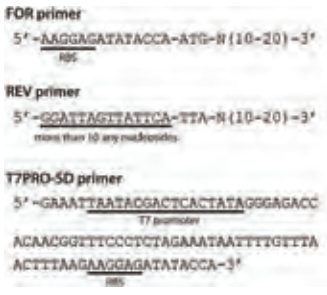


Comparison of contaminants in the reaction mixture between PURE*frex*® and original PURE system

Composition

PUREfrex®		PUREfrex® SS	
Solution I (Blue)	250 μℓ	Solution I (Blue)	250 μℓ
Solution II (Yellow)	25 μℓ	Solution II (Yellow)	25 μℓ
Solution III (Red)	25 μℓ	Solution III (Red)	25 μℓ
DHFR DNA	10 μℓ	Solution IV (Green)	25 μℓ
		Solution V (Green)	25 μℓ
		Dilution Buffer	500 μℓ
		DHFR DNA	10 μℓ

Sequence of primers



Purification of His-tagged protein synthesized using PURE*frex*®

Reference

- Shimizu *et al.* (2001) Nat. Biotechnol., vol. 19, p. 751
- Shimizu *et al.* (2005) Methods, vol. 36, p. 299

Description	Cat. No.	Quantity
PUREfrex®	GFK-PF001-EX	1 kit
PUREfrex®SS	GFK-PF002-EX	1 kit

LINEAR NF-κB Decoy Oligonucleotides Kits and RIBBON NF-κB Decoy Oligonucleotides Kits

Intended Use

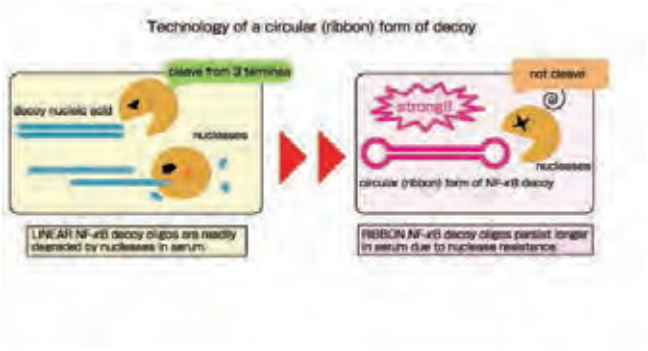
NF-κB decoy oligodeoxynucleotides

Background

Painful inflammatory diseases such as rheumatoid arthritis and atopic dermatitis are currently treated primarily symptomatically, through the use of analgesics. There is a great need for novel therapeutics targeting the underlying inflammatory mechanisms. NF-κB is an intensively studied transcription factor well known for its role in stimulating the production of inflammatory cytokines. Recently, NF-κB decoy nucleic acids have gained considerable attention as potential therapeutics for inflammatory disease due to their ability to inhibit NF-κB-mediated production of inflammatory cytokines, by preventing NF-κB from binding to its native DNA binding sites. Preliminary studies with NF-κB decoys indicate efficacy in reducing both pain and itch. First generation NF-κB decoy nucleic acid drugs were linear DNA duplexes. Such drugs suffered not only from poor cellular uptake, but also from serum half-life due to poor resistance to nucleases. Subsequently, a circular (ribbon) form of NF-κB decoy was developed with improved nuclease resistance and significantly longer half-life.

Composition

Each kit contains the specified oligo and a control oligo with an identical base composition but different sequence that does not bind NF-κB. Phosphorotioate-modified kits are also offered. All oligos are purified by HPLC.



Description	Cat. No.	Quantity
RIBBON NFκB Decoy Oligonucleotides Kit	GDS-DN-25101 GDS-DN-25102	2×0.5 mg 2×0.5 mg
NFκB decoy Oligonucleotides Kit	GDS-DN-15101 GDS-DN-15102 GDS-DN-15103	2×1 mg 2×1 mg 2×1 mg

Tol1-based transgenesis vector

Intended Use

Donor and helper plasmids for transgenesis in vertebrates.

Background

The donor plasmid contains terminal regions of the Tol1 element and multicloning sites for integration of a gene to be transferred to the host chromosome. The helper plasmid carries the transposase gene of the Tol1 element. Tol1 is a DNA transposon identified in the medaka fish and demonstrated to be active in various vertebrate species.

Protocol

Recovering plasmid DNA

1. Cut out one of the circles of the paper and immerse it in water or TE in a microfuge tube. Other circles are for backup.
2. Mix by tapping.
3. Centrifuge for 1 minute at >10 krpm.
4. Transform competent bacterial cells (commonly used strains, such as JM109, DH5a and XL1-Blue) with a small amount of supernatant.
5. Spread the bacteria on an LB/agar plate containingl ampicillin, and incubate the plate at 37 oC for >12 hours.
6. Pick up a single colony.
7. Amplify bacteria in liquid media.
8. Extract plsmid DNA by the standard method.

Composition

pDon122: A vacant donor plasmid.
pDon123: Donor plasmid carrying the GFP gene.
pHel105: Helper plasmid. Its vector portion is pCS2+, having the CMV promoter for *in vivo* expression of the transposase gene and the SP6 promoter for *in vitro* synthesis of the transposase mRNA.
pHel106: A defective helper which is useful for negative control experiments especially when you want to know the net transformation efficiency.

Reference

- Koga A, Cheah FS, Hamaguchi S, Yeo GH, Chong SS (2008). Germline transgenesis of zebrafish using the medaka Tol1 transposon system. Dev Dyn. 237: 2466-2474.
- Koga A, Higashide I, Hori H, Wakamatsu Y, Kyono-Hamaguchi Y, Hamaguchi S (2007). The Tol1 element of medaka fish is transposed with only terminal regions and can deliver large DNA fragments into the chromosomes. J. Hum. Genet. 52: 1026-1030.

Description	Cat. No.	Quantity
Tol1-based transgenesis vector	CSR-CT-NU-002-1	1 test

CloverDirect™ Series

Intended Use

Pin-point Protein Labeling. An amber stop codon (UAG) used for pin-point fluorescence or biotin labeling.

Background

CloverDirect™ tRNA Reagents for Site-Directed Protein Functionalization allow the incorporation of unnatural amino acids at defined positions of proteins using *in vitro* translation. Unnatural amino acids containing fluorescent groups, biotin, PEG, photo-crosslink are available. Proteins with unnatural amino acids will be obtained within a few hours by adding CloverDirect™ reagents and a DNA template having an amber stop codon (UAG) or a four-base codon (CGGG) to an *in vitro* translation system. CloverDirect™ covers the following four applications. In addition, we provide custom services for the expression of proteins with unnatural amino acids.

Site-Directed Fluorescence Labeling

It is not easy to incorporate fluorescent groups into proteins in a site-direct and quantitative fashion by chemical modification. Various fluorescent dyes are available including those for 488 nm, 543 nm and 633 nm excitation.

Site-Directed Biotin Labeling

Labeling proteins are available for the oriented immobilization onto avidin-coated plates and beads. The biotinylated amino acids have one or two aminohexyl liners between amino acid and biotin.

Site-Directed Post-Translational Modification

It is not easy to prepare post-translationally modified proteins (phosphorylation, methylation, etc). CloverDirect™ tRNA Reagents for Site-Directed Post-Translational Modification allow the incorporation of modified amino acids into proteins to obtain post-translationally modified proteins in a site-direct and quantitative fashion.

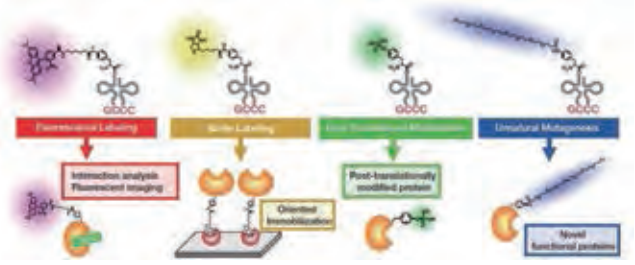
Site-Directed Unnatural Mutagenesis

By incorporation of unnatural amino acids containing functional groups, novel functional proteins can be designed and synthesized. CloverDirect™ tRNA Reagents for Site-Directed Unnatural Mutagenesis allow the incorporation of unnatural amino acids with PEG, photo-crosslinking, and photo-isomerizable groups.

Composition

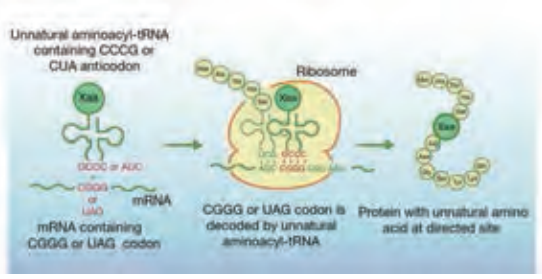
- Unnatural aminoacyl-tRNA×1
- tRNA dissolving buffer×1

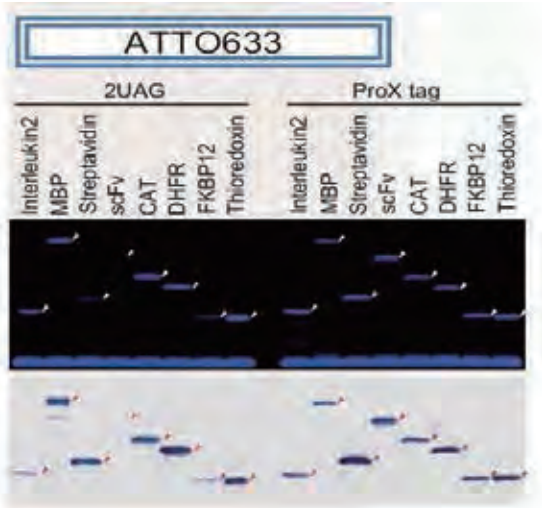
Note : One tube contains unnatural aminoacyl-tRNA sufficient for 300 μℓ of *in vitro* translation reaction. Once thawed, unnatural aminoacyl-tRNA can be stored at -70℃ for 2 months.



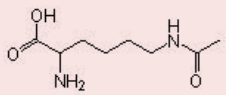
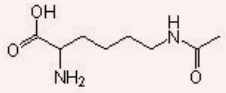
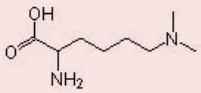
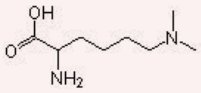
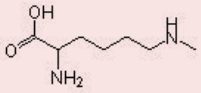
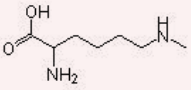
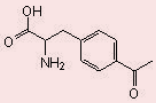
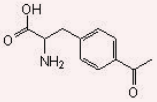
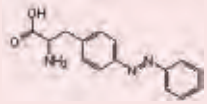
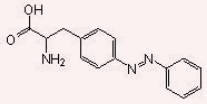
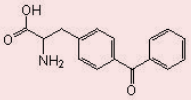
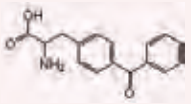
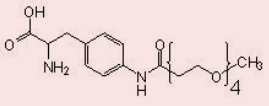
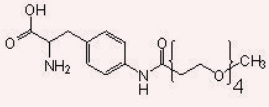
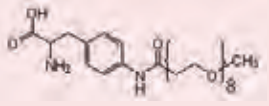
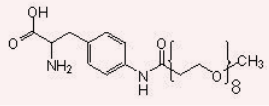
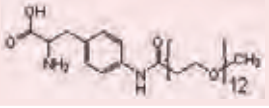
Reference

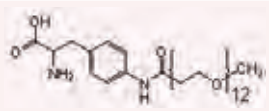
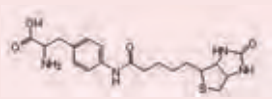
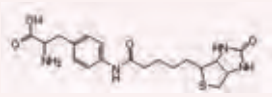
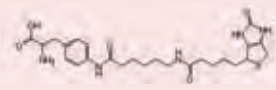
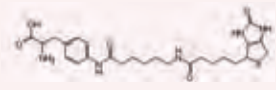
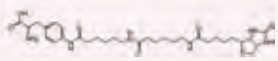
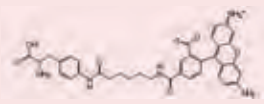
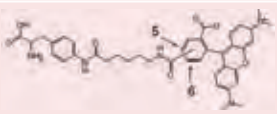
- FRET analysis of protein conformational change through position-specific incorporation of fluorescent amino acids Daisuke Kajihara, Ryoji Abe, Issei Iijima, Chie Komiyama, Masahiko Sisido, Takahiro Hosaka Nature Methods., 3, 923-929 (2006).
- Position-specific incorporation of biotinylated non-natural amino acids into a protein in a cell-free translation system Takayoshi Watanabe, Norihito Muranaka, Issei Iijima, Takahiro Hosaka Biochem. Biophys. Res. Commun., 361, 794-799 (2007).
- Comprehensive screening of amber suppressor tRNAs suitable for incorporation of non-natural amino acids in a cell-free translation system Hikaru Taira, Yosuke Matsushita, Kenji Kojima, Kaori Shiraga, Takahiro Hohsaka Biochem. Biophys. Res. Commun., 374,304-308 (2008).
- Efficient Incorporation of Nonnatural Amino Acids with Large Aromatic Groups into Streptavidin in *in vitro* Protein Synthesizing Systems Takahiro Hosaka, Daisuke Kajihara, Yuki Ashizuka, Hiroshi Murakami, Masahiko Sisido J. Am. Chem. Soc., 121, 34-40 (1999).





Tel: +81-(0)3-5632-9617 Fax: +81-(0)3-5632-9618

Description		Specific Codon	Cat. No.	Quantity
Site-Directed Post-Translational Modification, Lys(Ac) (amber), CloverDirect™		amber	PRX-CLD2207	5×300 µℓ
Site-Directed Post-Translational Modification, Lys(Ac) (CGGG), CloverDirect™		CGGG	PRX-CLD2208	5×300 µℓ
Site-Directed Post-Translational Modification, Lys(Me_2) (amber), CloverDirect™		amber	PRX-CLD2205	5×300 µℓ
Site-Directed Post-Translational Modification, Lys(Me_2) (CGGG), CloverDirect™		CGGG	PRX-CLD2206	5×300 µℓ
Site-Directed Post-Translational Modification, Lys(Me) (amber), CloverDirect™		amber	PRX-CLD2203	5×300 µℓ
Site-Directed Post-Translational Modification, Lys(Me) (CGGG), CloverDirect™		CGGG	PRX-CLD2204	5×300 µℓ
Site-Directed Unnatural Mutagenesis, AcPhe (amber), CloverDirect™		amber	PRX-CLD2323	5×300 µℓ
Site-Directed Unnatural Mutagenesis, AcPhe (CGGG), CloverDirect™		CGGG	PRX-CLD2324	5×300 µℓ
Site-Directed Unnatural Mutagenesis, AzoAla (amber), CloverDirect™		amber	PRX-CLD2331	5×300 µℓ
Site-Directed Unnatural Mutagenesis, AzoAla (CGGG), CloverDirect™		CGGG	PRX-CLD2332	5×300 µℓ
Site-Directed Unnatural Mutagenesis, BPA (amber), CloverDirect™		amber	PRX-CLD2321	5×300 µℓ
Site-Directed Unnatural Mutagenesis, BPA (CGGG), CloverDirect™		CGGG	PRX-CLD2322	5×300 µℓ
Site-Directed Unnatural Mutagenesis, PEG4-AF (amber), CloverDirect™		amber	PRX-CLD2301	5×300 µℓ
Site-Directed Unnatural Mutagenesis, PEG4-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2302	5×300 µℓ
Site-Directed Unnatural Mutagenesis, PEG8-AF (amber), CloverDirect™		amber	PRX-CLD2303	5×300 µℓ
Site-Directed Unnatural Mutagenesis, PEG8-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2304	5×300 µℓ
Site-Directed Unnatural Mutagenesis, PEG12-AF (amber), CloverDirect™		amber	PRX-CLD2305	5×300 µℓ

Description		Specific Codon	Cat. No.	Quantity
Site-Directed Unnatural Mutagenesis, PEG12-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2306	5×300 µℓ
Site-Directed Biotin Labeling, Biotin-AF (amber), CloverDirect™		amber	PRX-CLD2101	5×300 µℓ
Site-Directed Biotin Labeling, Biotin-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2102	5×300 µℓ
Site-Directed Biotin Labeling, Biotin-X-AF (amber), CloverDirect™		amber	PRX-CLD2103	5×300 µℓ
Site-Directed Biotin Labeling, Biotin-X-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2104	5×300 µℓ
Site-Directed Biotin Labeling, Biotin-XX-AF (amber), CloverDirect™		amber	PRX-CLD04 PRX-CLD08	300 µℓ 5×300 µℓ
Site-Directed Biotin Labeling, Biotin-XX-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2106	5×300 µℓ
Site-Directed Fluorescence Labeling, ATTO633-AF (amber), CloverDirect™	–	amber	PRX-CLD03 PRX-CLD07	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, ATTO633-AF (CGGG), CloverDirect™	–	CGGG	PRX-CLD2008	5×300 µℓ
Site-Directed Fluorescence Labeling, ATTO655-X-AF (amber), CloverDirect™	–	amber	PRX-CLD1009 PRX-CLD2009	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, ATTO655-X-AF (CGGG), CloverDirect™	–	CGGG	PRX-CLD1010 PRX-CLD2010	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, CR110-X-AF (amber), CloverDirect™		amber	PRX-CLD1001 PRX-CLD2001	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, CR110-X-AF (CGGG), CloverDirect™		CGGG	PRX-CLD2002	5×300 µℓ
Site-Directed Fluorescence Labeling, HiLyte Fluor 488-AF (amber), CloverDirect™	–	amber	PRX-CLD01 PRX-CLD05	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, HiLyte Fluor 488-AF (CGGG), CloverDirect™	–	CGGG	PRX-CLD2004	5×300 µℓ
Site-Directed Fluorescence Labeling, TAMRA-C6-AF (amber), CloverDirect™		amber	PRX-CLD02 PRX-CLD06	300 µℓ 5×300 µℓ
Site-Directed Fluorescence Labeling, TAMRA-C6-AF (CGGG), CloverDirect™	–	CGGG	PRX-CLD1006 PRX-CLD2006	300 µℓ 5×300 µℓ

POLARIC™ PLT-500c6

Intended Use

Solvatochromic Fluorophore for living cells

Background

POLARIC is fluorescence Solvatochromic Dye and changes the fluorescence wavelength according to polarity (hydrophobicity/hydrophilicity) of solvent. The fluorescent wavelength of POLARIC™ changes widely with about 520-700 nm in the exciting light of about 500 nm.

Features and Advantages

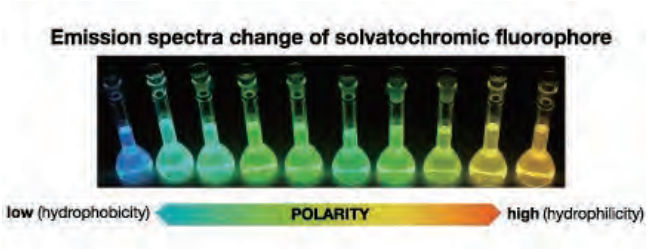
- Extremely low cytotoxicity
- Minimum cell damage by excitation wavelengths around 460 - 520 nm.
- Fade-resistant fluorescence
- Dramatically changes the emission spectra depending on hydrophobicity/hydrophilicity of the microenvironment of cell organelles

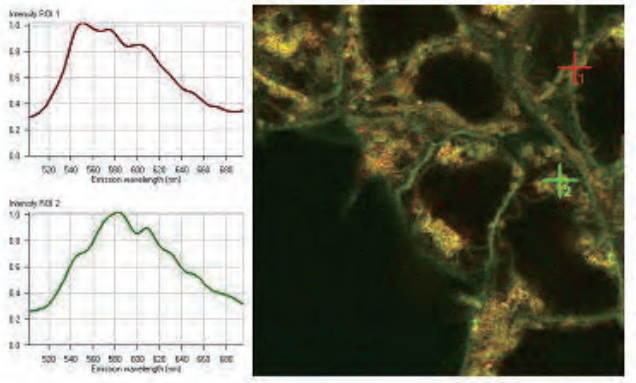
Protocol

1. Dissolve the red dye pellet with 3 μℓ of ethanol, and transfer dye solution into 10 mℓ of medium (staining solution). Staining solution could stored at 4℃ for 2 weeks, protection from light.
2. Culture the cells onto glass bottom dish (nonluminecent glass).
3. Remove the culture medium from the culture dish, rinse with PBS and add the same volume of prewarmed staining solution.
4. Incubate the cells under 5% CO_2, at 37℃ condition for 10 min - 2 hrs. Staining condition should be optimized for your cell.
5. Wash the cell culture 3 times with culture medium after staining process.
6. View the stained cells using a fluorescence microscope atEx 460 nm - 520 nm and Em 520 nm - 700 nm .

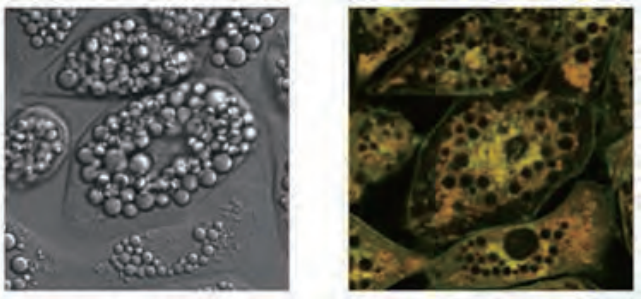
Composition

10 μg /tube× 5 tubes (for 50 mℓ Staining Solution)
*For staining 96-wells plates×5
*Only for ethanol resolution

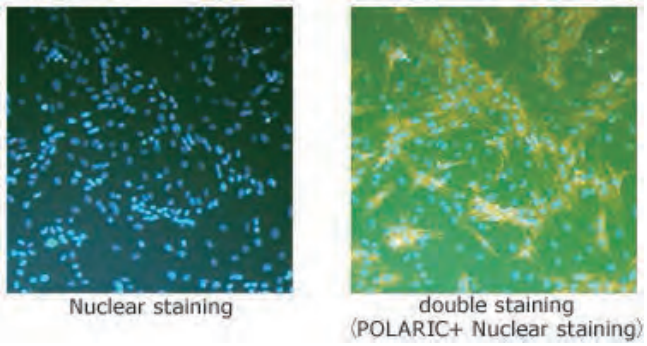




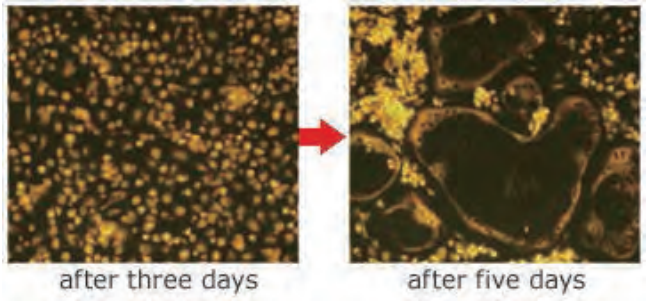
Usage example < HEK293 >
"coloration change" depend on organelle



Usage Example < rVAC (Rat Visceral Adipocyte) >
Mitochondria : orange
Cell membrane : green
endoplasmic reticulum : yellow



Usage Example < Rat Cardiac Muscle Cell >
Staining the cardiomyocyte (orange) and non-cardiomyocyte in different colors is possible. After staining, the cardiomyocyte keeps beating.



Usage Example < Rat Marrow Monocyte >
In culturing with the osteoclast differentiation medium of rat marrow monocyte, the differentiation of rat marrow monocyte into osteoclast was observed while stained.

Description	Cat. No.	Quantity
POLARIC™ PLT-500c6	PMC-AK12-COS	5 tube

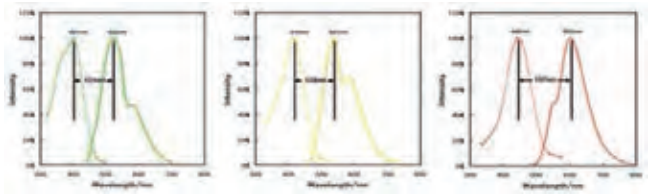
Fluolid Series

Intended Use

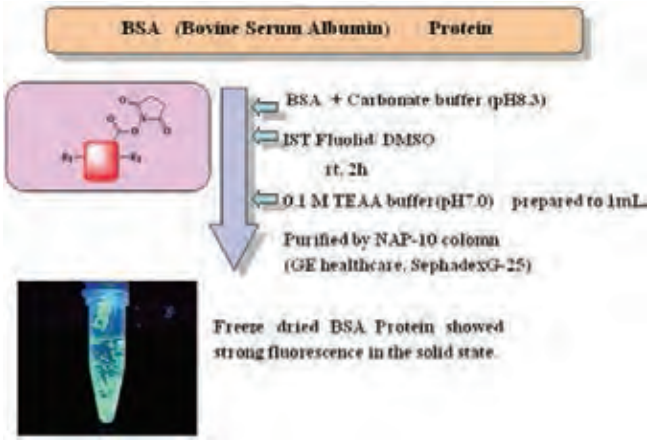
Labeling of biomolecules

Features

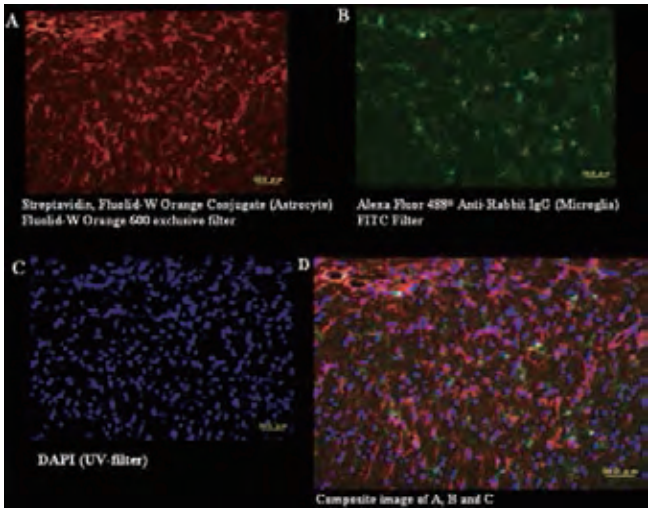
- High quantum yield in the solid state
- No photobleach
- High stability for light, heat and pH
- Labeling rate is higher than that of traditional dye



Wavelength (Ex and Em) and Stokes shift of IST Fluolid



Labeling of BSA using IST Fluolid



Observation of Multi-color Immunostaining (Fluolid-W Orange 600 exclusive filter)

Description	Cat. No.	Quantity
Fluolid-W Orange 600 Protein Labeling Kit 【Composition】 IST Fluolid-W succinimidyl ester in DMSO 240 μℓ×3 0.2 M Sodium bicarbonate buffer (pH 8.3) 480 μℓ×3	ISU-IST004	1 kit
Fluolid-W Yellow 540 Protein Labeling Kit 【Composition】 IST Fluolid-W succinimidyl ester in DMSO 240 μℓ×3 0.2 M Sodium bicarbonate buffer (pH 8.3) 480 μℓ×3	ISU-IST005	1 kit
Fluolid-W Green 520 Protein Labeling Kit 【Composition】 IST Fluolid-W succinimidyl ester in DMSO 240 μℓ×3 0.2 M Sodium bicarbonate buffer (pH 8.3) 480 μℓ×3	ISU-IST006	1 kit
Fluolid-W Orange 600 Oligonucleotide Amine Labeling Kit 【Composition】 IST Fluolid-W succinimidyl ester in DMSO 60 μℓ×3 0.2 M Sodium bicarbonate buffer (pH 8.5) 120 μℓ×3	ISU-IST001	1 kit
Fluolid-W Green 520 Oligonucleotide Amine Labeling Kit 【Composition】 IST Fluolid-W succinimidyl ester in DMSO 60 μℓ×3 0.2 M Sodium bicarbonate buffer (pH 8.5) 120 μℓ×3	ISU-IST003	1 kit
Fluolid-W Orange 600 succeinimidyl ester	ISU-ISTPW001-W	1 mg
Fluolid-W Yellow 540 succeinimidyl ester	ISU-ISTPW002-W	1 mg
Fluolid-W Green 520 succeinimidyl ester	ISU-ISTPW003-W	1 mg
Fluolid-W Protein Labeling trial Kit	ISU-IST-OYG	1 set

STELLA+ Lysine Labeling Kit

Intended Use

The STELLA+ Lysine Labeling Kit is for selectively labeling lysine residue of protein (antibody), and localized lysine and/or other amino groups on cell surfaces. Unlike the conventional labeling method with use of succinimidyl ester compound (NHS method), this kit is capable of rapid and efficient labeling at low concentrations by a newly developed ultra-high speed 6 π-Azaelectrocyclization process of hexatriene-β-carbonyl compound. Moreover, since it reacts only with the lysine residue on the protein surface and does not react with N-terminus amino group or lysine residue group, which is indispensable for interaction of receptors, it can perform labeling efficiently without inactivating the function of biomolecules or cells.

Features and Advantages

- This kit is capable of rapid and efficient labeling by 6 pi-electrocyclization reaction process of hexatriene-β-carbonyl compound.
- This kit reacts only with the lysine residue on the protein surface and the bondIs covalent bond.
- Since it does not react with N-end amino group or lysine residue group, which is indispensable for interaction of receptors, the function of biomolecules is not lost.
- In the sample of very low concentration, it can perform labeling efficiently.

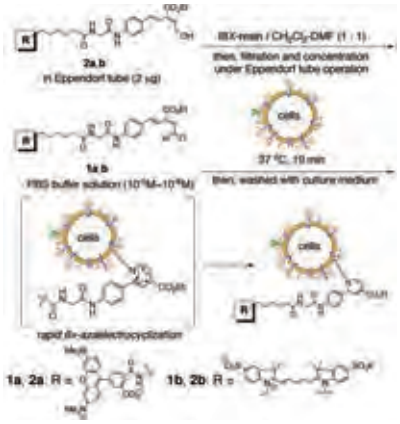
When the concentration of the reagent is used by about ten times, the concentration of the labeling sample can be decreased to 10^{-8} M or less level.

Composition

- Lysine labeling unit - 3 pieces
- IBX- polystyrene - 3 pieces
- Filtration tube (0.45 m) - 3 pieces (Uses by 12,000 G or less.)
- Filtration tube (Molecular weight cut off 10,000) - 3 pieces (Uses by 14,000 G or less.)

Reference

- Tanaka, K. ; Katsumura, S. J. Synth.Org.Chem. Japan.1999, 55, 1657.
- Tanaka, K. ; Katsumura, S. J. Am.Chem.Soc.2002, 124, 9660.
- Tanaka, K. ; Katsumura, S. J. Synth. Org. Chem. Japan. 2005, 63, 696.
- Tanaka, K. ; Masuyama, T. ; Hasegawa,K. ;Tahara, T. ; Mizuma, H. ; Wada, Y. ; Watanabe, Y. ; Fukase, K. Angew. Chem. Int. Ed. 2008, 47, 102-105.
- Tanaka, K. ; Fukase, K. Org. Biomol. Chem. 2008, 6, 815-828.



"In Eppendorf-tube" preparation method of unsaturated aldehyde probes and fluorescence labeling of the cells.

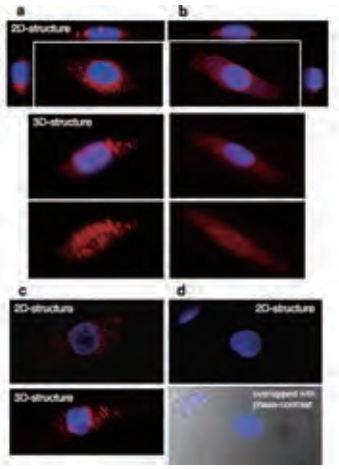
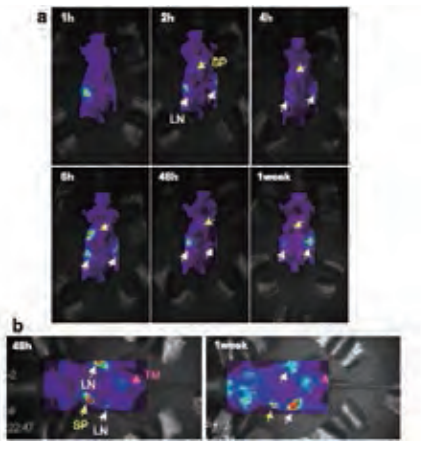


Fig. **Confocal microscopy of the TAMRA-labeled C6 glioma cells (excitation at 525 nm).**
As a blue dye, DAPI is introduced After fixing the TAMRA-labeled cell by paraformaldehyde treatments. 2D- and 3D-pictures of a labeled cell by (a) unsaturated aldehyde probe 1a and (b) TAMRA-succinimidyl ester at 1×10^{5}M, 37℃ for 10 min. Labeling perfomed at 1×10^{8}M, 37℃ for 10 min by (C) 1a and (d) TAMRA-succinimidyl ester.



Fluorescence imaging of lymphocytes in mice
Labeled and /or engineered cells were administrated intravenously (n=3, 100 $\mu\ell$ /mouse, 104 cells) and whole body was scanned from the back side 1h, 2h, 4h, 6h, 48h and 1 week after injection. Data were normalized. SP:spleen; LN:Lymph node of epidermal intestinal tract; TM:DLD-1 human colon carcinoma.

Description	Cat. No.	Quantity
STELLA+ Lysine Labeling kit HiLyte Fluor 647	KSD-990-00044	1 kit
STELLA+ Lysine Labeling kit HiLyte Fluor 750	KSD-990-00045	1 kit
STELLA+ Lysine Labeling kit TAMRA	KSD-990-00028	1 kit

GlyScope ABEE Labeling Kit

Intended Use

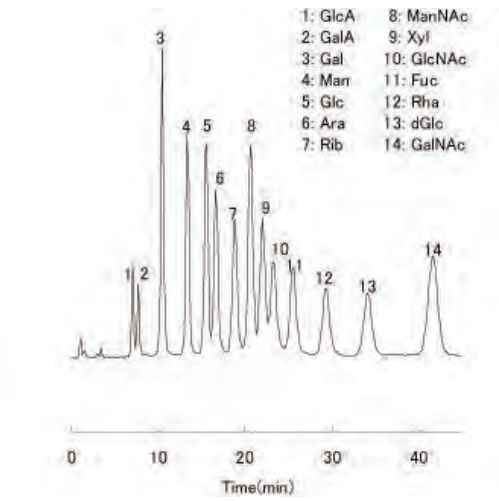
Product for Analysis of Sugar Chains

Background

Sugar chains are well known to function through binding with proteins (glycoproteins) and lipids (glycolipids) in the cell. Glycoproteins and glycolipids has been shown to have various roles *in vivo*.

Features and Advantages

- This kit is capable of rapid and efficient labeling by 6 pi-electrocyclization reaction process of hexatriene-β-carbonyl compound.
- This kit reacts only with the lysine residue on the protein surface and the bonds covalent bond.
- Since it does not react with N-end amino group or lysine residue group, which is indispensable for interaction of receptors, the function of biomolecules is not lost.
- In the sample of very low concentration, it can perform labeling efficiently.



When the concentration of the reagent is used by about ten times, the concentration of the labeling sample can be decreased to 10^{-8} M or less level.

Description	Cat. No.	Quantity
GlyScope Sensor plus C, Lectin Staining Kit	JOM-J701	1 kit
GlyScope G.P.Sensor	JOM-J702	1 kit
GlyScope Chitooligo-Agarose	JOM-J703	5 mℓ
GlyScope Fucose-Agarose	JOM-J704	5 mℓ
GlyScope Lactose-Agarose	JOM-J705	5 mℓ
GlyScope Maltose-Agarose	JOM-J706	5 mℓ
GlyScope Melibiose-Agarose	JOM-J707	5 mℓ
GlyScope Carbohyd-Agarose Set	JOM-J708	1 set
GlyScope Serotonin-HPLC Column	JOM-J709-L	1 pc
GlyScope Serotonin-HPLC Column Short	JOM-J709-S	1 pc
GlyScope ABEE Labeling Kit	JOM-J710	1 kit
GlyScope ABEE Labeling Kit Plus S	JOM-J711	1 kit
GlyScope ABEE Labeling Kit Plus S (Without Acetic Anhydride)	JOM-J711-EX	1 kit
GlyScope Solvent Set (for ABEE Labeling Kit)	JOM-J712	1 set
GlyScope Monosaccharide Mixture-5 (For ABEE Labeling Kit)	JOM-J713	0.5 mℓ
GlyScope Monosaccharide Mixture-11 (For ABEE Labeling Kit)	JOM-J714	0.5 mℓ
GlyScope Honenpak C18 (For ABEE Labeling Kit)	JOM-J715	1 pc
GlyScope ABOE Labeling Kit	JOM-J716	1 kit

Counter-Diffusion Protein Crystallization Kit

Intended Use

A Simplified Crystallization Method in the Capillary with Gel-Tube

Background

Counter-diffusion is a crystallization method in a capillary in which a protein and a reservoir solution diffuse into each other from opposite directions. Both the protein and the precipitant solutions are set to diffuse through the gel, and the concentration gradients of both solutions form in the capillary. The capillary can continuously scan a wide range of crystallization conditions unless crystallization occurs. By fixing the precipitant concentration higher, you canscan a wider range of crystallization conditions. Therefore, a single capillary may be equivalent to many drops in the vapor-diffusion method.

Principle

The crystallization using Crystal-Tube is based on the counter-diffusion method. A capillary is filled with protein solution and a piece of gel-tubing (gel-tube) is attached to the end of the capillary. The capillary is placed into a test tube in which a reservoir solution is poured into.

Features and Advantages

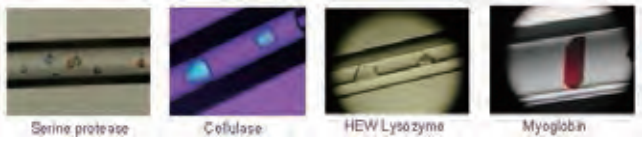
- **Size**
  Very little space is required for crystallization set-up.
- **Easy Set-up**
  The Gel-tube already contains agarose in the silicon tube, making the crystallization set up very easy.
- **Small Protein Sample**
  Only 2 micro-L per screening. Only 10 micro-L per diffractive-grade crystal.
- **Favorable Crystallization Conditions**
  The timing of crystallization can be controlled by Gel-tube length, the amount of protein solution in a capillary, and the concentration of protein and precipitant solution.
- **High Reproducibility and Reliability**
  JAXA (Japan Aerospace Exploration Agency) uses this method for crystallization in space. After crystallizing over 400 different proteins, the Crystal Tube kit has proven its reliability and high reproducibility.
- **Long-term Stability of Crystals**
  Crystals grown in the capillary arestable over the long term, making it easy to soak crystals with another compound, such as a ligand or cryoprotectant.
- **Membrane Protein Crystallization**
  Phase separation due to concentrated detergent in the solution does not occur.

Composition

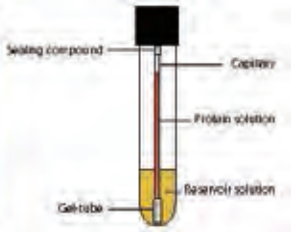
- Screw-top test tube 16.5×105, glass
  #CFS-MB2004-CRT201, 24 pc
- Gel-Tubing 1.0 (2.0)×1000, silicone
  #CFS-MB2004-CRT202, 1 pc
- Capillary 0.3 (1.1), DURAN® glass
  #CFS-MB2004-CRT203, 30 pc
- Capillary 0.5 (1.1), DURAN® glass
  #CFS-MB2004-CRT204, 20 pc
- Capillary cutting stone
  #CFS-MB2004-CRT206, 1 pc
- Sample aspirator
  #CFS-MB2004-CRT207, 1 pc
- Sealing compound
  #CFS-MB2004-CRT208, 1 pc

Reference

- McPherson A., Crystallization of Biological Macromolecules, Cold Spring Harbor Lab. Press (1999)
- Garcia-Ruiz, J.M., Moreno, A.: Acta Cryst., D50, 484-490(1994)



Protein		Lysozyme		alpha-Amylase			Glucose Isomerase	
pH		4.5	7	5.5	7	9	7	9
NaCl (mM)	0	clear	clear	clear	clear	clear	clear	clear
	100	clear	clear	C	clear	clear	clear	clear
	200	clear	clear	C	C,O	O	C,P	C
	300	clear	C	C	C,O	O	C,P	C,P
	400	C	C	C,O	O	O	C,P	C,P
	500	C	C	-	O	O	C,P	C,P
	600	C	C	-	O	O	C,P	C,P
	700	C	C	-	O	O	C,P	C,P



Description	Cat. No.	Quantity
Crystal-Tube GT-R	CFS-MB2004-CRT200	1 set
Screw-top Test Tube	CFS-MB2004-CRT201	24 unit
Gel-Tubing	CFS-MB2004-CRT202	1 unit
Capillary, 0.3㎜ i.d	CFS-MB2004-CRT203	30 unit
Capillary, 0.5㎜ i.d	CFS-MB2004-CRT204	20 unit
Starters Kit	CFS-MB2004-CRT209	1 set

ScriptMAX® Thermo T7 Transcription Kit

Intended Use

ScriptMAX® Thermo T7 Transcription Kit is a translation kit which has been developed with thermo T7 RNA Polymerase as the base. It's characteristic feature is high RNA synthesis capability.

Features

- Allows synthesis of RNA according to your application. By using the accelerator solution, a 2 to 4 times higher concentration of RNA can be obtained.
- Includes all reagents necessary for reaction.

Composition

- Thermo T7 RNA polymerase (50U/ μℓ) 60μℓ ×1 tube
- 10× Basal reaction buffer2)3) 400μℓ ×1 tube
- 5× Accelerator solution 400μℓ ×1 tube
- 25 mM rNTPs mixture 280μℓ ×1 tube
- RNase inhibitor (40U/ μℓ) 30μℓ ×1 tube

Reference

- K. Ishikawa *et al*., Nucl.Acids Res., 33: e112(2005)
- M. Itoh *et al*., Nucl. Acids Res., 30: 5452-5464(2002)
- M. Chamberlin and J. Ring,J. Biol. Chem., 248: 2235(1973)
- M. Chamberlin and J. Ring, J. Biol. Chem., 248: 2245(1973)

Description	Cat. No.	Quantity
ScriptMAX® Thermo T7 Transcription Kit	TYB-TSK-101	60 rxn

λ Protein Phosphatase

Intended Use

λ-PPase can be used to release phosphate groups from phosphorylated serine, threonine, tyrosine and histidine residues in proteins. It should be noted that different proteins are dephosphorylated at different rates. Optimal reaction temperature is 30℃. Inclusion of protease inhibitor cocktail and shortest incubation time is desired when assays are done with crude samples.

Background

λ Protein Phosphatase (λ-PPase) is a Mn^{2+}-dependent protein phosphatase with activity towards phosphorylated serine, threonine, tyrosine and histidine residues. It is the 221 amino-acid product of ORF221 open reading frame on bacteriophage lambda. λ-PPase was expressed as a recombinant protein in *E.coli* and highly purified. This product is an intact enzyme of high quality without tag.

Composition

Form

- 400 U/ μℓ λ-PPase in 50mM HEPES (pH 7.5)
- 100mM NaCl
- 2mM dithiothreitol
- 0.1 mM $MnCl_2$
- 0.1 mM EDTA
- 50% glycerol
- 0.01% Brij 35.

Reagents Supplied with Enzyme

10× λ-Ppase

Activity

400 U/ μℓ , where one unit is defined as the amount of enzyme that hydrolyzes 1nmole of p-nitrophenyl phosphate per minute at 30℃. Unit definition assays are performed with 50 mM p-nitrophenyl phosphate in λ-PPase buffer, supplemented with 2 mM $MnCl_2$ in a 50 μℓ reaction.

Specific Activity

400,000 U / mg

Quality Assurance

Greater than 95% homogeneous protein determined by SDS-PAGE (CBB staining) that contains no detectable protease activity.

Reference

- Cohen PTW & Cohen P (1989) "Discovery of a protein phosphatase activity encoded in the genome of bacteriophage λ." Biochem J. 260: 931-934 PMID: 2548489
- Zhuo S *et al* (1993) "Expression, purification, crystallization, and biochemical characterization of recombinant protein phosphatase." J. Biol Chem. 268: 17754-17761 PMID: 8394350

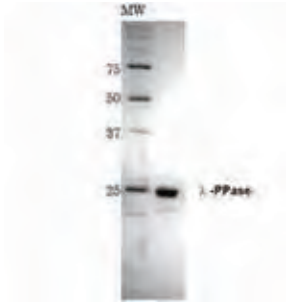


Fig.1 SDS-PAGE of λ-Ppase

Description	Cat. No.	Quantity
λ Protein Phosphatase	BAM-02-300-EX BAM-02-300-5EX	20000 unit 5×20000 unit

Separation and Purification

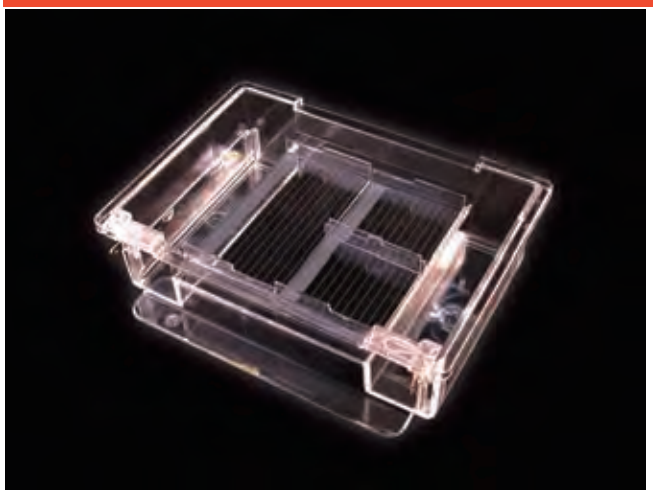
i-MyRun II Electrophoresis System

A submarine-type electrophoresis system for running samples (nucleic acid) in an agarose gel

- A wide range of voltage selection (50V, 75V, 100V, 120V, 135V)
- Timer(0-99minutes) – Also capable for continuous operation
- High-throughputable function
- Compatible with 8 and 12 multichannel pipettes
- Gel electrophoresis tank cover is designed for high level of the agarose gel and sufficient heat release from the tank
- UV transmitting gel electrophoresis tank and gel tray
- Power supply and gel electrophoresis tank integrated model

New

Features

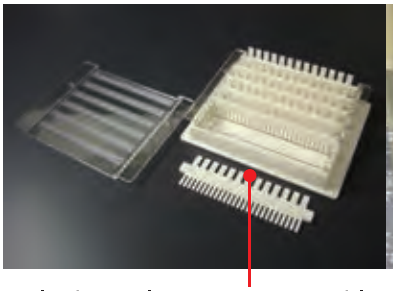


- Gel electrophoresis tank has grids that support mini gel usage.

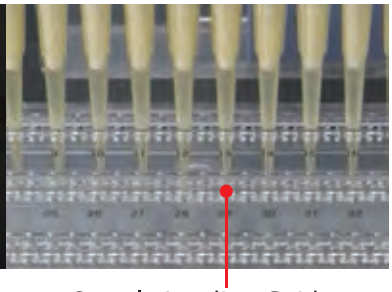
- Electrophoresis will not start unless power supply and gel electrophoresis tank are connected.

- A secure design where electrophoresis run will stop when gel electrophoresis tank cover is taken off.
- CF approved and UL certified model.
- Waterproof control panel.
- Gel electrophoresis tank designed to prevent water leakage.

- Power supply can be easily detached from gel electrophoresis tank by rotating it.



Multichannel pipette compatible formats (13 wells and 26 wells).



Sample Loading Guide (for multichannel pipettes).

Description	Cat. No.	Quantity
i-MyRun II Electrophoresis System	CBJ-IMR2-001	1 unit

i-MyRun.N for Nucleic Acid

Intended Use

Nucleic Acid Electrophoresis System

Features

Three families
- i-MyRun.N (Electrophoresis System for Nucleic Acid)
- i-MyRun.NC (Mini Electrophoresis System for Nucleic Acid)
- i-MyRun.P (Electrophoresis System for Protein)

Gel Electrophoresis systems

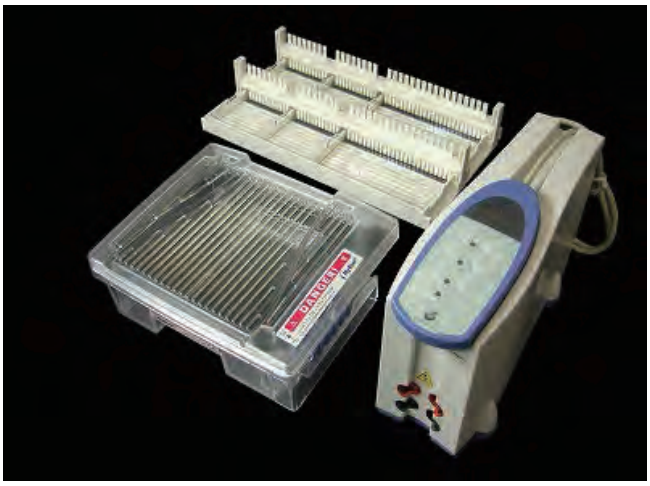
- ALL systems include Power Supply.
- The power supply of i-MyRun.N/P : Constant Voltage and Constant Current w/ Timer
- i-MyRun.N allows high-throughput (96 samples) processing.
- Compatible with eight-and twelve-channel pipettes (multichannel pipettes).
- Slotted migration Chamber lid allows easy gel observation and provides optimal heat dissipation.
- One-touch connectors for easy set up between power supply and migration chamber.
- Magnetic safety-switch prevents current flow if lid is not in place.

Reference

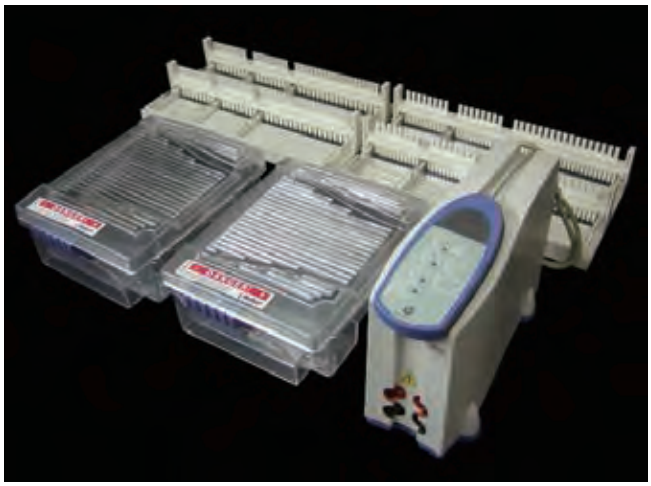
- Anticancer Res. 2008 Mar-Apr;28(2B):1187-95.
- Yasuda S., *et al.*, J Dairy Sci. 5 2248-60 (2012)

i-MyRun.N Electrophoresis System (Cat.No. CBJ-IMR-001-EX)

i-MyRun.N Special Edition (Cat.No. CBJ-IMR-001S-EX)



i-MyRun.NC Mini Electrophoresis System (Cat.No. CBJ-IMR-003-EX)



i-MyRun.NC Special Edition (Cat.No. CBJ-IMR-003S-EX)

Description		Cat. No.	Quantity
i-MyRun.N Electrophoresis System		CBJ-IMR-001-EX	1 unit
【Composition】			
1) i-MyRun Power Supply	#CBJ-IMR-201-EX: 1 piece		
2) Electrophoresis Tank for i-MyRun.N	#CBJ-IMR-301-EX: 1 piece		
3) Gel Casting System for i-MyRun.N	#CBJ-IMR-401-EX: 1 piece		
4) Support guide for minigel (L&S)	#CBJ-IMR-501-EX: 1 piece		

Description	Cat. No.	Quantity
i-MyRun.N Special Edition 【Included Components】 1) i-MyRun Power Supply #CBJ-IMR-201-EX: 1 piece 2) Electrophoresis Tank for i-MyRun.N #CBJ-IMR-301-EX: 2 pieces 3) Gel Casting System for i-MyRun.N #CBJ-IMR-401-EX: 1 piece 4) Gel Casting System for i-MyRun.NC #CBJ-IMR-403-EX: 1 piece 5) Support Guide for Minigel (L&S) #CBJ-IMR-501-EX: 2 pieces	CBJ-IMR-001S-EX	1 set
i-MyRun.NC Mini Electrophoresis System 【Included Components】 1) i-MyRun Power Supply #CBJ-IMR-201-EX: 1 piece 2) Electrophoresis Tank for i-MyRun.NC #CBJ-IMR-303-EX: 1 piece 3) Gel Casting System for i-MyRun.NC #CBJ-IMR-403-EX: 1 piece	CBJ-IMR-003-EX	1 unit
i-MyRun.NC Special Edition 【Included Components】 1) i-MyRun Power Supply #CBJ-IMR-201-EX: 1 piece 2) Electrophoresis Tank for i-MyRun.NC #CBJ-IMR-303-EX: 2 pieces 3) Gel Casting System for i-MyRun.NC #CBJ-IMR-403-EX: 2 pieces	CBJ-IMR-003S-EX	1 set

i-MyRun.N Parts and Accessories

Description		Cat. No.	Quantity
Power Supply for i-MyRun ・Dimensions Power unit: 55 (W)×170 (D)×90 - 110 (H) mm Control unit: 55 (W)×70 -95 (D)×30 (H) mm ・Power specifications Constant voltage: 35, 50, 75, 100, 135 V 400mA (2 Migration Chambers can be run simultaneously) Constant current: 20, 30, 40, 50, 60, 70, 80mA (80 mA; up to 300V, restricted to one Migration Chamber at a time) Electrical specifications: 6 Voltage from 100 to 240 VA, AC 50/60 Hz Timer: 999 min (1 sec resolution less than 1 min)		CBJ-IMR-201-EX	1 set
Connection Cable for i-MyRun		CBJ-IMR-211-EX	1 pc
Power Cable for i-MyRun		CBJ-IMR-221-EX	1 pc
Electrophoresis Tank for i-MyRun.N External dimensions: 150 (W)×225 (L)×67 (H) mm		CBJ-IMR-301-EX	1 set
Electrophoresis Tank for i-MyRun.NC Mini-gel is supported. External dimensions: 167 (W)×140 (L)×69 (H) mm		CBJ-IMR-303-EX	1 set
Lid for i-MyRun.N		CBJ-IMR-311-EX	1 pc
Lid for i-MyRun.NC		CBJ-IMR-313-EX	1 pc
The Guide for Sample Apply for i-MyRun.N		CBJ-IMR-321-EX	1 pc
Gel Casting System for i-MyRun.N 【Components】 Gel Casting stand and gel casting tray: 1 piece each 26 wells + 13 wells (top, bottom) comb: 6 pieces Sample loading guide: 1 plate Gel size: 124 (W)×120 (L) mm Sample loading volume: 9μl for 26 wells, 18μl for 13 wells Maximum number of samples to be loaded: 26 wells×6 lines = 156 samples		CBJ-IMR-401-EX	1 set
Gel Casting System for i-MyRun.NC 【Components】 Gel Casting stand: 1 piece Gel Casting tray: (S)×4 pieces, (L)×2 pieces Comb: 2 pieces Gel size (S): 52 (W)×60 (L) mm Gel size (L): 107 (W)×60 (L) mm Comb TOP: 8 wells×2 + 17 wells, Thickness 10 mm Comb Bottom: 12 wells×2 + 25 wells, Thickness 1.5 mm		CBJ-IMR-403-EX	1 set
Gel Casting Tray for i-MyRun.N		CBJ-IMR-411-EX	1 pc
Gel Casting Tray (L) for I-MyRun.NC		CBJ-IMR-413-EX	1 pc
Gel Casting Tray (S) for i-MyRun.NC		CBJ-IMR-414-EX	1 pc
Gel Casting Stand for i-MyRun.N		CBJ-IMR-421-EX	1 pc
Gel Casting Stand for i-MyRun.NC		CBJ-IMR-423-EX	1 set

Electrophoresis Apparatus

Description	Cat. No.	Quantity
Comb for i-MyRun.N 	CBJ-IMR-431-EX	6 pc
Comb for i-MyRun NC	CBJ-IMR-433-EX	2 pc
Support Guide for Minigel (L&S) 	CBJ-IMR-501-EX	1 pc

i-MyRun.P Electrophoresis System for Protein

Intended Use

i-MyRun.P is designed for the separation of analytical quantities of protein in vertical ready made Multi Gel II polyacrylamide gels (See page 280 for additional specifications.).

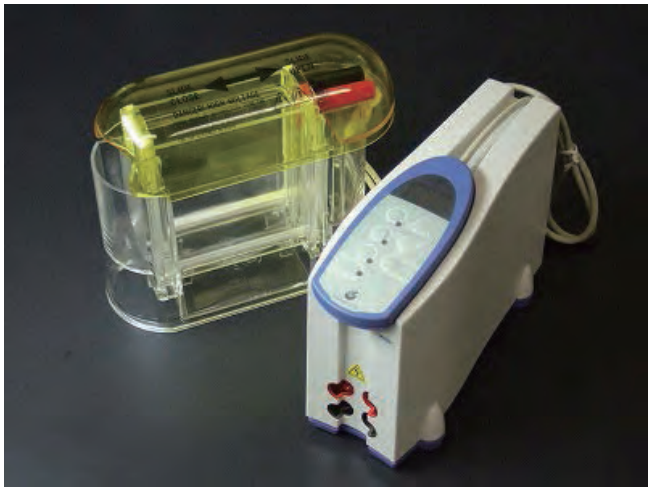
Features

- Unique wedge system holds gel plates easily and firmly.
- Electrophoresis buffer on both sides of gel plates for excellent heat dissipation.
- Only a small amount of buffer is required.
- Movable slide plugs allow safely and easily replacement.
- Highly visible wells enable easy sample loading.

Cassette Electrophoresis Unit (Model DPE-1020)
- Designed to meet EN61010-1 safety standards

Components

- i-MyRun Power Supply #CBJ-IMR-201-EX
- Cassette Electrophoresis Unit (Model DPE-1020) #DCB-303111



Description	Cat. No.	Quantity
i-MyRun.P Electrophoresis System for Protein	CBJ-IMR-006-EX	1 unit

Photo Box (w/ 3 filters & plate)

Features

- Compatible with transilluminator company models
- Simply put in a digital camera
- Compatible with most digital cameras

Examples

- Gel electrophoresis photography
- Recording of yeast colonies and *E. coli*
- Record of the blotting of a membrane
- Photographing with different lighting

Specifications

Size: 140 ㎜ (W)×120 ㎜ (D)×130㎜ (H)
Lens hole diameter: ϕ 40 ㎜
Weight: approx. 500 g
Filter replacement place: approx. 100 ㎜ from bottom
Size of black-out plate: 300 ㎜×210 ㎜
Max gel size: 110 ㎜ (W)×90 ㎜ (D)
Filter: Red / Yellow / transparent

Description	Cat. No.	Quantity
Photo Box (w/ 3filters & plate)	TKY-TK-PB04-EX	1 unit

P-BEAT Electrophoresis Cell

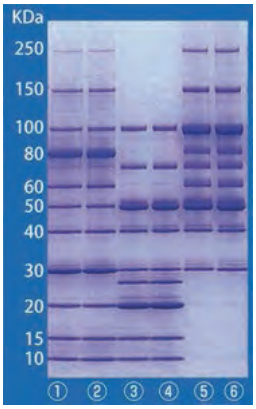
Features

- Easy-To-Use
- 2 gels can be run simultaneously
- Cooling system prevents gel from heating
- High-Voltage-Compatible

Specifications

Dimensions: 145 ㎜W × 115 ㎜D × 150 ㎜H
Buffer Volume: About 700 ㎖
Maximum Sheets: 2

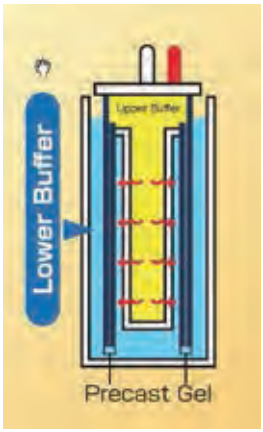
Set up condition for high speed SDS-PAGE
Setting Voltage: 300V-500V
Electrophoresis Time: about 25-40 �min



1,2 lane: SIMASIMA Ladder Broad 5㎕
3,4 lane: SIMASIMA Ladder Low 5㎕
5,6 lane: SIMASIMA Ladder High 5㎕

Electrophoresis device: P-BEAT
Electrophoresis condition: 300V,40�min
Gel: MULTIGEL® II mini 4/20 (13W)
(Gel concentrarion 4-20%)
(#01CUKAO-15EX)

Staining:CBB Staining
(Page Blue 83 stain solution(CBB-R250)DCB-423406)



The unique design of P-BEAT prevents heat boil-up to allow fast, high voltage runs by using the upper buffer chamber to cool the gel and lower buffer.

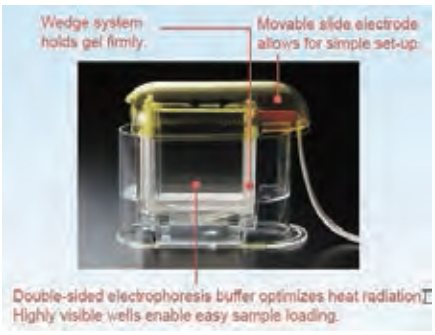
Description	Cat. No.	Quantity
P-BEAT Electrophoresis Cell	DCB-500000	1 unit

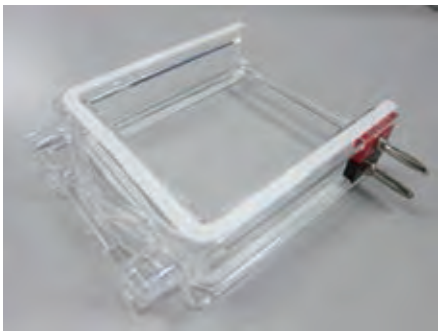
Slab gel Cassette Electrophoresis Unit for Multi Gel II Precast PAGE gels

Features

Cassette Electrophoresis Unit Model DPE-1020

- Unique Wedge system to firmly and easily fix the Gel Plate
- Buffer filled in the Chambers to cool all the surface of the Gel Plate
- Smaller quantity of buffer required
- Easier sample loading visible through the transparent body
- Designed to meet EN61010-1 safety standards





Description		Cat. No.	Quantity
Cassette Electrophoresis Unit Model DPE-1020 【Composition】 1) Lid with power cables 2) Anode Buffer Chamber 3) Cathode Buffer Chamber Frame with electrodes 4) Gasket 5) Wedge 6) Acrylic Plate Instruction manual	 1 1 1 2 2 2 2	DCB-303111	1 set
Starter Kit A/ SDS PAGE (βME)		DCB-303111SETA	1 set
Starter Kit B/ SDS PAGE (no βME)		DCB-303111SETB	1 set
Starter Kit C/ Native PAGE		DCB-303111SETC	1 set
Starter Kit D/ Nucleic Acid		DCB-303111SETD	1 set
Slab gel electrophoresis apparatus DPE-1620		DCB-326387	1 set
Slab gel electrophoresis apparatus DPE-2020		DCB-303128	1 set
Body for DPE-1020		DCB-303112	1 set
Core for DPE-1020		DCB-303113	1 set
Lid for DPE-1020		DCB-303114	1 set
Acrylic plate for DPE-1020		DCB-306000	1 set
Injection gasket for DPE-1020		DCB-304963	2 pc
Injection gasket for DPE-1616		DCB-304964	1 set
Injection gasket for DPE-2020		DCB-304965	1 set
Wedge for DPE-1020		DCB-304972	1 set
Wedge 0.9 for DPE-2020		DCB-304989	1 set
Wedge 1.6 for DPE-2020		DCB-304996	1 set
Wedge 0.9 for DPE-1620		DCB-305000	1 set

MULTGEL II Mini

Features

- Always FRESH and Ready-to-Use
- High resolution in short time
- Excellent reproducibility
- Very sharp banding with new comb design
- Can be used for all of native-PAGE, SDS-PAGE, and DNA analyses.

Application

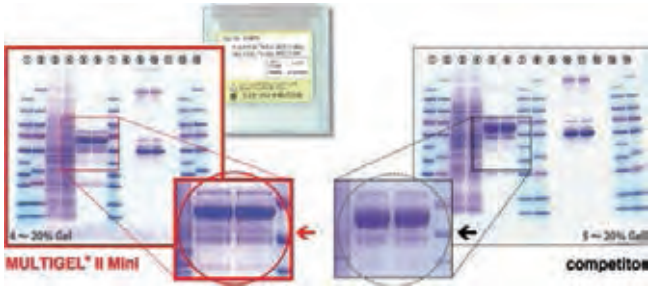
- MUTIGEL II Mini is designed for polyacrylamide gel electrophoresis with the discontinuous buffer system.
- Protein / SDS-polyacrylamide gel electrophoresis (SDS-PAGE) with Laemmli's discontinuous buffer system.
- Protein / native-PAGE with Davis's discontinuous buffer system.
- Deoxyribonucleic acid / PAGE with discontinuous buffer system.
- Well suited for Quality Control (QC) applications.

Specifications

Package：5 gel plates per pack
Gel Size (㎜)：85W×90L×0.9T
Plate Size (㎜)：100W×100L×3.1T

Reference

- Davis, B.J.: Am. N. Y. Acad. Sci., 121, 404 (1964)
- Laemmli. U.K.: Nature, 227, 680 (1970)
- Takagi *et al*.,: Protein Nucleic Acid Enzyme, 21, 811 (1976)
- Basic Experimental Methods of Proteins and Enzymes: Ed. Horio, T. and Yamashita,J., Nankodo Press (1981)
- Igarashi and Nakayama: J. Med, Technol., 26, 1508 (1982)
- Electrophoresis Data Book: Ed. The Society of Electrophoresis (1983)
- Linke, R. P.: Anal. Biochem., 141, 55 (1984)
- Irwin, D. *et al*.,: Atherosclerosis, 53, 163 (1984)
- Kadoya *et al*.,: Bunsekikagaku, 34, 151 (1985)
- Okuyama *et al*.,: The Physico-Chemical Biology, 29, 237 (1985)



Gradient Gel

Description	Number of Wells	Acrylamide concentration	MW (Da) / SDS-PAGE	MW (bp) / DNA	Cat. No.	Quantity
MULTIGEL II mini 2/15 (13W)	13	2-15%	30-500K	200-2,000	DCB-414855	5 sheet
MULTIGEL II mini 2/15 (17W)	17	2-15%	30-500K	200-2,000	DCB-414862	5 sheet
MULTIGEL II mini 4/20 (13W)	13	4-20%	15-250K	40-1,800	DCB-414879	5 sheet
MULTIGEL II mini 4/20 (17W)	17	4-20%	15-250K	40-1,800	DCB-414886	5 sheet
MULTIGEL II mini 5/10 (13W)	13	5-10%	35-450K	–	DCB-441776	5 sheet
MULTIGEL II mini 5/10 (17W)	17	5-10%	35-450K	–	DCB-443114	5 sheet
MULTIGEL II mini 8/16 (13W)	13	8-16%	20-130K	70-1,500	DCB-417269	5 sheet
MULTIGEL II mini 8/16 (17W)	17	8-16%	20-130K	70-1,500	DCB-417276	5 sheet
MULTIGEL II mini 10/20 (13W)	13	10-20%	12-130K	30-1,500	DCB-414893	5 sheet
MULTIGEL II mini 10/20 (17W)	17	10-20%	12-130K	30-1,500	DCB-414909	5 sheet
MULTIGEL II mini 2D-10/20	1 74(W)×14(L)	10-20%	12-130K	–	DCB-415074	5 sheet
MULTIGEL II mini 15/20 (13W)	13	15-20%	3-85K	–	DCB-432026	5 sheet
MULTIGEL II mini 15/20 (17W)	17	15-20%	3-85K	–	DCB-443121	5 sheet
MULTIGEL II mini 15/25 (13W)	13	15-25%	3-85K	20-1,000	DCB-414916	5 sheet
MULTIGEL II mini 15/25 (17W)	17	15-25%	3-85K	20-1,000	DCB-414923	5 sheet

Fixed Percentage Gel

Description	Number of Wells	Acrylamide concentration	MW (Da) / SDS-PAGE	MW (bp) / DNA	Cat. No.	Quantity
MULTIGEL II mini 5 (13W)	13	5%	100-500K	–	DCB-443138	5 sheet
MULTIGEL II mini 5 (17W)	17	5%	100-500K	–	DCB-443145	5 sheet
MULTIGEL II mini 7.5 (13W)	13	7.5%	45-250K	250-2,000	DCB-414930	5 sheet
MULTIGEL II mini 7.5 (17W)	17	7.5%	45-250K	250-2,000	DCB-414947	5 sheet
MULTIGEL II mini 10 (13W)	13	10%	30-200K	140-1,700	DCB-414954	5 sheet
MULTIGEL II mini 10 (17W)	17	10%	30-200K	140-1,700	DCB-414961	5 sheet
MULTIGEL II mini 12.5 (13W)	13	12.5%	20-150K	60-1,500	DCB-414978	5 sheet
MULTIGEL II mini 12.5 (17W)	17	12.5%	20-150K	60-1,500	DCB-414985	5 sheet
MULTIGEL II mini 15 (13W)	13	15%	10-150K	–	DCB-443152	5 sheet
MULTIGEL II mini 15 (17W)	17	15%	10-150K	–	DCB-443169	5 sheet

Narrow Range Gradient Gel

Description	Number of Wells	Acrylamide concentration	MW (Da) / SDS-PAGE	MW (bp) / DNA	Cat. No.	Quantity
MULTIGEL II mini 6/9 (13W)	13	6-9%	45-250K	250-2,000	DCB-414992	5 sheet
MULTIGEL II mini 6/9 (17W)	17	6-9%	45-250K	250-2,000	DCB-415005	5 sheet
MULTIGEL II mini 9/11 (13W)	13	9-11%	30-200K	140-1,700	DCB-415012	5 sheet
MULTIGEL II mini 9/11 (17W)	13	11-14%	20-150K	60-1,500	DCB-415029	5 sheet
MULTIGEL II mini 11/14 (13W)	17	11-14%	20-150K	60-1,500	DCB-415036	5 sheet
MULTIGEL II mini 11/14 (17W)	13	14-16%	10-150K	40-1,200	DCB-415043	5 sheet
MULTIGEL II mini 14/16 (13W)	17	14-16%	10-150K	40-1,200	DCB-415050	5 sheet
MULTIGEL II mini 14/16 (17W)	17	9-11%	30-200K	140-1,700	DCB-415067	5 sheet

MULTIGEL II Mid Size Gradient Gel

Features

- Always FRESH and Ready-to-Use Form
- High resolution in short time
- Excellent reproducibility
- Very sharp banding with new comb design
- Can be used for all of native-PAGE, SDS-PAGE, and DNA analysis.

Specifications

Package: 5 gel plates per pack (1 or 17 wells)
Gel dimensions: 144mmW×145mmL×0.9mmT
Cassette size: 160mmW×160mmL×5.1mmT

Description	Number of Wells	Acrylamide concentration	MW (Da) / SDS-PAGE	MW (bp) / DNA	Cat. No.	Quantity
MULTIGEL II mid 2D-10/20	1 125(W)×20(L)	10-20%	12-130K	–	DCB-417283	5 sheet
MULTIGEL II mid 4/20 (17W)	17	4-20%	15-250K	40-1,800	DCB-417290	5 sheet
MULTIGEL II mid 10/20 (17W)	17	10-20%	12-130K	30-1,500	DCB-417306	5 sheet

MULTIGEL II Large Size Gradient Gel

Features

- Always FRESH and Ready-to-Use Form
- High resolution in short time
- Excellent reproducibility
- Very sharp banding with new comb design
- Can be used for all of native-PAGE, SDS-PAGE, and DNA analysis.

Specifications

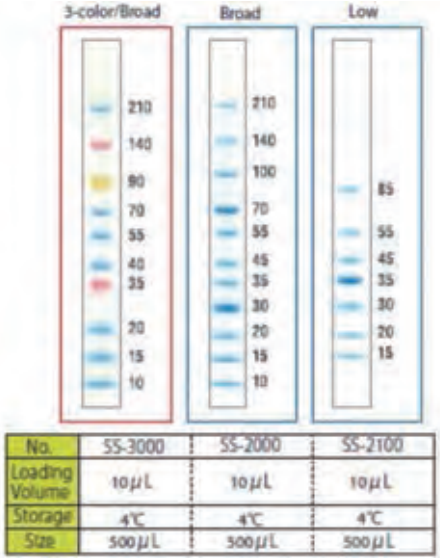
Package: 5 gel plates per pack (1 or 17 wells)
Gel dimensions: 184mmW×185mmL×0.9mmT
Cassette size: 200mmW×200mmL×5.1mmT

Description	Number of Wells	Acrylamide concentration	MW (Da) / SDS-PAGE	MW (bp) / DNA	Cat. No.	Quantity
MULTIGEL II large 2D-10/20	1 170mmW×20mmL	10-20%	12-130K	–	DCB-417313	5 sheet
MULTIGEL II large 4/20 (17W)	17	4-20%	15-250K	40-1,800	DCB-417320	5 sheet
MULTIGEL II large 10/20 (17W)	17	10-20%	12-130K	30-1,500	DCB-417337	5 sheet

Prestained "SIMASIMA" Protein Ladders

Features

- Suitable for confirming separation during electrophoresis and efficiency of blotting.
- Density of bands can be changed with blotting.
- Estimated molecular weight will be cangable depending on the concetration of acrylamide gel and degree of crosslinking. These markers are not suitable for precise determination of molecular weight.
- Stable for 1 year at temperature conditions under 4℃.

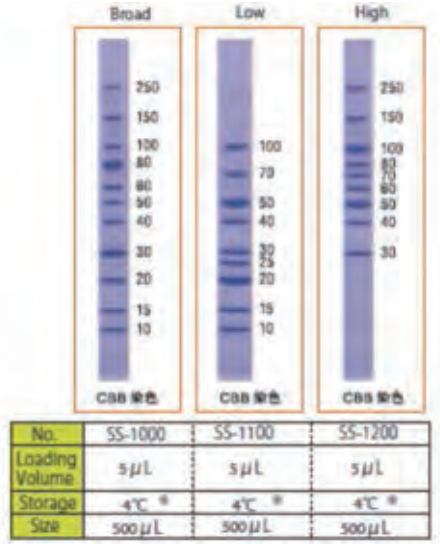


Description	Cat. No.	Quantity
SIMASIMA 3-Color Prestained Broad Range Protein Ladder	DCB-SS3000 DCB-SS3000-3	500 μℓ 3×500 μℓ
SIMASIMA Prestained Broad Range Protein Ladder	DCB-SS2000 DCB-SS2000-3	500 μℓ 3×500 μℓ
SIMASIMA Prestained Low Range Protein Ladder	DCB-SS2100 DCB-SS2100-3	500 μℓ 3×500 μℓ

Unstained "SIMASIMA" Protein Ladders

Features

- Shapes of bands are sharp and conspicuous. Estimate of molecular weight is easy because the bands separate precisely and reproducibly.
- Recommended volume: 5 μℓ for CBB staining, and 0.2 - 0.5 μℓ for silver staining or SYPRO Ruby staining.
- Stable for 1 year under 4C.



Description	Cat. No.	Quantity
SIMASIMA Unstained Broad Range Protein Ladder	DCB-SS1000 DCB-SS1000-3	500 μℓ 3×500 μℓ
SIMASIMA Unstained Low Range Protein Ladder	DCB-SS1100 DCB-SS1100-3	500 μℓ 3×500 μℓ
SIMASIMA Unstained High Range Protein Ladder	DCB-SS1200 DCB-SS1200-3	500 μℓ 3×500 μℓ

DNA Ladders

Description	Cat. No.	Quantity
1kb DNA Ladder	TYB-DNA-032	300 rxn
1kbp DNA Ladder	BAM-02-400EX	250 μℓ
200bp DNA Ladder	TYB-DNA-031	100 rxn
DNA Ladder Markers, 1kb DNA Ladder	TYB-DNA-032X5	1 set
DNA Ladder Markers, 100bp DNA Ladder	TYB-DNA-035 TYB-DNA-035X5	100 rxn 1 set
DNA Size Markers, λ/Hind III digest	TYB-DNA-010X5	1 set
DNA Size Markers, λ/Hind III digest - ϕX174/Hae III digest	TYB-DNA-017X5	1 set
DNA Size Markers, ϕX174/Hae III digest	TYB-DNA-012X5	1 set
λ/HindIII digest	TYB-DNA-010	1×120 μg
λ/HindIII digest - phiX174/HaeIII digest	TYB-DNA-017	1×25 μg
Loading Quick 50bp DNA Ladder	TYB-DNA-133	100 rxn
Loading Quick 100bp DNA Ladder	TYB-DNA-135 TYB-DNA-135X5	100 rxn 1 set
Loading Quick 200bp DNA Ladder	TYB-DNA-131	100 rxn
Loading Quick DNA Mass Ladder	TYB-DNA-134 TYB-DNA-134X5	100 rxn 1 set
Loading Quick λ/HindIII	TYB-DNA-110	2×40 μg
Loading Quick λ/Hind III digest	TYB-DNA-110X5	1 set
Loading Quick λ/Hind III digest - ϕX174/Hae III digest	TYB-DNA-117X5	1 set
Loading Quick λ/HindIII - phiX174/HaeIII	TYB-DNA-117	1×20 μg
Loading Quick phiX174/HaeIII	TYB-DNA-112	1×20 μg
Loading Quick ϕX174/Hae III digest	TYB-DNA-112X5	1 set
Phage λ DNA	TYB-DNA-001	400 μg
phiX174/HaeIII digest	TYB-DNA-012	1×15 μg

Protein Transfer Kit for Semi-dry blotting

Background

Protein electrotransferring from PAG or SDS-PAG to PVDF membrane or nitrocellulose membrane is a widely used method for biological identification and analysis. The Protein Transfer Kit includes protein transfer reagents (developed to provide you with the easy preparation of reagents/operations and the best transfer image in a short period of time in combination with our Multigel II mini), transfer membranes, and filter papers.

Features

- Quick and High efficiency
- High Sensitivity and low background
- All necessary reagents and transfer membrane are included
- Stable storage at room temperature

Composition

Anode Buffer / Tris 500 mℓ
Cathode Buffer / Tris 10000 mℓ
Tranfer Membrane / PVDF membrane 25 sheets
Filter Paper / For qualitative use, 100 sheets

Description	Cat. No.	Quantity
Protein Transfer Kit for Semi-dry blotting	DCB-423536	25 test

6X Loading Dye

Intended Use

Pre-treatment liquid sample preparation. 6×sample loading dye contains BPB (Bromophenol Blue) and Orange G as a staining dyes.

Composition

10 mM Tris-HCl (pH7.5)
50 mM EDTA
30% Glycerol
0.06% BPB
0.12% Orange G

Description	Cat. No.	Quantity
6X Loading Dye	TYB-RE-DYE	1 mℓ

MULTI GEL II mini Dryer

Intended Use

This kit can make a dry stock of Polyacrylamide Gels (PAG) and SDS-PAG.

Components

Multi gel Dryer Starter Set

- Fixing Frame 2 set
- Gel Dryer Reagent 500 mℓ×2
- Pre-cut cellophane 50 sheets

Multi gel Dryer Reagent (For 20 gels)

- Gel Dryer Reagent 500 mℓ×2
- Pre-cut cellophane 50 sheets

It is also usable for 100×100×1.0 mm gel

Reference

- Juang, R. H, *et.al*,: Oven-Drying Method for Polyacrylamide Gel Slab Packed in Cellophane Sandwich Anal.Biochem. 141, 348-350(1984)
- Sarnal, B.B.: Drying and Storage of Polyacrylamide Slab Gels; A Simple Procedure Anal. Biochem. 163, 42-44(1987)

Description	Cat. No.	Quantity
Multi gel Dryer Starter Set	DCB-423512	1 set
Multi gel Dryer Reagent (For 20 gels)	DCB-423505	1 set

Buffer

Description	Composition	Cat. No.	Quantity
Running Buffer for SDS-Tris-Glycine (10X)	25mM Tris 0.192M glycine (pH 8.4) 0.1%SDS (After Preparation, Laemmli method)	DCB-423468	500 mℓ
β-ME Sample Treatment for Tris SDS	0.125 M Tris-HCl 4.3% SDS 30% Glycerol 10%β-ME 0.01% BPB (pH6.8)	DCB-423437	20 mℓ
Buffer for Tris-acetic acid-EDTA (TAE) (50X)	40mM Tris 20mM acetic acid 1mM EDTA (After Preparation)	DCB-423499	500 mℓ
Buffer for Tris-boric acid-EDTA (TBE) (10X)	89mM Tris 89mM boric acid 2mM EDTA (After Preparation)	DCB-423482	500 mℓ
Running Buffer for SDS-Tris-Tricine (10X)	50mM Tris 50mM tricine 0.1%SDS (After Preparation)	DCB-423475	500 mℓ
Running Buffer for Tris-Glycine (X10)	25mM Tris 0.192M glycine (pH 8.4) 0.1%SDS (After Preparation, Davis method)	DCB-423451	500 mℓ
Sample Treatment for Tris Acid	0.125M Tris-HCl 30% Glycerol 0.01% BPB (pH 6.8)	DCB-423444	20 mℓ
Sample Treatment for Tris SDS	0.125M Tris-HCl 4.3% SDS 30% Glycerol 0.01% BPB (pH 6.8)	DCB-423420	20 mℓ

Acrylamide, monomer for Electrophoresis

Pure grade

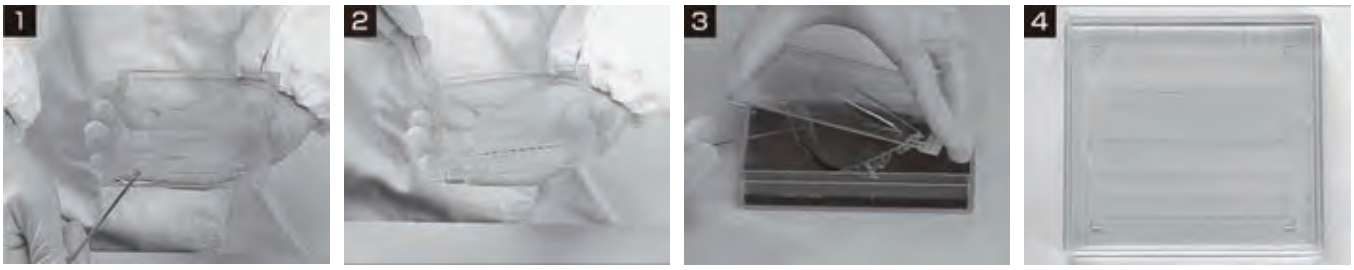
>99.5%

Description	Cat. No.	Quantity
Acrylamide, monomer for Electrophoresis	CSR-250-01225 CSR-250-01226	500 g 10 kg

Page Blue 83 Stain Reagent (CBB-R250)

Intended Use

Page Blue 83 Stain Reagent is ready-to-use Coomassie Brilliant Blue G-250 staining solution for protein electrophoresis.



Description	Cat. No.	Quantity
Page Blue 83 Stain Reagent (CBB-R250)	DCB-423406	500 mℓ

2D-Silver Stain Reagent II [For 10 gels]

Background

For detection of proteins and nucleic acids migration by polyacrylamide gel electrophoresis, silver staining is now being highlighted as a sensitive staining method.
However the original silver staining method is not necessarily easy to work and takes long-time.
2D-SILVER STAIN-II is an improved reagent kit developed to provide simple and fast staining.

Application

2D-SILVER STAIN-II is applicable to the detection of proteins and nucleic acids subjected to polyacrylamideand SDS-polyacrylamide slab gel electrophoresis.

Features and Advantages

- Rapid staining results in a short time after electrophoresis.
- Staining with higher sensitivity
  For proteins: 50 to 100 times more sensitive than CBB staining
  For nucleic acids: 50 to 100 times more sensitive than EB staining
- Simple preparation and simple operation.
- No use of such materials as heavy metals controlled by regulations.
- Capable of restaining CBB-stained gels. (Double-staining)
- Staining process can be stopped any time during development for desired chromatic figures.

Components

- Fixing Reagent (Thiourea) 100 mℓ×1
- Pretreatment reagent (Dithiothreitol, Glutar-aldehyde, Thiourea) 100 mℓ×1
- Staining Solution A (Silver nitrate) 100 mℓ×1
- Staining Solution B (Ammonium hydroxide, Sodium hydroxide) 100 mℓ×1
- Concentrated developer (Citric acid, Folmaldehyde, Sodium hydroxide) 100 mℓ×1
- Stopper (Citric acid) 100 mℓ×1

Reference

- K. Ohsawa *et. Al.*: Silver Stain for Detecting 10-Femotogram Quantities of protein after Polyacrylamide Gel Electrophoresis, Anal. Biochem., 135, 409(1983)
- S. Irie: A highly sensitive silver Staining for detection of proteins in polyacrylamidegels, biochemistry(Japan), 52, 411(1980)
- B.R. Oakley *et. al.*: Visualization of proteins with silver "stain" for detecting proteins in polyacrylamide gels, Anal. Biochem., 105, 361(1980)
- H.M. Poehling *et. al.*: Visualization of proteins with silver "stain", a critical analysis, electrophoresis, 2, 141 (1981)
- U.K. Laemmli: Cleavage of structural proteins during the assembly of the head of bacteriophage T4., Nature, 227, 680(1970)
- Plant Cell Physiol., Jun 2010; 51: 896 - 911.
- Cancer Genomics Proteomics, Jul 2010; 7: 181 - 189.
- J. Biol. Chem., Feb 2010; 285: 6515 - 6521.
- Antimicrob. Agents Chemother., Aug 2009; 53: 3211 - 3217.

Description	Cat. No.	Quantity
2D-Silver Stain Reagent II [For 10 gels]	DCB-423413	1 pack

Screener Blotter Mini 56

Intended Use

Tools for antigen-antibody reaction after Western Blotting

Features

- Membrane does not need to be cut
- Minimize amount of antibody
- Easy-to-use
- Tight cover prevents mixing of samples between the channels

Specifications

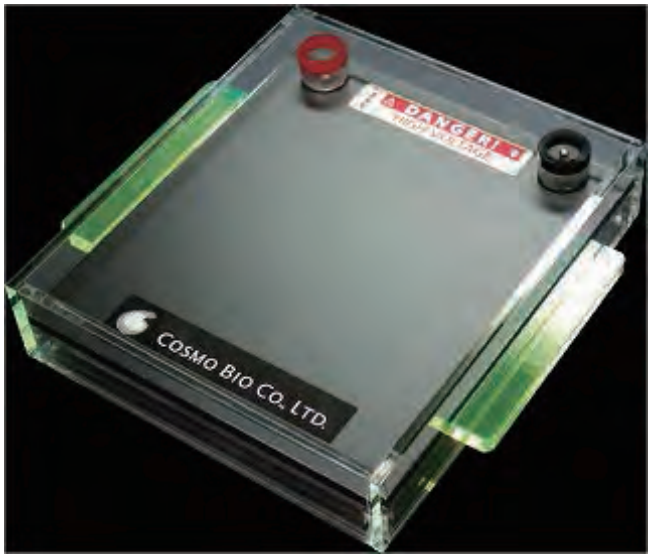
- Number of Channel: 56
- Application: Mini Gel size
- Use of antibody per channel: 85 μℓ
- Dimension: 150 ㎜W×224 ㎜D
- Content: main unit / bolt x7 / handle for exclusive use / support sheet for exclusive use

Description	Cat. No.	Quantity
Screener Blotter Mini 56	SAN-0903-EX	1 unit

Transfer Apparatus, Semi Dry and Flat Type

Specifications

- Size of electrode : 120×120 ㎜
- Weight : 1.3 ㎏
- Packing size : 140 (L)×200 (W)×130 (H) ㎜



Description	Cat. No.	Quantity
Transfer Apparatus, Semi Dry and Flat Type	CBJ-IMR-100-EX	1 set

Ab-Capcher™

Intended Use

IgG Purification Tool Outperforms Protein A and G

Background

Ab-Capcher™ is ProteoNova's patented "Protein A-R28" (Protein A variant) bound at high density to a supporting gel matrix offering many practical advantages for the routine purification of rat and mouse IgG including broader subclass specificity and high capacity binding.

Ab-Rapid PuRE™ is a specially designed syringe-type column unit prepacked with AbCapcher offering maximum convenience for Ig purification.

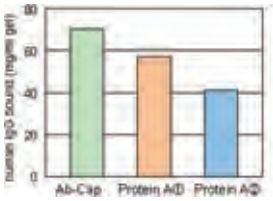
Ab-Rapid SPiN™ is a convenient spin column prepacked with Ab-Capcher.

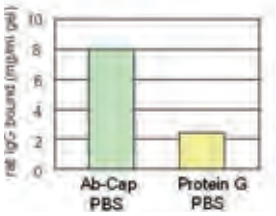
Protein A-R28 is an alkali-tolerant IgG-binding protein derived from protein A, which is developed with ProteNova's patent technology. Protein A-R28 strongly binds to various species and subclasses of IgG, compared with Protein A and G. The coupling to resin (Ab-Capcher™) provides an alkali-washable unique affinity medium with high binding capacity for immunoglobulin, which is useful for purification of human, rabbit, and mouse IgGs including mouse IgG1. Ab-Capcher™ is also useful for immuno-precipitation experiments.

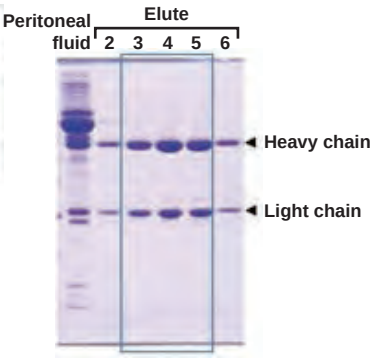
Features and Advantages

- 5 times the binding capacity of Protein G
- Labile antibodies can be bound at neutral pH
- Low non-specific binding
- IgG puirty >95%

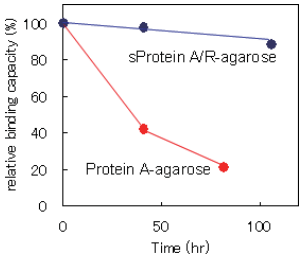
Ab-Capcher™ Ab-Rapid PuRe™ Ab-Rapid SPiN™







	Mouse IgG1	Human IgG
Binding Amounts /ml gel	40.5 mg	70.2 mg



Description	Cat. No.	Quantity
Ab-Capcher™ Gel matrix: 4% cross-linked agarose (Sepharose 4 Fast Flow) Particle size: 45-165 μm Ligand: Alkali-resistant Protein A-derivatives (Protein A-R28) (*E.coli*) Binding Capacity: >65 mg human IgG / ml gel	PTN-P-002-2 PTN-P-002-10	2 ml 10 ml
Ab-Rapid Pure 2 Columns (0.5 ml gel/column)×2 Gel volume: 0.5 ml Gel matrix: 4% cross-linked agarose (Sepharose 4 Fast Flow) Particle size: 45-165 μm Ligand: Alkali-resistant Protein A-derivatives (Protein A-R28) (*E.coli*) Binding Capacity: >65 mg human IgG / ml gel Accessories: Luar lock adaptor×1, 2.5 ml syringe×1	PTN-P-012-2	2 column
Ab-Rapid Pure 10 Column (0.5 ml gel/column)×10 Gel volume: 0.5 ml Gel matrix: 4% cross-linked agarose (Sepharose 4 Fast Flow) Particle size: 45-165 μm Ligand: Alkali-resistant Protein A-derivatives (Protein A-R28) (*E.coli*) Binding Capacity: >65 mg human IgG / ml gel Accessories: Luar lock adaptor×1, 2.5 ml syringe×1	PTN-P-012-10	10 column
Ab-Rapid SPiN10 0.1 ml Ab-Capcher™ Spin Column×10 2 ml Tube (empty)×20	PTN-P-013-10	10 pc
Ab-Rapid SPiN50 5 ml Ab-Capcher™ for 50 times×1 Column (empty)×50	PTN-P-013-50	50 pc
Buffer kit for Ab-Rapid Pure Binding Buffer (PBS): 200 ml Elution Buffer (0.1 M Glycine-HCl, pH 2.8): 30 ml Nuetralization Buffer (1 M Tris): 1 ml	PTN-P-011	10 rxn

Ab-Capcher ExTra™

Intended Use

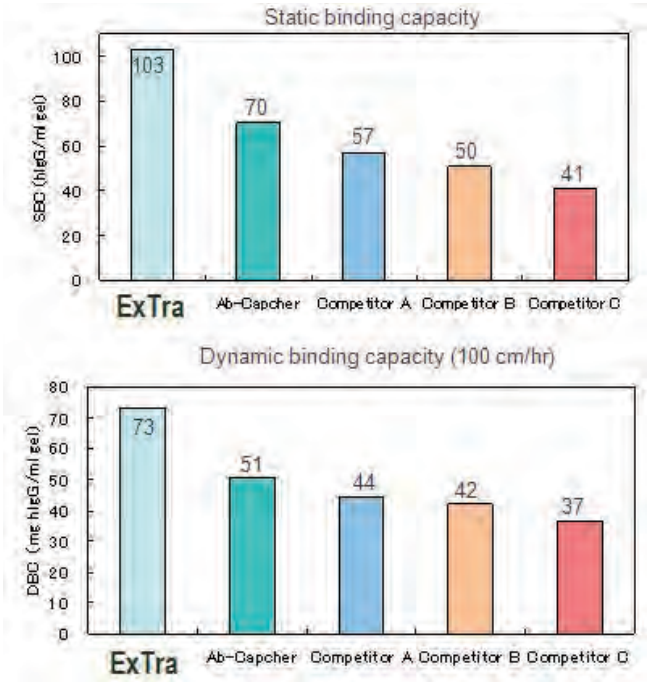
Alkali-resistant affinity medium for IgG purification

Background

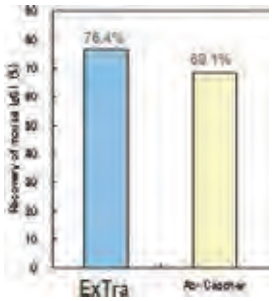
Ab-Capcher ExTra™ is an alkali-resistant affinity medium for IgG purification, which is coupled with an alkali-resistant Protein A-derivative (Protein A-R28) designed for even higher IgG-binding capacity than of Ab-Capcher™. The dynamic binding capacity of Ab-Capcher ExTra™ is apporoximately 70 mg human IgG/mℓ of medium at 100 cm/min. Ab-Capcher ExTra™ shows higher binding to mouse and rat IgGs exceeding Ab-Capcher™. Since Pyrogen testing is carried out on an every lot of manufacturing, antibodies purified with Ab-Capcher ExTra™ are suitable for cell-based assay*.
*Recommended that endotoxin-free buffers are used for purification of IgG with Ab-Capcher ExTra™.

Features and Advantages

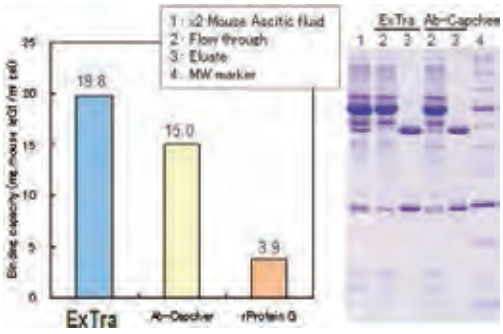
- Dynamic binding capacity (100 cm/hr) is 70 mg/mℓ.
- Reusable by washing with alkali.



Comparison of binding capacities
[Static binding capacity (Maximum binding capacity)]
Excess of human polyclonal IgG was applied to the gel, shaked for 1 hr at RT, washed and eluted at pH 2.8. Amount of IgG in the elute was measured.
[Dynamic binding capacity (Applied to a column)]
Human polyclonal IgG (3 mg/mℓ) was applied to a column (5×100 mm) at linear velocity of 100 cm/hr (0.33mℓ/min). DBC at 10% breakthrough was determined.



Purification of mouse IgG from low-concentration samples by repeated addition
Gel volume: 100 μℓ/column
Sample: Purified mouse IgG1 (0.1 mg/mℓ PBS) 10 mℓ
Repeats: 20 times
As simulation of purification from cultured medium, mouse monoclonal IgG1 at low concentration was purified by repeated addition of the sample. According to the protocol of Ab-Rapid SPiN, 0.5 mℓ of purified mouse IgG1 (0.1 mg/mℓ) was added to a SPiN column set in a centrifugal machine, stand for 4 min with sometimes mixing and centrifuged. These steps were repeated for 20 times. Total 10 mℓ of samples was added to the column, washed and eluted at pH2.8. Recovery (%) with Ab-Capcher ExTra us higher than that og Ab-Capcher, indicating that increasing dispersity of the medium at smaller particle size of 35 μm, influences the recovery of IgG.



Purification of mouse IgG1 from ascitic fluid
Gel volume: 50 μℓ/column
Sample: 1 mℓ of mouse ascitic fluid, x2 diluted with PBS
Incubation with gel: 2 hrs
Mouse ascitic fluid was 2-fold diluted with PBS, applied to gel and shaked for 2 hrs. After washing, IgG was eluted at pH 2.8. Ab-Capcher ExTra shows 5.1-fold higher amount of IgG binding than that of Protein G gel and 30% higher than that of Ab-Capcher.

Description	Cat. No.	Quantity
Ab-Capcher ExTra™	PTN-P-003-2 PTN-P-003-10	2 mℓ 10 mℓ
Ab-Rapid SPiN Ex	PTN-P-014-5-1 PTN-P-014-10	2 column 10 column
Ab-Rapid PuRe Ex	PTN-P-015-2 PTN-P-015-10	2 column 10 column

Lextin HPLC Column

Description	Cat. No.	Quantity
Aleuria aurantia-HPLC Column [AAL] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J601-L	1 pc
Aleuria aurantia-HPLC Column Short [AAL] HPLC Column (50 mm×4.0 mm I.D.)	JOM-J601-S	1 pc
Canavalia ensiformis(jack bean)-HPLC Column [Con A] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J603	1 pc
Datura stramonium-HPLC Column [DSA] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J605	1 pc
Lens culinaris-HPLC Column [LCA] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J607	1 pc
Maackia amurensis-HPLC Column [MAM] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J610	1 pc
Phaseolus vulgaris-HPLC Column [PHA-E4] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J611	1 pc
Arachis hypogaea(peanut)-HPLC Column [PNA] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J614	1 pc
Sambucus sieboldiana-HPLC Column [SSA] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J618	1 pc
Triticum vulgare(wheat germ)-HPLC Column [WGA] HPLC Column (150 mm×4.6 mm I.D.)	JOM-J620	1 pc

IMMUTEX-Carboxyl Series - Latex Particles

Description	Diameter (μm)	COOH (meq/ g)	Solids Content (wt %)	Volume (mℓ)	Cat. No.	Quantity
IMMUTEX P0001, 0.061MUm	0.061	0.187	5	10	JSR-IMM-P0001	10 mℓ
IMMUTEX P0011, 0.082MUm	0.082	0.167	5	10	JSR-IMM-P0011	10 mℓ
IMMUTEX P0112, 0.145MUm	0.145	0.104	5	10	JSR-IMM-P0112	10 mℓ
IMMUTEX P0113, 0.187MUm	0.187	0.066	10	10	JSR-IMM-P0113	10 mℓ
IMMUTEX P0307, 0.351MUm	0.351	0.040	10	10	JSR-IMM-P0307	10 mℓ

IMMUTEX-Plain Series - Latex Particles

Description	Diameter (μm)	COOH (meq/ g)	Solids Content (wt %)	Volume (mℓ)	Cat. No.	Quantity
IMMUTEX P2014, 0.075MUm	0.075	–	5	10	JSR-IMM-P2014	10 mℓ
IMMUTEX P2015, 0.086MUm	0.086	–	5	10	JSR-IMM-P2015	10 mℓ
IMMUTEX P2116, 0.110MUm	0.110	–	10	10	JSR-IMM-P2116	10 mℓ
IMMUTEX P2117, 0.121MUm	0.121	–	5	10	JSR-IMM-P2117	10 mℓ
IMMUTEX P2118, 0.153MUm	0.153	–	10	10	JSR-IMM-P2118	10 mℓ
IMMUTEX P2219, 0.220MUm	0.220	–	10	10	JSR-IMM-P2219	10 mℓ

Magnosphere™ MC290/Streptavidin

Background

Magnosphere™/Streptavidin beads are well-designed magnetic microparticles for cell separation. The surface is covered with a hydrophilic polymer chemically conjugated with Streptavidin, which specifically binds to biotinylated molecules. These chemistries enable you to separate specific cells from whole blood or cultured cell suspension using a biotinylated cell-specific antibody. The uniform particle size and superparamagnetic character of the particles help rapid magnetic separation and secure re-suspension.

Features

- Uniform particle size
- Super-paramagnetic
- Rapid magnetic responsiveness
- Low non-specific binding of cells
- Shows no influence on cell proliferation and differentiation
- Compatible with PCR assay

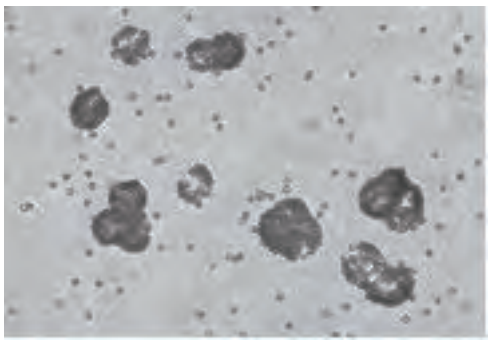
Application

Specific cell separation from whole blood or cultured cell suspension

Specifications

- Bead diameter: 3 μm (micrometer)
- Package volume: 2 mℓ
- Solid content in slurry*: 1 % (10 mg/mℓ)
- Dispersion media:
  TBS* + 0.01 % Tween20 + 0.09 % Sodium Azide
- Bead magnetite content: 20 % approx.
- Biotinylated IgG capacity: 0.5 μg / mg bead approx.
- Shelf life: Labeled on the bottle

* Number of beads: 5×10^7 beads per 1 mg (=100 μℓ) approx.
* TBS: Tris buffered saline, 25 mM Tris-HCl (pH 7.2) / 0.15 M NaCl



Description	Cat. No.	Quantity
Magnosphere™ MC290/Streptavidin	JSR-MSP-C290-SA	2 mℓ

Magnosphere™ MS/Carboxyl

Intended Use

To immobilize probe molecules such as antibodies, proteins and nucleic acids.

Background

Magnosphere™/Carboxyl particles are magnetic microparticles specially designed for bioseparation such as enzyme immunoassay, IP-western blot or nucleic acid hybridization. The surface of Magnosphere™/Carboxyl particles are covered with hydrophilic polymer and carboxyl (-COOH) group, which enable both low non-specific binding and high binding affinity of the probe molecules immobilized on the surface. Probe molecules such as antibodies, proteins and nucleic acids can be immobilized on the surface via amino coupling method.
Magnosphere™ /Low Carboxyl particles are magnetic microparticles specially designed for ultra pure bioseparation prior to high sensitive measurements such as LC-MS. The surface of Magnosphere™/Low Carboxyl particles are covered with hydrophilic polymer and few carboxyl (-COOH) group, which enable both ultralow non-specific binding and high binding affinity of the probe molecules immobilized on the surface. Probe molecules such as antibodies, proteins and nucleic acids can be immobilized on the surface via amino coupling method.

Features

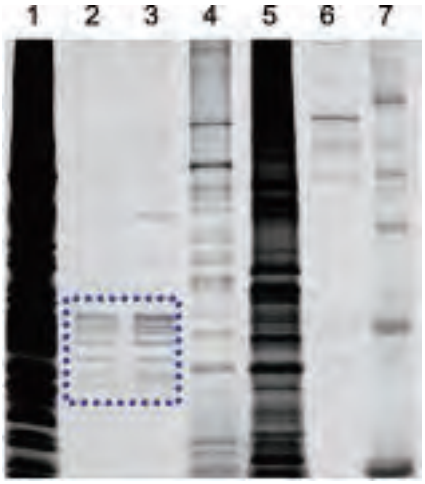
- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding
- High affinity

Application

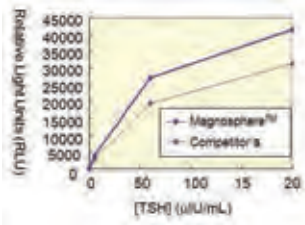
- Enzyme immunoassays
- Immunoprecipitation
- IP-western blots
- Nucleic acid hybridization

Specifications

- Bead diameter: 3 μm (micrometer)
- Surface functional group: Carboxyl (approx. 10 nmol / mg beads)
- Bead magnetite content: 20 % c.a.
- Solid content of slurry: 1 % in water
- Preservative: No preservative added
- Shelf life: Labeled on the bottle



Lane 1 Jurkat cell lysate 4 μg protein/lane
Lane 2 IP product using Magnosphere MS300/ Low Carboxyl
Lane 3 IP product using Magnosphere MS300/ Carboxyl
Lane 4 IP product using competitors magnetic particles (2.8 μm)
Lane 5 IP product using competitors magnetic particles (1 μm)
Lane 6 IP product using competitors magnetic particles (2.8 μm)
Lane 7 Molecular weight marker



TSH (μIU/mL)	Magnosphere™	Competitor's magnetic
0	80	150
5	40060	27431
60	266542	191409
200	412546	312716

Description	Cat. No.	Quantity
Magnosphere™ MS160/Carboxyl	JSR-MSP-S160-CA	4 mℓ
Magnosphere™ MS300/Carboxyl	JSR-MSP-S300-CA	4 mℓ
Magnosphere™ MS300/Low Carboxyl	JSR-MSP-S300-CAL	4 mℓ

Magnosphere™ MS/Tosyl

Background

Magnosphere™/Tosyl beads are magnetic microparticles designed for covalent immobilization of ligands containing -NH2 groups for bioseparation. Their surfaces are covered with a hydrophilic polymer, on which Tosyl group is incorporated as an active group. The Tosyl group makes it possible to immobilize ligands such as antibody without using coupling reagents. As the hydrophobic Tosyl group is eliminated though a coupling reaction, surface of the beads became hydrophilic after the reaction.
This chemistry enables ligands to keep their function high and achieve a high yield and low non-specific binding bioseparation.
Uniform particle size and superparamagnetic property of the Magnosphere™/Tosyl beads help good magnetic separation and re-suspension response.
These characters of the beads are ideal for variety of applications such as enzyme immunoassay, immnoprecipitation-western blot.

Features

- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding of proteins

Application

- Immunoassay
- Immunoprecipitation-Western blot
- nucleic acid hybridization

Specifications

- Bead diameter: 3 μm
- Package volume: 4 mℓ
- Solid content in slurry: 1 % (10 mg/mℓ)
- Dispersion media: H_2O
- Bead magnetite content: 20 % approx.
- Surface tosyl group density: 80 nmol / mg bead approx.
- Shelf life: Labeled on the bottle

Principle

Antibody, which added to the Magnosphere™/Tosyl beads, is physically adsorbed on the beads at first. Then, the antibody is coupled covalently in progression (Fig.1). The beads became hydrophilic through the progress of coupling since the tosyl is a leaving group.
Physically adsorbed antibody sometime causes loss of long-term stability due to the detachment of the antibody. Increase in reaction time, temperature and addition of salt (such as $(NH_4)_2SO_4$ or Na_2SO_4) reduce the adsorbed antibody. It is also effective to add excess amount of blocking reagent, such as BSA, at the latter period of reaction to get off the antibody from the beads.
Physically adsorbed antibody can be washed out through a washing with ionic surfactant, such as 0.5% SDS, but washing with ionic surfactant may cause loss of antibody affinity.

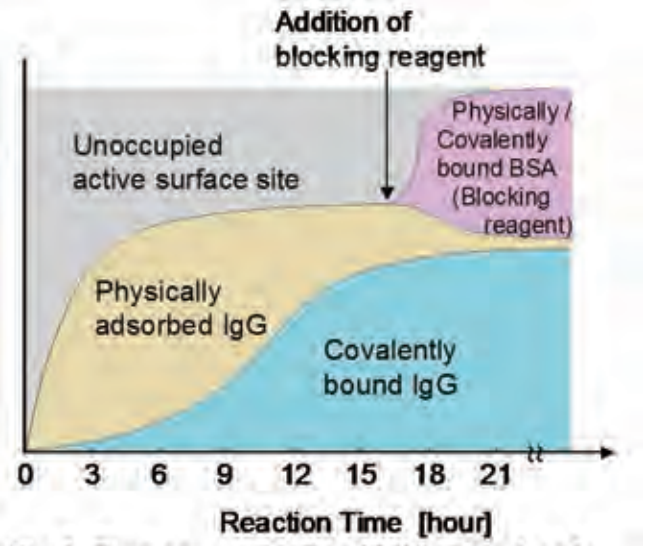


Fig.1 Time course of bound IgG on the beads

Description	Cat. No.	Quantity
Magnosphere™ MS160/Tosyl	JSR-MSP-S160-TS	4 mℓ
Magnosphere™ MS300/Tosyl	JSR-MSP-S300-TS	4 mℓ

Magnosphere™ MB/Calboxyl

Background

Magnosphere™/Carboxyl beads are magnetic microparticles designed for immobilization of ligands through physical or chemical means. The particle surfaces are covered with a hydrophobic polymer that has oligomers, and polymeric by-products removed to maximize physical adsorption and chemical coupling through carboxyl groups.

Features

- Uniform particle size
- Stable matrix
- Superparamagnetic
- Rapid magnetic
- Zesponsiveness
- Oligomer free
- Maximized for physical adsorption
- Maximized for chemical coupling through carboxyl surface groups

Application

- Immunoassay
- nucleic acid hybridization

Specifications

- Bead diameter: 1.1 μm
- Package volume: 5 mℓ
- Solid content in slurry: 2 % (20 mg/mℓ)
- Dispersion media: 0.05 % Nonionic surfactant + 0.09 %
- Sodium Azide in H_2O
- Bead magnetite content: 48 % c.a.
- Surface charge density*: 15 mmol / mg bead c.a.
- Expiration date: Printed on the label

*Surface charge density = amount of carboxyl groups per 1 mg beads

Description	Cat. No.	Quantity
Magnosphere™ MB100/Calboxyl	JSR-MSP-B100-CA	5 mℓ
Magnosphere™ MB200/Calboxyl	JSR-MSP-B200-CA	5 mℓ

Magnosphere™ MK230/Calboxyl

Background

Magnosphere™/Carboxyl beads are magnetic microparticles designed for immobilization of ligands through chemical means. The particle surfaces are covered with a hydrophobic polymer that has oligomers, and polymeric by-products removed to maximize chemical coupling through carboxyl groups.

Features

- Uniform particle size
- Stable matrix
- Superparamagnetic
- Rapid magnetic responsiveness
- Oligomer free
- Maximized for physical adsorption
- Maximized for chemical couplingthrough carboxyl surface groups

Application

- Immunoassay
- nucleic acid hybridization

Specifications

- Bead diameter: 2.1 μm
- Package volume: 5 mℓ
- Solid content in slurry: 2 % (20 mg/mℓ)
- Dispersion media: 0.05 % Nonionic surfactant + 0.09 %
- Sodium Azide in H_2O
- Bead magnetite content: 40 % c.a.
- Surface charge density*: 15 mmol/mg bead c.a.
- Expiration date: Printed on the label

*Surface charge density = amount of carboxyl groups per 1 mg beads

Description	Cat. No.	Quantity
Magnosphere™ MK230/Calboxyl	JSR-MSP-K230-CA	5 mℓ

Magnosphere™ MX/Calboxyl

Background

Magnosphere™/Carboxyl beads are well-designed magnetic microparticles designed for immobilization of ligands through physical or chemical means. The particle surfaces are covered with a hydrophobic polymer that has charge density to maximize physical adsorption of proteins and chemical coupling through carboxyl groups.

Features

- Uniform particle size
- Stable matrix
- Superparamagnetic
- Rapid magnetic responsiveness
- Maximized for physical adsorption of ligands
- Maximized for chemical coupling through carboxyl surface groups

Application

- Immunoassay

Specifications

- Solid content in slurry 2 % (2×10^{10}beads/ mℓ approx.)
- Dispersion media: 0.05 % Nonionic surfactant + 0.09 %
- Sodium Azide in H_2O
- Bead diameter: 1.1 μm (micrometer)
- Bead magnetite content: 45 % approx.
- Surface charge density*: 10 nmol / mg bead approx.
- Shelf life: Labeled on the bottle

*Surface charge density = amount of carboxyl groups per 1 mg beads

Description	Cat. No.	Quantity
Magnosphere™ MX100/Calboxyl	JSR-MSP-X100-CA	5 mℓ
Magnosphere™ MX200/Calboxyl	JSR-MSP-X200-CA	5 mℓ

Magnosphere™ MS300/Streptavidin

Intended Use

To immobilize probe molecules such as antibodies, proteins and nucleic acids.

Background

Magnosphere™/Streptavidin particles are Streptavidin coated magnetic microparticles for bioseparation. The surfaces of Magnosphere™/Streptavidin particles are covered with a hydrophilic polymer to achieve both low non-specific binding and no inhibition of enzyme activity. Consequently, Magnosphere™/Streptavidin particles can be used for PCR amplification systems or enzyme immunoassay systems.

Features

- High affinity to biotinylated proteins or nucleotides
- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding
- Free of enzyme activity

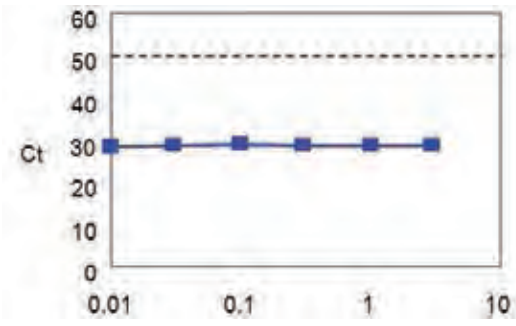
Application

- PCR
- Quantitative PCR
- DNA hybridization
- Capturing biotinylated proteins
- Enzyme immunoassay

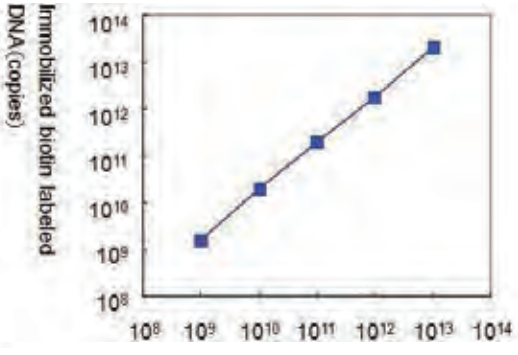
Specifications

- Bead diameter: 3 μm (micrometer)
- Bead magnetite content: 20 % c.a.
- Solid content of slurry: 1 %
- Dispersion media: TBS* + 0.09%Tween20
- Preservatives: 0.09% Sodium Azide
- Biotin binding capacity: 400-600 pmol / mg bead
- Shelf life: Labeled on the bottle

*TBS: Tris buffered saline, 25 mM Tris-HCl pH7.2 / 0.15M NaCl



Added amount of Magnosphere to the PCR cocktail (mg/tube)



Added amount of biotin labeled DNA (copies)

Description	Cat. No.	Quantity
Magnosphere™ MS300/Streptavidin	JSR-MSP-S300-SA	2 mℓ

Magnosphere™ MS300/Protein A/AG/G/L

Background

Magnosphere™/Protein A beads are well-designed magnetic microparticles for bioseparation such as immunoprecipitation and antibody purification. Their surfaces are covered with a hydrophilic polymer and chemically conjugated Protein A, which specifically binds to the FC moiety of Immunoglobulin. These chemistries enable you to perform a high yield and low non-specific binding bioseparation in a simple way.

Features

- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- High IgG capacity
- Low non-specific binding

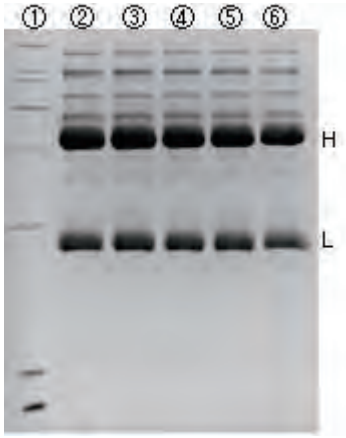
Application

- Immunoprecipitation (Protein, Chromatin)
- Antibody purification

Specifications

- Solid content in slurry: 1 % (6×10^8 beads/ mℓ approx.)
- Dispersion media: TBS* + 0.05 % Tween20 + 0.09 % Sodium Azide
- Bead diameter: 3 μm (micrometer)
- Bead magnetite content: 20 % approx.
- IgG capacity : 7 g/mg bead approx. (In case of human IgG)
- Shelf life : Labeled on the bottle

*TBS: Tris buffered saline, 25 mM Tris-HCl (pH 7.2) / 0.15 M NaCl



Description	Cat. No.	Quantity
Magnosphere™ MS300/Protein A	JSR-MSP-S300-PA	2 mℓ
Magnosphere™ MS300/Protein AG	JSR-MSP-S300-PAG	2 mℓ
Magnosphere™ MS300/Protein G	JSR-MSP-S300-PG	2 mℓ
Magnosphere™ MS300/Protein L	JSR-MSP-S300-PL	2 mℓ

Magnosphere™ MS300/Papain

Background

Magnosphere™/Papain is papain immobilized magnetic beads which produce Fab and Fc fragments from whole IgG. Papain, thiol-endopeptidase, can be separated from a reaction solution easily by magnetic separation since papain is covalently-immobilized on magnetic beads. Magnetic beads have superparamagetic property and uniform particle size, which give a favorable operability of magnetic separation and beads redispersion. Fab and Fc moieties can be separated by using Magnosphere™/Protein A, liquid chromatography or others way after the digestion of whole IgG.

Features

- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding

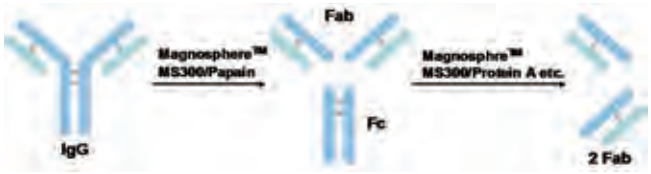
Application

Fragmentation of whole IgG.

Specifications

- Solid content in slurry: 1 % (10 mg/mℓ)
- Dispersion media:
- TBS* + 0.05 % Tween20 + 0.09 % Sodium Azide
- Bead diameter: 3 μm (micrometer)
- Bead magnetite content: 20 % approx.
- Immobilized papain:
  1 mℓ of slurry contains 20 μg (30 Units/ mg) of papain
- Shelf life: Labeled on the bottle

*TBS: Tris buffered saline, 25 mM Tris-HCl (pH 7.2) / 0.15 M NaCl



Description	Cat. No.	Quantity
Magnosphere™ MS300/Papain	JSR-MSP-S300-PAP	2 mℓ

Magnosphere™ MC290/anti-mouse IgG

Background

Magnosphere™/anti-mouse IgG beads are well-designed magnetic microparticles for cell separation. The surface is covered with a hydrophilic polymer and chemically conjugated anti-mouse IgG, which specifically binds to mouse IgG. These chemistries enable you to separate specific cells from whole blood or cultured cell suspension. The uniform particle size and superparamagnetic character of the particles help rapid magnetic separation and secure re-suspension.

Features

- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding of cells
- Shows no influence on cell proliferation and differentiation
- Compatible with PCR assay

Application

Specific cell separation from whole blood or cultured cell suspension

Specifications

- Bead diameter: 3 μm (micrometer)
- Package volume: 2 mℓ
- Solid content in slurry*: 1 % (10 mg/mℓ)
- Dispersion media:
  TBS* + 0.01 % Tween20 + 0.09 % Sodium Azide
- Bead magnetite content: 20 % approx.
- Origin of anti-mouse IgG: anti-mouse IgG(H+L) goat, Polyclonal
- Mouse IgG binding capacity: 0.5 μg / mg bead approx.
- Shelf life: Labeled on the bottle

* Number of beads: 5×10^7 beads per 1 mg (=100μℓ) approx.
* TBS: Tris buffered saline, 25 mM Tris-HCl (pH 7.2) + 0.15 M NaCl

Description	Cat. No.	Quantity
Magnosphere™ MC290/anti-mouse IgG	JSR-MSP-C290-AMG	2 mℓ

Magnosphere™ MC290/anti-EpCAM IgG

Background

Magnosphere™/anti-EpCAM IgG beads are well-designed magnetic microparticles for cell separation. Monoclonal IgG against Epithelial Cell Adhesion Molecule (EpCAM, CD326) is immobilized on the Magnosphere™ /Streptavidin beads. Surface of the beads is covered with a hydrophilic polymer and chemically conjugated streptavidin. Biotin labeld anti-EpCAM IgG is immobilized on it through a biotin-streptavidin interaction. These chemistries enable you to separate specific cells from whole blood or cultured cell suspension.

Features

- Uniform particle size
- Superparamagnetic
- Rapid magnetic responsiveness
- Low non-specific binding of cells
- Compatible with PCR assay

Application

Specific cell or exosome separation from whole blood or cultured cell suspension

Specifications

- Bead diameter: 3 μm (micrometer)
- Solid content in slurry*: 1 % (10 mg/mℓ)
- Dispersion media:
  TBS* + 0.01 % Tween20 + 0.09 % Sodium Azide
- Bead magnetite content: 20 % approx.
- Immobilized IgG: anti-human EpCAM mouse monoclonal IgG (Clone: B8-4)
- Amount of immobilized IgG: 0.5 μg/mg bead approx.
- Shelf life: Labeled on the bottle

* Number of beads: 5×10^7 beads per 1 mg (=100 μℓ) approx.
* TBS: Tris buffered saline, 25 mM Tris-HCl (pH 7.2) / 0.15 M NaCl

Description	Cat. No.	Quantity
Magnosphere™ MC290/anti-EpCAM IgG	JSR-MSP-C290-AEP	2 mℓ

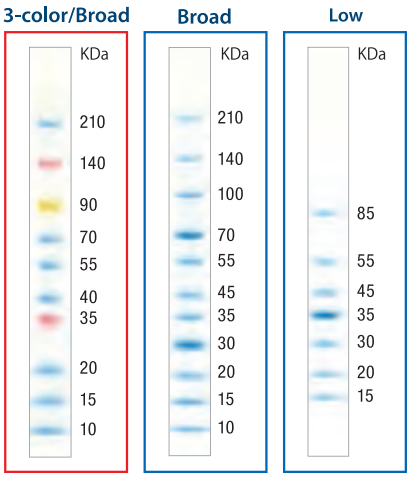
SIMASIMA Ladder

Molecular Sizing Standards for SDS-PAGE and Western Blotting

Free Sample Available!

Ready-to-use. Just Load and Go!

Prestained SIMASIMA-Ladder



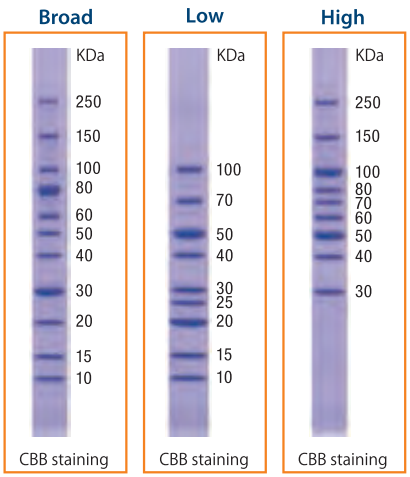
Cat. No.	DCB-SS-3000	DCB-SS-2000	DCB-SS-2100
Volume	500 µL	500 µL	500 µL

Also available as a 3 ladder set

Cat. No.	DCB-SS-3000-3	DCB-SS-2000-3	DCB-SS-2100-3
Volume	3x500 µL	3x500 µL	3x500 µL

- Suitable for monitoring the progress of SDS-PAGE and for assesing transfer efficiency onto membranes after western blotting.
- For accurate molecular weight estimation of protein, use unstained protein ladders.
- Recommended loading volume is 10 µL.
- Stable for one year at 4℃.

Unstained SIMASIMA-Ladder



Cat. No.	DCB-SS-1000	DCB-SS-1100	DCB-SS-1200
Volume	500 µL	500 µL	500 µL

Also available as a 3 ladder set

Cat. No.	DCB-SS-1000-3	DCB-SS-1100-3	DCB-SS-1200-3
Volume	3x500 µL	3x500 µL	3x500 µL

- Band shape is clear and easy to estimate the molecular weight.
- Recommended loading volume is 5 µL (CBB Staining) or 0.2-0.5 µL (silver staining or SYPRO® Ruby Staining).
- Stable at 4℃, 2-3 months at room temperature.

For a FREE SAMPLE, contact Cosmo Bio at export@cosmobio.co.jp

Note: One free sample per laboratory. 3-ladder sets are not available as free samples.

For more details・・・

Cosmo SIMASIMA Search

SimaSima means stripe in Japanese

COSMO BIO CO., LTD.

Disposable Items and General Labware

Multi Wash Bottle

Intended Use

Wash bottle for laboratory purposes

Specification

Total height: 330 ㎜
Outer diameter: 85 ㎜
Materials: LDPE (Body), HDPE (Cap, nozzle), PP (Tube connector), HDPE (Leading end of the nozzle), Glass (Weight), PP (Weight cover)

Features

Use it at any angle
The glass ball in the down tube always follows the liquid even upside-
Use even upside down.

No wasted fluid
The bellows bends with the weight of the glass ball to enable even the last drop of fluid to be completely squeezed out.




Description	Cat. No.	Quantity
Multi Wash Bottle 500㎖ Blue	SAN-17000-EX SAN-17004-EX	1 pc 5 pc
Multi Wash Bottle 500㎖ Red	SAN-17001-EX SAN-17005-EX	1 pc 5 pc
Multi Wash Bottle 1 ℓ Blue	SAN-17002-EX SAN-17006-EX	1 pc 5 pc
Multi Wash Bottle 1 ℓ Red	SAN-17003-EX SAN-17007-EX	1 pc 5 pc

Touch Burner APT-3

Intended Use

Small and compact burner which does not require a gas hose. The burner can stay on continuously. The flame is adjustable enabling use of the burner for a variety of tasks.

Features

- Stylish, compact and operator comfortable
- Allows comfortable one-handed operation
- Remaining gas amount can be observed easily
- Application is various due to adjustable flame
- Design to prevent wax accumulation in tube
- Easy to refill with standard butane refills
- AA battery included

How to fill the gas
Make sure push button is locked and battery is removed.Set the product upside down before you inset gas cartridge. Fill a gas by inset the gas cartridge (for cigarette lighter) upright to gas inlet on bottom of the product. Do not fill a gas in the vicinity of combustible materials. Please take the body and a gas cylinder with your hand when you fill up.

Specification

Size: 59×141×67 ㎜
Weight: 250 g
1×AA Battery

※We can not provide you with the Gas Bombe. Please purchase appropriate Gas Bombe sold in your country to use with the APT3 Touch Burner.

Description	Cat. No.	Quantity
Touch Burner APT-3	PHD-APT3-EX	1 unit

Handy Homogenizer For Cells & Tissues

Intended Use

Handheld elctromotion and autoclave-resistant homogenizer pestles for 15mℓ, 1.5mℓ, 0.5mℓ and μℓ volumes for various applications including protein and DNA extraction.

Overview

The small but powerful handy homogenizer handheld unit and matching high performance pestles will make your repetitive laboratory procedures easier, faster, and more reproducible. Great for protein or nucleic acid extractions.

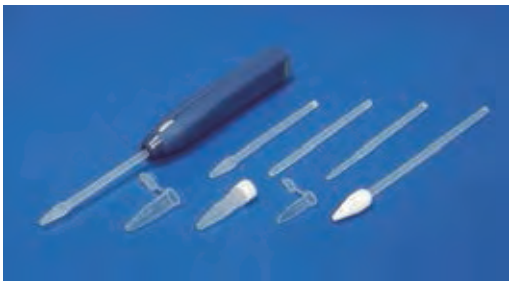
Features

Electromotion Homogenizer Unit

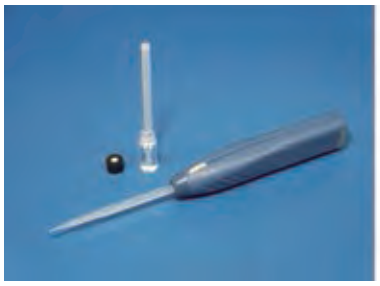
- Completely portable: runs for hours on standard or rechargable AAA batteries
- Lightweight: ～78 g with batteries
- Two models: high speed or low speed / high torque
- Snap-fit system for easy-on / easy-off pestle exchange

PCTFE Homogenizer Pestles

- Ultra hard PCTFE polymer tips insure smooth grinding surface, long life, heat and chemical resistance
- Fully acutoclavable
- Perfect fit for standard 15 mℓ, 1.5 mℓ, 0.5 mℓ tubes, or microliter sized V-vials
- Unique grooved tips (G-types) prevent sample trapping to insure complete homogenization



Homogenizer Microtube Set (1.5mℓ Eppendolf)
Pestles (From Left): LH, PA, SH

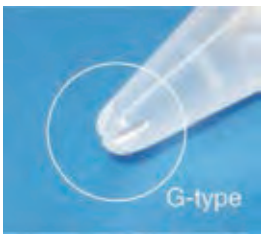


Ultra Micro Homogenizer System for small samples (1-100μℓ) (ISO-ST-22-EX)

Large-head (LH, LHG)
for 1.5mℓ tubes

Pencil (PA)
for 1.5mℓ tubes

Small-head (SH) for 1.5mℓ tubes



Unique grooved tips (G-types) prevent sample trapping to insure complete homogeniza-tion.

For these Homogenizer Pestles, high-level torque type #ISO-23M-R25 mixer is recommeded for usage together.

Sets

Description	Composition	Cat. No.	Quantity
Homogenizer Microtube Set (1.5 mℓ Eppendorf)	Microhomogenizer for Eppendorf 1.5 mℓ Microtube #ISO-223AX Electoromotion Mixer #ISO-23M Eppendorf 3810X type 1.5 mℓ tube	ISO-223AMX	1 set
Homogenizer Microtube Set (1.5 mℓ Eppendorf)	Microhomogenizer for Eppendorf 1.5 mℓ Microtube #ISO-226AX Electoromotion Mixer #ISO-23M Eppendorf 3810X type 1.5 mℓ tube	ISO-226AMX	1 set
Homogenizer Microtube Set (1.5 mℓ G-15S)	Microhomogenizer for G-15S 1.5 mℓ Microtube #ISO-227A Electoromotion Mixer #ISO-23M I.S.O. G-15S type 1.5 mℓ Microtube #ISO-G-15S	ISO-227AM	1 set
Homogenizer Microtube Set (1.5 mℓ SR-150)	Microhomogenizer for SR-150 1.5 mℓ Microtube #ISO-228A Electoromotion Mixer #ISO-23M I.S.O. SR-150 type 1.5 mℓ Microtube #ISO-SR-150 I.S.O. SR-150 type 1.5 mℓ Microtube Cap #ISO-SR-15C	ISO-228AM	1 set
Homogenizer Microtube Set (1.5 mℓ F-050)	Microhomogenizer for F-050 1.5 mℓ Microtube #ISO-451A Electoromotion Mixer #ISO-23M I.S.O. F-050 type 0.5 mℓ tube #ISO-F-050	ISO-451AM	1 set
Homogenizer Set (Ultra Micro)	Homogenizer Pestle (Ultra Micro) #ISO-ST-22 Electoromotion Mixer #ISO-23M V-vial for Homogenizer Pestle ST-22 #ISO-STV-502	ISO-ST-202S	1 set

Homogenizer

1.5 mℓ Parts

Description	Specifications	Composition	Cat. No.	Quantity
Microhomogenizer for Eppendorf 1.5 mℓ Microtube	Maximum Diameter: 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head (LH) Matched tube: Eppendorf 3810X type 1.5 mℓ tube Material: PCTFE	ISO-226AX	2 pc
Homogenizer LH type for Greiner 616201	Maximum Diameter: 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head (LH) Matched tube: LH type for Greiner 616201 type 1.5 mℓ tube Material: PCTFE	ISO-LH-GREINER-616201	2 pc
Homogenizer LH type for Watson 131-515C	Maximum Diameter: 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head (LH) Matched tube: LH type for Watson 131-515C type 1.5 mℓ tube Material: PCTFE	ISO-LH-WATSON-515C	2 pc
Microhomogenizers for 1.5 mℓ Microtube(G-15S)276A	Maximum Diameter: 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head (LH) Matched tube: I.S.O. G-15S type 1.5 mℓ Microtube Material: PCTFE	ISO-276A	2 pc
Microhomogenizers for Eppendolf 1.5 mℓ Microtube(3810X) 226AXG	Diameter (max): 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head with grooved-tip (LHG) Matched tube: Eppendorf 3810X type 1.5 mℓ tube Material: PCTFE Characteristic: Perfect fit with tube for maximum grinding. Smooth of grooved-tip.	ISO-226AXG	2 pc
Microhomogenizers for 1.5 mℓ Microtube(G-15S)276AG	Diameter (max): 8 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Large-head with grooved-tip (LHG) Matched tube: I.S.O. G-15S type 1.5 mℓ Microtube Material: PCTFE Characteristic: Perfect fit with tube for maximum grinding. Smooth of grooved-tip.	ISO-276AG	2 pc
Microhomogenizer for Eppendolf 1.5 mℓ Microtube	Diameter (max): 5 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Pencil (PA) Matched tube: Eppendorf 3810X type 1.5 mℓ tube Material: PCTFE Characteristic: Narrow profile for special applications	ISO-223AX	4 pc
Microhomogenizer for G-15S 1.5 mℓ Microtube	Diameter (max): 5 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Pencil (PA) Matched tube: I.S.O. G-15S type 1.5 mℓ Microtube Material: PCTFE Characteristic: Narrow profile for special applications	ISO-227A	4 pc
Microhomogenizer for SR-150 1.5 mℓ Microtube	Diameter (max): 5 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Pencil (PA) Matched tube: I.S.O. SR-150 type 1.5 mℓ Microtube Material: PCTFE Characteristic: Narrow profile for special applications	ISO-228A	4 pc
Microhomogenizer for Eppendorf 1.5 mℓ Microtube 223AXG	Diameter (max): 5 mm Length: 100 mm Sample Volume: <400 µℓ	Type of Homogenizer Pestle: Pencil with grooved-tip (PAG) Matched tube: Eppendorf 3810X type 1.5 mℓ tube Material: PCTFE Characteristic: Narrow profile for special applications	ISO-223AXG	4 pc

Description	Cat. No.	Quantity
I.S.O. G-15S type 1.5 mℓ Microtube	ISO-G-15S ISO-G-15S	500×2 pc 500×20 pc
I.S.O. SR-150 type 1.5 mℓ Microtube	ISO-SR-150	500×2 pc
I.S.O. SR-150 type 1.5 mℓ Microtube Cap	ISO-SR-15C	500×2 pc
Tube Rack for 1.5 mℓ Microtube (20 Holes)	ISO-TR-20	5 pc

0.5 mℓ Parts

Description	Specifications	Composition	Cat. No.	Quantity
Microhomogenizer for F-050 0.5 mℓ Microtube	Diameter (max): 4 mm Length: 100 mm Sample Volume: <50 μℓ	Type of Homogenizer Pestle: small-head (SH) Matched tube: I.S.O. F-050 type 0.5 mℓ tube Material: PCTFE	ISO-451A	4 pc
ISO 0.5 mℓ tube F-050			ISO-F-050	1000 pc

15 mℓ Parts

Description	Specifications	Composition	Cat. No.	Quantity
Homogenizer Pestle For 15 mℓ Falcon tube	Full Length: 15 cm Sample Volume: 5 mℓ or less	Shaft Diameter/ Material: 5 mm /PCTFE Head Diameter/Material: 12 mm /PTFE	ISO-FT-1012A	2 pc
Homogenizer Pestle For 15 mℓ Falcon tube	Full Length: 15 cm Sample Volume: 5 mℓ or less	Shaft Diameter/ Material: 5 mm /PCTFE Head Diameter/Material: 12 mm /PCTFE	ISO-FT-2012A	2 pc
Homogenizer Pestle For 15 mℓ Falcon tube	Full Length: 25 cm	Shaft Diameter/ Material: 4 mm /stainless Head Diameter/Material: 12 mm /PCTFE	ISO-FT-2012S	2 pc

Ultra Micro Parts

Description	Composition	Cat. No.	Quantity
Homogenizer Pestle (Ultra Micro)	Material: PCTFE Full Length: 100 mm Diameter Shaft/Head: 5/4 mm Regarding Resuage: Reusable, Autoclavable	ISO-ST-22	2 pc
Homogenizer Pestle ST-22 (V-vial)	Material: Borosilicate glass Regarding reusage: Reusable. Autoclavable Sample Volume: Maximum 100 μℓ	ISO-STV-502 ISO-STV-512	2 pc 12 pc

Handheld Electromotion Mixer

Intended Use

Handheld elctromotion and autoclave-resistant homogenizer pestles for 15mℓ, 1.5mℓ, 0.5mℓ and μℓ volumes for various applications including protein and DNA extraction.

Overview

The Electromotion Mixer base unit is available with two different motors. A high speed model for general procedures, and a low speed/high torque model with special gearing for samples that require maximum grinding power. Both modules have an easy-on/easy-off snap-fit mechanism compatible with all I.S.O. pestles.

Description	Composition	Cat. No.	Quantity
Electoromotion Mixer	Power Source: Two AAA batteries (Alkaline or Rechargable) Speed of revolution: 9000 rpm On/Off Switch: Touch-tone on/off switch Weight: Approximately 78 g (Including batteries)	ISO-23M	1 set
Electoromotion Mixer [DC Coreless Motor and Gear Head]	Type: DC Coreless Motor and Gear Head Power of Source: Two AAA batteries (Alkaline or Rechargable) Speed of revolution: Approximately 350 rpm On/Off Switch: Touch-tone on/off switch Weight: Approximately 75 g	ISO-23M-R25	1 set

Microplate Replicators

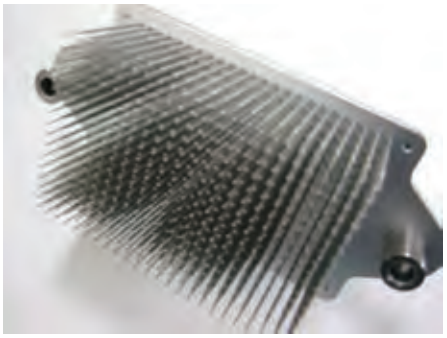
Intended Use

- Transfer small volumes of inoculum from microplates to daughter plates or membranes
- Replication of YACs and cosmid libraries
- Dot Blotting
- Colony hybridization
- Antibiotic sensitivity testing
- Phage typing

Features

Pins are made of stainless steel for durability, autoclaving and flame sterilization can be used repeatedly.
Long pins enable usage with deep well and sterilization with burners.

Copy Plate 96



Copy Plate 384

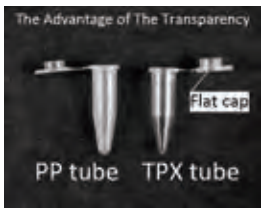
Copy Stand

Description	Specifications	Cat. No.	Quantity
Copy Plate 48	Number of Pins: 48 Pin: 2φ×25	TKY-TK-CP96-1/2-EX	1 set
Copy Plate 96	Number of Pins: 96 Pin: 0.8φ×50	TKY-TK-CP96-EX	1 set
Copy Plate 384	Number of Pins: 384 Pin: 0.8φ×44	TKY-TK-CP384-EX	1 set
Copy Stand		TKY-TK-CPST-EX	1 set

TPX Tube

Features

- TPX Tubes are completely transparent and highly chemically resistant.
- Tubes can be autoclaved.
- Low protein adsorption and suitable for extraction of DNA and RNA.
- Tubes have flat-top caps and bodies for labeling.
- Tubes are ideal for the Closed System Ultrasonic Cell Disrupter, BIORUPTOR.



Composition

Quality of material: TPX
Volume: 1.5 mℓ

Description	Cat. No.	Quantity
TPX 1.5mℓ Micro Tube	HTC-M50001-EX	1000 pc

Incubation Chambers

Intended Use

- For high-temperature *in situ* hybridization
- For all kinds of immunostaining procedures, including fluorescent antibody and enzyme-linked antibody techniques, high temperature *in situ* hybridization, etc.

Features

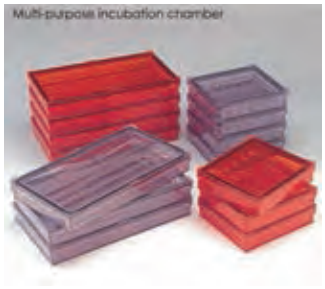
Incubation Chamber

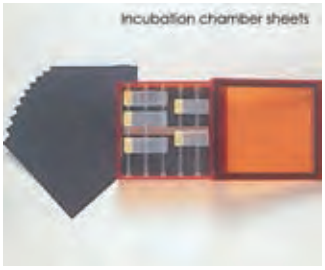
- The chamber interior can be observed at all times.
- Dark orange color reduces transmission of infrared light, making it suitable for fluorescent antibody techniques.
- Two sizes: for 20 or 10 standard slides.
- Heat and cold stable. Use in refrigerator or incubator (-20℃ to + 45℃).
- The incubation chambers are strong for stacking without collapsing.
- Chamber interior can be easily removed and cleaned.
- The position of the slide glass can be shifted.
- The use of high-quality rubber packing maintains proper humidity, making the chamber excellent for long-term storage.
- Resistant to solvents and acids such as alcohol and hydrochloric acid.

High-temperature Incubation Chamber

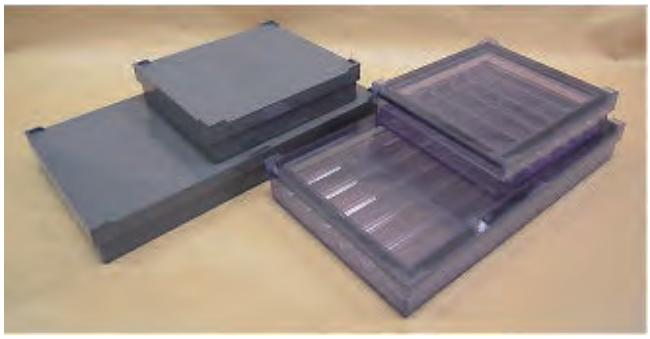
- Stable at -20℃ to +80℃
- Two types: Clear type or Light blocking type
- Two sizes: For 20 or 10 standard slides
- The use of high-quality rubber packing maintains proper humidity, making the chambers excellent for long-term storage.

Note: These chambers are NOT autoclavable.





Spreading out a sheet provides a black background that enables samples to be easily viewed. The sheet are highly water absorbent, if a sheet becomes dirty, it can be replaced quickly and easily.



Incubation Chamber High Temperature Light Shielding model (KMB-20HTLS)

Specification

Large (For 20 slide glasses): 345×195×48 ㎜
Small (For 10 slide glasses): 195×172×48 ㎜

Incubation Chamber (Multi-purpose)

Description	Color	Size	Cat. No.	Quantity
Incubation Chamber	Cool Gray	10 Slides	KMB-10CG	1 box
Incubation Chamber	Dark Orange	10 Slides	KMB-10DO	1 box
Incubation Chamber	Cool Gray	20 Slides	KMB-20CG	1 box
Incubation Chamber	Dark Orange	20 Slides	KMB-20DO	1 box
Incubation Chamber Sheet	Black		KMB-ICS	50 sheet

Glass Rods for Incubation Chamber

Description	Color	Size	Cat. No.	Quantity
Glass Stick for 10CG or 10DO	Clear	10 Slides	KMG-GR10	2pc
Glass Stick for 20CG or 20DO	Clear		KMG-GR20	2pc

Incubation Chamber (High Temperature Model)

Description	Size	Cat. No.	Quantity
Incubation Chamber High Temperature Model	10 Slides	KMB-10HT	1 box
Incubation Chamber High Temperature Model	20 Slides	KMB-20HT	1 box
Incubation Chamber High Temperature Light Shielding Model	10 Slides	KMB-10HTLS	1 box
Incubation Chamber High Temperature Light Shielding Model	20 Slides	KMB-20HTLS	1 box

PAP Pen Super-Liquid Blocker

Intended Use

Ready-to-use hydrophobic barrier pen designed for immunohistochemistry applications

Background

This ready-to-use hydrophobic barrier pen is designed for immunohistochemistry applications. The surface tension provided by the circle, square, or any other shapes drawn to tissue sections with the pen, ensures that only the amount of antibody solution needed for the sufficient reaction will be applied. The pen is stable up to 129 ℃ in microwave heat. The PAP Pen is an effective tool for immunostaining procedures by the Peroxidase-Antiperoxidase (PAP) method, ABC method, LSAB method, polymeric method, immuno fluorescence method, ASD method, Enzyme method and Frozen Section method. For paraffin sections, the PAP Pen should be applied after deparallination. For frozen sections, the PAP Pen can be applied after fixation.

Directions to Use

1. Shake well before use. Push down on the tip a couple times to release liquid into the tip.
2. Deparanize tissue sections and hydrate to water. Perform antigen retrieval if necessary.
3. Wipe away excess liquid around the section on slide with Kimwipes or tissue paper.
4. Allow tip to get moderately wet. Encircle the tissue sections or draw lines on both sides of the section and let dry for 10 to 15 seconds.
5. Apply drops of washing buffer to cover the section. Proceed with standard immunohistochemistry procedure

Description	Point Size	Cat. No.	Quantity
PAP Pen Super-Liquid Blocker Mini	2 ㎜	DAI-PAP-S-M	1 pc
PAP Pen Super-Liquid Blocker	4 ㎜	DAI-PAP-S	1 pc

Tissue Capture

Intended Use

The Tissue Capture Pen improves section attachment to glass slides during immunohistochemical staining. It creates a sticky surface on the glass slide ideally suited for paraffin or frozen section attachment. The Tissue Capture Pen greatly improves section adherence throughout long immunostaining protocols.

It can be used in conjunction with the Super Pap Pen Liquid Blocker (Cat.No.DAI-PAP-S) or the Mini Pap Pen Liquid Blocker (Cat.No.DAI-PAP-S-M) which reduce the amount of antibody needed during labeling.

Features

- Provides a sticky membrane on the slide
- Prevents the tissue from moving, wrinkling or falling off the slide
- Flattens the section and eliminates the need for hot water extension
- Suitable for microwave protocols
- Use with Liquid Blocker Pen for small scale cultures Suitable for in-situ hybridization

Description	Cat. No.	Quantity
Tissue Capture	DAI-FP01	1 pc

Tube Checker (Black)

Intended Use

The "Tube Checker" pen enables you to write on paper, plastic, glass and metal. The writings are waterproof after being dried and will not spread with water. After drying, written parts become solvent proof against organic solvents mainly used in the lab such as ethanol, xylene and chloroform.

Usage

The ink will dry in 20 seconds. To prevent ink from smudging, do not touch the ink with wet hands or dip in water before it is dried.

Description	Cat. No.	Quantity
Tube Checker (Black)	DAI-TC-BLACK	1 set

A Color Illustrated Anatomy of the Mouse

Intended Use

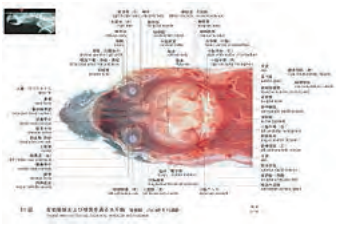
A Color Illustrated Anatomy of the Mouse

Features and Advantages

- Consists of color photographs offering comprehensive and three-dimensional 55 color pages, 2 pages of black and white macro-anatomical photographs (angiograph),and 93 pages of color sectional anatomical photo-graphs (sagittal, dorsal,and transverse sections)
- Anatomical terms in Japanese and English

From the Introduction

The mouse is the most widely used laboratory mammal in biomedical research. It is used to evaluate the safety and effectiveness of new pharmaceutical products, for research in tumor suppression, and vaccine and monoclinal antibody proportional studies. Approximately seven million mice are used for various research projects (JALAS Working Group, 1995) in Japan alone.



While picture information on the anatomies of humans and companion animals (especially dogs and cats) has been described in detail, descriptions of the anatomy of the laboratory mouse are insufficient, apart from atlases focusing on the development of the fetal stages and specific body parts (brain, spinal cord). Detailed knowledge of the anatomy of the mouse has, therefore, become increasingly necessary.

Description	Cat. No.	Quantity
A color atlas of sectional anatomy of the mouse	ADT-AD10001-EX	1 pc

A Color Atlas of Sectional Anatomy of the Rat

Intended Use

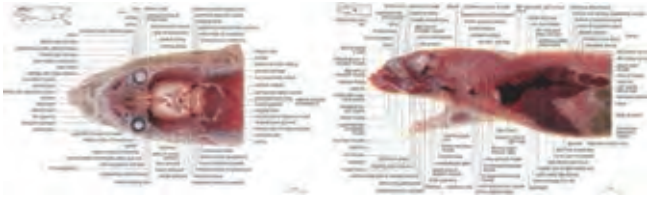
A Color Illustrated Anatomy of the Rat

Introduction

Rats are used to research a wide field including preclinical tests, microbiological research, carcinogenic experiments, nutriology, physiology, toxic tests, and pharmacological effectiveness tests. Anatomy is one of the important basic sciences and although much progress has been recently made in the field of human imaging diagnosis, information on sectional anatomy of experimental animals is lacking at present.
A low-speed diamond scroll saw blade was used to obtain preparations for sectional anatomy.

Features

- Cut sections were prepared serially at about 1-3㎜ intervals (sagittal, dorsal and transverse sections).
- The specimens were not fixed but kept in a frozen state so that photographic information close to the living state could be obtained.
- All photographs are in color, and enlarged (A4 size) for detailed observation.
- The anatomical terms are in Eng1ish.
- This atlas provides macro-anatomical photographs making the sectional atlas more comprehensible.



References

1. Peter Popesko, Viera Rajtova' and Jindrich Hora'k. A Colour Atlas of ANATOMY OF SMALL LABORATORY ANIMALS (volume two). Wolfe Publishing Ltd, 1992.
2. Henry J. Baker, J. Russell Lindsey and Steven H. Weisbroth. The Laboratory Rat. ACADEMIC Press, 1979.
3. L.W.Swanson. Brain Maps: Structure of the Rat Brain. Elsevier Science Publishers B.V., 1992.
4. George Paxinos (Editeur). The Rat Nervous System (Second Edition). Academic Press, 1995.
5. Lawrence Kruger, Samuel Saporta and Larry W. Swanson. PHOTOGRAPHIC ATLAS OF THE RAT BRAIN. CAMBRIDGE UNIVERSITY PRESS, 1995.

Description	Cat. No.	Quantity
A color atlas of sectional anatomy of the rat	ADT-AD10002-EX	1 pc

ICE ON

Intended Use

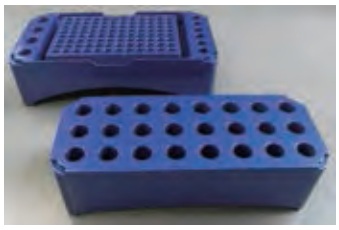
Aluminum made rack for faster refrigeration of sample tubes

Feature and Advantages

- Tubes will not touch water and ice directly
- Made of aluminum and its surface is processed so not to rust for long time use.
- Compactly designed.
- Can be stacked and used as racks sample tubes in refrigerators or freezers.

Type 1:

- 24×1.5 mℓ tubes
- Numbers (1-8) and alphabets (A to C) are inscribed on the surface. Easy to sort out in order.



Type 2:

- 96 tubes of 0.2 mℓ or 12×0.2 mℓ 8-tube strips or 8×0.2 mℓ 12-tube strips or 1×0.2 mℓ 96-well plate and 6 tubes of 0.5mℓ and 4 tubes of 1.5 mℓ.
- Easy to separate tubes of 1.5 mℓ or of 0.5 mℓ from tubes of 0.2 mℓ.

Specification

Material: Aluminum dye cast
Number of Samples: 24 tubes of 1.5 mℓ (3×8)
Dimension Weight: 169×69×47mm, 300 g

Description	Cat. No.	Quantity
Ice on Type 1	SKB-IO-1	1 set
Ice on Type 2	SKB-IO-2	1 set

Oxygen Absorber

Background

Oxygen sometimes will have an adverse effect on items used for research and research itself. When such concerns exist, try the oxygen absorption system.
Removal of oxygen can avoid oxidation (rust) and the occurrence of mold. The Oxygen Absorber System consists of oxygen absorbing agents; storage bags and sealing clips.

Usage

- For storage of vitamins, antibiotics, and unsaturated fatty acids which easily oxidize.
- To prevent mold growing on animal and plant-derived reagents and samples, and damage by insects.
- To prevent deactivation of enzymes.
- To maintain amount of bacteria for *Lactobacillus* preparation and anaerobic bacteria formulation.
- To prevent rusting of oxide electrodes and medical instruments.
- To prevent oxidation of electronic materials and components.
- For storage and transport of anaerobic samples.
- For storage of substances that will easily oxidize.
- For removal of residual oxygen, such as after nitrogen gas replacement.
- For removal of oxygen which has leaked or is remaining in a glove box (ISO-A-2500HS).

Features

- Unlike the oxygen for food preservation, the oxygen absorption rate is high. A high quality oxygen-free state can be established.
- Removes causes of oxidation such as mold, allowing an oxygen-free atmosphere to be maintained.
- Presence of an oxygen indicator allows easy indication to detect presence of oxygen.
- A high quality oxygen-free condition can be obtained compared to nitrogen gas replacement, and vacuum sealers. (Oxygen concentration: Less than 0.1%)
- Usage anyway with individual wrappings with aluminum laminated bags.

Oxygen Absorber

Description	Components	Cat. No.	Quantity
Oxygen Absorber A-500HS	Oxygen Absorber ISO-A-500HS×100 Units Individually wrapped with indicators	ISO-A-500-100	100 pc
Oxygen Absorber A-750HS	Oxygen Absorber ISO-A-750HS×100 Units Individually wrapped with indicators	ISO-A-750-100	100 pc
Oxygen Absorber A-2500HS	Oxygen Absorber ISO-A-2500HS×50 Units Individually wrapped with indicators	ISO-A-2500-50	50 pc

Sets

Description	Components	Cat. No.	Quantity
Oxygen Absorber & Desiccant System	Oxygen Absorber (ISO-A-750HS)×50 Units Zeolite Dessicant (ISO-AZ10G)×25 Units Stock bags 150×220mm (AP-1522)×25 pieces Stock bags 180×260mm (IAP-1826)×25 pieces Sealing Clips 150mm (CL-15)×2 pieces, Sealing Clips 210mm (CL-21)×2 pieces	ISO-A-25AZS	1 set
Oxygen Absorber Set	Oxygen Absorber (ISO-A-500HS)×50 Units High barrier Stock bags (AP-1826)×25 pieces High barrier Stock bags (AP-1522)×25 pieces Sealing Clips (ISO-CL-21)×2 pieces	ISO-A-500-50S	1 set

High Barrier Stock Bags

Description	Cat. No.	Quantity
High Barrier Stock Bag AP-1522	ISO-AP-1522-100	1 set
High Barrier Stock Bag AP-1826	ISO-AP-1826-100	1 set

Sealing Clips

Description	Cat. No.	Quantity
Clip CL-15	ISO-CL-15-10	1 set
Clip CL-21	ISO-CL-21-10	1 set

Metalic CNT (Carbon NanoTube)

Purity
>99%

CNT diameter / length
1. 4 nm / -1 μm

Composition
Solvent: H_2O/ethanol/IPA/Toluene/MEK/NMP
Type: single-wall carbon nanotube

CNT Concentration
1 mg / 10 mℓ or 1 mg / 100 mℓ

Description	Cat. No.	Quantity
Metalic CNT (Carbon NanoTube)	MNC-BM-1	1 mg

Multi walled Carbon Nanotube(MWNT)

Description	Cat. No.	Quantity
Multi walled Carbon Nanotube (MWNT)	MNC-MWNT-1 MNC-MWNT-2	10 g 100 g

Disposal Bag

Intended Use

For disposal of waste and hazardous material

Background

The durable bag is made of a special type of polypropylene and can be autoclaved at 132℃. The lid of the rack can be opened by pressing the pedal. The rack is designed for the L-size bags but can also be adjusted for the S and M-size bags. An autoclave indicator tape is included with the bags to confirm that the autoclave has been completed properly. Autoclave within 15 minutes and do not fasten too tight with a clasp or use the heat seal.

Description	Composition	Cat. No.	Quantity
HI-TECH BAG ACE-(Dumping Bag) S size	Material: PP Size: S : 305×660mm, M : 405×660mm, L : 610×810mm	HTC-B-10001	200 sheet
HI-TECH BAG ACE-(Dumping Bag) M size	Material: PP Size: S : 305×660mm, M : 405×660mm, L : 610×810mm	HTC-B-10002	200 sheet
HI-TECH BAG ACE-(Dumping Bag) L size	Material: PP Size: S : 305×660mm, M : 405×660mm, L : 610×810mm	HTC-B-10003	200 sheet

Citation & Reference list

Description	Cat. No.	Citation & Reference	Page
2D-Silver Stain Reagent II [For 10 gels]	DCB-423413	· Antimicrob. Agents Chemother., Aug 2009; 53: 3211 - 3217. · J. Biol. Chem., Feb 2010; 285: 6515 - 6521. · Cancer Genomics Proteomics, Jul 2010; 7: 181 - 189. · Plant Cell Physiol., Jun 2010; 51: 896 - 911. · J. Biol. Chem., Jan 2014; 289: 2620 - 263	286
5-Aminolevulinic acid hydrochloride (5-ALA) (Cell Culture Tested)	CRI-AL-05-1	· Neuro Oncology, Nov 2011; 13: 1234 - 1243 · *In Vivo*. 2013 Nov-Dec;27(6):747-53.	200
6 β -OH-corisol-3-CMO-HRP	FKA-431	· Biol Reprod. 2008 May;78(5):888-95. Epub 2008 Jan 23.	126
8-OHdG	NNS-MOG-020P-EX	· Mutagenesis, May 2011; 26: 431 - 435. · Exp Cell Res. 2011 Oct 21 · Free Radic Biol Med. 2011 Jul 1;51(1):30-7	2
8-OHdG Check ELISA kit	NNS-KOG-200SE-EX	· J. Cell Biol., Aug 2009; 186: 509 - 523.	100
11-Oxo-Testosterone	FKA-118	· Onuma TA *et al.*, J. Exp. Biol., Jan 2009; 212: 56 - 70.	3
11-oxo-Testosterone-3-CMO, HRP	FKA-117	· Onuma TA *et al.*, J. Exp. Biol., Jan 2009; 212: 56 - 70.	126
17 α , 20 β -diOH-Progesterone-HRP	FKA-331	· Onuma TA *et al.*, J. Exp. Biol., Jan 2009; 212: 56 - 70.	126
Purified 20S proteasome purified from goldfish ovary	CAC-SZU-PS-M01	· Haraguchi CM. *et al.*, J Histochem Cytochem 55 585-595 (2007) PubMed: 17312012 · Tokumoto M. *et al.*, Eur J Biochem 267 97-103 (2000) PubMed:10601855	73
Purified 20S proteasome purified from goldfish ovary	CAC-SZU-PS-M02	· Tokumoto M. *et al.*, Gene 239 301-308 (1999) PubMed: 10548731 · Tokumoto M. *et al.*, Eur J Biochem 267 97-103 (2000) PubMed: 10601855	73
Purified 20S proteasome purified from goldfish ovary	CAC-SZU-PS-M03	· Tokumoto T. *et al.*, Exp Cell Res 247 313-319 (1999) PubMed: 10066358 · Wakata Y. *et al.*, BMC Biochem 5 18 (2004) PubMed: 15603592 · Tokumoto M. *et al.*, Eur J Biochem 267 97-103 (2000) PubMed: 10601855	73
6-4PP	CAC-NM-DND-002	· Nucleic Acids Res., Apr 2014; 42: 4972 - 4984. · Cancer Res., Jun 2014; 74: 3369 - 3377 · Fan W, Luo J., Mol Cell. 2010 Jul 30;39(2):247-58. · J. Biol. Chem., Aug 2010; 285: 26295 - 26303. · Overmeer RM *et al.*, Mol. Cell. Biol., Oct 2010; 30: 4828 - 4839. · Ming M. *et al.*, PNAS, Dec 2010; 107: 2262 PubMed ID 21149730	3
Acetyl Histone H3(Lys9/27)	MCA-MABI0010-100-EX	· Zeng Y *et al.*, J. Neurosci., Dec 2011; 31: 17800 - 17810.	4
ACTB (actin, β)	CBX-CBX00270	· J Cell Sci. 2008 Jun 15;121(Pt 12):2062-74. Epub 2008 May 27.	4
AGEs	KAL-KH001	· Experimental Biology and Medicine, May 2014; 10.1177/1535370214531899. · Diabetes. Nov;58(11):2486-97. Epub 2009 Aug 3.(2009) · Free Radic Biol Med. 2011 Oct 15;51(8):1575-82. · Chem Biol Interact. 2011 May 30;191(1-3):357-63. · Respir Med. 2011 Mar;105(3):329-36	5
AGEs	KAL-KH001-02	· Nephrol. Dial. Transplant., May 2010; 25: 1479 - 1488. · Evid Based Complement Alternat Med. 2011; 2011 : 717921 · J Hepatol. 2011 Sep;55(3):582-6 · FASEB J, Jun 2013; 27: 2407 - 2420	5
Alginate 3D Cell Culture Kit	CSR-ABC-KIT	· Kupchik HZ, *et al.*, Cancer Lett. 1990 May 15;51(1):11-6. PMID: 2337892 · Binette F *et al.*, J Orthop Res. 1998 Mar;16(2):207-16	172
ASH1L (ash1 (absent, small, or homeotic)-like (Drosophila)(ASH1L))	CBX-CBX00148	· J. Neurosci., Jun 2013; 33: 9752 - 9768 PMID: 23739972	10
AteloGene® Local Use	KOU-1392	· 2011 ARVO Annual Meeting · Cancer Res. 2011 Jul 1;71(13):4598-607 · J Biol Chem. 2011 Apr 22;286(16):13985-94 · Cancer Sci. 2011 Jan;102(1):57-63 · Glia. 2009 Oct;57(13):1374-85 · Cancer Gene Ther. 2011 Sep 16 · Mol Cancer. 2010; 9: 103	241
AteloGene® Systemic Use	KOU-1393	· Cancer Res. 2010 Jun 15;70(12):5024-33	241
BINKIT® for NK cells expansion from PBMCs	BIJ-N501-1	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
BINKIT® for NK cells expansion from PBMCs	BIJ-N501-2	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
BINKIT® for NK cells expansion from PBMCs	BIJ-N501-4	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
BINKIT® for NK cells expansion from PBMCs	BIJ-N501-8	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
Bip	COP-COP-080017	· Chen Z T. *et al.*, J Exp Bot. 2013 Nov;64(14):4375-87.	12
Bone Sialoprotein	LSL-LB-4335	· Saito A *et al.*, J. Biol. Chem., Feb 2011; 286: 4809 - 4818. PMID: 21135100	13
Brg1	BAM-70-230EX	· Nishimoto N. *et al.*, J Cell Sci.125: 3870-82. pubmed/Brg1 WB, IP (2012).	13
BXDC1 (brix domain containing 1, mRNA	CBX-CBX00331	· Genes Cells. 2009 Feb;14(2):155-66. Epub 2008 Jan 12.	14
CDC6	BAM-70-133EX	· Fujita M. *et al.*, J Biol Chem. 274:25927-32. WB, IP, IF, (1999) · Fujita M. *et al.*, J Biol Chem. 277:10354-61. WB, IP, IF, (2002) · Tatsumi Y. *et al.*, J Cell Sci. 119:3128-40. WB, (2006) · Sugimoto N. *et al.*, J Cell Sci. 5;:1184-91. WB, (2009)	17
Chondroitin Sulfate A	CAC-NU-07-001	· Yamamoto, Y., *et al.*,: Eur. J. Histochem., 39, 265-272 (1995) PMID: 8835180	19
CML	KAL-KH024-02	· PLoS One. 2010; 5(4): e10092.	21
Collagen 1	LSL-LB-1102	· Am J Physiol Renal Physiol. 2008 Nov;295(5):F1376-87. Epub 2008 Aug 20.	21
Collagen 1	LSL-LB-1190	· Am J Physiol Heart Circ Physiol, Feb 2011; 300: H693 - H701	21

Description	Cat. No.	Citation & Reference	Page
Collagen 1	LSL-LB-1196	· Am J Physiol Heart Circ Physiol, Feb 2011; 300: H693 - H701	21
Collagen 2	LSL-LB-1297	· Differentiation. 2011 Oct;82(3):153-64.	21
Collagen 4	LSL-LB-1403	· Cancer Cell. 2009 Jan 6;15(1):21-34. · Cell Metab. 2010 Jul 4;12(1):42-52. · Perit. Dial. Int., May 2009; 29: 340 - 351. · J. Neurol. Neurosurg. Psychiatry, Mar 2011; 82: 294 - 299. · J. Cell Biol., May 2009; 185: 439 - 457. · Development, May 2010	21
Collagen 4	LSL-LB-1407	· Naito H., *et al.,* EMBO J. 4 842-55 (2011)	21
Collagen 8	LSL-LB-0883	· Dev Biol. 2005 Aug 15;284(2):479-98.	22
Collagen 10	LSL-LB-0092	· PNAS, Nov 2013; 110: 19450 - 19455.	22
Collagen 12	LSL-LB-1200	· J Shoulder Elbow Surg. 2011 Aug 3.	22
Corticosterone(Compd. B)	FKA-420	· Proc Natl Acad Sci USA. 2009 Jun 16;106(24):9890-5.	22
Corticosterone EIA	YII-YK240-EX	· Takaya J., *et al.,* Ann Nutr Metab. 2-4 73-78 (2011)	103
CPDs	CAC-NM-DND-001	· Genetics, Apr 2014; 196: 985 - 999. · Nucleic Acids Res., Apr 2014; 42: 4972 - 4984. · Cancer Res., Jun 2014; 74: 3369 - 3377 · Nucleic Acids Res., Jul 2010; 38: e129. · Carcinogenesis, Sep 2009; 30: 1597 - 1605. · J. Exp. Biol., Sep 2009; 212: 276	23
Cyp7a1	CAC-ABN-M01-CY	· J. Biol. Chem., Jul 2011; 286: 22795-22805. · J. Biol. Chem., Jan 2012; 287: 1861 - 1873.	25
Dibromo-Tyrosine(DiBrY)	NNS-MBY-020P-EX	· Free Radic Biol Med. 2005 Jan 1;38(1):24-31	27
Dimethyl Histone H3(Lys9)	MCA-MABI0007-100-EX	· Mol Cell Biol. 2013 Dec;33(24):5005-20	27
Dityrosine(DT)	NNS-MDT-020P-EX	· Biochem Biophys Res Commun. 2000 Aug 18;275(1):11-5. · Am. J. Respir. Crit. Care Med., Oct 2011 · Am. J. Respir. Crit. Care Med., Jan 2012; 185: 34-43	28
DNP-BSA	LSL-LG-0017	· J. Immunol., Apr 2014; 192: 3488 - 3495. · J. Exp. Med., Jun 2009; 206: 1351 - 1364.	215
Dppa4	CAC-TMD-PB-DP4	· Mol. Cell. Biol., Nov 2011; 31: 4366 - 4378. · Mol. Cell. Biol., Nov 2011; 31: 4366 - 4378.	29
Estradiol	FKA-236	· J. Exp. Biol., Jan 2009; 212: 56 - 70.	32
Estradiol-3-HRP	FKA-235	· J. Exp. Biol., Jan 2009; 212: 56 - 70.	127
Estrone-3-Glucuronide	FKA-224	· Reproduction 2008 Nov;136(5):639-47. Epub 2008 Jul 28 · Theriogenology. 2011 Sep 15;76(5):911-20	32
GENA (clone TRA98)	BAM-73-003-EX	· Biol Reprod, Mar 2011; 84: 422 - 434. · Biol Reprod, May 2011; 84: 1024 - 1032. · Development, Dec 2009; 136: 4011 - 4020. · Dev Biol. 2011 Jan 15;349(2):417-26 · Biol Reprod, May 2011; 84: 1024 - 1032 · Development, Mar 2012; 139: 1133 - 1140.	37
GenomONE™-Neo EX HVJ-E 1 vial Transfection Reagents	ISK-GN-001-EX	*in vitro* · Y. Kaneda *et al.,* Mol. Ther.,6(2), 219-226 (2002). · Y. Kaneda Curr. Drug Targets, 4(8), 599-602 (2003). · H. Kotani *et al.,* Curr. Gene Ther., 4(2), 183-194 (2004). · Y. Kaneda *et al.,* Adv. Genet., 53, 307-332 (2005). · Y. Kaneda *et al.,* CancerSci., 97(5),348-354 (2006). · Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008). · Q. Zhang *et al.,* Biochem Biophys Res Commun, 373, 345-349 (2008). · P E.Lund *et al.,* Pharm. Res., 27(3), 400-420 (2010). · Y. Kondo *et al.,* Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010). · Y. Kondo *et al.,* Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010). · T. Amatsubo *et al.,* Magn. Reson. Med. Sci.,9(3) 95-99 (2010) · Y. Kaneda, Expert. Opin. Drug Deliv.,(9), 1079-1093 (2010) · A. Kitani *et al.,* Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010). · Y. Kaneda, BMB Rep., 43(12) 773-780 (2010). · Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012). · F. Kato *et al.,* J. Genet.Syndr. Gene Ther., 4, 178 (2013) *in vivo* · Y. Kaneda *et al.,* Mol. Ther.,6(2), 219-226 (2002). · Y. Kaneda, Curr. Drug Targets, 4(8), 599-602 (2003). · H. Kotani *et al.,* Curr. Gene Ther., 4(2), 183-194 (2004). · Y. Kaneda *et al.,* Adv. Genet., 53, 307-332 (2005). · Y. Kaneda *et al.,* Cancer Sci., 97(5), 348-354 (2006). · Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008). · Q. Zhang *et al.,* Biochem Biophys Res Commun, 373, 345-349 (2008). · P E. Lund *et al.,* Pharm. Res., 27(3), 400-420 (2010). · Y. Kondo *et al.,* Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010). · Y. Kondo *et al.,* Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010). · T. Amatsubo *et al.,* Magn. Reson. Med. Sci.,9(3) 95-99 (2010) · Y. Kaneda, Expert. Opin. Drug Deliv., (9), 1079-1093 (2010) · A. Kitani *et al.,* Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010). · Y. Kaneda, BMB Rep., 43(12) 773-780 (2010). · Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012). · F. Kato *et al.,* J. Genet. Syndr. Gene Ther., 4, 178 (2013)	246

Description	Cat. No.	Citation & Reference	Page
GenomONE™-Neo EX HVJ-E 4 vials Transfection Reagents	ISK-GN-004-EX	*in vitro* ・Y. Kaneda *et al.,* Mol. Ther.,6(2), 219-226 (2002). ・Y. Kaneda Curr. Drug Targets, 4(8), 599-602 (2003). ・H. Kotani *et al.,* Curr. Gene Ther., 4(2), 183-194 (2004). ・Y. Kaneda *et al.,* Adv. Genet., 53, 307-332 (2005). ・Y. Kaneda *et al.,* CancerSci., 97(5),348-354 (2006). ・Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008). ・Q. Zhang *et al.,* Biochem Biophys Res Commun, 373, 345-349 (2008). ・P E.Lund *et al.,* Pharm. Res., 27(3), 400-420 (2010). ・Y. Kondo *et al.,* Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010). ・Y. Kondo *et al.,* Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010). ・T. Amatsubo *et al.,* Magn. Reson. Med. Sci.,9(3) 95-99 (2010) ・Y. Kaneda, Expert. Opin. Drug Deliv.,(9), 1079-1093 (2010) ・A. Kitani *et al.,* Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010). ・Y. Kaneda, BMB Rep., 43(12) 773-780 (2010). ・Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012). ・F. Kato *et al.,* J. Genet.Syndr. Gene Ther., 4, 178 (2013) *in vivo* ・Y. Kaneda *et al.,* Mol. Ther.,6(2), 219-226 (2002). ・Y. Kaneda, Curr. Drug Targets, 4(8), 599-602 (2003). ・H. Kotani *et al.,* Curr. Gene Ther., 4(2), 183-194 (2004). ・Y. Kaneda *et al.,* Adv. Genet., 53, 307-332 (2005). ・Y. Kaneda *et al.,* Cancer Sci., 97(5), 348-354 (2006). ・Y. Kaneda, Expert Opinion Drug Deliv., 5(2), 221-233 (2008). ・Q. Zhang *et al.,* Biochem Biophys Res Commun, 373, 345-349 (2008). ・P E. Lund *et al.,* Pharm. Res., 27(3), 400-420 (2010). ・Y. Kondo *et al.,* Curr. Protoc. Immunol., 2, Unit 2.16.1-12 (2010). ・Y. Kondo *et al.,* Curr. Protoc. Immunol.,10, Unit 10.17D.1-9 (2010). ・T. Amatsubo *et al.,* Magn. Reson. Med. Sci.,9(3) 95-99 (2010) ・Y. Kaneda, Expert. Opin. Drug Deliv., (9), 1079-1093 (2010) ・A. Kitani *et al.,* Curr. Protoc. Immunol., 10, Unit 10.17E.1-9 (2010). ・Y. Kaneda, BMB Rep., 43(12) 773-780 (2010). ・Y. Kaneda, Adv. Drug Deliv. Rev., 64(8), 730-738 (2012). ・F. Kato *et al.,* J. Genet. Syndr. Gene Ther., 4, 178 (2013)	246
Glucagon EIA	YII-YK090-EX	・Cell Metab. 2008 Feb;7(2):159-72. ・J Pharmacol Exp Ther.2010 Aug;334(2):430-8. Epub 2010 May 3. ・J Hepatol. 2011 Jun;54(6):1214-23.	104
GlucagonLike Peptide 1 EIA KIT	YII-YK160-EX	・Nutr Res. 2011 Sep;31(9):707-14.	104
Glucagon-Like Peptide 2 EIA	YII-YK142-EX	・Life Sci. 2011 Jan 31;88(5-6):212-7	104
GM3 (Neu Ac)	NBT-M101	・FEBS Lett. 1995 Mar 20;361(2-3):201-5. ・J. Biochem., Sep 2011; 150: 303 - 310 ・J. Biol. Chem., Oct 2011; 286: 34761 - 34769 ・PLoS One. 2010; 5(11): e14010 ・PLoS One. 2011; 6(3): e16601	38
GM3 (Neu Ac)	NBT-M102	・Segatori VI. *et al., in vivo* 26 609-618 (2012)	38
Guaiacol Detection Kit	KYO-08921	・Keiichi Goto, Kaoru Mochida, Yuko Kato, Mika Asahara, Rieko Fujita, Sun-Young An, Hiroaki Kasai, and Akira Yokota Int J Syst Evol Microbiol, Jun 2007; 57: 1276 - 1285.	113
Highly Sensitive 8-OHdG Check ELISA kit	NNS-KOG-HS10E-EX	・Neuroscience. 2010 Sep 29;170(1):337-47 ・Cancer Prevention Research, 2010 Jul. 6: 686 - 694	100
HLA class I-A, B, C	HKD-AB-46	・J. Immunol., Dec 2013; 191: 6261 - 6272.	44
Hyaluronan Binding Protein [HABP]	HKD-BC40	・Invest. Ophthalmol. Vis. Sci., Aug 2011; 52: 6511 - 6521	223
Hyaluronan Binding Protein [HABP]	HKD-BC41	・Invest. Ophthalmol. Vis. Sci., Aug 2011; 52: 6511 - 6521	223
Hyaluronan Oligosaccharide 4mer (HA4)	CSR-11001	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 4mer (HA4), Endotoxin Free	CSR-11006	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 6mer (HA6)	CSR-11002	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 6mer (HA6), Endotoxin Free	CSR-11007	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 8mer (HA8)	CSR-11003	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 8mer (HA8), Endotoxin Free	CSR-11008	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 10mer (HA10)	CSR-11004	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 10mer (HA10), Endotoxin Free	CSR-11009	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 12mer (HA12)	CSR-11005	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan Oligosaccharide 12mer (HA12), Endotoxin Free	CSR-11010	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan oligosaccharide assortment (HA4, HA6, HA8, HA10, HA12)	CSR-93001	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
Hyaluronan oligosaccharide assortment (HA4, HA6, HA8, HA10, HA12), Endotoxin Free	CSR-93002	・Biochem Pharmacol. 2010 Aug 15;80(4):480-90	208
IMMUNO SHOT Reagent 2	CSR-IS-002-250	・Mol Biol Cell. 2013 September 15; 24(18): 2894-2906 ・Mol Biol Cell. 2013 June 1; 24(11): 1713-1724 ・PLoS One. 2013; 8(1): e54142. 2013 January 17 ・Traffic. 2012 November; 13(11): 1481-1495 ・Reprod Biol Endocrinol. 2012; 10: 113	138
IMMUNO SHOT Reagent 1&2	CSR-IS-012-100	・Mol Biol Cell. 2013 September 15; 24(18): 2894-2906 ・Mol Biol Cell. 2013 June 1; 24(11): 1713-1724 ・PLoS One. 2013; 8(1): e54142. 2013 January 17 ・Traffic. 2012 November; 13(11): 1481-1495 ・Reprod Biol Endocrinol. 2012; 10: 113	138

Description	Cat. No.	Citation & Reference	Page
IMMUNO SHOT Reagent 1&2	CSR-IS-012-250	· Mol Biol Cell. 2013 September 15; 24(18): 2894-2906 · Mol Biol Cell. 2013 June 1; 24(11): 1713-1724 · PLoS One. 2013; 8(1): e54142. 2013 January 17 · Traffic. 2012 November; 13(11): 1481-1495 · Reprod Biol Endocrinol. 2012; 10: 113	138
i-MyRun.NC Mini Electrophoresis System	CBJ-IMR-003-EX	· Yasuda S., *et al.*, J Dairy Sci. 5 2248-60 (2012)	277
i-MyRun.NC Special Edition	CBJ-IMR-003S-EX	· Yasuda S., *et al.*, J Dairy Sci. 5 2248-60 (2012)	277
i-MyRun.N Electrophoresis System	CBJ-IMR-001-EX	· Yasuda S., *et al.*, J Dairy Sci. 5 2248-60 (2012)	276
i-MyRun.N Special Edition	CBJ-IMR-001S-EX	· Yasuda S., *et al.*, J Dairy Sci. 5 2248-60 (2012)	277
Influenza A Virus Nucleoprotein	BAM-65-111EX	· Mizuike R. *et al.*, Clin Vaccine Immunol 18: 494-499 PubMed ID: 21228147 (IF/ICC) (2011) · Ueda M. *et al.*, Virus Research 136: 91-97, PubMed ID:18550190 (WB) (2008) · Okuno Y. *et al.*, J Virol 67: 2552-2558 PubMed ID:7682624 (IP) (1993)	49
IRF3 (Interferon Regulatory Factor 3)	CBX-CBX00167	· Onomoto K., *et al.*, PLoS One. 8 e43031 (2012)	50
Keratin	LSL-LB-1003	· Am J Pathol. May;174(5):1715-24. Epub 2009 Apr 9.	51
Keratin 12	KAL-KR074	· Dev Biol. Nov 1;323(1):53-63 (2008)	51
Klotho	KAL-KO603	· J. Biol. Chem., Dec 288: 36302 - 36311. (2013)	52
Lamin B Receptor	BAM-70-301-EX	· J Immunol. 2012 Jan 1;188(1):122-34. Epub 2011 Nov 21.	53
LC3	CAC-CTB-LC3-1-50	· Am J Pathol. 2011 Oct 8 · J Exp Med. 2011 Dec 19;208(13):2625-32. Epub 2011 Dec 12.	53
LC3	CAC-CTB-LC3-2-IC	· Mol. Biol. Cell, Apr 2014; 25: 1327 - 1337.	53
MDA	NOF-N213530-EX	· Mol Vis. 2010 Dec 2;16:2524-38. · Rheumatology (Oxford). 2013 Mar;52(3):438-47. · J Lipid Res. 2001 Aug;42(8):1187-96. · J Photochem Photobiol B. 2010 Dec 2;101(3):251-64. · Free Radic Res. 2006 Dec;40(12):1335-8.	56
Mebiol® Gel	MBG-PMW20-1001	· Sugiyama, *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Yuguo Lei and David V. Schaffer, PNAS. Nov 18, 10.1073/ pnas.1309408110, (2013) PMID:24248365 · Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., Polym. Adv. Tech., 155-158 (1998) · Sugiyama S. *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Chiharu Kimura-Yoshida, Hiroshi Nakano, Daiji Okamura, Kazuki Nakao, Shigenobu Yonemura, Jose A. Belo, Shinichi Aizawa, Yasuhisa Matsui, Isao Matsuo, Dev. Cell. Nov;9(5):639-50. (2005) · Hiramatsu R, Harikae K, Tsunekawa N, Kurohmaru M, Matsuo I, Kanai Y., Development, Jan 137: 303 - 312. (2010) · Arai T, Benny O, Joki T, Menon LG, Machluf M, Abe T, Carroll RS, Black PM., Anticancer Res. Apr;30(4):1057-64. (2010) · Yamamoto M, Beppu H, Takaoka K, Meno C, Li E, Miyazono K, Hamada H., J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19. · Membrane. H.N. Madhavan, B. Sudha1, G. Sitalakshmi, S. KrishnaKumar, Y. Mori, H. Yoshioka and S. Abraham. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033. 3033 B186	171
Mebiol® Gel	MBG-PMW20-1005	· Sugiyama, *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Yuguo Lei and David V. Schaffer, PNAS. Nov 18, 10.1073/ pnas.1309408110, (2013) PMID:24248365 · Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., Polym. Adv. Tech., 155-158 (1998) · Sugiyama S. *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Chiharu Kimura-Yoshida, Hiroshi Nakano, Daiji Okamura, Kazuki Nakao, Shigenobu Yonemura, Jose A. Belo, Shinichi Aizawa, Yasuhisa Matsui, Isao Matsuo, Dev. Cell. Nov;9(5):639-50. (2005) · Hiramatsu R, Harikae K, Tsunekawa N, Kurohmaru M, Matsuo I, Kanai Y., Development, Jan 137: 303 - 312. (2010) · Arai T, Benny O, Joki T, Menon LG, Machluf M, Abe T, Carroll RS, Black PM., Anticancer Res. Apr;30(4):1057-64. (2010) · Yamamoto M, Beppu H, Takaoka K, Meno C, Li E, Miyazono K, Hamada H., J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19. · Membrane. H.N. Madhavan, B. Sudha1, G. Sitalakshmi, S. KrishnaKumar, Y. Mori, H. Yoshioka and S. Abraham. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033. 3033 B186	171
Mebiol® Gel	MBG-PMW20-5001	· Sugiyama, *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Yuguo Lei and David V. Schaffer, PNAS. Nov 18, 10.1073/ pnas.1309408110, (2013) PMID:24248365 · Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., Polym. Adv. Tech., 155-158 (1998) · Sugiyama S. *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Chiharu Kimura-Yoshida, Hiroshi Nakano, Daiji Okamura, Kazuki Nakao, Shigenobu Yonemura, Jose A. Belo, Shinichi Aizawa, Yasuhisa Matsui, Isao Matsuo, Dev. Cell. Nov;9(5):639-50. (2005) · Hiramatsu R, Harikae K, Tsunekawa N, Kurohmaru M, Matsuo I, Kanai Y., Development, Jan 137: 303 - 312. (2010) · Arai T, Benny O, Joki T, Menon LG, Machluf M, Abe T, Carroll RS, Black PM., Anticancer Res. Apr;30(4):1057-64. (2010) · Yamamoto M, Beppu H, Takaoka K, Meno C, Li E, Miyazono K, Hamada H., J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19. · Membrane. H.N. Madhavan, B. Sudha1, G. Sitalakshmi, S. KrishnaKumar, Y. Mori, H. Yoshioka and S. Abraham. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033. 3033 B186	171

Description	Cat. No.	Citation & Reference	Page
Mebiol® Gel	MBG-PMW20-5005	· Sugiyama, *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Yuguo Lei and David V. Schaffer, PNAS. Nov 18, 10.1073/ pnas.1309408110, (2013) PMID:24248365 · Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., Polym. Adv. Tech., 155-158 (1998) · Sugiyama S. *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Chiharu Kimura-Yoshida, Hiroshi Nakano, Daiji Okamura, Kazuki Nakao, Shigenobu Yonemura, Jose A. Belo, Shinichi Aizawa, Yasuhisa Matsui, Isao Matsuo, Dev. Cell. Nov;9(5):639-50. (2005) · Hiramatsu R, Harikae K, Tsunekawa N, Kurohmaru M, Matsuo I, Kanai Y., Development, Jan 137: 303 - 312. (2010) · Arai T, Benny O, Joki T, Menon LG, Machluf M, Abe T, Carroll RS, Black PM., Anticancer Res. Apr;30(4):1057-64. (2010) · Yamamoto M, Beppu H, Takaoka K, Meno C, Li E, Miyazono K, Hamada H., J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19. · Membrane. H.N. Madhavan, B. Sudha1, G. Sitalakshmi, S. KrishnaKumar, Y. Mori, H. Yoshioka and S. Abraham. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033. 3033 B186	171
Mebiol® Gel	MBG-PMW20-5020	· Sugiyama *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Yuguo Lei and David V. Schaffer, PNAS. Nov 18, 10.1073/ pnas.1309408110, (2013) PMID:24248365 · Yoshioka, H., Mori, Y., Tsukikawa, S. and Kubota, S., Polym. Adv. Tech., 155-158 (1998) · Sugiyama S. *et al.*, Cryst. Growth Des., 13 (5), pp 1899-1904 (2013) · Chiharu Kimura-Yoshida, Hiroshi Nakano, Daiji Okamura, Kazuki Nakao, Shigenobu Yonemura, Jose A. Belo, Shinichi Aizawa, Yasuhisa Matsui, Isao Matsuo, Dev. Cell. Nov;9(5):639-50. (2005) · Hiramatsu R, Harikae K, Tsunekawa N, Kurohmaru M, Matsuo I, Kanai Y., Development, Jan 137: 303 - 312. (2010) · Arai T, Benny O, Joki T, Menon LG, Machluf M, Abe T, Carroll RS, Black PM., Anticancer Res. Apr;30(4):1057-64. (2010) · Yamamoto M, Beppu H, Takaoka K, Meno C, Li E, Miyazono K, Hamada H., J Cell Biol. 2009 Jan 26;184(2):323-34. Epub 2009 Jan 19. · Membrane. H.N. Madhavan, B. Sudha1, G. Sitalakshmi, S. KrishnaKumar, Y. Mori, H. Yoshioka and S. Abraham. Invest Ophthalmol Vis Sci 2006;47: E-Abstract 3033. 3033 B186	171
Methylglyoxal	NOF-N213430-EX	· J Comp Pathol. 2011 Jan;144(1):41-7	57
Mite Extract-Df	LSL-LG-5339	· Am J Physiol Lung Cell Mol Physiol, Jul 2010; 299: L17 - L24. · Mediators Inflamm. 2009; 2009: 738038	214
Mite Extract-Dp	LSL-LG-5449	· Exp Biol Med, Mar 2009; 234: 314 - 322. · Toxicol Lett. 2011 Jan 15;200(1-2):92-9.	214
MMP-3	DFK-F-66-EX	· Hum. Reprod., Jan 2010; 25: 192 - 197.	58
Monocyte Culture Kit V-2	PMC-BMM01-COS	· J. Biol. Chem., Jul 2010; 285: 20580 - 20587.	168
Monocyte Culture Medium	PMC-BMMG-COS	· J. Biol. Chem., Jul 2010; 285: 20580 - 20587.	168
Monocyte Wash Medium	PMC-BMMW-COS	· J. Biol. Chem., Jul 2010; 285: 20580 - 20587.	168
mR1ECM	CSR-R-M174	· Yue Zhou *et al.*, genesis 36:129.133 (2003) · Toshihiro Aoto *et al.*, Transgenic Res 20:1245.1252, DOI 10.1007/s11248-011-9492-z (2011)	159
mR1ECM	CSR-R-M191	· Yue Zhou *et al.*, genesis 36:129.133 (2003) · Toshihiro Aoto *et al.*, Transgenic Res 20:1245.1252, DOI 10.1007/s11248-011-9492-z (2011)	159
MSR A, CD204	KAL-KT022	· Science Translational Medicine, Feb 2010; 2: 18 · Cell Host Microbe. 2009 Oct 22;6(4):343-53.	59
MULTIGEL II mini 2D-10/20	DCB-415074	· Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. · Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. · Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. · Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. · Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. · Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke · Yamane J. Nutr., Apr 2005; 135: 729 - 734. · Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

Description	Cat. No.	Citation & Reference	Page
MULTIGEL II mini 5 (13W)	DCB-443138	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 5 (17W)	DCB-443145	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 10 (13W)	DCB-414954	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 10 (17W)	DCB-414961	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 15 (13W)	DCB-443152	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

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MULTIGEL II mini 15 (17W)	DCB-443169	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 6/9 (13W)	DCB-414992	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 6/9 (17W)	DCB-415005	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 7.5 (13W)	DCB-414930	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 7.5 (17W)	DCB-414947	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

Description	Cat. No.	Citation & Reference	Page
MULTIGEL II mini 12.5 (13W)	DCB-414978	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 12.5 (17W)	DCB-414985	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 2/15 (13W)	DCB-414855	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 2/15 (17W)	DCB-414862	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 4/20 (13W)	DCB-414879	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

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MULTIGEL II mini 4/20 (17W)	DCB-414886	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 5/10 (13W)	DCB-441776	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 5/10 (17W)	DCB-443114	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 8/16 (13W)	DCB-417269	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 8/16 (17W)	DCB-417276	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419-2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409-9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75-86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729-734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

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MULTIGEL II mini 9/11 (13W)	DCB-415012	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 9/11 (17W)	DCB-415029	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 10/20 (13W)	DCB-414893	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 10/20 (17W)	DCB-414909	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 15/25 (13W)	DCB-414916	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281

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MULTIGEL II mini 15/25 (17W)	DCB-414923	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 11/14 (13W)	DCB-415036	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 11/14 (17W)	DCB-415043	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 14/16 (13W)	DCB-415050	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282
MULTIGEL II mini 14/16 (17W)	DCB-415067	• Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. • Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. • Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. • Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. • Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. • Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke • Yamane J. Nutr., Apr 2005; 135: 729 - 734. • Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	282

Description	Cat. No.	Citation & Reference	Page
MULTIGEL II mini 15/20 (13W)	DCB-432026	· Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. · Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. · Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. · Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. · Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. · Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke · Yamane J. Nutr., Apr 2005; 135: 729 - 734. · Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
MULTIGEL II mini 15/20 (17W)	DCB-443121	· Tohru Sakimoto, Takako Ohnishi, and Akiko Ishimori Invest. Ophthalmol. Vis. Sci., Apr 2014; 55: 2419 - 2423. · Kazuya Masuda, Barry Ripley, Riko Nishimura, Takashi Mino, Osamu Takeuchi, Go Shioi, Hiroshi Kiyonari, and Tadamitsu Kishimoto PNAS, Jun 2013; 110: 9409 - 9414. · Kotaro Ito, Kenichiro Matsushima, and Yasuji Koyama Appl. Envir. Microbiol., Aug 2012; 78: 5182 - 5188. · Yoshiyuki Okumura, Takeshi Matsui, Kenji Ogawa, Kei-ichi Uchiya, and Toshiaki Nikai J. Med. Microbiol., Jul 2008; 57: 803 - 808. · Yukio Kimata, Yuki Ishiwata-Kimata, Tatsuhiko Ito, Aiko Hirata, Tomohide Suzuki, Daisuke Oikawa, Masato Takeuchi, and Kenji Kohno J. Cell Biol., Oct 2007; 179: 75 - 86. · Byambaa Enkhmaa, Kuninori Shiwaku, Takuya Katsube, Keiko Kitajima, Erdembileg Anuurad, Masayuki Yamasaki, and Yosuke · Yamane J. Nutr., Apr 2005; 135: 729 - 734. · Alejandro Sanchez-Arreguin, Ana Silvia Perez-Martinez, and Alfredo Herrera-Estrella Eukaryot. Cell, Jan 2012; 11: 30 - 41.	281
Ubiquitin, Chain	NBT-MFK-001	· Cell Host Microbe. 2009 Oct 22;6(4):367-80.	92
Anti Na+/K+ ATPase	LSL-LB-6198	· Invest. Ophthalmol. Vis. Sci., Aug 2010; 51: 3935 - 3942.	60
Nanog	REC-RCAB0001P	· Mech Dev. 2008 Mar-Apr;125(3-4):270-83. · Dev Biol. 2008 Jan 15;313(2):594-602. · Dev Cell. 2006 May;10(5):615-24. · Dev Biol. 2008 Jan 15;313(2):614-29 · Development, Dec 2009; 136: 4011 - 4020.	60
Nanog	REC-RCAB0002P-F	· J. Biol. Chem., Feb 2009; 284: 3709 - 3718. · J. Biol. Chem., Mar 2009; 284: 6998 - 7006. · Mol. Cell. Biol., Apr 2009; 29: 2092 - 2104. · J. Biol. Chem., Sep 2009; 284: 24981 - 24987. · Dev Biol. 2010 Jul 1;343(1-2):71-83 · Development, Jul 2010;	60
Nanog	REC-RCAB0004P-F	· Circ. Res., Feb 2009; 104: e30 - e41. · Hum. Reprod., Jun 2009; 24: 1480 - 1491.	60
NAP1L1	CBX-CBX00592	· Okada M. *et al.*, Experimental Cell Research 20 2853-63 (2011)	60
Nitroguanosine	CAC-KMU-P01	· Cancer Prevention Research, Mar 2011; 4: 445 - 453.	62
NK cells	BIJ-FN100-1	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
NK cells	BIJ-FN105-10	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
NK cells	BIJ-FN105-5	· Xuewen Deng *et al.*, Int Immunopharmacol 14 (2012) 593-605 · Xuewen Deng *et al.*, 18th ISCT Annual Meeting 2012 · Xuewen Deng *et al.*, 19th ISCT Annual Meeting 2013	175
Nup62	BAM-70-305EX	· Fukuhara T. *et al.*, Hybridoma 25: 51-59 (2006) PMID 16704304 · Maeshima K. *et al.*, J Cell Sci 119: 4442-4451 (2006) PMID 17074834	64
Nup98	BAM-70-345EX	· Iwamoto M. *et al.*, (2013) Monoclon Antib Immunodiagn Immunother. 32: 81-90 PubMed ID: 23607342 WB, IF	64
Nup98	BAM-70-346EX	· Iwamoto M. *et al.*, (2013) Monoclon Antib Immunodiagn Immunother. 32: 81-90 PubMed ID: 23607342 WB, IF	64
Osteocalcin	LSL-LB-4005	· Blood, Sep 2009; 114: 2333 - 2343. · Am J Physiol Renal Physiol, Aug 2009; 297: F481 - F488. · PNAS, Sep 2009; 106: 15436 - 15441.	65
Osteopontin	LSL-LB-4225	· J Histochem Cytochem. 2008 Dec;56(12):1075-86. Epub 2008 Sep 2. · Am J Physiol Renal Physiol, Mar 2010; 298: F609 - F616. · Journal of Histochemistry & Cytochemistry, May 2011; 59: 518 - 529.	65
PAX8 (Paired box gene 8)	CBX-CBX00285	· J. Am. Soc. Nephrol., Nov 2009; 20: 2403 - 2411.	66
Pentosidine	KAL-KH012	· Bone. 2011 Aug;49(2):174-83	67

Description	Cat. No.	Citation & Reference	Page
Pentraxin 3 / TSG-14 ELISA System	PPX-PP-PD03-E0	・Inoue K, Sugiyama A, Reid PC, Ito Y, Miyauchi K, Mukai S, Sagara M, Miyamoto K, Satoh H, Kohno I, Kurata T, Ota H, Mantovani A, Hamakubo T, Daida H, Kodama T. Arterioscler Thromb Vasc Biol. 2007 ; 27(1) : 161-7. ・Imamura M, Kawasaki T, Savchenko AS, Ohashi R, Jiang S, Miyamoto K, Ito Y, Iwanari H, Sagara M, Tanaka T, Hamakubo T, Kodama T, Uchiyama M, Naito M. Cell Immunol. 2007 ; 248(2) : 86-94. ・Tong M, Carrero JJ, Qureshi AR, Anderstam B, Heimburger O, Barany P, Axelsson J, Alvestrand A, Stenvinkel P, Lindholm B, Suliman ME. Clin J Am Soc Nephrol. 2007 ; 2(5) : 889-97. ・Suzuki S, Takeishi Y, Niizeki T, Koyama Y, Kitahara T, Sasaki T, Sagara M, Kubota I. Am Heart J. 2008 ; 155(1) : 75-81. ・Kotooka N, Inoue T, Fujimatsu D, Morooka T, Hashimoto S, Hikichi Y, Uchida T, Sugiyama A, Node K. Atherosclerosis. 2008 ; 197(1) : 368-74. ・Savchenko A, Imamura M, Ohashi R, Jiang S, Kawasaki T, Hasegawa G, Emura I, Iwanari H, Sagara M, Tanaka T, Hamakubo T, Kodama T, Naito M. J Pathol. 2008 ; 215(1) : 48-55. ・Kato S, Ochiai M, Sakurada T, Ohno S, Miyamoto K, Sagara M, Ito M, Takeuchi K, Imaki J, Itoh K, Yakabi K. Dig Dis Sci. 2008 ; 53(7) : 1910-6. ・Kotooka N, Inoue T, Aoki S, Anan M, Komoda H, Node K. Int J Cardiol.	105
PERIOD2	KAL-KI045	・Cell. 2007 January 12; 128(1): 59-70.	67
POGZ	BAM-70-112-EX	・Nozawa R.S *et al.*, Nat. Cell Biol. 12 719-727 (2010)	70
PPAR α	PPX-PP-H0723-00	・Tachibana K, *et al.*, . Nucl Recept. 2005; 3: 3	71
Protein Carbonyls Immunohistochemical Staining Kit (50 slides)	SML-ROIK04-EX	・Drug Metab. Dispos., Oct 2010; 38: 1665 - 1672.	150
Protein carbonyls western blot detection kit(15Blots)	SML-ROIK03-EX	・Drug Metab. Dispos., Oct 2010; 38: 1665 - 1672.	151
Rad51	BAM-62-101-EX	・Nucleic Acids Res., Mar 2011; 39: 1718 - 1731.	75
RAGE	KAL-KG134	・Chem Biol Interact. 2011 May 30;191(1-3):357-63.	75
Ragweed Pollen Extract	LSL-LG-5889	・Ishida W *et al.*, Br J Ophthalmol. 12 1680-85 (2009) ・Sumi T *et al.*, Immunol Lett. 1 32-40 (2006)	215
RBP-Jk	SIM-2ZRBP1	・Genes & Dev., Mar 2010; 24: 590 - 601. ・PLoS One. 2010; 5(8): e12172 ・J. Immunol., Jun 2009; 182: 7381 - 7388.	76
RBP-Jk	SIM-2ZRBP2	・Dev Biol. 2010 Jan 15;337(2):386-95. ・J. Virol., Dec 2009; 83: 12368 - 12377. ・J. Am. Soc. Nephrol., May 2010; 21: 819 - 832. ・Virology. 2011 May 25;414(1):19-25. ・J. Immunol., Jun 2009; 182: 7381 - 7388.	76
Rhodopsin	LSL-LB-5555	・Development, May 2010; 137: 1563 - 1571.	77
RREB1	CBX-CBX00717	・Am J Pathol. 2011 Jul;179(1):477-86.	78
S-100 Protein	LSL-LB-9197	・PNAS, Nov 2011; 10.1073/pnas.1110013108.	79
Schwann Cell peripheral myelin	CAC-GU01-M01AS-A	・J. Neurosci., Mar 2011; 31: 4569 - 4582. ・Invest. Ophthalmol. Vis. Sci., Jan 2012; 53: 68 - 75 ・J Neurosci., December 15, 2000, 20(24):9215-9223	79
SMP 30	SML-ROI001-EX	・PLoS One. 2011; 6(2): e16545	82
SUMO1	BAM-70-654EX	・Uchimura Y *et al.*, J Biol Chem 281: 23180-23190 (2006) PMID: 16757475	84
TDP-43, phospho Ser409/410	CAC-TIP-PTD-M01	・J. Neurol. Neurosurg. Psychiatry, Jun 2014; 85: 684 - 691 ・FEBS Lett. 2009 Jul 21;583(14):2419-24 ・Proc Natl Acad Sci U S A. 2009 May 5;106(18):7607-12. Epub 2009 Apr 21. ・J. Biol. Chem., Apr 2011; 286: 13171 - 13183. ・J. Biol. Chem., May 2011; ・Nicole F. Liachko, Chris R. Guthrie, and Brian C. Kraemer J. Neurosci., Dec 2010; 30: 16208 - 16219.	86
TDP-43, phospho Ser409/410-1	CAC-TIP-PTD-P01	・Azusa Uchida, Hiroki Sasaguri, *et al.*, Brain, Mar 2012; 135: 833 - 846. ・Hiroshi Tsuji *et al.*, Brain, Nov 2012; 135: 3380 - 3391.	86
TDP-43, phospho Ser409/410-2	CAC-TIP-PTD-P02	・J. Neurosci., Jan 2012; 32: 1273 - 1283. ・PNAS, May 2013; 110: 7778 - 7783	86
TDP-43, phospho Ser403/404	CAC-TIP-PTD-P05	・J. Neurosci., May 2014; 34: 6448 - 6458 ・J. Neurol. Neurosurg. Psychiatry, Jun 2014; 85: 684 - 691. ・J. Neurosci., Aug 2010; 30: 10851 - 10859. ・Toxicol Lett. 2011 Feb 25;201(1):58-61 ・J Neurol Psychiatry, Dec 2013; 10.1136/jnnp-2013-305972.	86
TDP-43 (3-12)	CAC-TIP-TD-P07	・PNAS, Feb 2012; 10.1073/pnas.1112427109.	86
TDP-43 (405-414)	CAC-TIP-TD-P09	・PLoS One. 2010; 5(10): e13250 ・Proc Natl Acad Sci U S A. 2013 Mar 26;110(13):4986-91. ・J. Biol. Chem.,Feb 2013; 288: 3641 - 3654. ・PNAS, Mar 2013; 110: 4986 - 4991	86
Testosterone-3 (E)	FKA-102	・J. Exp. Biol., Jan 2009; 212: 56 - 70.	87
Testosterone-3-HRP	FKA-101	・J. Exp. Biol., Jan 2009; 212: 56 - 70.	127
TNP-BSA	LSL-LG-1117	・J. Leukoc. Biol., Jul 2009; 86: 167 - 179. ・J. Leukoc. Biol., Dec 2009; 86: 1365 - 1375. ・J Leukoc Biol. 2008 May;83(5):1218-29	215
Phospho-TRPV 1 (Ser800)	KAL-KM112	・Gao H, Miyata K, Bhaskaran MD, Derbenev AV, Zsombok A. Diabetes. 2012 Jun;61(6):1381-90. doi: 10.2337/db11-0820. Epub 2012 Apr 9. ・Mandadi S, Tominaga T, Numazaki M, Murayama N, Saito N, Armati PJ, Roufogalis BD, Tominaga M. Pain. 2006 Jul;123(1-2):106-16. Epub 2006 Mar 27. ・Lee J, Chung MK, Ro JY. Biochem Biophys Res Commun. 2012 Jul 27;424(2):358-63. doi: 10.1016/j.bbrc.2012.07.008. Epub 2012 Jul 10.	69

Description	Cat. No.	Citation & Reference	Page
Va-YSG Medium	KYO-08901	・Keiichi Goto, Kaoru Mochida, Yuko Kato, Mika Asahara, Rieko Fujita, Sun-Young An, Hiroaki Kasai, and Akira Yokota Int J Syst Evol Microbiol, Jun 2007; 57: 1276 - 1285.	114
Visceral Adipocyte Culture Kit V-1 ver.2	PMC-VAC22-COS	・Akieda-Asai S., *et al.,* J Lipid Res. 1 85-96 (2013)	166
Vitamin C, Assay kit	SML-ROIK02-EX	・Pialoux V, Hanly PJ, Foster GE, Brugniaux JV, Beaudin AE, Hartmann SE, Pun M, Duggan CT, Poulin MJ. Am J Respir Crit Care Med. 2009 Nov 15;180(10):1002-9. Epub 2009 Aug 27.	151
BONE RESORPTION ASSAY PLATE 24	CSR-BRA-24P	・Chih-Hsin Kuo *et al.,* arcinogenesis, 34. 11 2600-2609 (2013) ・Claire Fabre, Naoya Mimura, Katharyn Bobb, *et al.,* Clin Cancer Res. 18, 4669-4681 (2012) ・Kim J. *et al.,* Cell. Biochem. 113:247–259 (2012)	162
BONE RESORPTION ASSAY PLATE 48	CSR-BRA-48P	・Chih-Hsin Kuo *et al.,* arcinogenesis, 34. 11 2600-2609 (2013) ・Claire Fabre, Naoya Mimura, Katharyn Bobb, *et al.,* Clin Cancer Res. 18, 4669-4681 (2012) ・Kim J. *et al.,* Cell. Biochem. 113:247–259 (2012)	162
BONE RESORPTION ASSAY KIT 24	CSR-BRA-24KIT	・Chih-Hsin Kuo *et al.,* arcinogenesis, 34. 11 2600-2609 (2013) ・Claire Fabre, Naoya Mimura, Katharyn Bobb, *et al.,* Clin Cancer Res. 18, 4669-4681 (2012) ・Kim J. *et al.,* Cell. Biochem. 113:247–259 (2012)	162
BONE RESORPTION ASSAY KIT 48	CSR-BRA-48KIT	・Chih-Hsin Kuo *et al.,* arcinogenesis, 34. 11 2600-2609 (2013) ・Claire Fabre, Naoya Mimura, Katharyn Bobb, *et al.,* Clin Cancer Res. 18, 4669-4681 (2012) ・Kim J. *et al.,* Cell. Biochem. 113:247–259 (2012)	162

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Unique

Antibodies for Neurodegenerative Disease Research

4R-tau | *C9orf72* | TDP-43 | α-Synuclein

In rapid aging of society, neurodegenerative diseases such as **Alzheimer's disease**, **amyotrophic lateral sclerosis (ALS)**, and **Parkinson's disease** are widely-recognized as a serious problem that needs to be addressed. These unique antibodies offered exclusively by Cosmo Bio are powerful tools in advancing our understanding of neurodegenerative pathologies and mechanisms.

Anti 4R-tau antibody

This anti-4R antibody recognizes 4-repeat tau (4R-tau) isoforms regardless of the deamidation at Asn279 and strongly stains 4R-tau isoforms in AD brain.

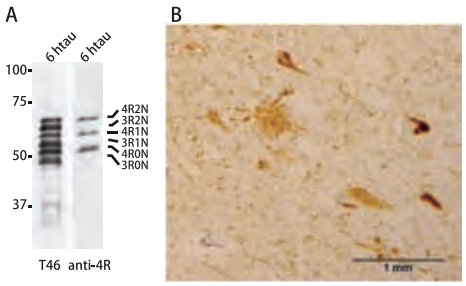


Fig. 1

A: Immuno blot analysis of 6 human tau isoforms (3-repeat and 4-repeat) with anti-tau (T46) and anti-4R (CAC-TIP-4RT-P01).

B: Immuno staining of paraffin embedded section of cerebral cortex prepared from AD brain (pretreated with proteinase K and formic acid)

Anti C9orf72 antibodies

Antibodies raised against dipeptide repeat sequences encoded by *C9ORF72* expansions stain the p62-psositive inclusions in FTLD and motor neuron disease.

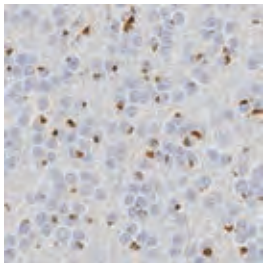


Fig. 2

Immunostaining of the cerebellum of C9orf72 case for poly-GA protein with anti-GA antibody (CAC-TIP-C9-P01) (By the courtesy of Drs Tada and Takahashi in Niigata Univ).

Anti phosphorylated TDP-43 antibodies

Phosphorylated TDP-43 accumulates in pathological inclusions in brains with FTLD-TDP, ALS, AD, DLB and other neurodegenerative diseases.

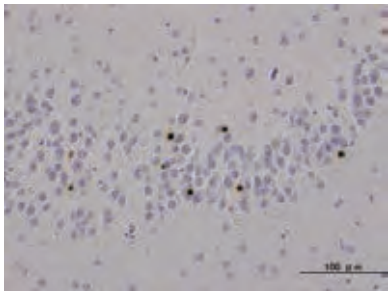


Fig.3 NCIs in dentate gyrus of FTLD-TDP

MAb pS409/410 stains ubiquitin-positive inclusions in FTLD-TDP and ALS without nuclear staining. This does not stain ghost tangles and granulovacuolar degeneration in AD and other related diseases.

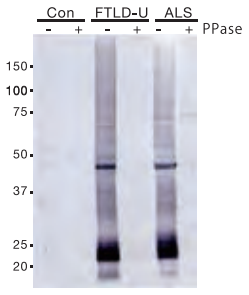
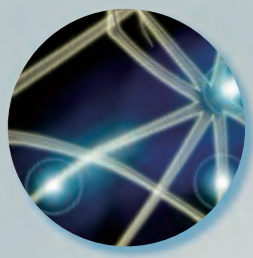


Fig.4

Immunoblot analysis of Sarkosyl-insoluble fractions from control, FTLD-TDP and ALS brains with or without protein phosphatase (PPase) treatment.

Anti α-Synuclein Antibodies

Fine tune your α-synuclein research with these antibodies raised against linear epitopes scanning the human α-synuclein sequence.



Antibodies for Neurodegenerating Disease Research

4R-tau | C9orf72 | TDP-43 | α-Synuclein

Anti 4R-tau Antibody

Description	Host	Immunogen	Cross reactivity	Application	Cat. No.	Quantity
Anti 4R-tau	Rabbit	Human	Human, Mouse, Rat	WB/IHC	CAC-TIP-4RT-P01	50 µL

Anti C9orf72 Antibodies

Description	Host	Immunogen	Cross reactivity	Application	Cat. No.	Quantity
Anti C9orf72 (Poly-GA)	Rabbit	Human	Human	ELISA/IHC	CAC-TIP-C9-P01	50 µL
Anti C9orf72 (Poly-GR)	Rabbit	Human	Human	ELISA/IHC	CAC-TIP-C9-P02	50 µL
Anti C9orf72 (Poly-GP)	Rabbit	Human	Human	ELISA/IHC	CAC-TIP-C9-P03	50 µL

Anti Phosphorylated TDP-43 Antibodies

Description	Host	Immunogen	Cross reactivity	Application	Cat. No.	Quantity
Anti TDP-43, phospho Ser409/410	Mouse	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-M01	50 µL
Anti TDP-43, phospho Ser409/410-1	Rabbit	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-P01	100 µL
Anti TDP-43, phospho Ser409/410-2	Rabbit	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-P02	100 µL
Anti TDP-43, phospho Ser409	Rabbit	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-P03	100 µL
Anti TDP-43, phospho Ser410	Rabbit	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-P04	100 µL
Anti TDP-43, phospho Ser403/404	Rabbit	Human	Human	WB/ELISA/IHC	CAC-TIP-PTD-P05	100 µL

【Related products】TDP-43 (Native) Rabbit Antibodies

Description	Host	Immunogen	Cross reactivity	Application	Cat. No.	Quantity
Anti TDP-43 (3-12)	Rabbit	Human	Human, Rat	WB/ELISA/IHC	CAC-TIP-TD-P07	100 µL
Anti TDP-43 (405-414)	Rabbit	Human	Human, Rat	WB/ELISA/IHC	CAC-TIP-TD-P09	100 µL

Anti α-Synuclein Antibodies

Description	Host	Cross reactivity	Application	Cat. No.	Quantity
Anti α-Synuclein (1-10)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P01	50 µL
Anti α-Synuclein (11-20)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P02	50 µL
Anti α-Synuclein (21-30)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P03	50 µL
Anti α-Synuclein (31-40)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P04	50 µL
Anti α-Synuclein (41-50)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P05	50 µL
Anti α-Synuclein (51-60)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P06	50 µL
Anti α-Synuclein (61-70)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P07	50 µL
Anti α-Synuclein (75-91)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P08	50 µL
Anti α-Synuclein (131-140)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-P09	50 µL
Anti α-Synuclein (9 antibodies set)	Rabbit	Human/Mouse	IHC/ELISA/WB	CAC-TIP-SN-SET	9x10 µL

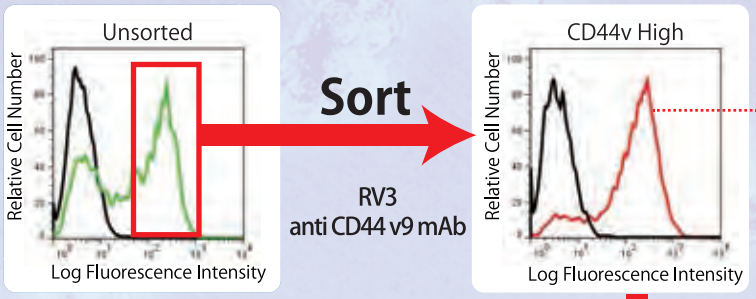
Cancer Stem Cell Enrichment Antibodies!

CD 44 v mAb

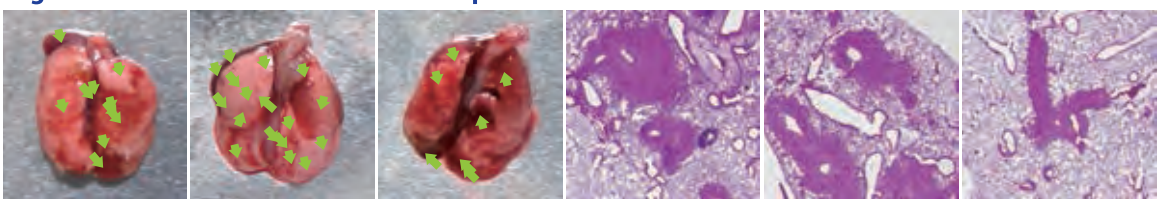
Powerful tools for *in vivo* CSC drug discovery and basic cancer research

Variant isoforms of CD44 (CD44v) are preferentially expressed on cancer stem cells (CSC). These highly specific **CD44v monoclonal antibodies** are well characterized and highly recommended for measuring CD44v expression by flow cytometry and **for enrichment of CSC populations by cell sorting.**

In vivo Lung metastasis assay study showing the high efficiency of CD44 v9-High cell populations sorted from the human pancreatic cancer cell line AsPC-1 to colonize mouse lung.



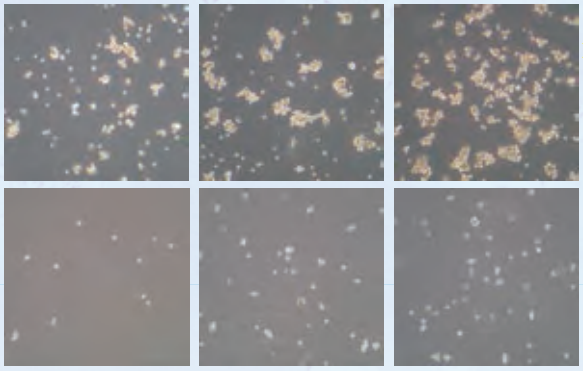
High metastasis formation in a CSC-dependent manner



Green arrows indicate readily observable metastatic colonies following injection of sorted CD44 v9-High cells into mice.
H&E staining is shown at right.

The high efficiency of metastasis (colony) formation by CD44 v9-High cells presents an opportunity to assay the effectiveness of new anti-CSC therapeutic strategies.

In vitro Sphere formation assays with CD44 v9-sorted human PC3 prostate cancer cells



Enriched CSC
High-CSC Population

Low-CSC Population

1,250 2,500 5,000 cells/well

Efficient sphere (tumor) formation by CD44 v9-High cells.

The high efficiency of sphere formation by CD44 v9-High cells presents an opportunity to assay the effectiveness of new anti-CSC therapeutic strategies.

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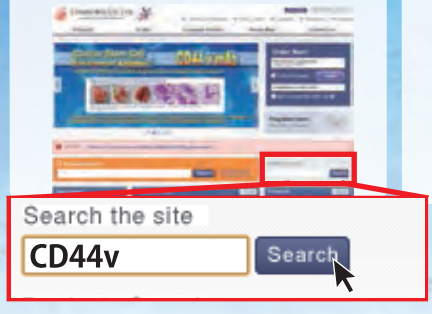

Order Information

Description	Host	Clone	Application	Cat. No.	Quantity
Anti Human CD44 v9	Rat	RV3	FCM/ IHC/ IF /WB/ IP/ ELISA	CAC-LKG-M001	100 µg
Anti Mouse CD44 v10-e16	Rat	RM1	FCM	CAC-LKG-M002	100 µg

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COSMO BIO CO., LTD.
TOYO EKIMAE BLDG. 2-20, TOYO 2-CHOME,
KOTO-KU. TOKYO 135-0016, JAPAN
TEL : (81)3-5632-9617
FAX : (81)3-5632-9618
e-mail : export@cosmobio.co.jp
URL : www.cosmobio.com

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