

BioChain's cfPure™

A New Solution for Cell Free DNA Extraction

Cell Free DNA Extraction Kit for Genomic Research

BioChain's cfPure™ Cell Free DNA Purification Kit is designed for rapid and efficient purification of circulating cell free DNA (cfDNA). The system utilizes silica-coated paramagnetic particles to purify cfDNA from less than 1 mL to greater than 10 mL of serum or plasma. The buffers were developed to ensure efficient recovery of 100 bp - 500 bp DNA fragments in order to maximize recovery of cfDNA. The recovered DNA is suitable for a wide range of downstream applications, such as bisulfite sequencing, NGS, and qPCR.

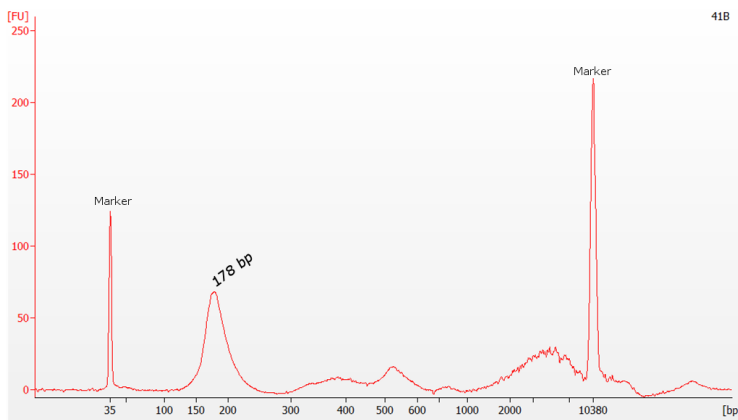


Figure 1. cfPure™ cell free DNA extraction kit was used to isolate DNA from 5 mL of healthy human plasma. 28.3 ng of cfDNA (150-200 bp fragments) were recovered, with good representation of the 150 bp - 500 bp fragments characteristics of cell free DNA (cfDNA).

Key Features

- Scalable and automation-friendly
- Time and cost efficient
- Magnetic bead-based purification method
- Optimized protocol gives highly reproducible results
- Higher yields relative to other magnetic bead-based methods

Applications:

- PCR
- qPCR
- Next generation sequencing (NGS)
- Bisulfite sequencing

Plasma ID	Total DNA Recovered (ng)
A	7.00
A	7.05
B	32.45
B	33.50
C	26.80
C	27.70
D	10.90
D	10.90

Table 1. DNA was extracted from 1 mL of plasma from 4 different human donors in duplicate using the cfPure™ cell free DNA extraction kit.

Efficient Recovery of cfDNA Relative to Competition

Extraction Kit	Sample ID	cfDNA recovered per ml of plasma (ng)	115 nt ALU sequence cfDNA per ml of plasma (ng) (by PCR)
Competitor T	1	4.99	1.97
BioChain's cfPure™	1	6.35	2.53
Competitor T	2	6.18	3.21
BioChain's cfPure™	2	8.28	3.93
Competitor T	3	6.93	3.79
BioChain's cfPure™	3	7.50	3.87

Table 2. cfDNA was purified from 2 mL of plasma from three different donors by either the cfPure™ Cell Free DNA Extraction Kit or by a competitor's magnetic bead-based cell free DNA extraction kit. DNA recovery was assessed either by a fluorescent method or by qPCR using primers complimentary to ALU sequence DNA.

Similar Performance in Next Generation Sequencing (NGS) to other methods

Sample Name	Competitor Q		BioChain's cfPure™	
On-Target Reads	99.3%	99.4%	99.4%	99.4%
Mapped Reads	97.4%	99.2%	96.6%	99.1%

Table 3. cfDNA extracted from human plasma by either the cfPure™ Cell Free DNA Extraction Kit or by a competitor's spin column-based cfDNA extraction kit were subjected, in duplicate, to next generation sequencing (NGS).

Catalog No.	Product	Unit
K5011610	cfPure™ Cell Free DNA Purification System	100 (1 mL) preps 10 (10 mL) preps
K5011625	cfPure™ Cell Free DNA Purification System	250 (1 mL) preps 25 (10 mL) preps

Please inquire about our other kits and applications.