lab on a bead®
Beadsurface Biotechnology

# LOABeads™ MagSep

Magnetized Bioseparation


## Magnetic Bead Affinity Chromatography (MBAC)

- Purify proteins from analytical to preparative lab scale, using neodymium magnetic separators and LOABeads magnetic agarose particles.
- For microcentrifuge tubes, 15 and 50 ml tubes, as well as 500 ml bottles.
- Easy to use platform that needs no instruments.

# LOABeads™ MagSep

Laboratory magnetic separators that combined with LOABeads magnetic agarose beads bring magnetic bead affinity chromatography (MBAC) to preparative lab-scale purification levels. The straightforward system is highly scalable, from 0.5 to 500 ml sample volumes, and allows time-saving parallell sample handling. MBAC can be either a complement to chromatograhy instruments or a complete substitute (Fig 1).

The LOABeads MagSep separators houses strong neodymium magnets in a durable plastic shell, which is made to fit standard tubes and bottles. Separation of the magnetic beads is rapid (see Product data) and removal of liquid can be done while the beads are safely held against the tube walls.

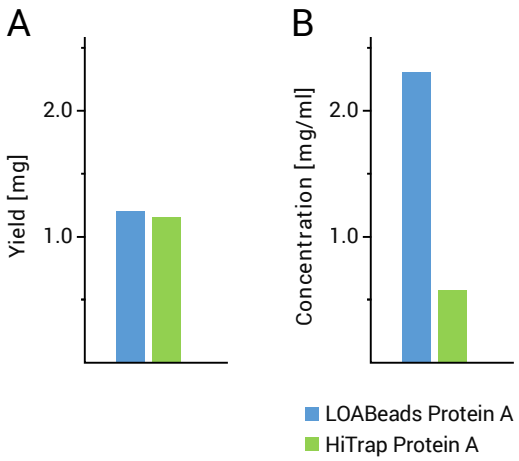


**Fig 1.** Comparison of magnetic bead versus column chromatography on small scale purification of mouse monoclonal antibody from ascites. 0.5 ml ascites in 0.5 ml PBS were either purified with 50 µl LOABeads Protein A or a 1 ml HiTrap® column coupled to a chromatography instrument. Elution was perfomed with 0.5 ml (magnetic beads) or 2.0 ml (column), using 60 mM citrate, pH 3.0.

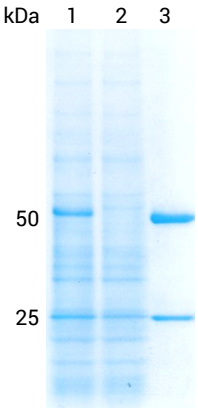


**Fig 2**.Purification of a humanized monoclonal antibody from 20 ml CHO cell harvest media was performed with 100 µl settled LOABeads MabBind A particles. A 50 ml tube was used for the adsorption step and for the initial separation the LOABeads MagSep 15/50 separator was used. During wash and elution, the beads were separated using a handheld cube magnet in a mictrocentrifuge tube.Purity was visualized by SDS-PAGE under reducing conditions. Harvest input (lane 1), harvest unbound (lane 2), and 3 µg eluted IgG antibody (lane 3).

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# Product data

| LOABeads | MagSep 15/50 | | MagSep 500 |
|---|---|---|---|
| Tube/bottle[1] | 15 ml | 50 ml | 500 ml |
| Sample volume | 3–15 ml | 10–50 ml | 100–500 ml |
| Bead range[2] | 5 µl to 1 ml | 10 µl to 4 ml | 1–30 ml |
| Separation time | 10 sec | 15 sec | 3–5 min |
| Diameter | 123 mm | | 176 mm |
| Height | 119 mm | | 148 mm |
| Weight | 0.4 kg | | 2.0 kg |

[1] Standard 15 and 50 ml polypropylene centrifuge tube or 500 ml borosilicate bottle.
[2] The practical amount of settled beads that can be used.

# Usage

The handheld cube magnet is suitable for working at analytical scale in a microcentrifuge tube, as well as for scouting an optimal purification setup.

The LOABeads MagSep 15/50 separator handles standard 15 and 50 ml centrifuge tubes, which work well for both analytical and preparative separations.

With LOABeads MagSep 500, magnetic separation from 500 ml volumes is readily performed. Excellent for purification from larger tissue lysate volumes or monoclonal antibodies from a cell culture harvest.

The two LOABeads MagSep devices and the cube magnet can be readily combined to capture target proteins from a larger volume and then perform wash and elution in a smaller volume.

**Fig 3**. A 500 ml flask containing LOABeads magnetic particles, after separation and removal of liquid in the LOABeads MagSep 500 separator.

# Ordering information

| Products | Quantity | Product No. |
|---|---|---|
| NdFeB cube magnet | 1 | 2001 |
| LOABeads MagSep 15/50 | 1 | 3001 |
| LOABeads MagSep 500 | 1 | 4001 |

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