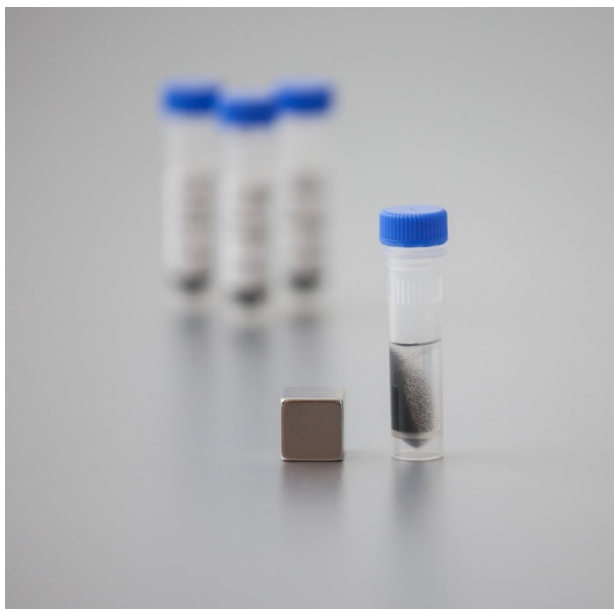


MAGic™ Beads custom

Magnetic agarose beads for custom coupling

User Instruction



MAGic Bioprocessing

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Please read through this manual carefully before using MAGic™ Beads custom.

Intended use

For research use only.

1. General information

MAGic™ Beads custom provides a simple and effective system for small to medium scale isolation using magnetic separation techniques. The quantity of high capacity beads can easily be scaled up or down to match the antibody concentration and sample volume. The beads are suitable for separations using appropriate magnetic separators, such as the MAGic™Accio LAB (Product No. 2000, 2100), MAGic™Accio PILOT 50 (Product No. 2200), MAGic™Accio PILOT 500 (Product No. 2300) and MAGic™Accio PILOT 2000 (Product No. 2400)

MAGic™ Beads custom consists of super-paramagnetic agarose beads covalently coupled with an custom ligands, for instance: protein G, Streptavidin, or protein A for immunoprecipitation. For purification of antibodies from serum and ascites, we recommend the extra-high capacity resin MAGic™Beads SerA (Product No. 1200).

The MAGic™ Beads custom magnetic particles are easily attracted to external magnets, allowing efficient separation. The agarose matrix enables minimal nonspecific binding of proteins due to its hydrophilic nature. The black beads are easily observed by the naked eye, making them easy to follow and collect, and they do not aggregate, which facilitates the resuspension.

2. Product data

Table 1. Characteristics for MAGic™Beads Alkali A

Matrix	Super-paramagnetic agarose
Product	MAGic™ Beads custom, 10% bead suspension
Ligand	-
Particle size	45–165 µm
Practical binding capacity	depended on the custom ligand
Maximum binding capacity	depended on the custom ligand
Binding conditions	depended on the custom ligand
Elution conditions	depended on the custom ligand
Alkali sanitization	depended on the custom ligand
Storage	+2 to +8°C in PBS with 20% ethanol.
Stability ³	depended on the custom ligand
Reusability	depended on the custom ligand

3. Materials supplied

- MAGic™ Beads custom supplied as a 10% bead suspension in PBS with 20% ethanol. 10 ml 10% bead suspension contains 1 ml beads.

4. Additional materials needed

- **Washing buffer** – For washing of beads, use PBS (137 mM NaCl, 2.7 mM KCl, 10 mM phosphate, pH 7.4) or similar recipe, e.g., 15 mM phosphate pH 7.4, 150 mM NaCl.
- **Elution buffer** – depended on the custom ligand
- **Neutralization buffer** – depended on the custom ligand
- **Sanitization buffer** – depended on the custom ligand
- **Storage buffer** – Store beads in PBS containing 20% ethanol.
- **Mixer** – Mix samples during incubations using an end-over-end mixer, a benchtop shaker, or a rocking table. Manual inversion of the vial can also be applied.
- **Magnetic separator** – MAGic™Accio LAB (Product No. 2000, 2100) are suitable for separations in 0.5–5 ml volumes. For separation of volumes larger than 5 ml, use MAGic™Accio PILOT 50 (Product No. 2200) for volumes up to 50 ml, MAGic™Accio PILOT 500 (Product No. 2300) for volumes up to 500 ml, or MAGic™Accio PILOT 2000 (Product No. 2400) for volumes up to 2000 ml(Section 13).
- Additional vials/tubes, pipettes and pipette tips.

5. Handling instructions

Dispensing the bead suspension

- The bead suspension should be well suspended before dispensing. Mix thoroughly by manual inversion or by vortexing, between each pipetting from the vial.

Magnetic bead separation

- MAGic™Accio LAB can be used to collect the beads from liquid volumes up to 5 ml. For volumes from 5 ml up to 50 ml it is recommended to use the MAGic™Accio PILOT 50 separator. Use the MAGic™Accio PILOT 500 separator for volumes up to 500 ml or the MAGic™Accio PILOT 2000 for volume up to 2000 ml (Section 13). Refer to the manual of the separators for detailed instructions.
- Use the magnetic separator to attract the magnetic agarose beads to the wall of the test tube or bottle before each liquid removal step.
- Remove liquid carefully, trying not to disturb the magnetic beads. To avoid sample loss, make sure that no beads are removed.
- Move the tube away from the magnetic field, add new liquid and resuspend the beads by mixing.

Incubation

- Incubations should be performed with continuous mixing, using either an end-over-end apparatus, a bench-top shaker, or a rocking table. Short incubations, e.g., for elution, can be performed by using manual mixing/inversion of the test tube or bottle.
- Binding and elution can be performed at room temperature, as well as in a cold room.

6. Product operation

Intended use

- This product is intended for purification from cell culture media.

Bead input

- The amount of beads and the binding time strongly depends on the custom ligand and target concentration in the sample. See Section 8 for advice.

Binding

- Depending on the custom ligand
- Purification can be performed directly in cell culture media, without diluting the sample. However, the pH must be within the given range. Always check the pH of the sample and, if necessary, adjust accordingly by using a suitable high molar Tris-buffer.

Washing

- In most applications, it is sufficient to wash the beads with PBS (137 mM NaCl, 2.7 mM KCl, 10 mM phosphate, pH 7.4).
- In some cases, a more stringent wash using high salt, e.g., 0.5–1 M NaCl, or the addition of a suitable detergent, e.g., 0.1–1.0% Tween® 20, can be beneficial.

Elution

- Depending on the custom ligand

Note: Bead volume is the volume of settled beads, i.e., 10% of the delivered bead suspension volume. 10 ml bead suspension corresponds to 1 ml bead volume.

Regeneration of magnetic beads

- The beads can normally be used multiple times without loss in binding capacity and selectivity.
- To regenerate the beads, wash a minimum of three times with 10 bead volumes elution buffer and twice with 10 bead volumes PBS.

Cleaning

- Depending on the custom ligand

Storage

- The MAGic™ Beads custom should be stored as a 10% bead suspension at +2 to +8°C in PBS containing 20% ethanol.

Optimization

The general recommendations in this manual are suitable for most sample types. However, optimization may be needed to obtain maximum recovery. Parameters that may require optimization are:

- Binding time
- Amount of beads
- Buffers (washing and elution buffer)
- Number of washes
- Elution time

7. Practical notes

- Beads caught in the lid or on the walls of the reaction vial can be recovered by washing with solution using a pipette or removed with a quick spin in a microcentrifuge.
- If low amount of antibody is recovered, increase the amount of magnetic beads and/or increase the time of incubation.
- It is recommended to optimize the coupling time.
- If foam has been developed during the adsorption step of the cell culture media, it will usually be removed during the subsequent wash step with PBS.
- When reusing beads, it is recommended to avoid any cross-contamination between purification runs.
- If there is a need to elute in a smaller volume than is possible with the magnetic separators, the magnetic beads can be transferred and eluted using a basic gravity flow column setup.

8. Disclaimer

The product is not fully tested. For research use only.

Tween is a registered trademark of Croda Americas LLC

9. Ordering information

Product	Quantity	Product No.
MAGic™ Beads custom	1 ml beads	1001
MAGic™ Beads custom	5 ml beads	1002
MAGic™ Beads custom	25 ml beads	1003
MAGic™ Beads custom	50 ml beads	1004
MAGic™ Beads custom	250 ml beads	1005
MAGic™ Beads custom	1 l beads	1006
MAGic™ Beads PrtA	1 ml beads	1101
MAGic™ Beads PrtA	5 ml beads	1102
MAGic™ Beads PrtA	25 ml beads	1103
MAGic™ Beads PrtA	50 ml beads	1104
MAGic™ Beads PrtA	250 ml beads	1105
MAGic™ Beads PrtA	1 l beads	1106
MAGic™ Beads PrtG	1 ml beads	1401
MAGic™ Beads PrtG	5 ml beads	1402
MAGic™ Beads PrtG	25 ml beads	1403
MAGic™ Beads PrtG	50 ml beads	1404
MAGic™ Beads PrtG	250 ml beads	1405
MAGic™ Beads PrtG	1 l beads	1406
MAGic™ Beads Streptavidin	1 ml beads	1601
MAGic™ Beads Streptavidin	5 ml beads	1602
MAGic™ Beads Streptavidin	25 ml beads	1603
MAGic™ Beads Streptavidin	50 ml beads	1604
MAGic™ Beads Streptavidin	250 ml beads	1605
MAGic™ Beads Streptavidin	1 l beads	1606

Related products	Product No.
MAGic™ Beads ACT	1300
MAGic™ Accio LAB rack	2000
MAGic™ Accio LAB cube	2100
MAGic™ Accio PILOT 50	2200
MAGic™ Accio PILOT 500	2300
MAGic™ Accio PILOT 2000	2400

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