INSTRUCTIONS

MagnaBind™ Amine Derivatized Beads

21352

0725.5

Number	Description
21352	**MagnaBind Amine Derivatized Beads**, 5mL, supplied in water with 1mM EDTA Loading: ~12µmol amine/mL (240µmol/g)

Storage: Upon receipt store product at 4°C. Do not freeze product. Product is shipped at ambient temperature.

Introduction

Magnetic separation is a convenient method for isolating antibodies, antigens, lectins, enzymes, nucleic acids and cells using affinity binding, while retaining biological activity. To remove the Thermo Scientific MagnaBind Beads from the suspension, an external magnetic field is used.

MagnaBind Beads can be used for affinity chromatographic procedures to purify specific molecules from a complex mixture. They offer rapid separations, high recovery and high specificity. MagnaBind Beads make it possible to isolate single populations of cells, specific proteins and nucleic acids. MagnaBind Amine Derivatized Beads are supplied as an aqueous suspension of magnetic iron oxide beads coated with amine groups for covalent coupling of molecules using a variety of crosslinkers. General characteristics of MagnaBind Beads are listed in Table 1.

Table 1. Characteristics of Thermo Scientific MagnaBind Amine Derivatized Beads.

Composition:	Silanized iron oxide
Magnetization:	25-35EMU/g
Type of Magnetization:	Superparamagnetic (no magnetic memory)
Surface Area:	> 100m^2/g
Bead Size:	1-4µm diameter
Settling Rate:	4% in 30 minutes
Effective Density:	2.5g/mL
Number of Beads:	10^8 beads/mg
pH Stability:	Aqueous solution, above pH 4.0
Concentration:	~50mg/mL

Important Product Information

- Do not dry, freeze or centrifuge MagnaBind Beads. Freezing, drying or centrifuging will cause the beads to aggregate and lose activity.
- If MagnaBind Beads are used to recover a molecule by affinity purification, low-pH elution (pH < 4) may be used for single-use applications; however, using pH < 4 will inactivate the beads and may result in leaching. For multiple use applications, use neutral pH elution conditions such as Thermo Scientific Gentle Ag/Ab Elution Buffer (Product No. 21027).
- Boiling the beads in SDS-PAGE sample buffer is acceptable only for single-use applications; boiling will cause bead aggregation and loss of activity.
- For microbe-free preparations, the MagnaBind Beads may be washed with antibiotic medium or gamma-irradiated.

Procedure for Crosslinking Proteins or Peptides to Amine Derivatized Beads

Additional Materials Required

- Phosphate Buffered Saline (PBS): 20mM sodium phosphate, 0.15M NaCl, pH 7.2 (Thermo Scientific BupH Phosphate Buffered Saline Packs, Product No. 28372). Alternatively, any non-amine containing buffer may be used such as HEPES, bicarbonate/carbonate or borate buffers at pH 7-9.
- Crosslinker Solution: Just before use prepare a solution containing 5mM BS^3 (Product No. 21580) in PBS

  Note: BS^3 is water-soluble and may be added directly to the sample to be crosslinked. Other amine-reactive crosslinkers also may be used.
- Stop Solution (optional): 1M Tris, pH 7.5 (Tris or glycine will quench the reaction, as will any amine-containing buffer)
- MagnaBind Magnet (see the Related Thermo Scientific Products Section)

Protocol

Note: Shake beads vigorously before using.

1. Wash 1mL of MagnaBind Beads three times with 1mL of PBS. Gently agitate after each wash. Use a MagnaBind Magnet Separation Unit (see the Related Thermo Scientific Products Section) to magnetically separate and aspirate beads after each wash. Perform magnetic separation perpendicular to gravity
2. Dissolve the primary amine-containing molecule in PBS at a concentration of 2.5-10mg/mL.
3. Add 1mL of the protein/peptide to the washed MagnaBind Beads and gently agitate.
4. Add BS^3 in PBS to the beads-protein/peptide mixture to a final concentration of 1mM and gently agitate. Incubate for 30 minutes at room temperature.
5. Optional: Add 50µL of Stop Solution and incubate for 10 minutes.
6. Use a MagnaBind Magnet Separation Unit to separate protein/peptide coupled to the beads.
7. Aspirate supernatant from the coupled beads.
8. Wash beads three times with 1mL of PBS.
9. Determine the coupling efficiency by comparing the protein concentration of the supernatant to the protein concentration of the starting sample. Alternatively, on our website, reference Tech Tip #9: Quantitate immobilized protein.

Related Thermo Scientific Products

21357	**MagnaBind Magnet for a single 1.5 ml Microcentrifuge Tube**, 1/pkg
21358	**MagnaBind Magnet for 96-Well Separator**, 1/pkg
21359	**MagnaBind Magnet for six Microcentrifuge Tubes**, 1/pkg
22322	**Sulfo-SMCC,** 50mg
21578	**DTSSP,** 50mg
21030	**Gentle Ag/Ab Binding and Elution Buffer System**, 100mL
21027	**Gentle Ag/Ab Elution Buffer,** 500mL
21348	**MagnaBind Protein A Beads**, 5mL
21349	**MagnaBind Protein G Beads**, 5mL
23200	**Coomassie (Bradford) Protein Assay Kit**

This product ("Product") is warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

No other warranties, express or implied, are granted, including without limitation, implied warranties of merchantability, fitness for any particular purpose, or non infringement. Buyer's exclusive remedy for non-conforming Products during the warranty period is limited to replacement of or refund for the non-conforming Product(s).

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Current product instructions are available at *www.thermoscientific.com/pierce*. For a faxed copy, call 800-874-3723 or contact your local distributor.

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