

MagnaBind™ Amine Derivatized Beads

21352

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Number	Description
21352	MagnaBind™ Amine Derivatized Beads , 5 ml, supplied in water with 1 mM EDTA Loading: ~12 µmol amine/ml (240 µmol/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 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 cross-linkers. General characteristics of MagnaBind™ Beads are listed in Table 1.

Table 1. Characteristics of MagnaBind™ Amine Derivatized Beads.

Composition:	Silanized iron oxide
Magnetization:	25-35 EMU/g
Type of Magnetization:	Superparamagnetic (no magnetic memory)
Surface Area:	>100 m ² /g
Bead Size:	1-4 µm diameter
Settling Rate:	4% in 30 minutes
Effective Density:	2.5 g/ml
Number of Beads:	1 × 10 ⁸ beads/mg
pH Stability:	Aqueous solution, above pH 4.0
Concentration:	~50 mg/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 ImmunoPure® Gentle Ag/Ab Elution Buffer (Product No. 21027).
- Boiling the beads in SDS-PAGE sample buffer is acceptable for single-use applications, as 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.

Warranty: Pierce products are warranted to meet stated product specifications and to conform to label descriptions when used and stored properly. Unless otherwise stated, this warranty is limited to one year from date of sale for products used, handled and stored according to Pierce instructions. Pierce's sole liability for the product is limited to replacement of the product or refund of the purchase price. Pierce products are supplied for laboratory or manufacturing applications only. They are not intended for medicinal, diagnostic or therapeutic use. Pierce products may not be resold, modified for resale or used to manufacture commercial products without prior written approval from Pierce Biotechnology. Pierce strives for 100% customer satisfaction. If you are not satisfied with the performance of a Pierce product, please contact Pierce or your local distributor.

Procedure for Cross-linking Proteins or Peptides to Amine Derivatized Beads

Additional Materials Required

- Phosphate Buffered Saline (PBS): 20 mM sodium phosphate, 0.15 M NaCl, pH 7.2 (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.
- Cross-linker Solution: Just before use prepare a solution containing 5 mM BS³ (Product No. 21580) in PBS
Note: BS³ is water-soluble and may be added directly to the sample to be cross-linked. Other amine-reactive cross-linkers also may be used.
- Stop Solution (optional): 1 M Tris, pH 7.5 (Tris or glycine will quench the reaction, as will any amine-containing buffer)
- MagnaBind™ Magnet (see Related Pierce Products section)

Protocol

Note: Shake beads vigorously before using.

1. Wash 1 ml MagnaBind™ Beads three times with 1 ml PBS. Gently agitate after each wash. Use a MagnaBind™ Magnet Separation Unit (see Related Pierce 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 2.5-10 mg/ml.
Note: Coupling efficiency may be determined by measuring the absorbance of the protein/peptide solution at 280 nm before and after cross-linking.
3. Add 1 ml of the protein/peptide to the washed MagnaBind™ Beads and gently agitate.
4. Add BS³ in PBS to the beads-protein/peptide mixture to a final concentration of 1 mM and gently agitate. Incubate for 30 minutes at room temperature.
5. Optional: Add 50 µl 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 1 ml PBS.
9. Measure the absorbance of the supernatant at 280 nm and subtract value from starting amount to determine coupling efficiency.

Related Pierce Products

21358	MagnaBind™ Magnet for 96-Well Separator, 1 each
21357	MagnaBind™ Magnet for a single 1.5 ml Microcentrifuge Tube, 1 each
21359	MagnaBind™ Magnet for six Microcentrifuge Tubes, 1 each
22322	Sulfo-SMCC, 50 mg, couples to amine and sulfhydryl groups
21578	DTSSP, 50 mg, cleavable amine-reactive cross-linker
21030	ImmunoPure® Gentle Ag/Ab Binding and Elution Buffer System, 100 ml each
21027	ImmunoPure® Gentle Ag/Ab Elution Buffer, 500 ml
21348	MagnaBind™ Protein A Beads, 5 ml
21349	MagnaBind™ Protein G Beads, 5 ml

The most current versions of all product instructions are available at www.piercenet.com. For a faxed copy, contact customer service (in the USA call 800-874-3723) or your local distributor.

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