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CHO Magnetic Beads (200 nm, 10 mg/mL)

1 Packing list

Components	HY-K0226-1 mL	HY-K0226-5 mL	HY-K0226-25 mL
CHO Magnetic Beads (200 nm, 10 mg/mL)	1 mL	5 mL	25 mL

2 Introduction

MCE CHO Magnetic Beads (200 nm, 10 mg/mL) contain CHO functional groups, which react with primary amines on proteins or other molecules to form stable amide linkages，can covalently immobilize proteins for the affinity purification of antibodies, antigens and other biomolecules. Compared with the traditional carboxyl and amino magnetic beads, CHO magnetic beads do not need to be activated by glutaraldehyde. Simply dissolve the primary amine-containing biological ligands in PBS and incubate at room temperature to covalently couple the bioconjugate to the beads, which is easy to operate, mild coupling conditions, fast and efficient. CHO have the ability to form covalent bonds with amino groups. Therefore, the beads coupling process must be carried out in a buffered solvent without any amine, and automated instruments are especially useful for large screening of multiple samples.

3 Characteristics

Information

Mean Diameter	200 nm
Binding Capacity	≥ 100 μg rabbit IgG/mg of beads
Bead Concentration	10 mg/mL
Storage Solution	ddH_2O

Note: Binding capacity is related to biological ligand properties, the above is for reference only.

Binding capacity

Protein	MW (kDa)	Binding capacity of beads (μg/mg of beads)
IgG	150	100
Streptavidin	53	50
Protein A/G	50	45
Protein G	29	60

Note: Results will vary depending on the number of accessible primary and secondary amines.

4 General Protocol

Recommended Buffers

Washing Buffer	PBS, 0.05% Tween-20, pH 7.4
Blocking Buffer	0.5 M Ethanolamine, pH 8.3 or 0.1 M Tris-HCl, 150 mM NaCl, pH 8.5
Storage Buffer	PBS, 0.02% (w/v) NaN_3

Protocol

1. Preparation of Magnetic Beads
   Resuspend the CHO Magnetic Beads in the vial and transfer 500 μL beads into a 1.5 mL tube, add 1 mL Wash Buffer and gently pipette to mix, perform magnetic separation and discard the supernatant. Repeat this step for 2 times.
2. Magnetic bead coupling
   Add 50-200 μg of bio-ligand to the beads (the amount and concentration of bio-ligand can be optimized according to the actual experiment, keep the pH of the system at about 8.0), mix gently, protect from light and incubate in the Flip Mixer for 1-4 h at room temperature or overnight at 4°C, keep away from light.
3. Blocking
   Perform magnetic separation and discard the supernatant, add 500-1000 μL Blocking Buffer and gently pipette to mix, protect from light and incubate in the Flip Mixer for 2-4 h at room temperature or overnight at 4°C under the condition of avoiding light.
4. Storage
   Perform magnetic separation and discard the supernatant, add appropriate amount of Storage Buffer (the amount of Storage Buffer can be adjusted according to the experiment to adjust the concentration of coupled ligand beads), mix well and store at 4°C until ready for use.

5 Storage

4ºC, 2 years

Do not freeze

6 Precautions

1. For magnetic beads, do not centrifuge, dry, freeze or exposure to a magnetic field for a long time. Bead aggregation and loss of binding activity can result from using these methods.
2. It is strongly recommended that the amount of beads used for each individual application based on the amount of the target protein in crude sample. Too many magnetic beads used will cause higher backgrounds, while too little beads used will cause lower yields. Each mg of beads normally binds 1-20 μg of target protein.
3. For coupling antibodies to magnetic beads, ensure the antibody storage solution does not contain a protein stabilizer (e.g., BSA, gelatin), which inhibits coupling of the antibody to the beads.
4. Primary amine-containing buffers inhibit coupling of protein to the magnetic beads. Remove primary amine-containing buffer using dialysis or desalting.
5. This product needs to be used in conjunction with magnetic separation instruments (e.g., magnetic separation racks, MCE Cat NO. HY-K0200).
6. This product is for R&D use only, not for drug, household, or other uses.
7. For your safety and health, please wear a lab coat and disposable gloves to operate.