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

1 Contents

Component	HY-K0225-1 mL	HY-K0225-5 mL	HY-K0225-25 mL
Carboxyl Magnetic Beads (200 nm, 10 mg/mL)	1 mL	5 mL	25 mL

2 Introduction

MCE Carboxyl Magnetic beads (200 nm, 10 mg/mL) are characterized by superparamagnetism, fast magnetic response, abundant carboxyl functional groups, monodispersity, and submicron scale particle size. Biological ligands (proteins, peptides, oligonucleotides, drug molecules, etc.) can be covalently coupled to the surface of microspheres under the action of special chemical reagents (such as EDC, N-Ethyl-N'-(3-dimethylaminopropyl)). It is an important carrier tool in medical and molecular biology research, and can be used as good basic materials for subsequent treatment such as coating, adsorption, chemical modification, etc.

3 Characteristics

Magnetic nucleus	Fe_3O_4
Shell	SiO
Magnetic type	Superparamagnetism
Saturation magnetization	~ 60 emu/g
Carboxyl Concentration	350 μmol/g
Specific surface area	~ 50 m^2/g
Mean Diameter	200 nm (monodispersity)
Bead Concentration	10 mg/mL

4 Protocol

Recommended Buffers and Solutions (ready-to-use)

MEST Solution	0.1M MES, pH 6.0, 0.05% Tween 20
NHS (N-hydroxysulfosuccinimide) Solution	10 mg/mL (dissolve in MEST Solution)
EDC Solution	10 mg/mL (dissolve in MEST Solution)
Blocking Buffer	0.01%-0.1% BSA (dissolve in MEST Solution)
PBS Buffer	1× PBS, pH 7.2 (0.05% Tween-20 is recommended)
Storage Solution	1× PBS, pH 7.2 (0.02% (w/v) NaN3 is recommended)

Coupling of magnetic beads to biomolecules (for reference)

1. Resuspend the magnetic beads. Transfer 100 uL to a new 1.5 mL EP tube, place the tube in Magnetic Stand for 2 minutes and remove the supernatant. Add 200 uL MEST Solution and remove the supernatant, repeat twice.
2. Resuspend the magnetic beads in the mixture of 100 μL EDC Solution and 100 μL NHS Solution. Incubate for 1 hour at 25°C.
3. Place the tube in Magnetic Stand for 2 minutes and remove the supernatant. Add 50-200 μg of bioligands and resuspend the mix (Transfer amount may be adjusted as required). Incubate for 2 hours at 25°C or 1 hour at 25°C followed by overnight.
4. Place the tube in Magnetic Stand for 2 minutes and remove the supernatant. Add 200-500 μL of Blocking Buffer, resuspend the beads, and incubate for 2~4 hours at 25°C or 4°C overnight.
5. Place the tube in Magnetic Stand for 2 minutes and remove the supernatant. Add 200 μL PBS Buffer with 0.05% Tween-20, then place the tube in Magnetic Stand for 2 minutes and remove the supernatant. Repeat the above steps three times. Resuspend the beads with Storage Solution. Store at 4°C for suspend using.

5 Storage

4°C, 2 years.
Do not freeze.

6 Precautions

1. The Magnetic beads are stored in ddH_2O. Do not centrifuge, dry, freeze or exposure to a magnetic field for a long time.
2. This product is for R&D use only, not for drug, household, or other uses.
3. For your safety and health, please wear a lab coat and disposable gloves to operate.