Streptavidin Magnetic Beads (3μm)

Cat. No.: S1522858 | Pack size: 1ml; 5ml | Storage: 2-8°C, do not freeze

Product Information

Item	Details
Available Pack Size(s)	1ml; 5ml
Specifications & Purity	BioReagent, 10 mg/mL; 3 μm
Stability and Storage	Store at 2-8℃ long term (36 months). Do not freeze.
Storage Conditions	Store at 2-8°C, Do not freeze
Shipped In	Wet ice, Do not freeze. This product requires cold chain shipping. Ground and other economy services are not available.

Product Description

Streptavidin magnetic beads exhibit highly specific reactions with biotinylated ligands such as proteins, antibodies, and nucleic acids, eliminating the need for activation, coupling, and blocking steps, and are easy to use. The streptavidin-modified magnetic beads have a particle size of 3 μm, high streptavidin loading capacity, and excellent hydrophilicity. They are superparamagnetic with good magnetic responsiveness and possess outstanding redispersibility and magnetic stability. The 3 μm beads have good uniformity and are suitable for applications such as single-cell sequencing, liquid-phase probe capture, nucleic acid pull-down, and bacterial detection.

Product Information

Parameter	Value
Concentration	10 mg/mL
Particle size	approx. 3 μm
Surface potential	approx. -20 mV
Streptavidin loading	60-70 μg/mg beads
Biotinylated BSA coupling capacity	10-15 μg/mg beads

Parameter	Value
Free biotin binding capacity	800-1300 pmol/mg beads
Storage conditions	Sealed, 4°C, do not freeze. Shake well before use.

Scanning Electron Micrograph

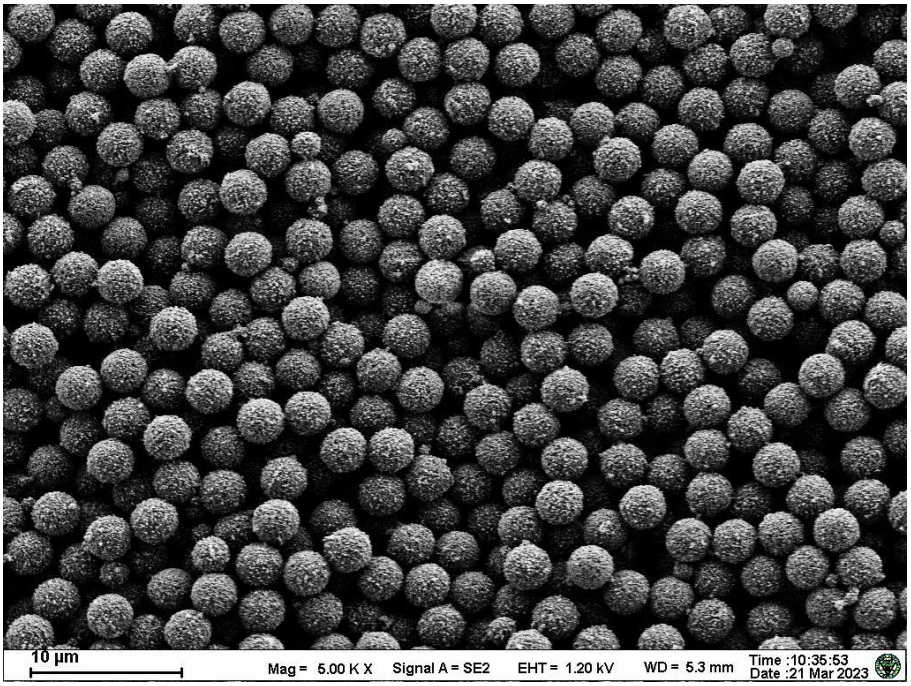

Figure 1. SEM image of streptavidin magnetic beads (3 µm).

Instructions for Use

The following protocol uses biotinylated antibody as an example; it can be adjusted according to different experimental requirements.

The streptavidin magnetic beads (3 µm) have good hydrophilicity and monodispersity. They can be used directly after vortexing to mix.

Solvents and Materials Used

CB: 0.02 M carbonate buffer, pH 9.0.

PBS: 0.02 M phosphate buffer containing 0.9% NaCl, pH 7.4.

Washing buffer: 15 mM PBS pH 7.4, 0.1% Tween 20.

Storage buffer: 15 mM PBS pH 7.4, 0.1% Tween 20 (containing a certain amount of glycine, casein, and preservative).

Procedure

1. Biotinylation of antibody:
- Dilute 100 μg of antibody with CB to 100 μL.
- Quickly add 2 μL of 1 mg/mL PEGylated biotin (to be prepared by the customer) while vortexing. Incubate at 37°C for 45 min.
- Perform ultrafiltration centrifugation four times at 4000 × g for 10 min, then resuspend in PBS to 1 mg/mL.

2. Coupling of biotinylated antibody:
- Take 1 mL of streptavidin-modified magnetic beads (10 mg/mL).
- Add 20 μL of biotinylated antibody (recommended amount 20 μg) while vortexing.
- Incubate at 37°C on a shaker for 1 h. Note: During shaking incubation, lay the tube horizontally to prevent bead sedimentation, which could affect coupling efficiency.
- Perform magnetic separation and wash four times with washing buffer. Resuspend in storage buffer to the desired concentration.

Precautions

Before use, thoroughly mix the magnetic beads to avoid changes in bead concentration during aliquoting. Avoid prolonged sonication, which may damage the bead surface.

After taking the required amount of beads, perform magnetic separation and wash 2-3 times with pure water or the buffer solution to be used before proceeding with the experiment.

Avoid freeze-thaw cycles during the use and storage of the magnetic beads.

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- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
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