Streptavidin Magnetic Beads-2.8 µm

Cat #: C-BETA2002

Size: 2 mL / 10 mL/ 100 mL

Storage: 2°C to 8°C

Product Description

Streptavidin Magnetic Beads, also known as SA magnetic beads, are 2.8 µm superparamagnetic particles covalently coupled to a highly pure form of streptavidin. The beads can be used to capture biotin labeled substrates including antigens, antibodies and nucleic acids. Streptavidin Magnetic Beads can be used to capture biotin labeled substrates including antigens, antibodies and nucleic acids.

Product Information

Catalog	C-BETA2002
Product name	Streptavidin Magnetic Beads-2.8 µm
Mean diameter	2.8 µm
Concentration	10 mg/ml
Conjugated	Streptavidin
Sterility/Endotoxin	Sterile, endotoxin-free
Protein concentration	0.6 mg/10 mg beads
Size	2 mL / 10 mL/ 100 mL
Bead surface	Hydrophilic groups
Specificity	Biotinylated ligands
Buffer	1×PBS, pH 7.4, 0.1% BSA, 2mM EDTA
Storage	2°C to 8°C
Shelf life	2 years

Protocol

1. Capture biotinylated nucleic acids

1.1 To ensure homogeneity, mix the beads thoroughly before use by gentle vortexing 20s. Add 100µL Streptavidin Magnetic Beads into a 1.5 mL microcentrifuge tube. Place the tube into a magnetic stand to collect the beads. Remove and discard the supernatant.

Note: It is suggested to use a ratio of 1:1 or 2:1 between biotinylated molecules and magnetic beads to achieve saturation of bead binding. The amount of biotinized molecules needs to be optimized according to the experimental conditions.

1.2 Add 1 mL of Wash Buffer A to the tube. Invert the tube several times or vortex gently to mix. Collect the beads with a magnetic stand, then remove and discard the supernatant, repeat this wash twice.

Note: When using a volume of magnetic beads larger than 1 mL, it is recommended to add an equal volume of Wash Buffer A to the beads.

1.3 Add 500µL biotinylated nucleic acid diluted with Wash Buffer A (to achieve a bead concentration of 2 mg/mL), mix thoroughly by shaking, and incubate at room temperature for 30 minutes on a shaker or at 4°C for 2 hours.

1.4 Collect the beads with a magnetic stand and remove the supernatant to a new tube.

1.5 Repeat "Step 1.2" twice to wash the magnetic beads.

1.6 According to the requirements of the follow-up experiment, a suitable low-salt buffer was added to re-suspend the magnetic beads. The capture of biotinylated nucleic acid step is now complete. Magnetic beads can be used for subsequent experimental operations.

2. Capture biotinylated antibodies/proteins

2.1 To ensure homogeneity, mix the beads thoroughly before use by gentle vortexing 20s. Add 100 µL Streptavidin Magnetic Beads into a 1.5 mL microcentrifuge tube. Place the tube into a magnetic stand to collect the beads. Remove and discard the supernatant.

Note: It is suggested to use a ratio of 1:1 or 2:1 between biotinylated molecules and magnetic beads to achieve saturation of bead binding. The amount of biotinized molecules needs to be optimized according to the experimental conditions.

2.2 Add 1 mL of Wash Buffer B to the tube. Invert the tube several times or vortex gently to mix. Collect the beads with a magnetic stand, then remove and discard the supernatant, repeat this wash third.

Note: When using a volume of magnetic beads larger than 1 mL, it is recommended to add an equal volume of Wash Buffer B to the beads.

2.3 Add 500 µL biotinylated antibodies/proteins diluted with Wash Buffer B (to achieve a bead concentration of 1 mg/mL), mix thoroughly by shaking, and incubate at room temperature for 1 hour on a shaker.

2.4 Collect the beads with a magnetic stand and remove the supernatant to a new tube.

2.5 Repeat "Step 2.2" fifth to wash the magnetic beads.

2.6 According to the requirements of the follow-up experiment, a suitable low-salt buffer was added to re-suspend the magnetic beads. The The capture of biotinylated antibodies/proteins is now complete. Magnetic beads can be used for subsequent experimental operations.

Wash Buffer

Wash Buffer A	10mM Tris-HCl, pH 7.5, 1mM EDTA, 1M NaCl,0.01% ~0.1% Tween-20
Wash Buffer B	PBS, pH 7.4, containing 0.05% Tween-20(0.01%-0.1%BSA can be added as needed)

Notes

- Maintain the pH of the beads between 6-8, avoid freezing and centrifugation.
- Avoid prolonged exposure of the beads to a magnetic field to prevent aggregation of the magnetic beads, which can result in reduced binding activity.
- To minimize loss of magnetic beads, the magnetic separation time should not be less than 1 minute.
- During the preparation of biotinylated samples, use a desalting column to remove free biotin.
- When transferring the magnetic beads, ensure thorough resuspension by shaking and avoid bubbles during the operation.
- This product is for research use only.