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Streptavidin Magnetic Beads

1 Contents

Cat. No.	Product Name	Package
HY-K0208-1 mL	Streptavidin Magnetic Beads	1 mL
HY-K0208-5 mL	Streptavidin Magnetic Beads	1 mL × 5
HY-K0208-10 mL	Streptavidin Magnetic Beads	1 mL × 10

2 General Information

MCE Streptavidin Magnetic Beads provide a fast and convenient method for numerous applications, including purification of proteins and nucleic acids, protein interaction studies, immunoprecipitation, immunoassays, pull-down and cell isolation.

MCE Streptavidin Magnetic Beads use recombinant streptavidin covalently coupling to the surface of the paramagnetic beads. Streptavidin, different from avidin, does not have the carbohydrate group, and therefore ensures low nonspecific binding. The biotinylated molecules (e.g. peptides, proteins, antibodies, sugars, lectins, oligonucleotides, DNA/RNA) bind to the beads due to the high affinity between streptavidin and biotin. Magnetic Beads are removed from the solution manually by using a magnetic stand or automatically by using an instrument.

3 Characteristics

Bead Concentration	10 mg/mL
Mean Diameter	1 μm
Bind Capacity for Free Biotin	>1100 pmol/mg
Bind Capacity for Biotin-IgG	>20 μg/mg
Bind Capacity for Biotinylated oligonucleotides	>500 pmol/mg
Application	Protein Purification, Nucleic Acids Purification, Immunoassays, Immunoprecipitation, Cell Isolation

4 General Protocol

Recommended Buffers	
Buffer I (Nucleic acid applications)	10 mM Tris-HCl, pH 7.5, 1 mM EDTA, 1 M NaCl, 0.01%-0.1% Tween-20
Buffer II (Antibody/Protein applications)	PBS, pH 7.4, 0.05% Tween-20

Note: The salt concentration and pH (typically 5-9) of the chosen buffers can be varied depending on the type of molecule to be immobilized.

1. Immobilization Nucleic Acids

(1) Resuspend the magnetic beads in the vial (or vortex for 20 seconds), transfer 100 μL of Streptavidin Magnetic Beads into a 1.5 mL tube (transfer amount may be adjusted as required). Place the tube into a magnetic stand to collect the beads against the side of the tube (Hereinafter referred to as magnetic separation). Remove and discard the supernatant.

Note: The amount of beads is sufficient for one reaction. Scale up the reaction as needed.

(2) Add 1 mL Buffer I to the beads, invert the tube several times or vortex gently for 15 seconds to mix. Remove and discard the supernatant from magnetic separation. Repeat this step for 2 times.

(3) Add 500 μL of biotinylated nucleic acids diluted with Buffer I, makes the beads at a final concentration of 2 mg/mL. Rotate the tube for 30 minutes at room temperature or 2 hours at 4ºC.

(4) Separate the biotinylated nucleic acids coated beads with a magnetic stand.

(5) Add 1 mL Buffer I to the beads, invert the tube several times or vortex gently for 15 seconds to mix. Remove and discard the supernatant from magnetic separation. Repeat this step for 2 times.

(6) Binding is now complete. Resuspend the beads in a buffer at a desired concentration with a low salt concentration, suitable for downstream applications. Use the beads immediately, or store at 4ºC for late use.

Note: The amount of biotinylated nucleic acids can be calculated by measuring absorbance of the flow through along with absorbance of starting material.

2. Immobilization Antibodies/Proteins

(1) Resuspend the magnetic beads in the vial (or vortex for 20 seconds), transfer 100 μL of Streptavidin Magnetic Beads into a 1.5 mL tube (transfer amount may be adjusted as required). Place the tube into a magnetic stand to collect the beads against the side of the tube (Hereinafter referred to as magnetic separation). Remove and discard the supernatant.

Note: The amount of beads is sufficient for one reaction. Scale up the reaction as needed.

(2) Add 1 mL Buffer Ⅱ to the beads, invert the tube several times or vortex gently for 15 seconds to mix. Remove and discard the supernatant from magnetic separation. Repeat this step for 2 times.

(3) Add 1 mL of biotinylated antibodies/proteins with Buffer Ⅱ, makes the beads at a final concentration of 1 mg/mL. Rotate the tube for 60 minutes at

room temperature or 2 hours at 4ºC.

(4) Separate the biotinylated antibodies/proteins coated beads with a magnetic stand.

(5) Add 1 mL Buffer II to the beads, invert the tube several times or vortex gently for 15 seconds to mix. Remove and discard the supernatant from magnetic separation. Repeat this step for 5 times.

(6) Binding is now complete. Resuspend the beads in Buffer II or a buffer suitable for downstream applications to a desired concentration. Use the beads immediately, or store at 4ºC for later use.

5 Storage

Store at 4ºC， and is stable for up to 2 year.

6 Precautions

1. The pH of Streptavidin Magnetic Beads is 6-8.
2. Do not centrifuge, dry or freeze the magnetic beads.
3. To minimize protein degradation, protease inhibitor cocktails (MCE Cat. No.: HY-K0010, HY-K0011) are highly recommended.
4. For the best experimental performance, it is recommended to use the MCE magnetic stand (Cat. No.: HY-K0200).
5. This product is for R&D use only, not for drug, house hold, or other uses.