Streptavidin Super Mag Magnetic Beads Protocol
Cat# 8SVS-50, 8SVS-100, 8SVS-150

Introduction

RayBiotech's Streptavidin Super Mag Magnetic Beads are highly uniform super-paramagnetic beads tailored for capturing biotinylated substrates like antigens, antibodies, and nucleic acids. The beads are meticulously crafted using conjugation chemistry to covalently cross-link a highly pure form of streptavidin to a hydrophilic surface. Available in 50 nm, 100 nm, and 150 nm sizes, these beads have an exceptional and consistent binding capacity that outshines other comparable streptavidin magnetic beads available in the market. Rigorously tested and quality controlled, these beads are designed for magnetic purification of biotinylated substrates using both manual and automated platforms.

Beads are supplied at 1% (10 mg/mL) in phosphate-buffered saline (PBS, pH 7.4) containing 0.1% BSA and 0.02% sodium azide.

Important Product Information

- The beads should be stored at 2-8℃ when they are not in use.
- Do not freeze or dry the beads, as this will cause the beads to aggregate and lose binding activity.
- Following the labeling of proteins or nucleic acids with biotin, it is essential to eliminate any unincorporated biotin using a desalting column. The presence of excess free biotin will reduce the binding capacity of the beads.
- Avoid air bubbles during pipetting, as these actions can lead to protein denaturation.
- Gently resuspend the beads before use.

Materials Required

- Microtubes (e.g., 1.5 mL or 2.0 mL Eppendorf or microcentrifuge tubes)
- Magnetic separator for microtubes
- Vortex mixer
- Sample mixer allowing for rotation of tubes
- Pipets and associated tips
- Biotinylated antibody/protein sample to be isolated or purified in PBS pH 7.4.
- Binding/Wash Buffer: Phosphate-buffered saline consisting of 10 mM sodium phosphate and 150 mM sodium chloride at pH 7.4 (PBS pH 7.4)

***Note:** Other physiological buffers (Binding/Wash Buffer) may be used depending on the sensitivity of your antibody/protein application. If your application is sensitive to phosphates, use tris-buffered saline consisting of 50 mM Tris-HCl and 150 mM sodium chloride at pH 7.4 (TBS pH 7.4). Otherwise, if your application is sensitive to amines, use PBS pH 7.4.

Protocol for Binding Biotinylated Sample to Streptavidin Magnetic Beads

A. Wash the Streptavidin Super Mag Magnetic Beads (Optional)

***Note:** The following procedures are optional. If there is no need to remove preservatives or change buffers, you can omit washing the beads.

1. Resuspend the beads by gently vortexing for 5-10 seconds or using a rotating platform for 5 minutes.
2. Transfer 50 µL (0.5 mg) of resuspended beads to a microtube.
3. Collect the beads by placing the tube on a magnetic separator and then carefully remove and discard the

supernatant.

4. Add 1 mL of Binding/Wash Buffer to the tube and gently resuspend the beads by vortexing for 5-10 seconds. Then collect the beads by placing the tube on a magnetic separator and carefully remove and discard the supernatant.
5. Remove the tube from the magnetic separator and resuspend the washed beads in 50 µL of Wash Buffer by gently vortexing for 5-10 seconds.

B. Immobilize the Biotinylated Sample to Streptavidin Super Mag Magnetic Beads

***Note:** The following procedures describe a general protocol for immobilizing 50 µg of biotinylated sample on the surface of Streptavidin Super Mag Magnetic Beads. The number of beads or biotinylated sample amount should be optimized for individual applications by titrations. For dilute biotinylated samples, increase the incubation time.

1. Transfer 50 µL (0.5 mg) of resuspended beads (or wash beads) to a microtube.
2. Add 500 µL of Binding/Wash Buffer and 50 µL of biotinylated sample (1 mg/mL) to the tube and gently mix by vortexing for 5-10 seconds.
3. Place the tube on a rotator and incubate for 30 minutes at room temperature using gentle rotation.
4. Collect the beads by placing the tube on a magnetic separator and then carefully remove and save the supernatant for analysis.
5. Add 1 mL of Binding/Wash Buffer to the tube and gently resuspend the beads by vortexing for 5-10 seconds. Then collect the beads by placing the tube on a magnetic separator and then carefully remove and discard the supernatant. Repeat this wash two more times.
6. Remove the tube from the magnetic separator and resuspend the beads using a suitable buffer for your subsequent application. The binding is now complete.