RayBio Biotin Magnetic Beads

Catalog #: 801-107

User Manual

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Caution:

Extraordinarily useful information enclosed

RayBiotech

The protein array pioneer

ISO 13485 Certified

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RayBio Biotin Magnetic Beads Protocol

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Please read the entire manual carefully before starting your experiment

I. General Description

RayBio's superparamagnetic nanoparticles are coupled with a biomolecule, such as Biotin, and are utilized in the magnetic separation and isolation of avidin and streptavidin-labeled components. The particles have a large surface area with high capture efficiencies.

II. Storage Buffer

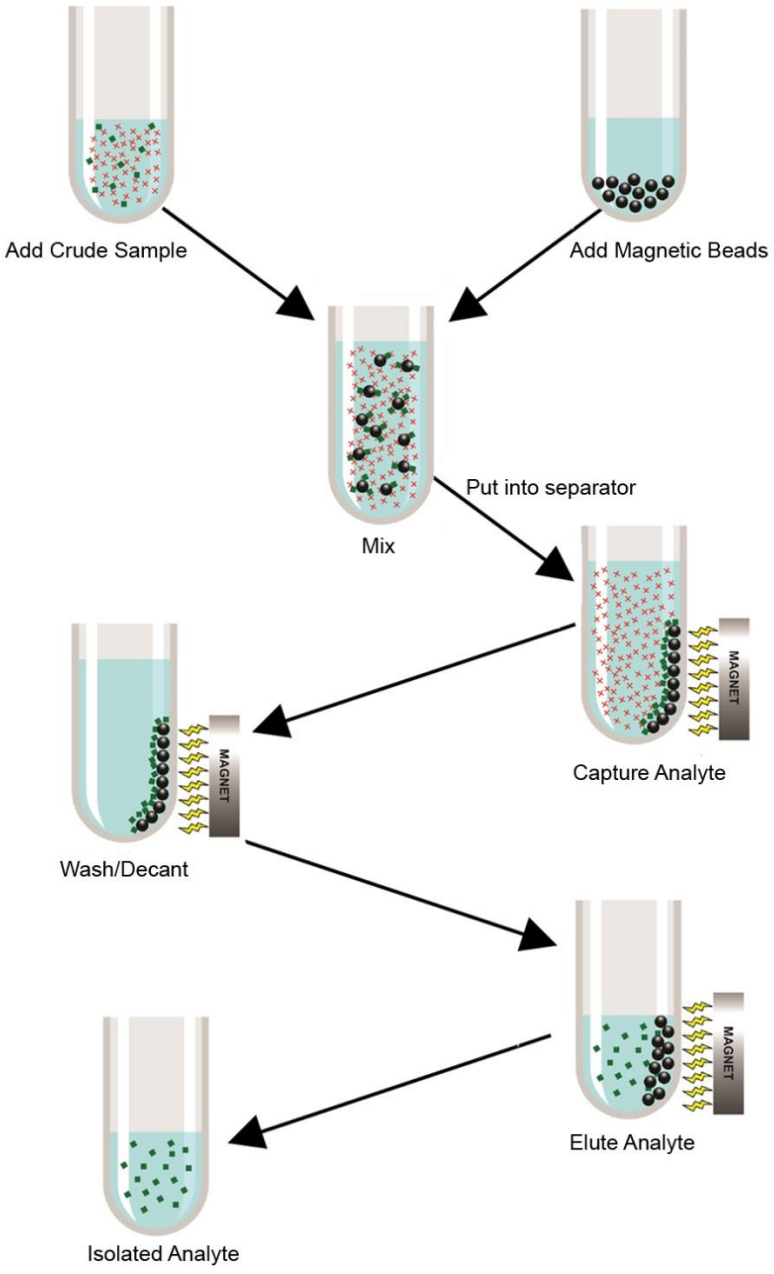
Reagent is stored in phosphate buffered saline with detergent and preservative.

III. Storage and Stability

The Biotin Magnetic Beads should be stored in the refrigerator (4-8°C). The reagent must be allowed to reach room temperature (20-25°C) before use and may be used until the expiration date on the box. Do not freeze, dry, or centrifuge the beads as they may result in loss of binding activity and aggregation.

IV. How it Works

Biotin magnetic beads are incubated with the streptavidin-labeled solution and then separated by magnets. After the unbound particulates are washed from the beads, the bound streptavidin-labeled components are eluted from the beads using the elution buffer. The beads are then magnetically separated from the eluted solution, and the eluted antibodies are removed manually.



V. Warning and Precautions

- This product is for in vitro research use only, do not use in vivo.
- Do not freeze the reagent
- Prior to use, ensure that the product has not expired by verifying that the date of use is prior to the expiration date on the label.
- Ensure that reagent bottle caps are tight after each use to prevent drying of reagents.
- Mistakes in handling the test can also cause errors. Possible sources for such errors can be: Inadequate storage conditions of the test kit (or reagents), incorrect pipetting sequence or inaccurate volumes of the reagents, too short incubation times, and/or short magnetic separation times.

VI. Characteristics

Particle Mean Diameter	~0.5 µm
Particle Concentration	5 mg/ml
Binding Capacity	≥30µg Streptavidin/mg of beads

VII. Streptavidin-labeled Component Isolation

A. Materials Provided

Biotin magnetic beads, 5 mg/ml

B. Additional Materials Required

1. Binding/Wash Buffer: TBS - 0.05% Tween 20 detergent
2. Elution Buffer: 8 M guanidine-HCL, pH 1.5
3. Micro-pipettes with disposable plastic tips (10-200 and 200-1000 µL)
4. 1.5 mL or 2.0 mL Eppendorf or microcentrifuge vials
5. Timer
6. Rotator
7. Distilled or deionized water
8. Vortex mixer
9. Solo or Multi-6 Microcentrifuge Separator (catalog numbers: 801-205-801-206)

C. Procedures

1. Add 100 µL (0.5 mg) of beads to 1 mL of binding buffer in each tube to wash particles.
2. Magnetically separate using a magnetic separator for 2 minutes or until the supernatant is clear.
3. Remove the supernatant and wash once more by adding 1 mL of binding buffer.
4. Repeat step 2 and remove the supernatant.
5. Resuspend beads by adding 450 uL of binding buffer.
6. Add 50 µL of serum or cell culture supernatant to the beads.

Note: Sample volume can be modified according to user preference. If the sample volume is < 500 µL, dilute it to a final volume of 500 µL with Binding/Wash Buffer.

7. Gently mix using vortex or rotator for 30 minutes.
8. Magnetically separate using a magnetic separator for 2 minutes or until the supernatant is clear.
9. Remove supernatant and wash with 0.5 mL Binding/Wash buffer to remove unbound proteins.
10. Repeat steps 8 and 9 once more. Remove supernatant.
11. Add 100 µL of elution buffer to beads and mix well.
12. Incubate at room temperature for 10 minutes with occasional gentle mixing or vortex.
13. Desalt of dialyze the eluted sample to put them into a suitable buffer.

This product is for research use only.