



## AbraMag® Streptavidin Magnetic Beads

Product No. 544052 (1 mL)

544050 (2 mL)

544051 (5 mL)

**General Limited Warranty:** Gold Standard Diagnostics warrants the products manufactured by the Company, against defects and workmanship when used in accordance with the applicable instructions for a period not to extend beyond the product's printed expiration date. **Gold Standard Diagnostics makes no other warranty, expressed or implied. There is no warranty of merchantability or fitness for a particular purpose.**

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Date these instructions are effective: 01/12/2026

Version: 02

### 1. General Description

The Gold Standard Diagnostics' superparamagnetic nanoparticles are coupled with a biomolecule, such as Streptavidin, and are utilized in the magnetic separation and isolation of biotin-labeled components. The magnetic beads have a large surface area with high capture efficiencies.

### 2. Storage Buffer

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

### 3. Storage and Stability

The Streptavidin Magnetic Beads should be stored in the refrigerator (2-8°C). The bead suspension must be allowed to reach room temperature (15-30°C) before use and may be used until the last day of the month as indicated by the expiration date on the vial. Do not freeze, dry, or centrifuge the magnetic beads as they may result in loss of binding activity and aggregation.

### 4. Test Principle

Streptavidin magnetic beads are incubated with the biotin-labeled solution and then separated by magnets. After the unbound particulates are washed from the beads, the bound biotin are eluted from the beads using the elution buffer. The beads are then magnetically separated from the eluted solution, which is removed manually.

### 5. Warning and Precautions

- **This product is for in vitro research use only, do not use in vivo.**
- **Do not freeze the reagent.**
- **Mix product thoroughly to ensure beads are homogeneous in solution before use.**
- 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 long or too short incubation times, and/or short magnetic separation times.
- Reagent contains 0.05% sodium azide as a preservative. Sodium azide may react with lead or copper plumbing to produce metal azides which might cause explosion. To prevent azide accumulation in plumbing, flush with copious amounts of water immediately after disposal.

### 6. Characteristics

Bead mean diameter: ~0.5 µm

Bead concentration: 5 mg/mL

Binding capacity: ≥60 µg Biotin-IgG /mg of beads

## A. Materials Provided

1. Streptavidin magnetic beads, 5 mg/mL

## B. Additional Materials (not provided with the kit)

1. Binding/Wash Buffer: TBS - 0.05% Tween 20 detergent
2. Elution Buffer: 0.1 M Glycine pH 2.0, 5 mL
3. Neutralization Buffer: 1M Tris pH 8.0, 1 mL
4. Micro-pipettes with disposable plastic tips (10-200 and 200-1000  $\mu$ L)
5. 1.5 mL or 2.0 mL Eppendorf or microcentrifuge vials
6. Timer
7. Rotator
8. Distilled or deionized water
9. Vortex mixer
10. Solo or Multi-6 Microcentrifuge Separator (PN 472270; PN 472260)

## C. Procedures

1. Add 100  $\mu$ L (0.5 mg) of beads to 1 mL of binding buffer in each tube to wash beads.
2. Magnetically separate using a magnetic separator for 2 minutes or when 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  $\mu$ L of binding buffer.
6. Add 50  $\mu$ L of serum, cell culture, or other supernatant to the particles.  
*Note: Sample volume can be modified according to user preference. If the sample supernatant volume is < 50  $\mu$ L, dilute it to a final volume of 500  $\mu$ L 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 when the supernatant is clear.
9. Remove and discard supernatant.
10. Add 500  $\mu$ L Binding/Wash buffer to wash the beads and remove unbound proteins.
11. Repeat steps 8 and 9 once more. Remove supernatant.
12. Add 100  $\mu$ L of elution buffer to beads and mix well.
13. Incubate at room temperature for 10 minutes with occasional gentle mixing or vortex.
14. Separate for 2 minutes and remove the eluent to a new tube containing 15  $\mu$ L of neutralization buffer.

**AbraMag<sup>®</sup>** Magnetic Beads are superparamagnetic, non-aggregating iron oxide particles (or 'microspheres') with surface functionalization for sample prep, or for capturing / purifying targets such as proteins, antibodies, DNA/RNA, and *E. coli*. **AbraMag<sup>®</sup>**'s design enables faster binding kinetics, with high sensitivity & selectivity, in both manual and automated biomedical and research applications.

Superior yield, purity, quality, and value from in-house design and production.

- **Multiple Advantages** – Over conventional methods (columns, centrifugation).
- **Superior Performance** – Designed to compare favorably with the competition.
- **Superior Capacity and Yield** – High binding capacity for rapid and efficient target purification.
- **Superior Purity** – Stable, pre-blocked particles provide clean purification even from complex samples.
- **Customizable** – Custom beads and coupling services available.

