

Products for Biotechnology

With Magnetic Porous Glass (MPG®)

Protocol No.: 5.407
Product: MPG® Streptavidin (10 mg/ml, $4-6 \times 10^7$ particles/ml)
Procedure: Binding Biotinylated Biomolecules
Storage: Store at 4°C

PRODUCT NUMBER	DESCRIPTION	VOLUME
MSTR0502	MPG® Streptavidin, 5 µm, 50 nm (500 Å) pore diameter	2 ml (20 mg)
MSTR0510		10 ml (100 mg)

General Procedure

Materials: (Based on 10 mg MPG® Streptavidin, suspended in PBS, pH 7.4, 0.1% BSA, 0.02% NaN₃)

2 N Hydrochloric Acid (HCl)	Sodium Azide (NaN ₃)
Potassium Phosphate, Monobasic (KH ₂ PO ₄)	Sodium Phosphate, Dibasic (Na ₂ HPO ₄)
Sodium Chloride (NaCl)	1.5 ml Microcentrifuge Tubes
Bovine Serum Albumin (BSA)	Magnetic Particle Separator, Prod. No. MPS0301 or MPS0001
Biotinylated Antibody (Biotin-Ab)	Low Speed Rotator
Deionized Water (dH ₂ O)	Pipettes and Pipette Tips
	Vortex Mixer

Solution

Biotinylated Antibody Solution
(Fresh, 5 mg/ml)

Binding/Wash Buffer
Phosphate-buffered saline pH 7.4
(PBS)

Storage Buffer*
(PBS, pH 7.4, 0.1% BSA,
0.02% NaN₃)

Preparation

Dissolve 5 mg Biotin-Ab in 1 ml Binding Buffer.

Dissolve 8 g NaCl, 0.2 g KCl, 1.17 g Na₂HPO₄ and 0.24 g KH₂PO₄ in 800 ml dH₂O. Adjust the pH to 7.4 with 2 N HCl and adjust volume to 1000 ml with dH₂O.

Dissolve 100 mg BSA and 20 mg NaN₃ in 80 ml of Binding/Wash Buffer. Bring volume to 100 ml with Binding Buffer.

**If the desired antibody cross-reacts with BSA, serum albumin of other species should be used in storage buffer.*

Preparation of MPG® Streptavidin

1. Vortex the MPG® Streptavidin to fully suspend the particles. Add 1 ml (10 mg) MPG® Streptavidin to a 1.5 ml microcentrifuge tube. Magnetically separate the MPG® Streptavidin from the solution by placing the tube in a Magnetic Particle Separator for at least 30 seconds and carefully remove the supernatant by aspiration, with a pipette, while the tube remains in the particle separator.
2. Add 1 ml of Binding Buffer to MPG® Streptavidin particles and mix well. Magnetically separate and aspirate the supernatant. Repeat this step two more times.

Binding of Biotinylated Antibody to MPG® Streptavidin

1. Add 950 µl of Binding Buffer and 50 µl of Biotinylated Antibody Solution to MPG® Streptavidin particles, mix well, place in a low speed rotator and rotate at room temperature for 1 hour. Magnetically separate and aspirate the supernatant.
2. Add 1 ml of Washing Buffer to the antibody-bound MPG® Streptavidin particles and mix well. Magnetically separate and aspirate the supernatant. Repeat four more times. The antibody-bound MPG® Streptavidin particles are ready for further application.
3. For storage, add 1 ml of Storage Buffer to the antibody-bound MPG® Streptavidin particles and mix well. Magnetically separate and aspirate the supernatant. Resuspend the antibody-bound MPG® Streptavidin particles in 1 ml of Storage Buffer and store at 4°C.

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