

## Products for Biotechnology

### With Magnetic Porous Glass (MPG®)

**Protocol No.:** 4.108  
**Product:** MPG® Avidin (30 mg/ml, 1.2 -1.8 × 10<sup>8</sup> particles/ml)  
**Procedure:** Binding Biotinylated Biomolecules  
**Storage:** Stable for 18 months at 4°C. DO NOT FREEZE

| PRODUCT NUMBER | DESCRIPTION                                    | VOLUME         |
|----------------|--|----------------|
| MAVD0502       | MPG® Avidin, 5 µm, 50 nm (500 Å) pore diameter | 2 ml (60 mg)   |
| MAVD0510       |  | 10 ml (300 mg) |

### General Procedure

**Materials:** (Based on 10 mg MPG® Avidin, suspended in PBS, pH 7.5, 0.1% BSA, 0.02% NaN<sub>3</sub>)

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

### Solution

Biotinylated Antibody Solution\*  
(Fresh, 5 mg/ml)

Binding/Washing Buffer  
(Phosphate-buffered saline pH 7.5 {PBS})

Storage Buffer  
(10 mM Phosphate, pH 7.5,  
150 mM NaCl, 0.1% BSA, 0.02% NaN<sub>3</sub>)

### Preparation

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

Dissolve 8 g NaCl, 0.2g KCl, 1.44 g Na<sub>2</sub>HPO<sub>4</sub> and 0.24 g KH<sub>2</sub>PO<sub>4</sub> in 800 ml dH<sub>2</sub>O. Adjust the pH to 7.5 with HCl and adjust volume to 1000 ml with dH<sub>2</sub>O.

Dissolve 100 mg BSA and 20 mg NaN<sub>3</sub> in 80 ml of Binding 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 washing and storage buffer.*

## Preparation of MPG® Avidin

1. Adjust the concentration of MPG® Avidin to 10 mg/ml and add 1 ml to a 1.5 ml centrifuge tube. Magnetically separate the MPG® Avidin 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® Avidin particles and mix well. Magnetically separate and aspirate the supernatant. Repeat this step two more times.

## Binding of Biotinylated Antibody to MPG® Avidin

1. Add 950 µl of Binding Buffer and 50 µl of Biotinylated Antibody Solution to MPG® Avidin 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® Avidin particles and mix well. Magnetically separate and aspirate the supernatant. Repeat four more times. The antibody-bound MPG® Avidin particles are ready for further application.
3. For storage, add 1 ml of Storage Buffer to the antibody-bound MPG® Avidin particles and mix well. Magnetically separate and aspirate the supernatant. Re-suspend the antibody-bound MPG® Avidin particles in 1 ml of Storage Buffer and store at 4°C.

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