

# BioMag®Plus Streptavidin & BioMag®Plus Streptavidin / Biotin Binding Kit

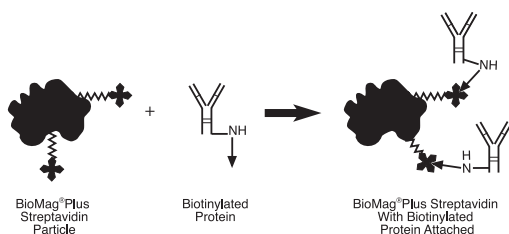
Catalog Numbers: 86031, 86030

## DESCRIPTION

BioMag® and BioMag®Plus superparamagnetic microparticles are utilized in the magnetic separation of cells, organelles, proteins, immunoglobulins, nucleic acids, and many other types of molecules in biological and non-biological systems. The irregular shape of BioMag® and BioMag®Plus particles affords a much greater surface area than that of the same size spherical particles. This large surface area results in high binding capacities, allowing efficient target capture with minimal amounts of particles. Additionally, their greater than 90% iron oxide content allows for faster magnetic separations, especially on automated high throughput platforms.

BioMag®Plus particles are similar to conventional BioMag® particles with the distinctions of having reduced size distribution and that all BioMag®Plus particles are offered in kits as the principle component.

Polysciences offers the BioMag®Plus Streptavidin / Biotin Binding Kits for the attachment of biotinylated proteins to BioMag®Plus superparamagnetic particles. The contents of the kit are sufficient for five coupling reactions. To use the kit for smaller or larger samples, adjust all volumes in a proportional manner.



BioMag®Plus Streptavidin particles are a suspension of superparamagnetic particles approximately 1µm in size, which are attached to streptavidin. The suspension is supplied in a phosphate buffered saline (pH 7.4) containing 0.1% BSA. Sodium azide has been added as a microbial stabilizer. Shake vigorously or vortex before use.

## CHARACTERISTICS

Mean Diameter: ~1µm  
Particle Concentration: 5 mg/ml  
Binding Capacity: 1mg of BioMag®Plus will bind:  
> 1500pmoles of free biotin  
> 1000pmoles of a 20-mer biotinylated oligonucleotide  
> 200pmoles of a 100-mer biotinylated oligonucleotide

> 70pmoles of a 300bp 5-biotinylated double stranded DNA  
> 25pmoles of a 1Kbp 5-biotinylated double stranded DNA

## MATERIAL

### Material Supplied

- BioMag®Plus Streptavidin particles (5 mg/ml in PBS (pH 7.4) and 0.1% (w/v) BSA): 5ml
- Coupling / Wash Buffer (PBS (pH 7.4), 1% (w/v) BSA, 0.1% (w/v) Na<sub>3</sub>, 1mM sodium EDTA): 250ml
- 15ml conical centrifuge tubes: 5 tubes
- BioMag MultiSep Magnetic Separator

### Material Required

- Biotinylated protein sample
- Mixer (rotator)

## PROCEDURE

Researchers are advised to optimize the use of particles in any application, as procedures designed by other manufacturer's may not be ideal.

### Coupling Procedure

1. Transfer 1ml aliquot of BioMag®Plus Streptavidin particles to the 15ml conical centrifuge tube.
2. Magnetically separate the particles until the solution has cleared.
3. Using a pipette or vacuum aspiration method, carefully remove the supernatant and discard.
4. Remove the container from the magnetic field. Add 5ml of Coupling / Wash Buffer to the particles and mix by inversion to resuspend the BioMag®Plus Streptavidin particles.
5. Repeat Steps 2-4 two more times for a total of 3 washes.
6. After the last wash, resuspend the particles to the original volume.
7. Calculate and add the amount of biotinylated protein required for coupling based on the mass of streptavidin. Generally, biotinylated antibody concentrations of 20-100 µg/mg of particles have been used successfully.
8. Mix by inversion and place tube on a mixer (rotator). Incubate the sample for a minimum of 30 minutes at room temperature or as long as 16 hours when incubated at 2-8°C.

## Washing and Diluting Coupled Particles

1. After the incubation, remove the sample from the mixer and magnetically separate the particles until the supernatant is clear. Carefully remove the supernatant and discard.
2. Remove the magnet and resuspend the particles to the coating volume with cold Coupling / Wash Buffer. Return the flask to the rotator and mix for 30 minutes at room temperature.
3. Repeat Steps 1-2 three more times without the 30 minute mixing step.
4. After the last wash, magnetically separate the particles from solution and resuspend the particles with cold Coupling / Wash Buffer to the volume desired. Store particles at 4°C until further testing.

## STORAGE AND SAFETY

**Storage** Store at 4°C. Freezing, drying, or centrifuging particles may result in irreversible aggregation and loss of binding activity.

**Safety** This particle suspension contains sodium azide. Sodium azide may react with lead and copper plumbing to form explosive metal azides. Upon disposal of material, flush with a large volume of water to prevent azide accumulation. Please consult the Safety Data Sheet for more information.

**This product is for research use only and is not intended for use in humans or for *in vitro* diagnostic use.**

## ORDERING INFORMATION

Cat. #	Description	Sizes
86031-10	BioMag®Plus Streptavidin	10ml
86030-1	BioMag®Plus Streptavidin / Biotin Binding Kit	1 kit

## TO ORDER

In The U.S. Call: 1(800) 523-2575 • (215) 343-6484

In The U.S. Fax: 1(800) 343-3291 • (215) 343-0214

In Germany Call: +(49) 06201-845200

In Germany Fax: +(49) 06201-8452020

In Asia Call: (886) 2 8712 0600

In Asia Fax: (886) 2 8712 2677

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