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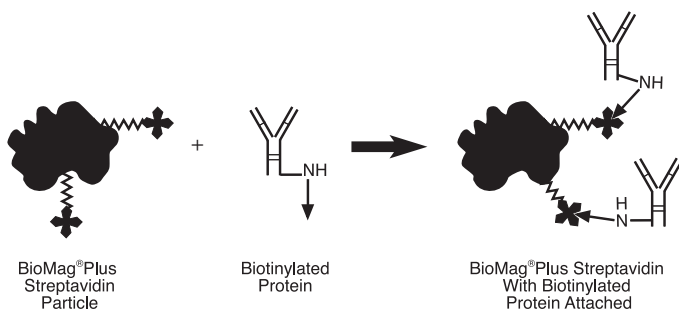
## BEADS ● ABOVE THE REST™

### Description

BioMag and BioMagPlus 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 BioMagPlus particles affords a much greater surface area than that of the same size spherical particle. 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.

BioMagPlus particles are similar to conventional BioMag particles with the important distinctions of having fewer fines and that all BioMagPlus particles are offered in kits as the principle component.

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



BioMagPlus Streptavidin particles are a suspension of superparamagnetic particles approximately 1.5µm 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:	~1.5µm
Particle Concentration:	5mg/mL
Binding Capacity:	1mg of BioMagPlus 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

- BioMagPlus Streptavidin particles (5mg/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% NaN<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 manufacturers may not be ideal.

**Coupling Procedure**

1. Transfer 1mL aliquot of BioMagPlus Streptavidin particles into 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 BioMagPlus 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 20-100µg/mg of particle have been used successfully.
8. Mix by inversion and place the tube on a mixer. Incubate the sample for a minimum of 30 minutes at room temperature or as long as 16 hours at 2-8°C.

**Washing and Diluting Procedure**

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 2-8°C until further testing.

**Storage and Stability**

Store at 2-8°C. Freezing, drying, or centrifuging BioMag 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 Material 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**

Catalog Code	Description	Size
BP628	BioMag®Plus Streptavidin	10mL
BP621	BioMag®Plus Streptavidin / Biotin Binding Kit	1 kit

Order online anytime at [www.bangslabs.com](http://www.bangslabs.com).