Product Data Sheet 620

BioMag®Plus Protein A or G & BioMag®Plus Protein A or G Antibody Isolation Kit

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Bangs Laboratories, Inc.

B E A D S ● A B O V E T H E R E S T ™

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 distinction of having been processed or the reduction of size distribution. Additionally, many BioMag® kits feature BioMag®Plus particles as the principle component.

Bangs offers the BioMag®Plus Protein A or Protein G Isolation Kits for the isolation of antibodies from serum and cell culture supernatants. The contents of the kit are sufficient for five coupling reactions. To use the kits for smaller or larger samples, adjust all volumes in a proportional manner.

Protein A and Protein G have different binding capacities for IgG proteins. The chart below shows the relative degree of binding.

Table 1: Relative Degree of Binding for Protein A and Protein G

Antibody	Protein A	Protein G	Antibody	Protein A	Protein G
Human IgG	s	s	Horse IgG (T)	n	s
Mouse IgG	s	s	Human IgM	w	n
Rabbit IgG	s	s	Human IgE	m	n
Goat IgG	w	s	Human IgD	n	n
Rat IgG	w	m	Human IgA	w	n
Sheep IgG	w	s	Human IgA1	w	n
Cow IgG	w	s	Human IgA2	w	n
Guinea Pig IgG	s	w	Human IgG1	s	s
Hamster IgG	m	?	Human IgG2	s	s
Pig IgG	s	w	Human IgG3	w	s
Horse IgG	w	s	Human IgG4	s	s
Donkey IgG	m	s	Mouse IgG1	w	m
Dog IgG	m	s	Mouse IgG2a	s	s
Cat IgG	s	w	Mouse IgG2b	s	s
Monkey IgG (Rhesus)	s	s	Mouse IgG3	s	s
Chicken IgG	n	n	Mouse IgM	n	n
Bovine IgG1	w	s	Rat IgG1	w	m
Bovine IgG2	s	s	Rat IgG2a	n	s
Goat IgG1	w	s	Rat IgG2b	n	w
Goat IgG2	s	s	Rat IgG2c	s	s
Horse IgG (ab)	w	n	Sheep IgG1	w	s
Horse IgG (c)	w	n	Sheep IgG2	s	s

Key: s = strong binding, m = medium binding, w = weak binding, n = no binding, ? = not known

CHARACTERISTICS

Mean Diameter:	~1.5µm
Particle Concentration:	5 mg / mL

MATERIAL FOR PARTICLES ONLY (BP620 or BP627)

Material Supplied

- BioMag®Plus Protein A or Protein G Particles (5 mg / mL in 1X PBS, 0.1% BSA, 0.075% NaN_3, 0.004% EDTA): 2.5mL

MATERIAL FOR ANTIBODY ISOLATION KITS (BP614 or BP626)

Material Supplied

- BioMag®Plus Protein A or Protein G Particles (5 mg / mL in 1X PBS, 0.1% BSA, 0.075% NaN_3, 0.004% EDTA): 2.5mL
- Protein A / G Binding/Wash Buffer (1X PBS, pH 7.5): 50mL
- Protein A / G Elution Buffer (0.1 M Glycine, 0.15M NaCl, pH 2.5): 5mL
- Protein A / G Neutralization Buffer (1 M Tris, pH 8.0): 1mL
- 1.5mL Microcentrifuge Tubes: 10 tubes
- BioMag® SoloSep Magnetic Separator

Material Required

- Goat anti-Mouse IgG Serum

PROCEDURE

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

Washing of Particles

1. Aliquot 500µL of BioMag®Plus Protein A or G particles into each tube.
2. Add 1mL of Binding / Wash Buffer to the tube, mixing well by inverting several times.
3. Magnetically separate using the SoloSep Magnetic Separator.
4. When the supernatant is clear, and remove the supernatant.
5. Repeat Steps 2-4 three more times (for a total of 4 washes). Resuspend the magnetic particles in 500µL of Binding / Wash Buffer.

Addition of Goat anti-Mouse IgG Serum

1. Aliquot 50µL of serum or cell culture supernatant to the 500µL particles - Binding / Wash Buffer mixture.
2. Gently mix each of the samples by inversion.
3. Incubate the samples at room temperature with mixing for 1 hour.
4. Magnetically separate using the SoloSep Magnetic Separator.
5. When the supernatant is clear, remove and discard the supernatant.

Elution

1. Aliquot 50-200µL of Elution Buffer into each tube and mix well.
2. Incubate the samples at room temperature for 5 minutes with occasional mixing.
3. Magnetically separate using the SoloSep Magnetic Separator.
4. When the supernatants are clear, remove and save the eluted fractions and supernatants.
5. Neutralize eluted samples to pH 7-8 using the Neutralization Buffer. Use ~2.5µL for every 50µL of elution volume.

STORAGE AND STABILITY

Store at 2-8˚C. Freezing, drying, or centrifuging particles may result in irreversible aggregation and loss of binding activity.

SAFETY

These particle suspensions contain 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.

These products are for research use only and are not intended for use in humans or for *in vitro* diagnostic use.

ORDERING INFORMATION

Cat. Code	Description	Size
BP620	BioMag®Plus Protein A	2mL or 10mL
BP614	BioMag®Plus Protein A Antibody Isolation Kit	1 kit
BP627	BioMag®Plus Protein G	2mL or 10mL
BP626	BioMag®Plus Protein G Antibody Isolation Kit	1 kit

Order online anytime at **www.bangslabs.com.**