



BioMag[®] Protein G

BioMag[®] suspensions are a series of products containing superparamagnetic particles. BioMag particles are irregularly shaped, with an average diameter of 1.6 μm , and consist of an iron oxide core with a silane coating. The surface of the particle is coated with amine or carboxyl groups, facilitating the covalent attachment of proteins, glycoproteins, secondary antibodies, and other ligands, with retention of biological activity. The particles' irregular shape provides a large surface area, ensuring a high binding efficiency.

BioMag particles are superparamagnetic — they respond to magnetic fields but do not retain magnetic properties upon removal of the magnetic field. This inability to become magnetized permits magnetic extraction without magnetically induced aggregation. Rapid and efficient removal of BioMag particles from suspension is achieved by the application of an external magnetic field.

Specifications

Form	Magnetic particle suspension (5 mg/ml) in phosphate-buffered saline containing EDTA and 0.08% sodium azide.
BioMag concentration	5 mg/ml
Binding capacity	1 ml (5 mg) BioMag Protein G binds at least 0.2 mg rabbit IgG.
Storage and stability	BioMag Protein G can be stored at 2–8°C until the expiration date. Do not freeze. Do not dry. Centrifugation should only be used if it is the last step of a procedure, i.e., if resuspension of the BioMag particles is not required. Freezing, drying, and centrifugation result in extensive aggregation of the BioMag particles and a loss of binding activity.
Safety information	When working with chemicals always wear a suitable lab coat, disposable gloves, and protective goggles. For more information please consult the appropriate material safety data sheet, available online at www.qiagen.com/ts/msds.asp

Applications

BioMag Protein G is a standard BioMag particle coated with a genetically engineered form of streptococcal Protein G (*E. coli*) and is highly suited for use in binding all human, mouse, rat, and horse IgG subclasses, and also bovine, and sheep IgG. BioMag Protein G does not bind human IgA and IgM, or serum albumin. BioMag Protein G is also suitable for use in immunoassay systems.

Protocol

This protocol is a general guide to using BioMag Protein G and is applicable in most cases. We recommend optimizing the conditions for your research.

- 1. Pipet 100 μ l BioMag Protein G particles into a 1.5 ml microcentrifuge tube.**
- 2. Wash the BioMag particles three times using 750 μ l Protein G Buffer (0.1 M Tris-HCl, 0.15 M NaCl) for each wash. Use a magnetic separator (>20 megaoersted) to pull the magnetic particles to the side of the tube.**
Appropriate magnets are available from QIAGEN; see ordering information.
- 3. Add 50 μ l serum and 50 μ l Protein G Buffer to the BioMag particles. Incubate for 1 hour at room temperature (15–25°C). Vortex every 5 minutes during incubation.**
- 4. Separate the BioMag particles using a magnetic separator. Remove and save the supernatant.**
- 5. Wash the BioMag particles 3 times using 750 μ l Protein G Buffer for each wash.**
Note: Do not dry the magnetic particles.
- 6. Add 50 μ l 0.1 M glycine; pH 2.5. Vortex the tube and incubate for 5 minutes at room temperature.**
- 7. Separate the BioMag particles using a magnetic separator. Remove the supernatant and save the eluted fraction.**
- 8. Add 2.5 μ l 1 M NaOH to the eluted fraction.**
- 9. Prepare samples for gel electrophoresis.**

Ordering Information

Product	Contents	Cat. No.
BioMag Protein G (10 ml)	BioMag Protein G suspension (5 mg/ml)	311812
BioMag Protein A (10 ml)	BioMag Protein A suspension (5 mg/ml)	311802
Accessories		
Single Tube Magnet	Magnet for separating magnetic particles in a 1.5 ml or 2 ml tube	36910
12-Tube Magnet	Magnet for separating magnetic particles in 12 x 1.5 ml or 2 ml tubes	36912
15 ml/50 ml Tube Magnet	Magnet for separating magnetic particles in 5 x 15 ml and 3 x 50 ml tubes	36935
Flask Magnet	Magnet for separating magnetic particles in a cell culture flask	36937
Related products		
BioMag secondary antibody suspensions		
BioMag Anti-Mouse IgG (50 ml)	BioMag goat anti-mouse IgG secondary antibody suspension (1 mg/ml)	310004
BioMag Anti-Mouse IgG (500 ml)	BioMag goat anti-mouse IgG secondary antibody suspension (1 mg/ml)	310007
BioMag Anti-Mouse IgG Fc (50 ml)	BioMag goat anti-mouse IgG (Fc-region specific) secondary antibody suspension (5 mg/ml)	310044
BioMag Anti-Mouse IgG Fc (500 ml)	BioMag goat anti-mouse IgG (Fc-region specific) secondary antibody suspension (5 mg/ml)	310047
BioMag Anti-Mouse IgM (50 ml)	BioMag goat anti-mouse IgM secondary antibody suspension (1 mg/ml)	310084
BioMag Anti-Mouse IgM (500 ml)	BioMag goat anti-mouse IgM secondary antibody suspension (1 mg/ml)	310087
BioMag Anti-Rat IgG (50 ml)	BioMag goat anti-rat IgG secondary antibody suspension (1 mg/ml)	310104
BioMag Goat Anti-Rat IgG (500 ml)	BioMag goat anti-rat IgG secondary antibody suspension (1 mg/ml)	310107

Ordering Information

Product	Contents	Cat. No.
BioMag Goat Anti-Rat IgG Fc (50 ml)	BioMag goat anti-rat IgG (Fc-region specific) secondary antibody suspension (5 mg/ml)	310144
BioMag Goat Anti-Rat IgG Fc (500 ml)	BioMag goat anti-rat IgG (Fc-region specific) secondary antibody suspension (5 mg/ml)	310147
BioMag Goat Anti-Human IgG (50 ml)	BioMag goat anti-human IgG secondary antibody suspension (1 mg/ml)	310304
BioMag Goat Anti-Human IgG Fc (50 ml)	BioMag goat anti-human IgG (Fc-region specific) secondary antibody suspension (5 mg/ml)	310344
BioMag Goat Anti-Rabbit IgG (50 ml)	BioMag goat anti-rabbit IgG secondary antibody suspension (1 mg/ml)	310204
BioMag Goat Anti-Rabbit IgG (500 ml)	BioMag goat anti-rabbit IgG secondary antibody suspension (1 mg/ml)	310207
BioMag Sheep Anti-Fluorescein IgG (50 ml)	BioMag sheep anti-fluorescein IgG secondary antibody suspension (1 mg/ml)	310704
BioMag Sheep Anti-Fluorescein IgG (500 ml)	BioMag sheep anti-fluorescein IgG secondary antibody suspension (1 mg/ml)	310707
BioMag Streptavidin (5 ml)	BioMag streptavidin suspension (5 mg/ml)	311711
BioMag Streptavidin (50 ml)	BioMag streptavidin suspension (5 mg)	311714
BioMag Nuclease-Free Streptavidin (10 ml)	BioMag nuclease-free streptavidin suspension (1 mg/ml)	311732
Immunization adjuvant		
ImmunEasy™ Mouse Adjuvant (0.5 ml)	For immunization of up to 10 mice*	303101

* Use of ImmunEasy Mouse Adjuvant with other species, including other rodents, will not lead to acceptable titers.

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