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B E A D S • A B O V E T H E R E S T™

DESCRIPTION

Changes that occur in serum and plasma proteins have long been recognized as a way to investigate and monitor physiological changes. This rich source of information does, however, present challenges for most of the analytical methods used. One of the reasons for this is that one-dimensional and two-dimensional electrophoresis, high performance liquid chromatography, and mass spectroscopy have a limited dynamic range for the amount of protein mass that can be loaded and resolved. This limited range affects the resolution of less abundant proteins. Albumin can represent 50-70% total protein in serum and IgG can represent 10-20% of the total protein in serum, masking the ability to detect less abundant proteins of interest. If the majority of these two proteins can be removed from serum samples, a significant improvement in resolution of less abundant proteins can be obtained.

The BioMag® ProMax Serum IgG Removal Kit is based on patented BioMag® superparamagnetic particle technology. The ProMax IgG Removal Particles, in combination with specific buffer conditions, bind the IgG from the serum, enabling it to be depleted from the sample. Using magnetically responsive particles for depletion of IgG has advantages over other systems. Removal of IgG with the ProMax IgG Removal Kit is a rapid and simple procedure that requires no pretreatment of the sample. In addition, the ProMax system does not require the use of time-consuming columns or centrifugation. The ProMax protocol is scalable and can be used in conjunction with the BioMag® ProMax Albumin Removal Kit (Catalog Code BP658).

CHARACTERISTICS

Mean Diameter: ~1.5µm
Particle Concentration: 5 mg/mL
Number of Reactions per Kit: 10

MATERIAL

Material Supplied

- BioMag® ProMax Serum IgG Removal particles: 450µL
- ProMax Serum IgG Removal Binding / Wash Buffer: 650µL

Material Required

- Microcentrifuge tubes
- Magnetic separator

PROCEDURE

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

1. Add 59µL of ProMax Serum IgG Removal Binding / Wash Buffer to a microcentrifuge tube or well of a microtiter plate for each sample to be processed.

Figure 1:

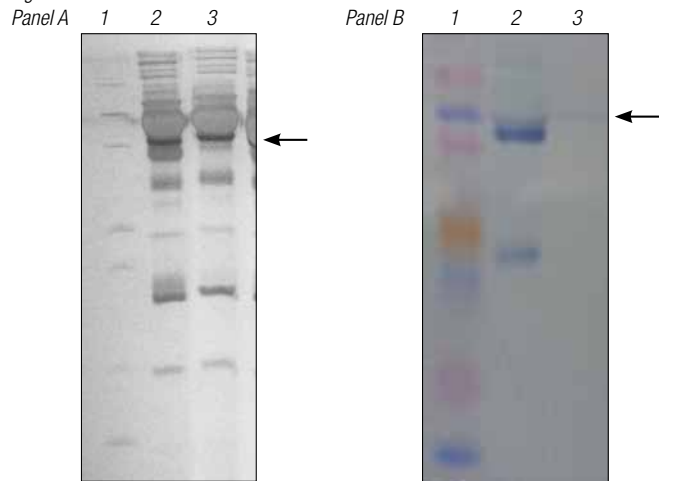


Figure 1. SDS-PAGE analysis and Western Blot showing depletion of IgG from human serum.

Panel A: Silver Stained SDS-PAGE Gel

Lane 1, Molecular Weight (MW) markers; Lane 2, untreated normal human serum; Lane 3, serum treated with BioMag® ProMax Serum IgG Removal Kit. Lanes 2 and 3 were loaded with equal amounts of protein. The arrow indicates the location of the major IgG band.

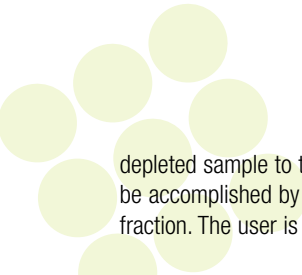
Panel B: Western Blot

Lane 1, MW markers; Lane 2, normal serum; Lane 3, serum treated with the BioMag® ProMax Serum IgG Removal Kit. IgG was visualized using a goat anti-human horseradish peroxidase conjugate and TMB as the chromagen. Both Lanes 2 and 3 were loaded with equal amounts of protein. Lane 3 shows that nearly all of the IgG has been depleted from the sample.

2. Add 1µL of serum to the Binding / Wash Buffer and mix thoroughly.
3. Resuspend the particles thoroughly by shaking or vortexing. Add 40µL of BioMag® ProMax particles to each well or microcentrifuge tube containing diluted serum. Mix thoroughly and then incubate for 10 minutes at room temperature with constant mixing.
4. Pellet the particles by magnetic separation. Collect the supernatant to a fresh tube or well. This is the IgG depleted fraction and is ready for downstream processing or analysis.

NOTES

1. Normal human serum contains 10-20% of IgG protein. The amount of protein in serum can vary and should be optimized by each user. Overloading of the system may result in greater amounts of IgG in the depleted fraction. The system may be scaled up for larger volumes of serum.
2. If the user desires to remove albumin from the IgG depleted fraction using the BioMag® ProMax Albumin Removal Kit (Catalog Code BP658), it will be necessary to adjust the pH to 6.0 prior to exposure of the IgG



depleted sample to the ProMax Albumin Removal Particles. This can be accomplished by adding a small volume of concentrated HCl to the fraction. The user is encouraged to optimize this step.

STORAGE AND STABILITY

Store at 2-8°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 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

Cat. Code	Description	Size
BP659	BioMag® ProMax Serum IgG Removal Kit	1 kit

RELATED PRODUCT

Cat. Code	Description	Size
BP658	BioMag® ProMax Albumin Removal Kit	1 kit

Order online anytime at www.bangslabs.com.