



## Data Sheet

# PureProteome™ Albumin / IgG Depletion System

Faster, easier serum depletion with greater insight into your sample



Easily concentrate your depleted samples with Amicon® Ultra centrifugal filters (included with the depletion kit).

Serum and plasma samples are rich sources of proteomic information, reflecting processes regulating normal and diseased states. However, the wide concentration range of proteins present makes analyzing these samples difficult. The highly abundant proteins, albumin and immunoglobulin G (IgG), make up over 75% of the total serum/plasma protein, masking less abundant proteins of interest in analytical methods, such as one-dimensional gel electrophoresis (1DE), two-dimensional gel electrophoresis (2DE) and mass spectrometry. Accurate analysis of less abundant proteins requires efficient, reproducible, and specific removal of highly abundant proteins from your samples.

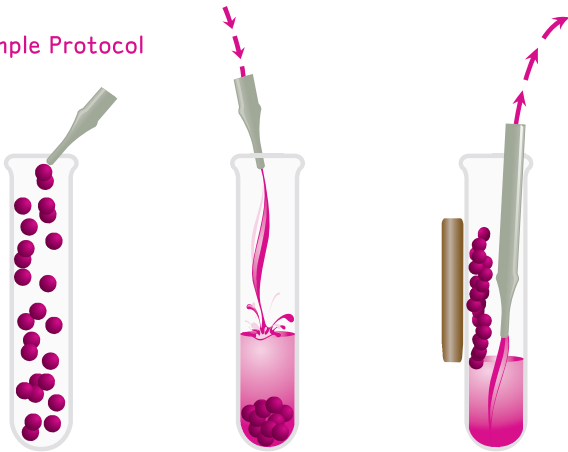
PureProteome magnetic beads provide a rapid, scalable, and reproducible means to deplete > 98% of albumin and /or IgG from serum and plasma samples, so you can easily detect and analyze proteins of interest.

## Advantages of Depleting with PureProteome Magnetic Beads:

- **High capacity**  
>98% depletion of albumin and IgG from serum samples
- **Easy to handle**  
No manipulation of tubes or multipart assemblies
- **No centrifugation required**  
Magnetic field immobilizes beads in seconds
- **Scale to fit your experiment**  
Adjust bead volume based on sample volume and total protein concentration

## DEplete WITH PUREPROTEOME MAGNETIC BEADS

### Simple Protocol



**Equilibrate.** Prepare beads for purification. → → → **Add Serum** to beads and incubate. → → → **Collect depleted fraction.** Beads bound to highly abundant proteins migrate to magnet. Remaining solution represents depleted sample.

Concentrate or exchange buffer as needed

### Complete Kit

Includes PureProteome Albumin/IgG magnetic beads, equilibration and wash buffer, and Amicon Ultra centrifugal filters

**Everything you need for sample depletion**

### Unique Magnetic Format

Allows for purification with no manipulation of tubes, multipart assemblies or centrifugation. Scalable to fit your experiment.

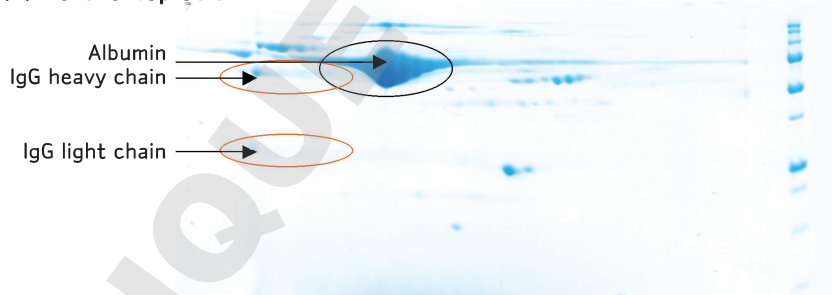
### Versatile Depletion

Remove just albumin or both albumin and IgG depending on your purification need.

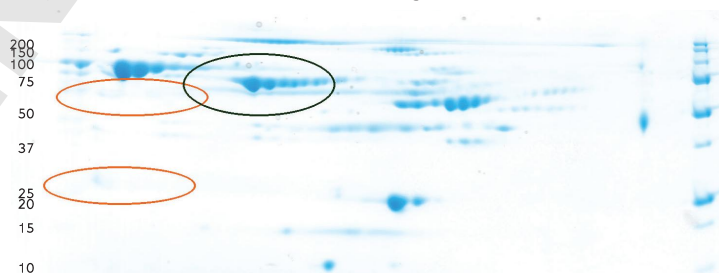
### Efficient depletion... Greater enrichment of less abundant proteins.

Compare the black oval regions in the "before depletion" and "after depletion" 2-dimensional gels below, and you'll see that PureProteome magnetic beads effectively eliminate the massive albumin signal that's obscuring less abundant proteins that co-migrate with albumin.

#### (A) Before depletion:



#### (B) After depletion with PureProteome magnetic beads:

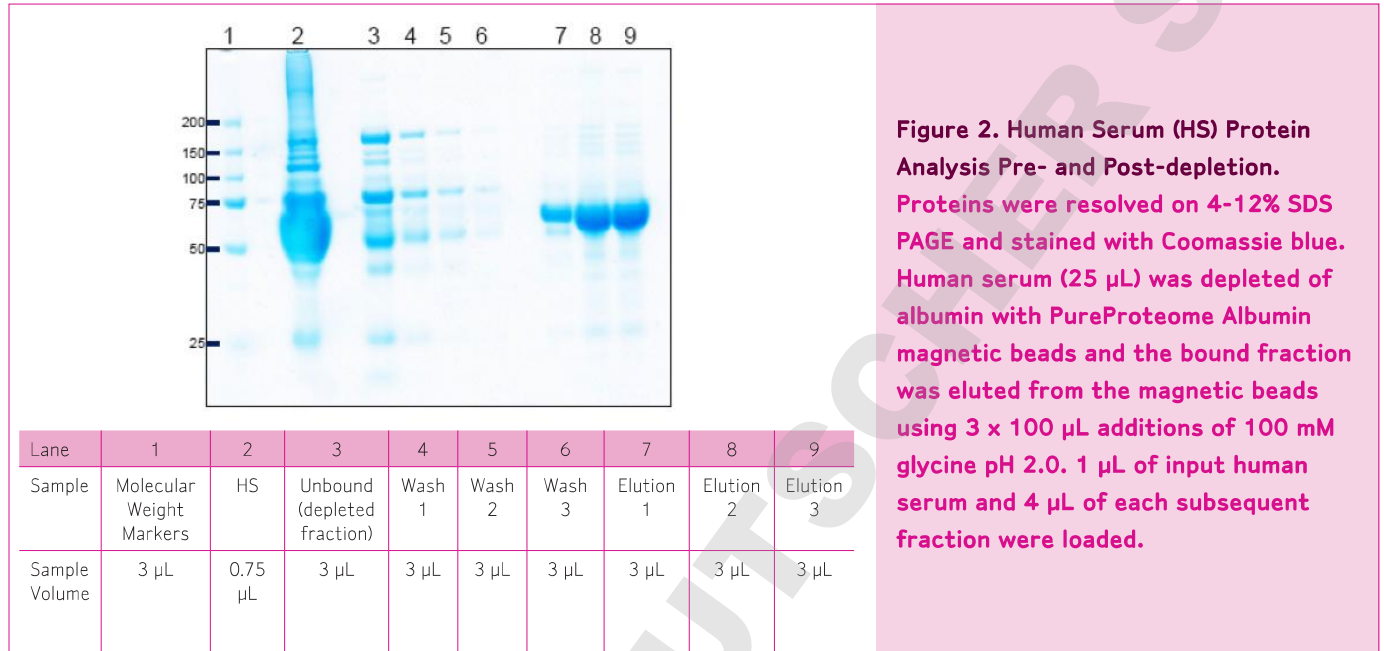


**Figure 1.** Human serum (100 µg total protein) was analyzed before serum depletion (A) and after depletion with PureProteome Albumin/IgG depletion kit (B). Serum proteins were resolved by isoelectric focusing (pH 4-7) in the first dimension and 8-16% SDS-PAGE in the second dimension and visualized with Coomassie blue staining.

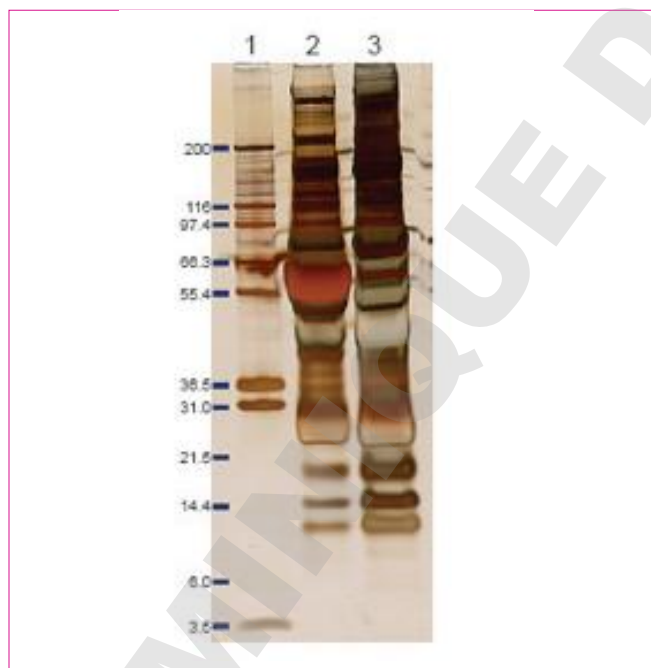
## PERFORMANCE

### Selective Removal of Highly Abundant Proteins

PureProteome Albumin depletion beads effectively remove >98% of albumin from 25  $\mu$ L of human serum samples in a convenient, easy-to-use format. Unbound (depleted) and wash fractions show selectively removed albumin, while eluted fractions show the high specificity of albumin binding.



**Figure 2. Human Serum (HS) Protein Analysis Pre- and Post-depletion.** Proteins were resolved on 4-12% SDS PAGE and stained with Coomassie blue. Human serum (25  $\mu$ L) was depleted of albumin with PureProteome Albumin magnetic beads and the bound fraction was eluted from the magnetic beads using 3 x 100  $\mu$ L additions of 100 mM glycine pH 2.0. 1  $\mu$ L of input human serum and 4  $\mu$ L of each subsequent fraction were loaded.

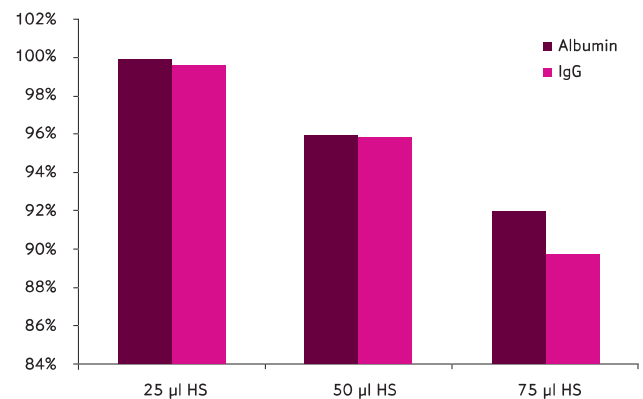


**Figure 3. Removal of Human Serum Albumin from Serum.** Proteins were resolved on 4-12% SDS-PAGE gel and silver stained. Human serum (25  $\mu$ L) was depleted of albumin following the protocol described for the PureProteome Albumin magnetic beads. Lane 1, molecular weight markers; lane 2, human serum (30  $\mu$ g total protein); lane 3, human serum after depletion (30  $\mu$ g total protein).

### Depletion regardless of scale.

Adjust bead or sample volume depending on purification need.

#### Albumin/IgG % depletion



**Figure 4. Increasing amounts of human serum (HS) were mixed with a fixed amount of Albumin/IgG depletion beads (950  $\mu$ L of slurry or 170  $\mu$ L of settled beads). The pre- and post-depleted samples were assayed by ELISA to calculate the percent depletion of both HSA and IgG.**

## SPECIFICATIONS

### PureProteome Albumin/IgG

Matrix	Mixture of polymer-coated inorganic beads covalently coupled with recombinant Protein G and anti-albumin ligand.
Particle form	Spherical
Bead diameter	10 µm (nominal)
Storage	2-8 °C. Do not freeze
% Depletion	>98% Albumin and IgG Typical values are ~99%

### PureProteome Albumin

Matrix	Polymer-coated inorganic beads covalently coupled to an anti-albumin ligand
Particle form	Spherical
Bead diameter	10 µm (nominal)
Storage	2-8 °C. Do not freeze
% Depletion	>98% Albumin and IgG Typical values are ~99%

## ORDERING INFORMATION

### PureProteome Magnetic Beads for Serum/Plasma Depletion

Description	Type of Purification	Qty/Pk	Catalogue No.
PureProteome Albumin/IgG Depletion Kit Includes: <ul style="list-style-type: none"><li>o PureProteome Albumin/IgG beads, 12 mL</li><li>o 10X Phosphate Buffered Saline (PBS) wash and bind buffer, 7 mL</li><li>o Amicon Ultra-4 3K Centrifugal Filter, 8pk</li></ul>	>98% depletion of albumin and IgG from serum or plasma	1 kit (12 mL beads)	LSKMAGD12
PureProteome Albumin Magnetic Beads	>98% depletion of albumin from serum or plasma	10 mL	LSKMAGL10

### PureProteome Magnetic Stands

PureProteome magnetic stands have been developed to efficiently immobilize PureProteome magnetic beads. These unique magnetic stands feature extra strong, trapezoid-shaped magnets that fit tube contours perfectly to provide ample space for removing buffer without disturbing beads, ensuring efficient protein purification.

Description	Capacity	Catalogue No.
PureProteome Magnetic Stand, 8-well	8 X 1.5-mL or 2 mL tubes	LSKMAGS08
PureProteome Magnetic Stand, 15 mL	2 X 15-mL tubes	LSKMAGS15



[www.millipore.com/deplete](http://www.millipore.com/deplete)

**ADVANCING LIFE SCIENCE TOGETHER®**  
Research. Development. Production.

Millipore, Amicon, and Advancing Life Science Together are registered trademarks of Millipore Corporation. The "M" mark and PureProteome are trademarks of Millipore Corporation.  
Lit. No. DS2834EN00 07/10 LS-SBU-10-03215  
Printed in U.S.A. © 2010 Millipore Corporation, Billerica, MA 01821 U.S.A.  
All rights reserved.