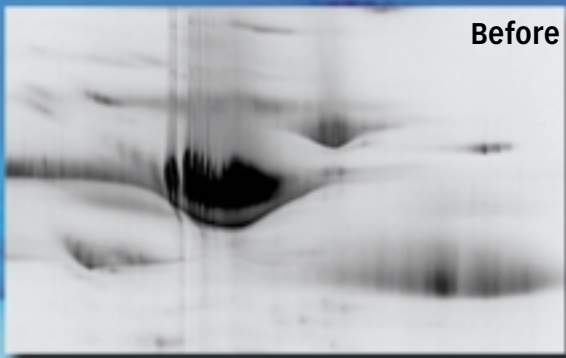


Vivapure® Anti-HSA/IgG Kits for Human Albumin and Human Albumin/IgG Depletion

Highly specific abundant protein depletion



Introduction

The Vivapure Anti-HSA and Anti-HSA/IgG kits are intended for biologists involved in the discovery of serum biomarkers that need highly specific albumin or albumin and IgG removal at single use pricing. The Vivapure Albumin Depletion Kit is based on a unique antibody fragment for specific albumin removal. The Albumin/IgG Depletion Kit uses a combination of the Anti-HSA antibody fragment and Protein G resin for

depleting albumin and IgG. Additionally, all buffers and spin tubes required for the procedure are included as well as a recommended protocol for recovery of albumin or albumin and IgG and associated proteins.

The kits provide 95% removal of albumin and high removal rates of IgG from 20 µl human serum and low non-specific binding of potential serum biomarkers. Depleted samples are recovered in a low

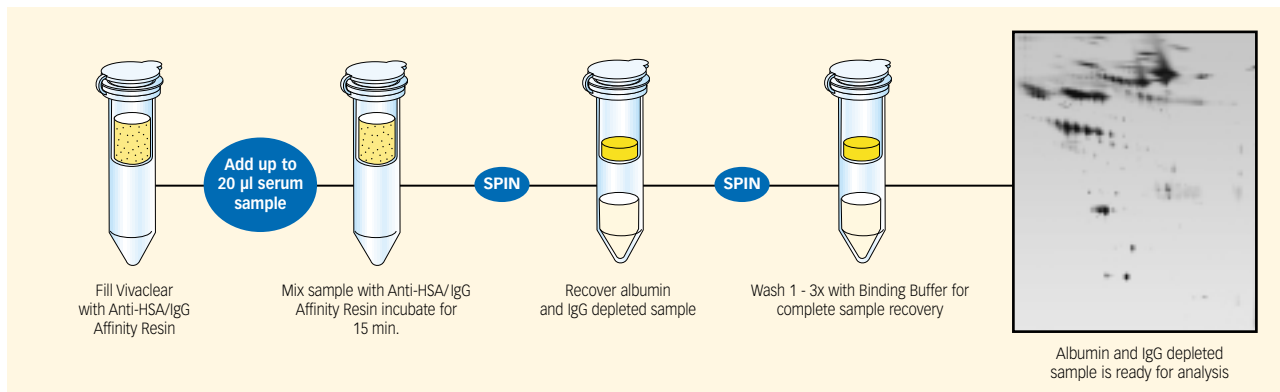
salt buffer facilitating downstream separation. The method is quick, suitable for parallel processing and offered in ready-to-use kits. When compared to blue agarose for albumin removal and Protein A type resins for IgG removal, the Vivapure Anti-HSA/IgG Kits provide superior albumin and IgG specificity at comparable capacities and prices.

Vivapure Anti-HSA Kit Advantages

Antibody based albumin removal	→	Efficient albumin removal with minimal loss of potential serum biomarkers
Protein G based IgG removal	→	Efficient IgG removal. Also applicable to mouse and rat samples
20 minute protocol employing spin tubes	→	Quick, suitable for parallel processing
Depleted protein recovered in low salt buffer	→	Sample is ready for next step in fractionation process
Resin packaged as a slurry	→	Flexibility in serum sample volumes
Kit format	→	Ready to use, no wastage
Priced for single use	→	No risk of cross contamination

Protocol for Albumin and Albumin/IgG Removal from Human Serum

Handling overview - Albumin and Albumin/IgG removal in 20 minutes



Protocol for easy, flexible and fast albumin and albumin/IgG depletion

The Vivapure Anti-HSA and Anti-HSA/IgG protocols are simple to perform and an overview follows:

1. Resuspend Vivapure Affinity Resin and place the required volume in Vivaclear spin column.
2. Add serum to Vivaclear spin column and incubate on rotary

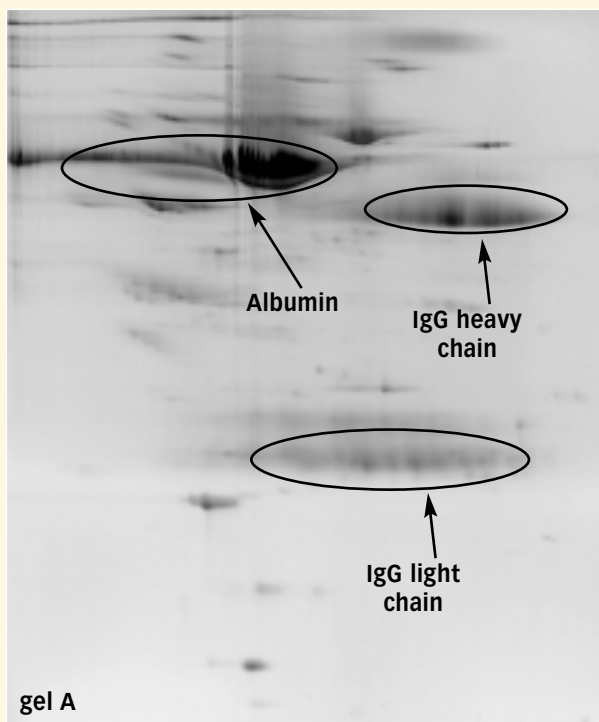
shaker for 15 minutes.
(For larger serum volumes, the incubation step can be done in a separate tube and then transferred to Vivaclear spin columns to recover the depleted serum).

3. Spin the Vivaclear spin column to recover depleted serum sample.

For sample concentration, a Vivaspin 500 with a 10,000 MWCO (Cat. No. VS0101) is recommended.

Albumin and Albumin/IgG can also be eluted from the column in 0.1 M Glycine/HCl pH 2.5 followed by neutralization with 1 M Tris, pH 9.0.

Before - unprocessed human serum



After - albumin and IgG removed with Vivapure kit



Human serum was analysed before (*gel A*) and after albumin/IgG removal (*gel B*) by IEF and 2D PAGE. The comparison of the two gels clearly demonstrates the increased resolution achieved with the Vivapure Anti-HSA/IgG Kit, leading to the visualisation of lower abundance proteins.

Vivapure Anti-HSA and Anti-HSA/IgG Kits for Human Albumin and Albumin/IgG Depletion

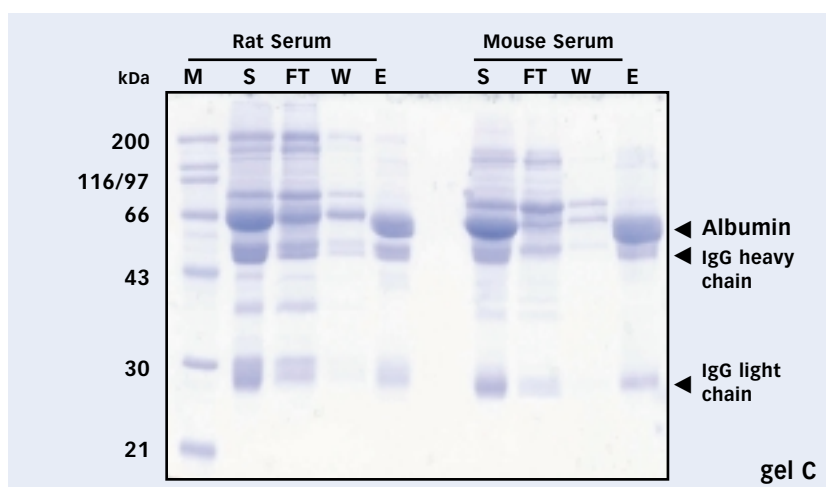
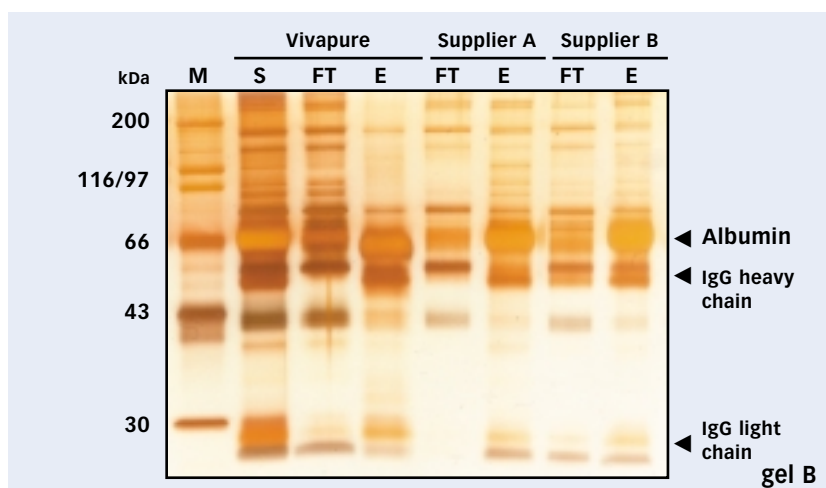
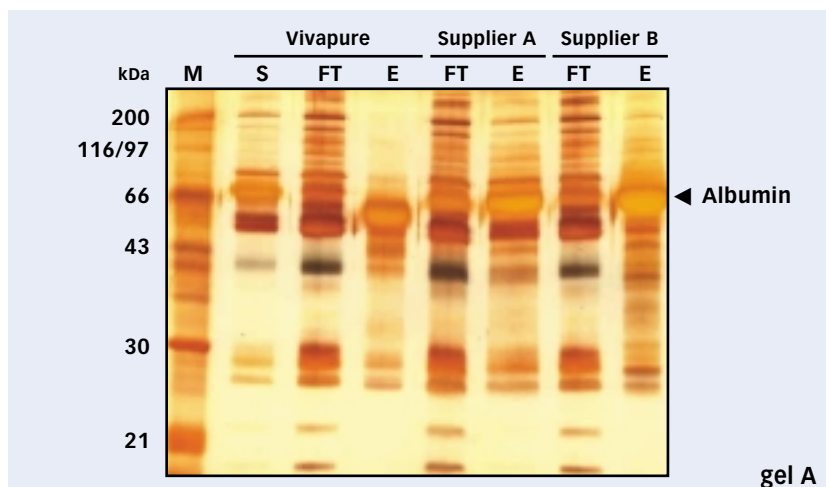
Effective Human Albumin or Albumin and IgG Depletion with Vivapure Anti-HSA and Anti-HSA/IgG Kits

As shown on the 1D SDS-gels, the best results for albumin (gel A) or albumin/IgG (gel B) depletion from human serum are achieved with Vivapure Kits. Depletion of albumin or albumin and IgG from human serum is more specific and efficient than with products from other suppliers. Albumin depletion and Albumin/IgG depletion experiments were performed in parallel with products from Supplier A and Supplier B. The same amounts of protein of each fraction was separated by SDS-PAGE and silver stained for visualization.

The low content of unspecifically bound proteins in the Vivapure elution fractions show the high specificity of the supplied Anti-HSA and Anti-HSA/IgG Affinity Resin in contrast to other products. A more effective albumin and albumin/IgG depletion is achieved as well, as the flow through fraction no longer contain albumin or albumin and IgG.

Albumin Depletion from different sources

The Vivapure Anti-HSA/IgG Kits can also be useful for depleting albumin and IgG from rat and mouse. The coomassie dyed SDS-gel (gel C) shows ca. 80-90% albumin and IgG depletion from rat serum and ca. 90% from mouse serum. Additionally, especially with rat serum, an excellent rate of low unspecific binding is observed.



M: Marker proteins, S: Sample, FT: Flow through, W: Wash, E: Eluate fraction.

	Percent albumin Organism removal	Removal of other proteins
Human	>95%	low
Mouse	90%	high
Rat	80 - 90%	low

Vivapure Anti-HSA and Anti-HSA/IgG Kits for Human Albumin and Albumin/IgG Depletion

Specifications: Vivapure Anti-HSA and Anti-HSA/IgG Kits

Anti-HSA Affinity Resin binding capacity (suspension containing 50% packed medium)	2 mg/ml
Anti-HSA/IgG Affinity Resin binding capacity (suspension containing 50% packed medium)	1.8 mg/ml albumin 0.6 mg/ml IgG
Clarification spin columns (Vivaclear) max. volume capacity	500 µl
Recommended centrifugation speed	400 x g
These kits contain complete sets of consumables required for albumin removal and albumin/IgG from 12 x 20 µl samples of human serum. Larger sample volumes can also be processed using these kits with additional larger spin columns e.g. Vivaspin 6 (VSO679)	

Ordering Information:

Vivapure Anti-HSA Kit for Human Albumin Depletion

Cat. No.	VS-SP08HAR
Anti-HSA Affinity Resin (50% slurry)	5 ml
Clarification spin columns (Vivaclear)	12
Collection tubes (2 ml)	24
Binding Buffer	15 ml

Vivapure Anti-HSA Affinity Resin for Human Albumin Depletion

Cat. No.	VS-SP50HAR
Anti-HSA Affinity Resin (50% slurry)	50 ml

Vivapure Anti-HSA/IgG Kit for Human Albumin and IgG Depletion

Cat. No.	VS-SP08HAIGG
Anti-HSA/IgG Affinity Resin (50% slurry)	5.5 ml
Clarification spin columns	12
Collection tubes (2 ml)	24
Binding Buffer	15 ml

Other products from Vivascience



Vivaspin High Speed Concentrators

Vivaspin high-speed concentrators pioneered the use of vertical-mounted ultrafiltration membranes. The design minimizes fouling and significantly increases membrane area. Now concentrate 3 to 6 times faster without compromising recovery. A graduated concentrate window facilitates operation and sample recovery. Moreover the range of available membranes and centrifugal devices is the broadest in the industry, allowing a tailored solution to your concentration and desalting applications. **For more information request Vivascience Ultrafiltration Catalogue.**

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