



# Vivapure Anti-HSA Kit for Human Albumin Depletion

Technical data and operating instructions.  
For *in vitro* use only.

# Vivapure Anti-HSA Kit for Human Albumin Depletion

## Storage conditions/shelf life

HSA – affinity resin should be stored at 4°C upon arrival.

This kit should be used within 6 months after purchase.

The Vivapure Anti-HSA Kit for Human Albumin Depletion provides an effective, convenient and fast means for improving 2D-PAGE resolution by removing over 95% of human serum albumin (HSA) from body fluids such as serum and plasma. Albumin is bound efficiently with negligible non-specific removal of other sample proteins. The high albumin binding specificity is achieved by unique antibody fragments coupled to a low binding, cross-linked agarose for efficient and specific removal of albumin. In contrast to traditional and modified blue dye ligands, albumin removal with the Vivapure Anti-HSA Kit is reproducible and voids cross reactivity with other human proteins. Additionally, the same protocol can be used for albumin depletion from rat and mouse samples, reaching albumin removal rates of 50 - 80%.

This kit provides HSA-affinity resin, binding buffer and centrifugal columns which can individually be filled with the amount of affinity resin necessary for removing up to 800 µg HSA, e.g. consistently remove over 95% albumin from 20 µl human serum.

## The Vivapure Advantage:

- Highly specific antibody fragment, >95% albumin removal from human serum
- No cross reactivity with other human proteins
- Compatible to all downstream proteomics applications due to low salt concentration in binding buffer
- Fast 20 min. protocol
- Easy-to-use spin column based protocol for parallel processing
- Flexibility in sample volume to be depleted



## Technical assistance

For more information, please contact the Vivascience Support Center.

### Europe:

Tel +49 1 802 848 201 (toll free)

Fax +49 1 802 848 202

info@vivascience.com

### USA:

Tel +1 877 452 2345 (toll free)

Fax +1 760 918 8281

info.usa@vivascience.com

## Vivapure Anti-HSA Kit for Human Albumin Depletion

Cat. No.	VS-SP08HAR
HSA-affinity resin (50 % slurry)	5 ml
Clarification spin columns (Vivaclear)	12
Collection tubes (2 ml)	24
Binding Buffer	15 ml
Instruction manual	1
Laminated Protocol Card	1

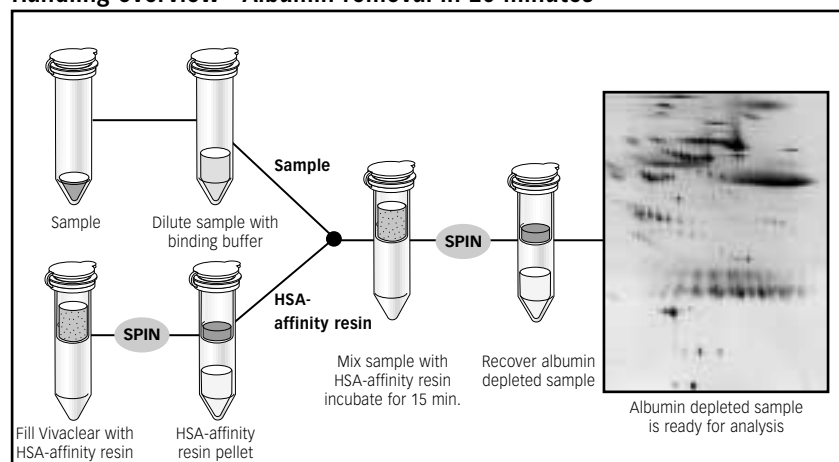
## Specifications

HSA-affinity resin binding capacity (suspension containing 50% packed medium)	2 mg/ml
Clarification device max. volume capacity	500 µl
Recommended centrifugation speed	400 x g
This kit contains a complete set of consumables required for albumin removal from 12 x 20 µl samples of human serum. Larger sample volumes can also be processed using this kit.	

## Material of Construction

Clarification spin columns	Polypropylene
Clarification membrane	Polyethersulphone (PES)
Collection tube	Polypropylene

## Handling overview - Albumin removal in 20 minutes



## Protocol for Albumin Removal from Human Serum

### Hardware required

- Micro-centrifuge that will accommodate 2 ml centrifuge tubes and can spin samples at 400 x g
- Rotary shaker

This protocol is based on using 20  $\mu$ l serum as human serum statistically contains 40 mg/ml serum albumin, leading to 800  $\mu$ g per sample.

1. Resuspend the HSA-affinity resin suspension.
2. Fill a clarification spin column with 400  $\mu$ l of HSA-affinity resin, containing 50% packed medium.

*Note: In order to achieve > 95% HSA removal, do not exceed the binding capacity of the HSA-affinity resin.*

3. Centrifuge at 400 x g for 2 min and discard flow through.
4. Dilute 20  $\mu$ l human serum with 200  $\mu$ l binding buffer, then add sample to the spin column containing the HSA-affinity resin.

*Note: A sample volume of 200  $\mu$ l is required, when using 400  $\mu$ l resin slurry. Dilute the serum or other biological samples with binding buffer, to reach the respective volume, when necessary.*

5. Incubate the sample / HSA-affinity resin slurry on a rotary shaker for 15 min at room temperature. Adjust shaker to assure gentle mixing of sample and resin.
6. Centrifuge at 400 x g for 2 min, collect flow through (sample depleted of albumin).

7. Add 200  $\mu$ l binding buffer to the spin column, incubate further 2 min on a rotary shaker and centrifuge at 400 x g for 2 min. Collect flow through.

*Optional: For complete sample recovery, repeat step 7, 1-2 times.*

8. Pool the flow through fractions containing the albumin depleted sample. The sample is now ready to be used for further processing. Concentrate / desalt with Vivaspinn 500 or Vivaspinn 2 if necessary. For albumin elution, please refer to protocol card.

*Note: Additional clarification spin columns (Vivaclear, VK01P042) can be individually ordered if necessary.*

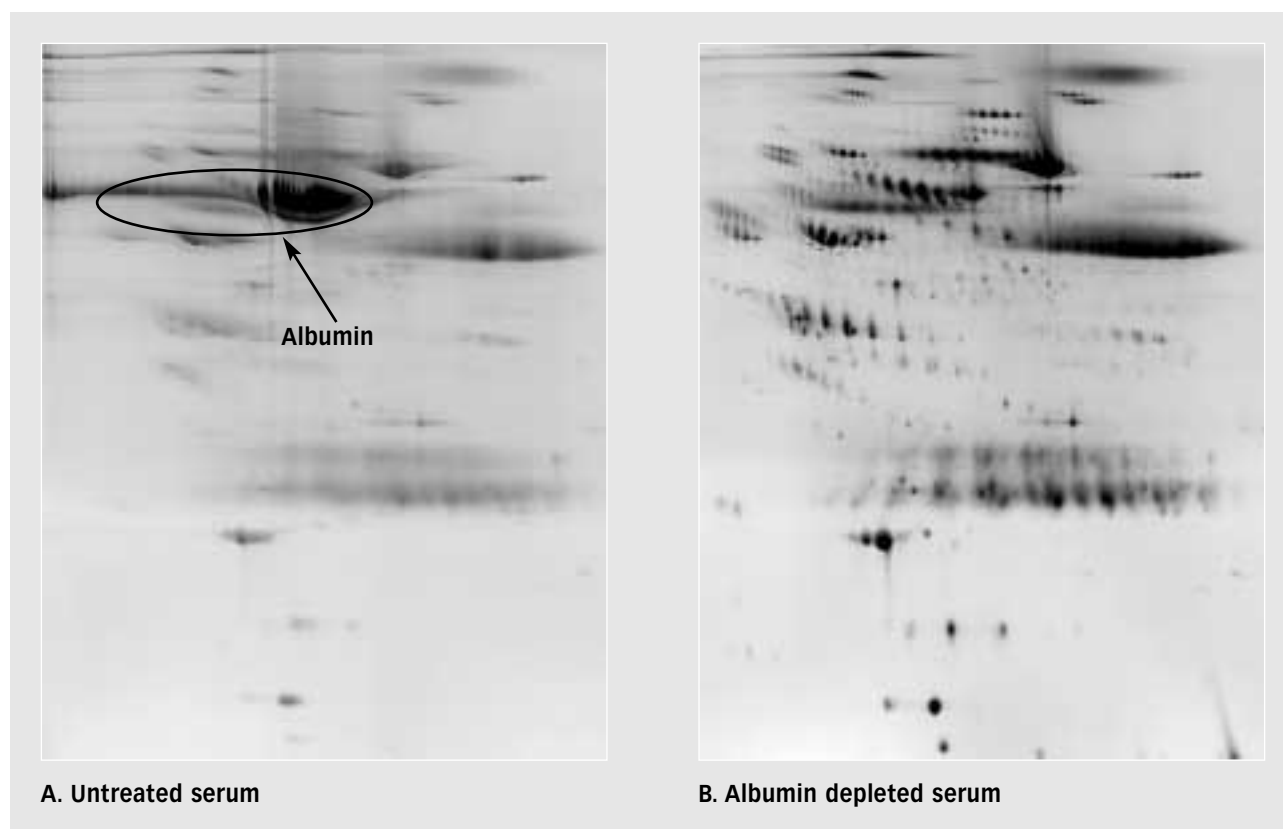


Figure 1: Comparison of the unprocessed human serum (Gel A) with the albumin depleted sample by Vivapure Anti-HSA Kit (Gel B). Silver stained NEPHGE 2D gels (20x30 cm), performed at Eurogentec:

## Ordering Information

Cat Number	Vivascience Kits	Spin Columns	Cat Number	Vivapure Maxi Spin Columns	Spin Columns
VS-SP08HAR	Vivapure Anti-HSA Kit	12	VS-IX20CH08	Vivapure IEX C Maxi H	8
VS-PC01EPPC	Epoxy Protein Coupling Kit	12	VS-IX20DH08	Vivapure IEX D Maxi H	8
Cat Number	Vivapure Mini Spin Columns	Spin Columns	Cat Number	Vivapure Mega Spin Columns	Spin Columns
VS-PA01PA24	Protein A Mini	24	VS-IX20QH08	Vivapure IEX Q Maxi H	8
VS-MC01MC12	Metal Chelate Mini	12	VS-IX20SH08	Vivapure IEX S Maxi H	8
VS-IX01ST16	Vivapure IEX Mini H Starter Kit (4 of each ion exchange class)	16	VS-IX75QH02	Vivapure IEX Q Mega H	2
VS-IX01CH24	Vivapure IEX C Mini H	24	VS-IX75DH02	Vivapure IEX D Mega H	2
VS-IX01DH24	Vivapure IEX D Mini H	24	VS-IX75SH02	Vivapure IEX S Mega H	2
VS-IX01QH24	Vivapure IEX Q Mini H	24	VS-IX75CH02	Vivapure IEX C Mega H	2
VS-IX01SH24	Vivapure IEX S Mini H	24	Cat Number	Vivaclear Centrifugal filters	Spin Columns
			VK01P042	Vivaclear 0.8 µm PES Mini	100

### Centrifugal ultrafiltration products

Product	Sample volume	Mode	Membranes available
Vivaspin 500	100 µl - 600 µl	Centrifugal	Polyethersulfone
Vivaspin 2	0.4 ml - 2 ml	Centrifugal	Polyethersulfone, Cellulose Triacetate, Regenerated Cellulose, Hydrosart
Centrisart	0.5 ml - 2.5 ml	Centrifugal	Polyethersulfone
Vivaspin 4	1 ml - 4 ml	Centrifugal	Polyethersulfone
Vivaspin 6	2 ml - 6 ml	Centrifugal	Polyethersulfone
Vivaspin 15	2 ml - 15 ml	Centrifugal	Polyethersulfone
Vivaspin 15R	2 ml - 15 ml	Centrifugal	Hydrosart
Vivaspin 20	5 ml - 20 ml	Centrifugal / Gas pressure	Polyethersulfone

### For more information on related products, please refer to the:

- Vivascience Ultrafiltration Catalog - Vivaspin
- Vivapure® IEX brochure for kits and devices for protein purification
- Vivapure® Protein A Mini spin column brochure
- Vivapure® Epoxy Protein Coupling kit brochure

For current information and application notes, please visit us at [www.vivascience.com](http://www.vivascience.com)



Vivascience Technical Support		Phone	Fax	E-mail
USA	Vivascience Service & Technical Support	+1 877 452 2345 (toll free)	+1 760 918 8281	info.usa@vivascience.com
Europe	Vivascience Support Center	+49 1 802 848 201 (toll free)	+49 1 802 848 202	info@vivascience.com
International	Vivascience Support Center	+49 511 524 875 60	+49 511 524 875 69	info@vivascience.com
Vivascience Customer Sales				
France	Vivascience S.A.R.L.	+33 169 19 93 23	+33 160 13 95 05	info.france@vivascience.com
Germany	Vivascience AG	+49 551 308 4023	+49 551 308 3289	info.germany@vivascience.com
UK	Vivascience Ltd.	+44 1372 737 159	+44 1372 726 171	info.uk@vivascience.com
USA	Vivascience Inc.	+1 877 452 2345	+1 760 918 8281	info.usa@vivascience.com

### Vivascience AG

Feodor-Lynen-Strasse 21 Phone: +49 511 524875-0 E-mail: [info@vivascience.com](mailto:info@vivascience.com)  
 30625 Hannover, Germany Fax: +49 511 524875-19 Web: [www.vivascience.com](http://www.vivascience.com)