VIVASCIENCE
sartorius group

Vivapure Anti-HSA Affinity Resin - 50 ml Resin bottle

Introduction

The Vivapure Anti-HSA Affinity Resin is intended for researchers who need to deplete albumin from larger sample volumes than 20 µl for biomarker detection, using 2D – PAGE or LC/MS analysis.

The Vivapure resin is based on an antibody fragment covalently coupled to agarose beads for highly specific albumin removal. The bulk resin format does not limit the albumin depletion to a specific sample volume.

For convenience, a protocol is provided for depleting albumin from up to 200 µl human serum using Vivaspin 6 with a 0.2 µm membrane as a spin column. Alternatively, the resin can just as well be used in smaller or larger spin column formats.

Especially when working with patient serum for biomarker detection, it is important to exclude the possibility of eluting proteins from a previous sample off a column. To this end, the large resin quantity of 50 ml is priced for one time usage. The 50 ml Vivapure Anti-HSA Affinity Resin is priced in the same range as multi-use columns for depleting the same amount of albumin.

Technical assistance

For more information, please contact the Vivascience Support Center.

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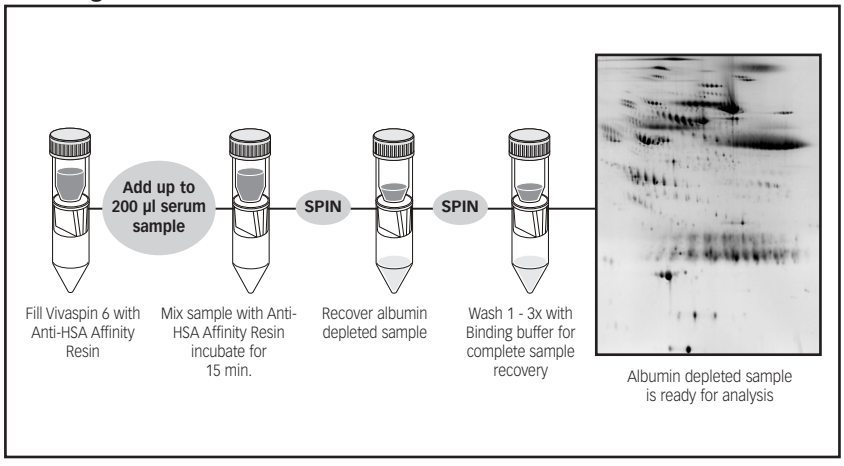
Vivapure Anti-HSA Kit for Human Albumin Depletion	
Cat. No.	VS-SP50HAR
Anti-HSA Affinity Resin (50 % slurry)	50 ml
Instruction manual	1

Specifications	
Anti-HSA Affinity Resin binding capacity (suspension containing 50% packed medium)	2 mg/ml

Handling overview - Albumin removal in 40 minutes



Recommended Anti-HSA Affinity Resin volume for albumin depletion from human serum						
Serum (µl)	10	20	50	100	200	400
Anti-HSA Resin (ml)	0.2	0.4	1	2	4	8
Device	Vivaclear	Vivaclear	Vivaspin 6	Vivaspin 6	Vivaspin 6	Vivaspin 20

Vivapure Anti-HSA Affinity Resin Advantages		
Antibody based albumin removal with 2 mg/ ml capacity (50% slurry)	→	Efficient albumin removal with minimal loss of potential serum biomarkers
40 min. protocol for depleting albumin from 200 µl serum in spin column	→	Quick, suitable for parallel processing
Resin packaged as slurry	→	Flexibility in serum sample volumes
Priced for single use	→	No risk of cross contamination

Protocol for Albumin Removal from 200 µl Human Serum

Hardware required

- Centrifuge with swing bucket or fixed angle rotor (minimum 25°) capable of spinning at 4000 xg
- Rotor accepting 15 ml tubes (17 mm Ø)
- Rotary shaker for 15 ml tubes
- 50 - 5,000 µl volumetric pipette with tips for solution transfers

Reagents

Vivapure Anti-HSA Affinity Resin (50 % buffered slurry, binding capacity for human serum albumin: 2 mg/ml resin).

Additional material required

- Vivaspin 6, 0.2 µm
- Recommended binding buffer: Tris based buffers with low salt concentrations, pH 7.0 - 7.5.

Protocol

1. Mix the slurry to get a uniform suspension prior to pipetting.
2. Fill a Vivaspin 6 device with 4 ml of Anti-HSA Affinity Resin, containing 50% packed medium.
3. Add 200 µl of serum or plasma sample directly to the resin. Cap device.
4. Incubate on a rotary shaker for 15 min at room temperature. Adjust shaker to assure gentle mixing of sample and resin.
5. Insert assembled Vivaspin 6 into centrifuge (when fixed angle rotors are used, arrange Vivaspin 6 so that the printed window faces upwards/outwards). Centrifuge at 4000 xg for 5 min.
6. Collect flow-through (sample depleted of albumin).
7. Pipette 2 ml binding buffer into the Vivaspin 6, incubate further 2 min on a rotary shaker and centrifuge at 4000 xg for 15 min, collect the 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 Vivaspin 6 (MWCO 10 kDa) if necessary.

If elution of bound albumin is necessary, continue as described in the following:

1. Resuspend the Anti-HSA Affinity Resin with 2 ml of 0.1 M glycine/HCl pH 2.8 buffer and incubate 2 min on a rotary shaker and centrifuge at 4000 xg for 15 min, collect the flow-through.
2. For complete albumin recovery, add further 2 ml of the glycine buffer, incubate 2 min on a rotary shaker and centrifuge at 4000 xg for 15 min, collect the flow-through.
3. Pool albumin containing fractions and neutralize with 400 µl of 1 M Tris, pH 9.0.

Please Note: The amount of sample which is to be used per resin volume is dependent upon the albumin content of the sample. The protocol for processing 200 µl serum in Vivaspin 6 is a suggestion and represents the maximum resin capacity in this device. If larger volumes (up to 400 µl serum) are to be processed, please use Vivaspin 20 (0.2 µm PES).

Ordering Information	
Description	**Order Number**
Vivapure Anti-HSA Affinity Resin	VS-SP50HAR
Spin columns for albumin depletion:	
Vivaspin 6 for sample volumes from 40µl – 200 µl	VS0671 (0.2 µm, 25 pack)
Vivaspin 20 for sample volumes from 100 µl to 400 µl	VS2071 (0.2 µm, 12 pack)
Vivaclear clarification spin columns – for sample volumes up to 20 µl	VK01P042 (0.8 µm, 100 pack)

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