Product Information Sheet

ProtiPrep™ Pop2

Depletion of
Human Serum Albumin (HSA)&
Immunoglobulin G (IgG)

6/12/24 Columns

Storage Temperature: 2 - 8°C

Product: AMI001HSA-IgG

Do not freeze.



Product Description

Plasma is one of the most information-rich yet analytically complex biological fluids due to its extraordinary dynamic range of protein concentration. Highly abundant proteins like human serum albumin (HSA) and immunoglobulins (IgG) dominate the proteome, accounting for nearly 70 % of the total protein mass, while clinically relevant low-abundance proteins may be present at concentrations up to 12 orders of magnitude lower. To overcome this challenge, ProtiPrep™ Pop2 utilizes a capture system combining specific ligands for Human Serum Albumin (HSA) and Protein A for Immunoglobulin G (IgG) capture, depleting >97% of HSA and IgG from 10 µl of plasma within 10 minutes with minimal nonspecific interaction.

Additional Information

ProtiPrep™ Pop2 columns are pre-packed with the optimum amounts of functionalized agarose beads and PBS buffer (pH 7.4, 0.02 % sodium azide), to ensure efficient and reproducible sample preparation without the need for special laboratory equipment (Microcentrifuge capable of operating 1000 x g).

Note: No other additions or solvent exchange are required before protein depletion.

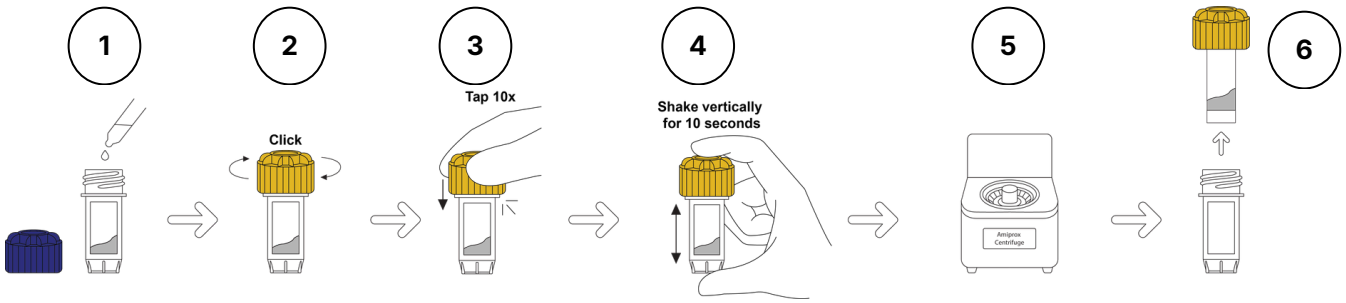
Note: Single use only. Do not reuse the resin

The depletion resin is designed for use with human plasma and serum samples and has not been tested on any other species.

For Research Use Only.

Handling

ProtiPrep™ simplifies sample preparation to the maximum. Apply 10 µl of plasma (~800 µg), screw the cap shut, incubate, centrifuge and collect the sample. The prepared sample (~150 µl) is stored in PBS buffer (pH 7.4, 0.02 % sodium azide) and ready for analysis or subsequent processing. However, the amount of HSA and IgG in plasma can vary considerably. For best results, optimize the ratio of sample to slurry volume for each specific application.



Step 1: Equlibrate the ProtiPrep™ column to room temperature. Open the screw cap (blue) and apply 10 µl of plasma to the cavity.

Step 2: Screw the buffer compartment cap (yellow) onto the tube and tighten until it clicks.

Step 3: Tap the column firmly against a solid surface to fully release the buffer onto the resin.

Step 4: Shake the tube vertically by hand for at least 10 seconds and incubate at room temperature for 5 minutes.

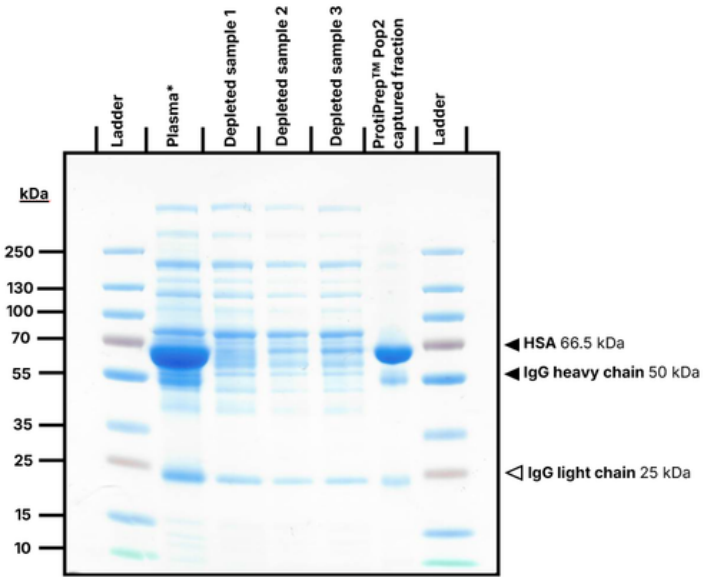
Step 5: Centrifuge for 2 minutes at 1000 x g.

Step 6: Unscrew. The column is getting removed together with the lid. The HSA/IgG depleted samples remain in the tube. The sample may be used immediately for further processing or stored at −20 °C for later use.

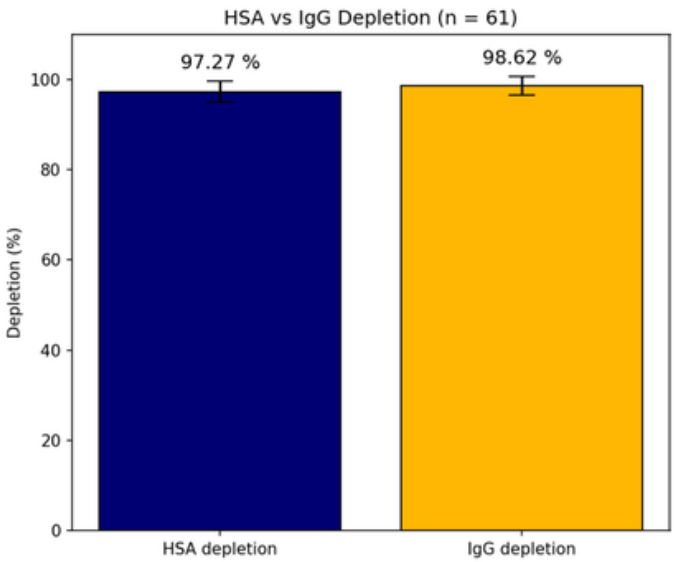
Amiprox

Product Information Sheet

Depletion Efficiency



SDS-PAGE analysis of pooled human plasma* (134 donors) before and after HSA and IgG depletion using ProtiPrep™ Pop2. Depleted samples show strong reduction of HSA and IgG bands, while the bead fraction confirms specific capture.



ELISA-based depletion performance of ProtiPrep™ Pop2 was evaluated using 800 µg pooled human plasma (134 donors, n = 61). Mean depletion efficiencies of 97,27 % (HSA) and 98,62 % (IgG) were observed, with median efficiencies of 97,67 % and 99,37 %, respectively.

Note: The data shown correspond to processing of 10 µL pooled human plasma (~800 µg total protein) per column.

Troubleshooting

Observation	Possible cause	Recommended action
HSA and IgG were not completely removed.	Sample exceeded binding capacity.	Reduce the amount of sample processed.
	Incomplete binding.	Increase the incubation time.
	Sample was not mixed during incubation.	Mix the sample with resin gently to allow buffer flush over properly.

Note: Sample processing will depend on the type of downstream analysis and may require buffer exchange, lipid and other metabolite removal and/or concentration for 2D gel electrophoresis or mass spectrometry analysis after depletion.

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