HemoVoid™ Hemoglobin Variant Enrichment From Blood

Purification & Enrichment Of Hemoglobin From Blood For Hemoglobin Variant Research

- Hemoglobin enrichment from fresh or frozen blood and dried blood spot/blood card etc.
- Enriched hemoglobin voids in flow-through >98% pure, with <30 minute bind/wash/elute protocol
- Disposable, cost-effective and high-throughput.
- Mild buffer condition maintains tertiary structure and simple transfer to secondary analysis
- Enriches hemoglobin from diverse species including human, sheep, mouse, goat, rat, etc.
- Enriched/purified hemoglobin can be studied for variant research and other research applications.
- Eluted fractions contains hemoglobin depleted proteins which can be used for LC-MS, proteomic studies

**Hemoglobin Absorbance at 410 nm**

<table>
<thead>
<tr>
<th>Product</th>
<th>Size</th>
<th>Blood sample processed</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HemoVoid™ Hemoglobin Enrichment Kit</td>
<td>10 Preps</td>
<td>500 µl of Blood Sample</td>
<td>HBV-10</td>
</tr>
<tr>
<td>HemoVoid™ Hemoglobin Enrichment Kit</td>
<td>50 Preps</td>
<td>2500 µl of Blood Sample</td>
<td>HBV-50</td>
</tr>
</tbody>
</table>

**NOTE:** Please contact sales@biotechsupportgroup.com for prices in bulk amount.
<table>
<thead>
<tr>
<th>Items Required</th>
<th>10 Prep</th>
<th>50 Prep</th>
<th>Reagent</th>
</tr>
</thead>
<tbody>
<tr>
<td>HemoVoid™</td>
<td>0.5 gram</td>
<td>2.5 grams</td>
<td>Supplied</td>
</tr>
<tr>
<td>Binding Buffer HVBB, PH 6.0</td>
<td>12 ml</td>
<td>60 ml</td>
<td>Supplied</td>
</tr>
<tr>
<td>Wash Buffer HVWB, PH 7.0</td>
<td>3 ml</td>
<td>15 ml</td>
<td>Supplied</td>
</tr>
<tr>
<td>Elution Buffer HVEB, PH 9.8</td>
<td>3 ml</td>
<td>15 ml</td>
<td>Supplied</td>
</tr>
<tr>
<td>SpinX Centrifuge tube filters</td>
<td>10</td>
<td>50</td>
<td>Supplied</td>
</tr>
</tbody>
</table>

SDS-PAGE (4-20%), Left: Frozen Sheep Blood, Right: Frozen Mouse Blood

Hemoglobin

Lane 1: Sheep Blood Load
Lane 2: Sheep Blood FT (Enriched Hb)
Lane 3: Sheep Blood EL (Depleted Hb)

Lane 1: Mouse Blood Load
Lane 2: Mouse Blood FT (Enriched Hb)
Lane 3: Mouse Blood EL (Depleted Hb)
Hemovoid™ Protocol For Hemoglobin Enrichment From Blood Samples For Hemoglobin Variant (HbS, HbE, HbC, HbD, HbF, HbA1c, Thalassemia, etc.) Research

Based On Processing 50 μl Blood Sample

For best results – the lysate should be clear and free of colloidal material. We recommend first filtering through a 0.45 μm syringe-type filter before beginning the prep.

1. Weigh out 50 mg of HemoVoid™ matrix into the supplied SpinX filter.

2. Add 300 μl of Binding Buffer HVBB to the SpinX Filter. Vortex or mix well for 5 minutes at room temperature followed by centrifugation at 3000 rpm. Discard the supernatant.

3. Repeat step-2

4. Add 300 μl of HVBB and 50 μl of the blood sample. Vortex for 10 min and then centrifuge for 2 minutes at 5000 rpm. Pipette off the supernatant and discard the pellet.

5. Add the supernatant (step 4) to the equilibrated surface (step 3). Vortex for 10 min and then centrifuge for 2 minutes at 5000 rpm. Remove the filtrate as Flow-Through FT which contains enriched hemoglobin and is ready for further analysis.

Note: If using RBC Lysate, add additional Binding Buffer HVBB (1:1 ratio of RBC Lysate to HVBB). Then continue from Step 4.

6. To the pellet, add 300 μl of Wash Buffer HVWB. Vortex or mix well for 5 min and centrifuge for 2 minutes at 5000 rpm. Remove the filtrate as Wash which contains residual enriched hemoglobin and is ready for hemoglobin variant analysis. Note: If necessary, Wash and Flow-Through can be mixed.

7. To the pellet, add 300 μl of Elution Buffer HVEB. Vortex or mix well for 10 min and centrifuge for 2 minutes at 5000 rpm. Remove this filtrate as Hemoglobin depleted blood protein. The elution contains hemoglobin depleted protein. This elution is now ready for further analysis.

8. Note: The protocol can be scaled up or down proportionally to adjust for different serum volumes. The surface amount can be adjusted to accommodate more or less hemoglobin removal.
Related HemoVoid™ References

Human Red Blood Cells (RBC)
HemoVoid™ On Bead Digestion Application Work On RBC by Irene Granlund, Umeå University

Red Blood Cells, Plasmodium extracts

Walpurgis, Katja, et al. "Effects of gamma irradiation and 15 days of subsequent ex vivo storage on the cytosolic red blood cell proteome analyzed by 2D DIGE and Orbitrap MS." PROTEOMICS-Clinical Applications (2013).

P. Falciparum Clone 3D7 Cultured In Human Erythrocytes

Red Blood Cell Lysate


Katja Walpurgis, Maxie Kohler, Andreas Thomas et al. Validated hemoglobin-depletion approach for red blood cell lysate proteome analysis by means of 2D-PAGE and Orbitrap MS. Electrophoresis.2012;


CONTACT US
We welcome your questions and comments regarding our products.

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