07302015

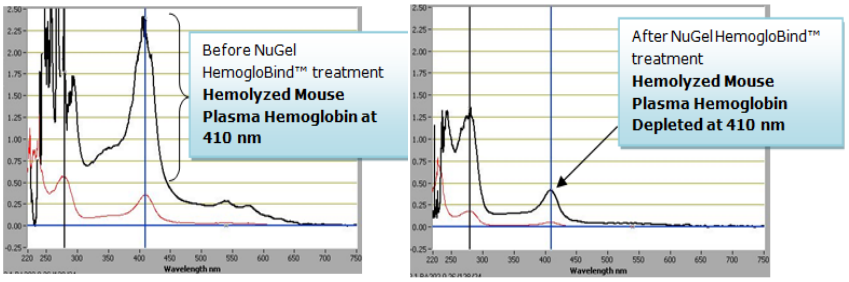
BIOTECH SUPPORT GROUP

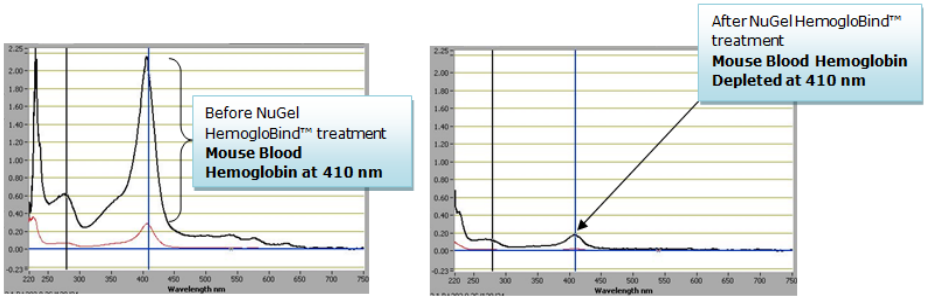
NuGel-HemogloBind™

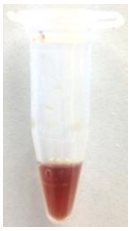
Hemoglobin Capture Reagent From Blood and Hemolyzed Serum with NuGel™ Matrix

- Has a high degree of specificity for hemoglobin binding up to 10 mg/ml
- Removes hemoglobin from any species including human, sheep, bovine, goat, etc
- Removes hemoglobin from organs, tissues.
- Hemoglobin removal from red blood cell lysate for proteomics and biomarker drug discovery
- The flow through fractions(hemoglobin depleted) retain their enzymatic and biological activity
- The flow through fractions(hemoglobin depleted) is compatible with LC-MS, activity based protein profiling and proteomic studies.

NuGel-Hemoglobind™ is reengineered for increased stability. It is based on NuGel silica (50 microns in size, 1000Å) covalently bound to elastomeric polyelectrolytes. It binds >95% of hemoglobin from blood.







Hemolyzed Mouse Plasma before Treatment with NuGel

NuGel HemogloBind™

Hemolyzed Mouse Plasma after Treatment with NuGel HemogloBind

Diluted Hemolyzed Mouse Plasma Before Treatment

NuGel HemogloBind™

Diluted Hemolyzed Mouse Plasma After Treatment

1 Deer Park Drive, Suite M, Monmouth JCT, NJ 08852, USA• (P) 732-274-2866 • (F) 732-274-2899 •
www.biotechsupportgroup.com

BIOTECH SUPPORT GROUP

Product	Size	Total Sample Processed	Item Price
NuGel-HemogloBind™	25 preps	500µl of blood or 5 ml of Hemolyzed Serum or Plasma	NP-HO-T25
NuGel-HemogloBind™	50 preps	1 ml of blood or 10 ml of Hemolyzed Serum or Plasma	NP-HO-T50

Items Required	25 Prep	50 Prep	Reagent
NuGel-HemogloBind™	1.25 grams	2.5 gram	Supplied
Hemoglobin Binding Buffer (HB)	15 ml	30 ml	Supplied
SpinX Centrifuge tube filters	25	50	Supplied

PROTOCOL – To Treat Blood Sample Using Microfuge Tube

1. Weigh out 50 mg of **NuGel-HemogloBind™** matrix in a microfuge tube.
2. Add 200 µl of **Hemoglobin Binding Buffer (HB)** to the matrix. Vortex or mix well for 2 minutes at room temperature.
3. In a separate microfuge tube, add 200 µl of **Hemoglobin Binding Buffer (HB)** and 10-20 µl of blood sample. Vortex for 3 minutes.
4. Add sample from step 3 to sample from step 2.
5. Vortex or mix well for 10 minutes at room temperature followed by centrifugation for 4 minutes at 10,000 rpm.
6. Collect the supernatant which contains hemoglobin depleted sample, while the matrix contains the hemoglobin.

PROTOCOL – To Treat Hemolyzed Plasma or Serum Sample Using Microfuge Tube

1. Weigh out 50 mg of **NuGel-HemogloBind™** in microfuge tube and add 400 µl Hemoglobin Binding Buffer. Vortex for 2 minute.
2. Add 200 µl Hemolyzed Sample to step 1.
3. Vortex or mix well for 10 minutes at room temperature followed by centrifugation for 4 minutes at 10,000 rpm
4. Collect the supernatant which contains hemoglobin depleted sample, while the matrix contains the hemoglobin.

PROTOCOL – To Treat Blood Sample Using Spin-X Tube

1. Weigh out 50 mg of **NuGel-HemogloBind™** matrix in a spin-tube.
2. Add 200 µl of Hemoglobin Binding Buffer. Vortex or mix well for 2 minutes at room temperature, centrifuge for 2 minutes at 10,000 rpm.
3. Discard the supernatant.

BIOTECH SUPPORT GROUP

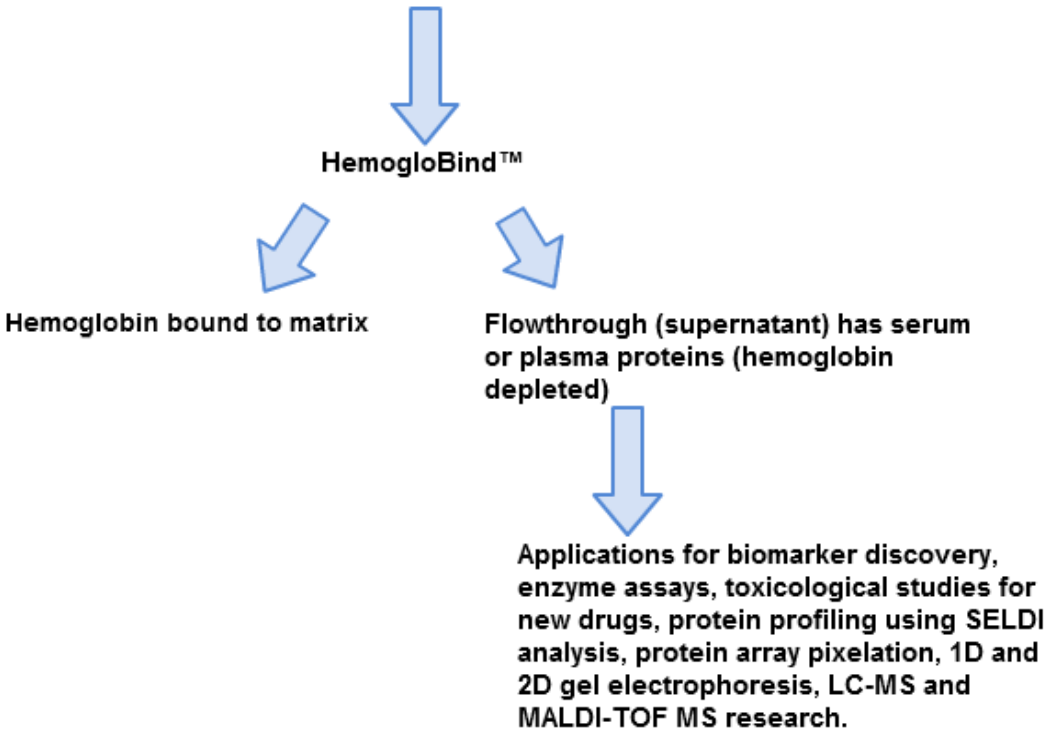
4. In a separate microfuge tube, add 400 µl of Hemoglobin Binding Buffer to the 10-20 µl of blood sample. Vortex or shake for 3 minutes.
5. Add sample from step 4 to the pellet sample from step 3.
6. Vortex or mix well for 10 minutes at room temperature, and then centrifuge for 4 minutes at 10,000 rpm.
7. Collect the filtrate which contains hemoglobin depleted sample, while the matrix contains the hemoglobin.

PROTOCOL – To Treat Hemolyzed Plasma or Serum Sample Using Spin-X Tube

1. Weigh out 50 mg of **NuGel-HemogloBind™** matrix in a spin-tube and add 200 µl Hemoglobin Binding Buffer. Vortex or mix well for 2 minutes at room temperature, centrifuge for 2 minutes at 10,000 rpm.
2. Discard supernatant.
3. In a separate microfuge tube, add 400 µl Hemoglobin Binding Buffer to 200 µl Hemolyzed sample. Vortex for 3 minutes.
4. Add the sample from step 3 to the pellet from step 2. Vortex or mix well for 10 minutes at room temperature followed by centrifugation for 4 minutes at 10,000 rpm
5. Collect the filtrate which contains hemoglobin depleted sample, while the matrix contains the hemoglobin.

BIOTECH SUPPORT GROUP

How NuGel-HemogloBind™ Works



Related HemogloBind™ References

Biological Fluids
J Krupey - United States Patent: 10/180,053, 2002 Removal of extraneous substances from biological fluids containing nucleic acids and the recovery of nucleic acids

Red Cell Lysates
Kyoungsook Park, Christopher D. Saudek, and Gerald W. Hart Increased Expression of β-N-Acetylglucosamindase (O-GlcNAcase) in Erythrocytes from Prediabetic and Diabetic Individuals.Diabetes.2010;59(7):1845-50.

Stored Blood Products
Delobel J., Rubin O., Prudent M., Crettaz D., Tissot J.-D., Lion N.(2010) Biomarker Analysis of Stored Blood Products: Emphasis on Pre-Analytical Issues. International Journal of Molecular Sciences. 11(11):4601-4617

BIOTECH SUPPORT GROUP

Red Blood Cells

Alvarez-Llamas, Gloria, Fernando de la Cuesta, Maria G. Barderas, Irene Zubiri, Maria Posada-Ayala, and Fernando Vivanco. "Characterization of Membrane and Cytosolic Proteins of Erythrocytes." In Vascular Proteomics, pp. 71-80. Humana Press, 2013

Alvarez-Llamas, G., de la Cuesta, F., Barderas, M. G., Darde, V. M., Zubiri, I., Caramelo, C., Vivanco, F. A novel methodology for the analysis of membrane and cytosolic sub-proteomes of erythrocytes by 2-DE.Electrophoresis.2009;30:4095-4108

Zihao Wang, Kyoungsook Park, Frank Comer1, Linda C. Hsieh-Wilson, Christopher D. Saudek, Gerald W. Hart. Site-Specific GlcNAcylation of Human Erythrocyte Proteins: Potential Biomarker(s) for Diabetes Mellitus. Diabetes.2008;58, 309-317.

Datta, Pradip. Effect of Hemolysis, High Bilirubin, Lipemia, Paraproteins, and System Factors on Therapeutic Drug Monitoring. Handbook of Drug Monitoring Methods.2008; 97-109.

Yuichi Miki, Tomoki Tazawa, Kazuya Hirano, Hideki Matsushima, Shoko Kumamoto, Naotaka Hamasaki, Tomohiro Yamaguchi, Masatoshi Beppu. Clearance of oxidized erythrocytes by macrophages: Involvement of caspases in the generation of clearance signal at band 3 glycoprotein. Biochemical and Biophysical Research Communications.2007; 363(1):57-62

Sarawathi,et al., Relative quantification of glycated Cu-Zn superoxide dismutase in erythrocytes by electrospray ionization mass spectrometry, Biochimica et Biophysica Acta. 1999.1426(3):483-90

Bilirubin

Person, N.B., Effect Of HemogloBind™ On Interference Reduction In Bilirubin Analysis.poster Clinichem, 1995.

Serum

Baion, C.M. & Ali, A.C.Evaluation Of HemogloBind™ For Removal Of O-Raffinose Crosslinked Hemoglobin (Hemolink™) From Serum, poster AACC Meeting 1997.

Tissue

Padilla, S., Convenient Method for Decreasing the Amount of Hemoglobin in Tissue Samples Without Affecting the Level of Cholinesterase Activity, unpublished personal correspondence, 1994.

CONTACT US

We welcome your questions, comments and concerns regarding our products.

Call 732-274-2866, Monday – Friday 9am-6pm EST.
Fax 732-274-2899
Email sales@biotechsupportgroup.com
Mail 1 Deer Park Drive, Suite M, Monmouth JCT, NJ 08852, USA