



Hemopexin (ABS 013-04): sc-59555

BACKGROUND

Hemopexin (also known as β 1B glycoprotein or HPX), a 462 amino acid protein, functions as a scavenger and transporter of toxic plasma heme, transporting heme to the liver for breakdown and iron recovery. Hemopexin cooperates with Albumin, Haptoglobin and high and low density lipoproteins to trap toxic plasma heme, which occurs as the result of the degradation of hemoglobin, myoglobin and enzymes with heme prosthetic groups, and to ensure the clearance of toxic heme from the plasma. After releasing the heme molecule, the free Hemopexin returns to circulation. It is expressed by the liver and is secreted in plasma. Hemopexin may play a role in the maintenance of metal ion homeostasis. It binds the following metal ions in order of highest to lowest affinity: nickel, copper, cobalt, zinc and manganese. Hemopexin can also act as a toxic protease that leads to proteinuria and glomerular alterations, which are characteristics of minimal changes disease (MCD), a common cause of nephrotic syndrome.

REFERENCES

1. Bakker, W.W., van Dael, C.M., Pierik, L.J., van Wijk, J.A., Nauta, J., Borghuis, T. and Kapojos. 2005. Altered activity of plasma Hemopexin in patients with minimal change disease in relapse. *Pediatr. Nephrol.* 20: 1410-1415.
2. Bakker, W.W., Borghuis, T., Harmsen, M.C., van den Berg, A. Kema, I.P., Niezen, K.E. and Kapojos, J.J. 2005. Protease activity of plasma Hemopexin. *Kidney Int.* 68: 603-610.
2. Mauk, M.R., Rosell, F.I., Lelj-Garolla, B., Moore, G.R. and Mauk, A.G. 2005. Metal ion binding to human Hemopexin. *Biochemistry* 44: 1864-1871.
4. Hvidberg, V., Maniecki, M.B., Jacobsen, C., Højrup, P., Møller, H.J. and Moestrup, S.K. 2005. Identification of the receptor scavenging Hemopexin-heme complexes. *Blood* 106: 2572-2579.
5. Nakaniwa, M., Hirayama, M., Shimizu, A., Sasaki, T., Asakawa, S., Shimizu, N. and Watabe, S. 2005. Genomic sequences encoding two types of medaka Hemopexin-like protein Wap65, and their gene expression profiles in embryos. *J. Exp. Biol.* 208: 1915-1925.
6. Jaleel, A., Halvatsiotis, P., Williamson, B., Juhasz, P., Martin, S. and Nair, K.S. 2005. Identification of Amadori-modified plasma proteins in type 2 diabetes and the effect of short-term intensive insulin treatment. *Diabetes Care* 28: 645-652.
7. Rosell, F.I., Mauk, M.R. and Mauk, A.G. 2005. pH- and metal ion-linked stability of the Hemopexin-heme complex. *Biochemistry* 44: 1872-1879.
8. Angelucci, S., Ciavardelli, D., Di Giuseppe, F., Eleuterio, E., Sulpizio, M., Tiboni, G.M., Giampietro, F., Palumbo, P. and Di Ilio, C. 2006. Proteome analysis of human follicular fluid. *Biochim. Biophys. Acta* 1764: 1775-1785.
9. Morrison, C.J. and Overall, C.M. 2006. TIMP independence of matrix metalloproteinase (MMP)-2 activation by membrane type 2 (MT2)-MMP is determined by contributions of both the MT2-MMP catalytic and hemopexin C domains. *J. Biol. Chem.* 281: 26528-26539.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

CHROMOSOMAL LOCATION

Genetic locus: HPX (human) mapping to 11p15.5-p15.4; Hpxn (mouse) mapping to 7 F1.

SOURCE

Hemopexin (ABS 013-04) is a mouse monoclonal antibody raised against full length native Hemopexin of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hemopexin (ABS 013-04) is recommended for detection of Hemopexin of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Hemopexin siRNA (h): sc-60778.

Molecular Weight of Hemopexin: 80-85 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.