

Haptoglobin (2F4): sc-69783

BACKGROUND

Haptoglobin (Hp) is a blood plasma protein that functions to bind free Hemoglobin that has been released from erythrocytes, thereby inhibiting its oxidative activity. During this process, Haptoglobin sequesters the iron within Hemoglobin, preventing iron-utilizing bacteria from benefitting from hemolysis. This function suggests that Haptoglobin concentrations may increase in response to inflammation. The resulting Haptoglobin-Hemoglobin complex is then removed by the reticulo-endothelial system. Due to cleavage of a common precursor protein during protein synthesis, Haptoglobin consists of two α and two β chains, connected by disulfide bridges. In human, Haptoglobin exists in two allelic forms designated Haptoglobin 1 (Hp1) and Haptoglobin 2 (Hp2), where Hp2 is the result of a partial Hp1 gene duplication. There are three known phenotypes of human Haptoglobin: Hp1-1, Hp2-1 and Hp2-2, which may be associated with diabetes and cardiovascular disease pathology and a susceptibility to Parkinson's and Crohn's disease. Haptoglobin levels are useful in diagnosing hemolytic anemia, the abnormal breakdown of red blood cells. Haptoglobin is expressed in mammalian hepatocytes as well as other tissues such as skin, lung and kidney.

REFERENCES

- Suleiman, M., et al. 2005. Haptoglobin polymorphism predicts 30-day mortality and heart failure in patients with diabetes and acute myocardial infarction. *Diabetes* 54: 2802-2806.
- Na, N., et al. 2005. Serum free hemoglobin concentrations in healthy individuals are related to Haptoglobin type. *Clin. Chem.* 51: 1754-1755.
- Yerbury, J.J., et al. 2005. The acute phase protein Haptoglobin is a mammalian extracellular chaperone with an action similar to Clusterin. *Biochemistry* 44: 10914-10925.
- Mihailovic, M., et al. 2005. Acute-phase related binding ability of p53 for the hormone response element of the Haptoglobin gene in adult rats. *Cell. Biol. Int.* 29: 968-970.
- Ship, N.J., et al. 2005. Binding of a cellular, native and cross-linked human hemoglobins to Haptoglobin: enhanced distribution and clearance in the rat. *Am. J. Physiol. Gastrointest. Liver Physiol.* 288: G1301-G1309.

CHROMOSOMAL LOCATION

Genetic locus: HP (human) mapping to 16q22.2.

SOURCE

Haptoglobin (2F4) is a mouse monoclonal antibody raised against purified Haptoglobin β of human origin.

PRODUCT

Each vial contains IgG₁ in 100 μ l of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Haptoglobin (2F4) is recommended for detection of Haptoglobin of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 μ l per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

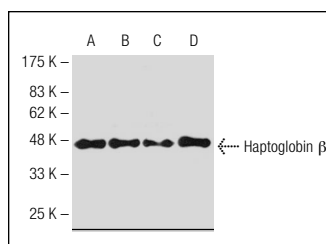
Suitable for use as control antibody for Haptoglobin siRNA (h): sc-72093, Haptoglobin shRNA Plasmid (h): sc-72093-SH and Haptoglobin shRNA (h) Lentiviral Particles: sc-72093-V.

Molecular Weight of Haptoglobin α : 15-18 kDa.

Molecular Weight of Haptoglobin β : 45 kDa.

Positive Controls: human plasma extract: sc-364374.

DATA



Haptoglobin (2F4): sc-69783. Western blot analysis of Haptoglobin phenotypes purified from human plasma including Hp1-1 (A), Hp2-1 (B) and Hp2-2 (C), and Haptoglobin expression in human plasma (D).

SELECT PRODUCT CITATIONS

- Qi, Y.J., et al. 2014. Proteomic profiling of N-linked glycoproteins identifies ConA-binding procathepsin D as a novel serum biomarker for hepatocellular carcinoma. *Proteomics* 14: 186-195.
- Ramanujam, S., et al. 2016. The 88-kDa Eales' protein in serum is a complex of Haptoglobin, complement C3, and galectin-1 as identified by liquid chromatography coupled mass spectrometry. *Proteomics Clin. Appl.* E-published.
- Zhang, S., et al. 2018. Endometrial expression of the acute phase molecule SAA is more significant than HP in reflecting the severity of endometritis. *Res. Vet. Sci.* 121: 130-133.

RESEARCH USE

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

PROTOCOLS

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