

# Haptoglobin (26E11): sc-69782

## 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  $\alpha$  and two  $\beta$  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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Haptoglobin (26E11) is a mouse monoclonal antibody raised from purified Haptoglobin of human origin.

## PRODUCT

Each vial contains IgG<sub>1</sub> kappa light chain in 100  $\mu$ l of PBS with < 0.1% sodium azide, 0.1% gelatin, 50% glycerol and < 0.1% stabilizer protein.

## APPLICATIONS

Haptoglobin (26E11) 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  $\mu$ l per 100-500  $\mu$ 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  $\alpha$ : 15-18 kDa.

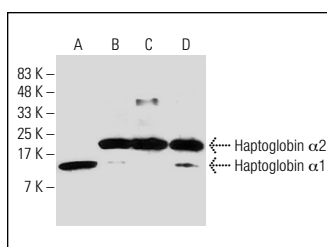
Molecular Weight of Haptoglobin  $\beta$ : 45 kDa.

Positive Controls: human plasma extract: sc-364374.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Haptoglobin (26E11): sc-69782. Western blot analysis of Haptoglobin phenotypes purified from human plasma including Hp1-1 (A), Hp2-1 (B) and Hp2-2 (C), and Haptoglobin in human plasma (D).

## SELECT PRODUCT CITATIONS

- Lee, C.C., et al. 2010. Expression of Haptoglobin predicts recurrence in head and neck squamous cell carcinoma. *Clin. Chim. Acta* 411: 1116-1121.
- Lilja-Maula, L.I., et al. 2013. Proteomic analysis of bronchoalveolar lavage fluid samples obtained from West Highland White Terriers with idiopathic pulmonary fibrosis, dogs with chronic bronchitis, and healthy dogs. *Am. J. Vet. Res.* 74: 148-154.
- Liu, Z., et al. 2017. Differentially expressed Haptoglobin as a potential biomarker for type 2 diabetic mellitus in Hispanic population. *Biofactors* 43: 424-433.
- Alfadda, A.A., et al. 2018. Differences in the plasma proteome of patients with hypothyroidism before and after thyroid hormone replacement: a proteomic analysis. *Int. J. Mol. Sci.* 19: 88.
- Masood, A., et al. 2020. Plasma-based proteomics profiling of patients with hyperthyroidism after antithyroid treatment. *Molecules* 25: 2831.
- Alasmari, F., et al. 2020. Serum proteomic profiling of patients with amphetamine use disorder. *Drug Alcohol Depend.* 214: 108157.
- Ma, N., et al. 2021. Methionine supplementation during a hydrogen peroxide challenge alters components of Insulin signaling and antioxidant proteins in subcutaneous adipose explants from dairy cows. *J. Dairy Sci.* E-published.

## STORAGE

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

## RESEARCH USE

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