



## Product Datasheet

<b>Product Name</b>	Haptoglobin Human
<b>Cata No</b>	CB501170
<b>Source</b>	<i>Pooled human plasma</i>
<b>Synonyms</b>	Haptoglobin, HP, BP, HPA1S, MGC111141, HP2-ALPHA-2.

### Description

Haptoglobin is a glycoprotein which is synthesized in the liver and circulates in the blood. Haptoglobin is produced typically by hepatocytes but also by other tissues: e.g. skin, lung, and kidney. It is a positive acute phase protein that binds free hemoglobin and removes it from the circulation to prevent kidney injury, and iron loss following hemolysis. The haptoglobin-hemoglobin complex is subsequently removed by the reticuloendothelial system (generally the spleen). As the reticuloendothelial system removes the haptoglobin-hemoglobin complex from the body, haptoglobin levels are reduced in hemolytic anaemias. In the course of binding hemoglobin, haptoglobin sequesters the iron inside hemoglobin, preventing iron-utilizing bacteria from benefitting from hemolysis.

Haptoglobin consists of two  $\alpha$ - and two  $\beta$ -chains, connected by disulfide bonds. Three major haptoglobin phenotypes are known to exist (Hp 1-1, Hp 2-1, and Hp 2-2). Hp 1-1 is biologically the most effective in binding free hemoglobin and suppressing inflammatory responses associated with free hemoglobin. Hp 2-2 is biologically the least active, and Hp 2-1 is moderately active. Haptoglobin's molecular mass ranges from 8-200 kDa.

Reduced levels can be seen in haemolysis and impaired liver function. High levels are a marker for acute or chronic inflammation. Ahaptoglobinemia or hypohaptoglobinemia are caused by mutations in the haptoglobin gene and/or its regulatory regions. Haptoglobin is also linked to diabetic nephropathy, the incidence of coronary artery disease in type 1 diabetes, Crohn's disease, inflammatory disease behavior, primary sclerosing cholangitis, susceptibility to idiopathic Parkinson's disease, and a reduced incidence of Plasmodium falciparum malaria.

Human Haptoglobin produced from pooled human plasma

### Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

### Purity

Greater than 96.0%.

### Formulation

Lyophilized from 0.02M  $\text{NH}_4\text{HCO}_3$ . May contain traces of buffer salts.

### Stability

Human Hapto although stable at room temperature for 3 weeks, should be stored between 2-8°C.

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