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Product Information

Anti-Haptoglobin antibody, Mouse monoclonal
Clone HG-36, purified from hybridoma cell culture

Product Number **SAB4200781**

Product Description

Monoclonal Anti-Haptoglobin (mouse IgG1 isotype) is derived from the HG-36 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with purified haptoglobin from pooled human plasma (containing the three major haplotypes). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Haptoglobin specifically recognizes the three types of human haptoglobin (types 1-1, 2-1, and 2-2). The antibody recognizes both purified and haptoglobin in human serum, and shows no cross-reactivity with human IgG, transferrin, C-reactive protein, α-1-acid glycoprotein, albumin, hemoglobin, or bovine, goat and sheep serum haptoglobin. The antibody is recommended to use in various immunological techniques, including ELISA, dot blot,[1] immunoprecipitation,[2-3] and immunoblot[3-4]. The antibody reacts against native and denatured (non-reduced) human haptoglobin but does not recognize the haptoglobin under reducing conditions.

Haptoglobin, also known as HP, is a serum α_2-glycoprotein that exists as a tetramer, composed of two smaller identical alpha (α) chains and two larger identical beta (β) chains. The α-chains are linked to each other by a disulfide bond and each β-chain is similarly linked to an α-chain.[5-8]

Plasma haptoglobin is structurally similar to serum immunoglobulins. Normal adult plasma contains at least three different haplotypes; based on their differences in light alpha subunit structure: Type 1-1 and Type 2-2 have homozygous α-1 (9 kDa) and α-2 (18 kDa) subunits, the Type 2-1 has heterozygous α-1 and α-2 subunits, with a common β subunit in all three haplotypes (38kDa). [6-8]

Haptoglobin is found in normal plasma and accounts for 0.4-2.6% of the total plasma proteins. It belongs to a group of plasma proteins known as acute phase reactants.[9] The serum levels show a marked increase after trauma, cancer, coronary artery disease, and during inflammatory diseases, while diseases such as jaundice and cirrhosis can significantly lower the amount of haptoglobin in plasma.

The most characteristic property of haptoglobin is its ability to form stable complexes with extracorpuscular-free native hemoglobin that has been released during hemolysis, and is thus thought to prevent iron loss through urinary excretion and hemoglobin induced renal damage. In addition, the native form or normal plasma haptoglobin has been shown to exhibit a broad spectrum of immunosuppressive effects in the immune system.[9] Hemoglobin/haptoglobin complexes are rapidly cleared by the macrophage CD163 scavenger receptor expressed on the surface of liver Kupfer cells through an endocytic lysosomal degradation pathway.

Prehaptoglobin-2 (pre-HP2), also known as zonulin, plays a role in intestinal permeability, allowing intercellular tight junction disassembly and controlling the equilibrium between tolerance and immunity to non-self antigens.[9]

Measurement of haptoglobin and prehaptoglobin-2 levels may therefore be used to monitor the progress of inflammatory reactions and assess the efficiency of test drugs.[10]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability
For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile
Indirect ELISA: a working concentration of 0.2–0.4 μg/mL is recommended using 10 μg/mL human haptoglobin for coating.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

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