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Product Information

Monoclonal Anti-Human IgG1 (Fc specific)

Clone HP-6001

Mouse Ascites Fluid

Product Number **I 9388**

Product Description

Monoclonal Anti-Human IgG1 (Fc specific) (mouse IgG2b isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Purified human IgG myeloma proteins covalently coupled to polyaminostyrene (PAS) microbeads were used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Human IgG1 (Fc specific) is specific for the IgG1 subclass and nonreactive with IgG2, IgG3, and IgG4 in an ELISA. The antibody recognizes an epitope expressed in the Fc region of IgG1. The estimated association constant of this antibody with its ligand is 1×10^7 L/M. This clone has been evaluated for specificity using a wide range of immunological techniques in the IUIS/WHO collaborative study.²

Human IgG consist of four subclasses (1-4) that can be recognized by antigenic differences in their heavy chains. They constitute approximately 65, 30, 5, and 4% of the total IgG, respectively. Each subclass has different biological and physiochemical properties and may be preferentially produced in response to different antigens and pathological conditions. For instance, anti-polysaccharide responses are mainly of the IgG2 subclass while protein antigens give rise to IgG1 and IgG3 antibodies. Lipopolysaccharides stimulate an IgG2 response in PBLs and an IgG1 response in the spleen. Human IgG1 is the predominant subclass of *in vivo* and *in vitro* produced anti-tetanus toxoid antibodies. Only IgG1 and IgG3 are capable of adherence to mononuclear phagocytes. Serum IgG subclass deficiencies have been recorded for different patient groups. For example, IgG2 and IgG4 deficiency is associated with IgA deficiency as found in patients of ataxia telangiectasia. Low IgG2 levels were found in patients with SLE and juvenile diabetes melitus. A disproportionate elevation of IgG1 has also been found in the cerebral spinal fluid of patients with multiple sclerosis.

Examination of the distribution pattern of IgG subclasses in different types of diseases may provide insight into the immunological processes involved and may assist in the diagnosis of various disorders.

Reagent

Monoclonal Anti-Human IgG1 (Fc specific) is provided as ascites fluid with 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Monoclonal Anti-Human IgG1 (Fc specific) may be used for the identification of the IgG1 subclass by various immunoassays including: ELISA, imprint immunofixation (IIF), immunofluorometric assay (IFMA), hemagglutination (HA), hemagglutination inhibition (HAI), particle counting immunoassay (PACIA), and immunohistological applications. The antibody may be used as a capture antibody in a sandwich ELISA and for conjugation to biotin, FITC, enzymes, and radioisotopes.

The antibody titer was determined by an ELISA using 10 µg/ml of freshly prepared human IgG1 myeloma proteins for coating.

In order to obtain the best results, it is recommended that each individual user determine their working dilution by titration.

References

1. Reimer, C. B., et al., Hybridoma, **3**, 263 (1984).
2. Jefferies, R., et al., Immunol. Lett., **10**, 223 (1985).

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