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ProductInformation

MONOCLONAL ANTI-HUMAN IgG2
Clone HP-6002
Mouse Ascites Fluid

Product Number **I 9513**

Product Description

Monoclonal Anti-Human IgG2 (mouse IgG1 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).

Human IgG consists 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. Lipopolysaccahrides stimulate an IgG2 response in PBL's 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 telangiextasia. 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.

Reagents

The product is provided as ascites fluid with 15 mm sodium azide as a preservative.

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

For continuous use, 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 IgG2 is specific for the IgG2 subclass and nonreactive with IgG1, IgG3, and IgG4 in an ELISA. The antibody recognizes an epitope expressed in the Fc region of IgG2. The estimated association constant of this antibody with its ligand is 13×10^7 L/M. This clone has been evaluated for specificity using a wide range of immunological techniques in the IUIS/WHO collaborative study.[2]

Monoclonal Anti-Human IgG2 may be used for the identification of the IgG2 subclass by various immunoassays including ELISA, Imprint Immunofixation (IIF), Immunofluorometric Assay (IFMA), hemagglutination (HA), Hemaggluti- nation Inhibition (HAI), Particle Counting Immunoassay (PACIA), and immunohistological applications. The IUIS/WHO study adopted this monoclonal antibody as a standard reagent.[2]

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

References

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

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