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Product Information

Anti-Human IgG3-Peroxidase antibody, Mouse monoclonal
Clone HP-6050, purified from hybridoma cell culture

Product Number **SAB4200769**

Product Description

Anti-Human IgG3-Peroxidase antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the HP-6050 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with purified human IgG3 myeloma proteins covalently coupled to polyaminostyrene (PAS) microbeads.[1] 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 and is conjugated to horseradish peroxidase.

Anti-Human IgG3-Peroxidase antibody, Mouse monoclonal specifically recognizes Human IgG3. The antibody shows no cross-reactivity with human IgG1, IgG2, and IgG4. The IUIS/WHO study evaluated this monoclonal antibody as one of the most widely applicable IgG3 specific monoclonal antibodies.[2] The antibody is recommended to use in various immunological techniques, including ELISA.

Human IgG consist of four subclasses (1-4) that can be recognized by the antigenic difference 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. The IgG subclass 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 responses give rise to IgG1 and IgG3 antibodies.[3] IgG1 and IgG3 are the only subclasses capable of adherence to mononuclear phagocytes and are recognized readily by the Fc receptors on various reticulo-endothelial cells, while IgG2 and IgG4 are far less efficient.[4] The abundance of the different IgG subclasses in the bloodstream varies with age, IgG1 and IgG3 reach normal adult levels by 5-7 years of age while IgG2 and IgG4 levels rise more slowly, reaching adult levels at ~10 years of age.

Serum IgG subclass deficiencies have been recorded for different patient groups. IgG3 deficiency has been associated with a patient's history of recurrent infectious that may lead to chronic lung disease. Decreased IgG3 levels are frequently associated with IgG1 deficiency.[6]

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

Reagent

Supplied as a lyophilized powder.

Preparation Instructions

Reconstitute the content of the vial with 0.25 mL of distilled water to a final antibody concentration of 2 mg/mL. After reconstitution, the solution contains 1% BSA, 2.5% trehalose, and 0.05% MIT in 0.01 M sodium phosphate buffered saline.

Precautions and Disclaimer

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

Store the lyophilized product at 2–8 °C. For extended storage after reconstitution, keep at –20 °C in working aliquots. Avoid repeated freeze-thaw cycles. For continuous use after reconstitution, keep at 2–8 °C for up to 1 month. Solutions at working dilution should be discarded if not used within 12 hours.

Product Profile

Direct ELISA: a working dilution of 1:80,000-1:160,000 is recommended using 2 μg/mL human IgG3 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

1. Reimer, C.B. et al., *Hybridoma*, **3**, 263-75 (1984).
2. Jefferis, R. et al., *Immunol. Lett*., **10**, 223-52 (1985).
3. Stevens, R., et al., *J. Clin. Immunol*., **3**, 65-9 (1983).
4. van der Meulen, F.W. et al., *Br. J. Haematol*., **46**, 47-56(1980).
5. Oxelius, V.A., *Am. J. Med*., **76(3A)**, 7-18 (1984).
6. Herrod, H.G., *Ann. Allergy*, **70**, 3-8 (1993).

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