Product Information

Anti-Human IgG4-Peroxidase antibody, Mouse monoclonal

Clone HP-6025, purified from hybridoma cell culture

SAB4200770

Product Description

Monoclonal Anti-Human IgG4 (mouse IgG1 isotype) is derived from the HP-6025 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with purified human IgG4 myeloma proteins covalently coupled to polyaminostyrene (PAS) microbeads.[1] The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2). The antibody is purified from culture supernatant of hybridoma cells and is conjugated to horseradish peroxidase.

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

Human IgG consists of four subclasses (1-4) that can be recognized by antigenic differences in their heavy chains. It constitutes 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. Only IgG1 and IgG3 are capable of adhering to mononuclear phagocytes while IgG2 and IgG4 auto-antibodies are not associated with disorders such as hemolytic anemia.[3] 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.[4] Examination of the distribution pattern of IgG subclasses in different types of diseases may provide insight into the immunological processes involved and thus may assist in the diagnosis of various disorders.[5] For example, IgG subclass expression pattern in malaria patients reveals positive association of IgG4 levels and malaria antigens but not with patients age.[6]

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

This product is for research 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 1 µg/mL of human IgG4 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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3. Van der Meulen, F.W. et al., Br. J. *Haematol.*, **46**, 47-56 (1980).
4. Aucouturier, P. et al., *Clin. Exp. Immunol.*, **68**, 392–6 (1987).
5. Isaacs, J.D. et al., *Clin. Exp. Immunol.*, **106**, 427-33 (1996).
6. Nasr, A. et al., *Scand. J. Immunol.*, **74**, 390-6 (2011).

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