Product Information

Anti-Human IgG1-Peroxidase Antibody, Mouse Monoclonal

Clone 8c/6-39, Purified from Hybridoma Cell Culture

SAB4200768

Product Description

Monoclonal Anti-Human IgG1 (mouse IgG2a isotype) is derived from the 8c/6-39 hybridoma (also known as HP6019), produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with the Fc fragment of a human IgG1 myeloma protein. 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 IgG1 specifically recognizes Human IgG1. The antibody shows no cross-reactivity with human IgG2, IgG3, or IgG4. This clone has been established as a useful human IgG1 specificity standard by the WHO/IUIS.[1] The antibody is recommended to use in various immunological techniques, including ELISA.

Human IgGs 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.

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 give rise to IgG1 and IgG3 antibodies. Human IgG1 is the predominant subclass of *in vivo* and *in vitro* produced anti-tetanus toxoid antibodies.[2] IgG1 and IgG3 are the only subclasses capable of adherence to mononuclear phagocytes and are also recognized readily by the Fc receptors on various reticulo- endothelial cells while IgG2 and IgG4 are far less efficient.[3] The amount of the different IgG subclasses present in the bloodstream varies with age. For example, IgG1 and IgG3 reach normal adult levels by 5-7 years of age while IgG2 and IgG4 levels raise more slowly, reaching adult levels at about 10 years of age.[4,5]

Serum IgG subclass deficiencies have been recorded for different patient groups. For example, a disproportionate elevation of IgG1 has been found in the cerebral spinal fluid of patients with multiple sclerosis.[6]

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

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, 0.01% preservative in 0.01 M sodium phosphate buffered saline.

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

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 1:8,000-1:16,000 is recommended using 5 µg/mL human IgG1 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. Jefferis, R. et al., *Immunol. Lett.*, **10**: 223-52 (1985).
2. Stevens, R. et al., *J. Clin. Immunol.*, **3**: 65-9 (1983).
3. van der Meulen, F.W. et al., *Br. J. Haematol.*, **46**: 47-56(1980).
4. Papadea C. and Check IJ., Crit Rev Clin Lab Sci., **27**: 27-58 (1989).
5. Jefferis R., et al., Ann Biol Clin., **52**: 57-65 (1994).
6. Rocchelli, B. et al., *Eur. Neurol.*, **22**: 35-42 (1983).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

SAB4200768dat Rev 05/21