

Product Information

Anti-Human IgG1 (Fc specific) antibody Mouse monoclonal

Clone HP-6001, purified from hybridoma cell culture

Catalog Number **SAB4200788**

Product Description

Monoclonal Anti-Human IgG1 (Fc specific) (mouse IgG2b isotype) is derived from the HP-6001 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with purified human IgG myeloma proteins covalently coupled to polyaminostyrene (PAS) microbeads.¹ The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Human IgG1 (Fc specific) specifically recognizes the Fc region of Human IgG1.¹ The antibody shows no cross-reactivity with human IgG2, IgG3, and IgG4. This clone has been established as a useful human IgG1 specificity standard by the WHO/IUIS.² 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.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 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.

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.⁵

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 solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

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

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Indirect ELISA: a working concentration of 0.5–1 µg/mL is recommended using 1 µg/mL Human IgG1 myeloma protein 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. Rocchelli, B. et al., *Eur. Neurol.*, **22**, 35-42 (1983).

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