



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

MONOCLONAL ANTI-HUMAN IgG2

Clone HP-6014

Mouse Ascites Fluid

Product No. I 5635

Product Description

Monoclonal Anti-Human IgG2 (mouse IgG1 isotype) is derived from the hybridoma¹ produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Purified human IgG2 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).

Monoclonal Anti-Human IgG2 is specific for the IgG2 subclass and nonreactive with IgG1, IgG3, and IgG4 in an ELISA. The IUIS/WHO² study singled out this monoclonal antibody as one of the most widely applicable IgG2 specific monoclonal antibodies.

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), Hemagglutination Inhibition (HAI), Particle Counting Immunoassay (PACIA), and detection of cytoplasmic IgG.

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 physicochemical 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. Lipopolysaccharides 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.³ Only IgG1 and IgG3 are capable of adherence to mononuclear phagocytes while IgG2 and IgG4 autoantibodies are not associated with disorders such as hemolytic anemia.⁴ 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 telangiectasia. Low IgG2 levels were found in patients with SLE and juvenile diabetes melitus.⁵ A disproportionate elevation of IgG1 has also 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 immunoglobulin processes involved and may assist in the diagnosis of various disorders.

Reagents

The product is provided as ascites fluid with 0.1% 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.

Product Profile

A working dilution of at least 1:5,000 was determined by an indirect ELISA using 1 µg/ml of freshly prepared human IgG2 myeloma protein for coating.

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

Storage

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.

References

1. Reimer, C., et al., Hybridoma, **3**, 263 (1984).
2. Jefferies, R., et al., Immunol. Lett., **10**, 223 (1985).
3. Stevens, R., et al., J. Clin. Immunol., **3**, 65 (1986).
4. Van der Meulen, F., et al., Brit. J. Haematol., **46**, 47 (1980).
5. Oxelius, V., Amer. J. Med., **30/3**, 7 (1984).
6. Kaschka, W., et al., Infect. Immun., **26**, 933 (1979).

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