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Product Information

Monoclonal Anti-Human IgG1 Clone 8c/6-39 FITC Conjugate Purified Mouse Immunoglobulin

Product No. **F 0767**

Product Description

Monoclonal Anti-Human IgG1 (mouse IgG2a isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. The Fc fragment of myeloma human IgG was 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). The immunoglobulin fraction of mouse ascites fluid is conjugated to fluorescein isothiocyanate (FITC).

Monoclonal Anti-Human IgG1 is specific for an epitope expressed in the Fc region of the human IgG1 antibody. The antibody does not react with human IgG2, IgG3, or IgG4. This clone (also known as the HP6019 clone) has been established as a useful human IgG1 specificity standard the WHO/IUIS.

The product may be used for the identification of the human IgG1 subclass by means of various immunoassays.

Human IgG 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. 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. Only IgG1 and IgG3 are capable of adherence to mononuclear phagocytes. 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. A disproportionate elevation of IgG1 has also been found in the cerebral spinal fluid of patients with multiple sclerosis. 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

The conjugate is provided as a solution in 0.01 M phosphate buffer, pH 8.0, containing 1% inactivated BSA and 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage

For continuous use, store at 2-8 °C. 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 by centrifugation before use.

Product Profile

1. Fluorescent Dot Immunobinding Assay (F-DIBA):
A minimum working dilution of 1:64 was determined using a 4-8 microgram dot of human IgG1.
2. Particle Immunofluorescence Assay (P-IFMA):
A minimum working dilution of 1:32 was determined using a 50 µl suspension of human IgG-agarose.

F/P Molar Ratio: 3 to 8

Protein Concentration = Determined by absorbance at 280 nm.

Lpg 3/03

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