Product Information

Anti-Human IgG2−FITC antibody, Mouse monoclonal

Clone HP-6014, purified from hybridoma cell culture

F4516

Product Description

Monoclonal Anti-Human IgG2 (mouse IgG1 isotype) is derived from the hybridoma 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 by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The immunoglobulin fraction of mouse ascites fluid is conjugated to fluorescein isothiocyanate (FITC).

Monoclonal Anti-Human IgG2 is specific for the IgG2 subclass and nonreactive with IgG1, IgG, and IgG4 in ELISA. The IUIS/WHO1 study singled out this mono-clonal antibody as one of the most widely applicable IgG2 specific monoclonal antibodies.

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 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. Lipopolysaccahrides 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 telangiextasia. 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.

The product may be used for the identification of the human IgG2 subclass by means of various immuno-assays.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Precautions and Disclaimer

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 a maximum of one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile

Fluorescent Dot Immunobinding Assay (F-DIBA): a minimum dilution of 1:32 was determined using a 4-8 µg dot of human IgG2.

Particle Immunofluorescence Assay (P-IFMA): a minimum dilution of 1:16 was determined using a 50 µL suspension of agarose beads coated with 20 µg of human IgG.

References

1. Jefferis, R., et al., Immunol. Lett. 10, 223-252 (1985).

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