Product Information

Anti-Human IgG4–FITC antibody, Mouse monoclonal

clone HP-6025, purified from hybridoma cell culture

F9890

Product Description

FITC is conjugated to the immunoglobulin fraction of mouse monoclonal antibody to human IgG4 isolated from the hybridoma HP 6025[1] (mouse IgG1 isotype). The antibody is produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Purified myeloma human IgG4 coupled to polyaminostyrene (PAS) beads was used as immunogen.

Monoclonal Anti Human IgG4-FITC reacts specifically with human IgG4 and is non-reactive with Human IgG subclasses 1, 2, and 3. This clone has been evaluated for specificity using a wide range of immunological techniques in the IUIS/WHO collaborative study and has been identified as one of the most applicable IgG4 specific monoclonal antibodies available.[2]

Human IgG consist of four subclasses (1-4) that can be recognized by antigen 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 and 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. Lipopoly-saccharides 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 telangiextasia. 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 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 8.0, containing 1% inactivated BSA and 15 mM sodium azide as preservative.

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

For continuous use, store at 2-8 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Note: Store product protected from light.

Product Profile

Fluorescent Dot Immunobinding Assay (F DIBA):

a minimum working dilution of 1:64 is determined using 2-4 µg/dot of Human IgG4.

Note: In order to obtain the best results, it is recommended that each individual user determine their optimum working dilutions by titration.

F/P Molar Ratio: 3-8

Protein concentration: 1.5-3.0 mg/ml determined by extinction ($E^{1\%}_{280}$ - 14).

References

1. Reimer, C.B. et al., Hybridoma, 3, 263 275, (1984).
2. Jefferies, R., et al., Immunol. Lett., 10, 223 252, (1985)
3. Stevens, R., et al., J. Clin. Immunol., 3, 65 69 (1985).
4. Van der Meulen, F.W., et al., Brit. J. Haematol., 46, 47 56 (1980).
5. Oxelius, V.A., Amer. J. Med., 30/3, 7 18 (1984).
6. Kaschka, W.P., et al., Infect. Immun., 26, 933 941 (1979).

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