

Product No. B 3531
Monoclonal Anti-Human CD45
Biotin Conjugate
Purified Mouse Immunoglobulin
Clone Bra-55

Monoclonal anti-human CD45 (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cell line NS-1 and splenocytes from BALB/c mice immunized with the non-T, non-B, CALLA positive, ALL cell line REH.¹⁻³ The isotype is determined using the Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is prepared by conjugation of ϵ -amino caproyl biotin to purified CD45 monoclonal antibody. The conjugate is provided as purified immunoglobulin (200 μ g/ml) in 0.01M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide (see MSDS)* as a preservative.

Description

Monoclonal anti-human CD45 antibody recognizes the CD45 human cell surface glycoproteins of 180, 190, 205 and 220 kD. CD45 is a family of single chain, transmembrane glycoproteins, consisting of at least four isoforms, which share a common large intracellular domain. The extracellular domains are heavily glycosylated. The different isoforms are produced by alternative messenger RNA splicing of three exons of a single gene on chromosome 1. CD45 is expressed on cells of the human hematopoietic lineage with the exception of mature red cells.^{4,5} It is not detected on differentiated cells of other tissues. It is likely that CD45 plays an important role in signal transduction. The intracellular domain of all members of the CD45 family displays a cytoplasmic tyrosine phosphatase activity. Also, CD45 isoforms may form complexes with different membrane molecules such as CD2 on T-cells. Monoclonal antibodies to CD45 are particularly valuable in immunohematology and immunohistology. The epitope recognized by this CD45 monoclonal antibody (Bra-55) is sensitive to formalin fixation and paraffin embedding.

Performance

When assayed by flow cytometric analysis, using 2 μ g of the antibody to stain 1×10^6 cells, a fluorescence intensity is observed similar to that obtained with saturating monoclonal antibody levels. The percent population positive is also at the maximum percentage positive using saturating monoclonal antibody levels.

Uses

Biotin Monoclonal anti-human CD45 antibody may be used for:

1. Identification, quantification and monitoring of white blood cells and hematopoietic progenitor cells.
2. Characterization of leukemias and lymphomas.
3. Discrimination of hematopoietic neoplasms from other neoplasms.
4. Detection of infiltrating hematopoietic cells in tissues.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

Storage

Store at 2-8°C.

If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

* 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.

References:

1. Chorvath, B., et al., Neoplasma, **34**, 685 (1987).
2. Chorvath, B., et al., in Leukocyte Typing IV, Knapp, W. (ed.), p. 634, Oxford University Press (1989).
3. Sedlak, J., et al., Neoplasma, **35**, 495 (1988).
4. Dalchau, R., et al., Eur. J. Immunol. **16**, 993 (1986).
5. Pinkus, G.S. in Advances in Immunohistochemistry, DeLellis, R.A. (ed.), p.261, Raven Press (1988).

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