

Human CD45 Antibody

Purified *in vivo* GOLD™ Functional Grade

Monoclonal Antibody

Product Information

Product No.: C1026

Clone: T29/33

RRID: AB_2892845

Isotype: Mouse IgG2b

Storage: Sterile 2° to 8°C

Product Description

Specificity:

Clone T29/33 recognizes an epitope on human CD45.

Antigen Distribution:

The CD45 antigen is present on all human leukocytes and progenitors in bone marrow. This antibody binds to all human hematopoietic cells, but not to non-hematopoietic cells. Anti-CD45 (T29/33) is not cytotoxic in the presence of complement.

Background:

CD45 is a 180-240kD glycoprotein member of the protein tyrosine phosphatase (PTP) family known for its involvement in regulating a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. CD45 and its isoforms are vital regulators of T- and B-cell antigen receptor signaling. CD45 functions through its extracellular domain or through its cytoplasmic domain, and serves as a negative regulator of cytokine receptor signaling via JAK kinase suppression. The large extracellular domain is highly glycosylated, and its multiple isoforms allow extensive variation in the structure of its side chains. CD45 isoforms show cell-type and differentiation-stage specific expression that can be used as markers that identify and distinguish between different types of immune cells. CD45R is an isoform of CD45 with a molecular weight of 220 kD. CD45R contains all three possible exons (A,B, and C); making it the longest protein generated from alternative splicing with a migration at 200 kD when isolated from T cells. Furthermore, B cells express CD45R with heavier glycosylation, bringing the molecular weight to 220 kD, hence the name B220. Notably, B220 expression is not only restricted to B cells and may also be expressed on activated T cells, on a subset of dendritic cells, and on other antigen-presenting cells. Additionally, activated and memory T lymphocytes express CD45RO which facilitates T cell activation. CD45RO lacks all three possible exons (A, B, and C), making it the shortest CD45 isoform.

Known Reactivity Species:

Human

Format:

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Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2° to 8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.

Avoid Repeated Freeze Thaw Cycles

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using in vitro cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Country of Origin

USA

References

- 1) Trowbridge, I. S. et al. (1980) J. Exp. Med. 152:842
- 2) Battifora, H. et al. (1983) Cancer 51:816
- 3) Borowitz, M. J. et al. (1983) Human Pathology 15:928