# anti-human CD45

## Monoclonal Antibody HI30 to CD45 (Human)

Cat-No: **21810451** 100 µg in 100 µl

**Clone:** HI30

**Specificity:** The antibody HI30 reacts with all alternative forms of human CD45 antigen (Leukocyte Common Antigen), a 180-220 kDa single chain type I transmembrane protein expressed at high level on all cells of hematopoietic origin, except erythrocytes and platelets and non-hematopoietic tissues and cells. CD45 is critically required for T and B cell antigen receptor-mediated activation.

**Isotype subclass:** Mouse IgG1

**Form:** Purified by protein G affinity chromatography.

**Purity:** > 98%

**Physical state:** Liquid

**Buffer/Additives/Preservative:** PBS containing 0.09% sodium azide (pH 7.2). .

**Expiration date:** The reagent is stable until the expiry date stated on the vial label.

**Storage conditions:** Store at 4°C. For long-term storage aliquot and store at -20°C. Avoid freeze/thaw cycles.

**Application:** Flow Cytometry
Immunohistochemistry (acetone-fixed frozen sections and formalin-fixed paraffin sections)

**Background:** CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing; these isoforms differ in their extracellular domains, whereas they share identical transmembrane and cytoplasmic domains. These isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. Besides the role in immunoreceptor signaling, CD45 is important in promoting cell survival by modulating integrin-mediated signal transduction pathway and is also involved in DNA fragmentation during apoptosis.

**References:**
* Knapp W, *et al.* 1989. Leucocyte Typing IV. Oxford University Press. New York.
* Kishihara K, *et al.* 1993. *Cell* 74:143.
* Esser M, *et al.* 2001. *J. Virol.* 75:6173. (WB)
* Friedman T, *et al.* 1999. *J. Immunol.* 162:5256. (IHC)
* Rees LE, *et al.* 2003. *Clin. Exp. Immunol.* 134:497. (IF)

**Warning:** Sodium azide is harmful if swallowed (R22). Keep out of reach of children (S2). Keep away from food, drink and animal feeding stuff (S13). Wear suitable protective clothing (S36). If swallowed, seek medical advice immediately and show this container or label (S46). Contact with acids liberates very toxic gas (R32). Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in lead or copper plumbing where explosive conditions can develop.



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