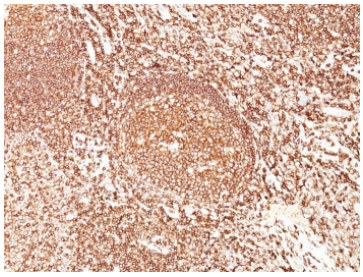
CD45 Antibody F10-89-4 / Pan-Leukocyte Marker [clone F10-89-4] (V3223)

Catalog No.	Formulation	Size
V3223-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3223-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3223SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

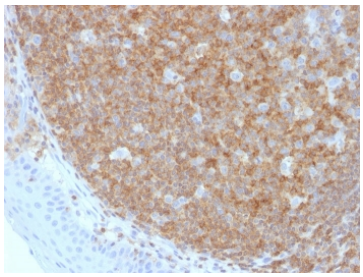
Citations (20)

Bulk quote request

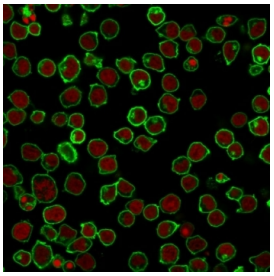
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	F10-89-4
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
UniProt	P08575
Localization	Cell surface and cytoplasmic
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD45 Antibody F10-89-4 / Pan-Leukocyte Marker is available for research use only.



CD45 Antibody F10-89-4 Human Tonsil Lymphoid Follicle IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody F10-89-4 / Pan-Leukocyte Marker shows strong HRP-DAB brown staining across lymphoid follicles and surrounding leukocyte-rich regions, consistent with the broad distribution of CD45/PTPRC in hematopoietic cells. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This CD45 Antibody highlights the distribution of the pan-leukocyte marker in human tonsil tissue.



CD45 Antibody F10-89-4 Human Tonsil Lymphocytes IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody F10-89-4 / Pan-Leukocyte Marker shows prominent HRP-DAB brown staining of densely populated lymphoid cells, with staining concentrated along cell membranes. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This CD45 Antibody demonstrates pan-leukocyte marker detection at the cellular level in human tonsil tissue.



CD45 Antibody F10-89-4 Human Jurkat T Cell Leukemia IF. Immunofluorescence staining of PFA-fixed human Jurkat T cell leukemia cells using CD45 Antibody F10-89-4 / Pan-Leukocyte Marker shows strong green fluorescence outlining the cell surface, consistent with the membrane localization of CD45/PTPRC. Nuclei were counterstained with Reddot nuclear stain (red). This CD45 Antibody highlights the characteristic cell-surface distribution of the pan-leukocyte marker in human T cells.

Description

CD45 Antibody F10-89-4 / Pan-Leukocyte Marker recognizes CD45, a transmembrane protein tyrosine phosphatase encoded by the PTPRC gene. CD45, also known as leukocyte common antigen, LCA or T200, is broadly expressed on nucleated cells of hematopoietic origin and is one of the most established pan-leukocyte markers. Its widespread expression across immune cell populations makes CD45 an important target for identifying leukocytes and investigating hematopoietic and immune cell biology.

CD45 is a receptor-type protein tyrosine phosphatase composed of a large extracellular region, a single transmembrane domain and intracellular phosphatase domains. PTPRC regulates Src family kinases and other signaling proteins involved in antigen receptor pathways. Through these interactions, CD45 influences signaling downstream of the T cell receptor and B cell receptor and contributes to lymphocyte activation, differentiation, survival and immune responsiveness. These functions give CD45 importance both as a cell lineage marker and as a regulator of immune signaling.

Alternative splicing of PTPRC generates multiple CD45 isoforms that differ in portions of the extracellular region. Commonly studied forms include CD45RA, CD45RB and CD45RO, which exhibit characteristic expression patterns among leukocyte populations and stages of lymphocyte differentiation. Changes in CD45 isoform expression are frequently investigated in studies of T cell maturation, activation and memory. General CD45 detection provides a broader approach for identifying leukocytes, while isoform-specific antibodies can be used when discrimination among individual CD45 forms is required.

As a pan-leukocyte marker, CD45 is extensively studied in immunology, hematology, inflammation and cancer research. Its broad hematopoietic expression supports the characterization of immune cells in peripheral blood, lymphoid organs and other tissues. CD45 is also relevant to studies of leukemias and lymphomas and to investigations of immune cell infiltration within tumors. Detection of PTPRC can therefore provide information about hematopoietic cell populations across a wide range of normal and disease-associated research settings.

Clone F10-89-4 is a mouse monoclonal antibody directed against human CD45/PTPRC and is a well-established clone with extensive use in published research. Its substantial publication history supports its use as an established reagent for investigating CD45 expression and leukocyte populations. A CD45 Antibody can support research into pan-leukocyte identification, hematopoietic cell characterization, lymphocyte biology and immune system function.

CD45 is encoded by PTPRC and functions as a key regulator of leukocyte signaling and hematopoietic cell biology; additional reagents targeting this protein are available on the CD45 Antibody page.

Application Notes

Due to variation in protocol and secondary antibody used, the CD45 Antibody F10-89-4 / Pan-Leukocyte Marker may need to be titered for optimal performance.

Immunogen

Human T-lymphocytes were used as the immunogen for the CD45 antibody.

Storage

CD45 antibody (with azide) can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.

Alternate Names

CD45 antibody, PTPRC antibody, Leukocyte common antigen antibody, LCA antibody, Protein tyrosine phosphatase receptor type C antibody, T200 antibody

References (2)

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