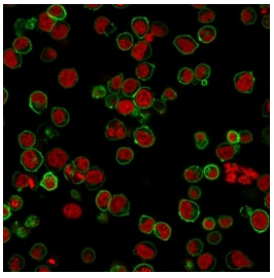
CD45 Antibody 135-4C5 / Mouse Monoclonal [clone 135-4C5] (V2399)

Catalog No.	Formulation	Size
V2399-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2399-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2399SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2399IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

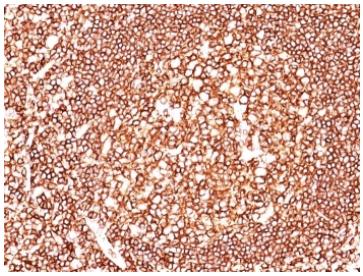
Citations (7)

Bulk quote request

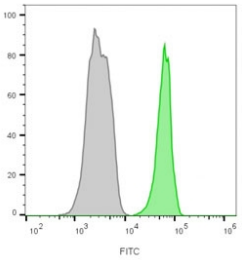
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	135-4C5
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
UniProt	P08575
Localization	Cell surface and cytoplasmic
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD45 Antibody 135-4C5 is available for research use only.



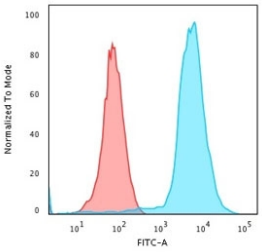
CD45 Antibody 135-4C5 Human Jurkat T Cell Leukemia IF. Immunofluorescence staining of PFA-fixed human Jurkat T cell leukemia cells using CD45 Antibody 135-4C5 shows prominent green staining outlining the cell surface, consistent with the membrane localization of CD45/PTPRC. Nuclei were counterstained with Reddot nuclear stain (red). This CD45 Antibody demonstrates detection of the leukocyte common antigen in human T cells.



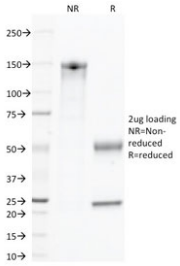
CD45 Antibody 135-4C5 Human Tonsil IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody 135-4C5 shows strong HRP-DAB brown staining throughout the lymphoid cell population, with prominent membrane-associated staining consistent with CD45/PTPRC expression on leukocytes. This CD45 Antibody demonstrates detection of the leukocyte common antigen in human lymphoid tissue.



CD45 Antibody 135-4C5 Human Peripheral Blood Lymphocyte FACS. Flow cytometry of lymphocyte-gated human peripheral blood mononuclear (PBM) cells using CD45 Antibody 135-4C5. The histogram shows CD45 Antibody staining (green) and unstained cells (gray). The strong rightward shift of the antibody-stained population demonstrates detection of CD45 on human peripheral blood lymphocytes, supporting the use of clone 135-4C5 for leukocyte identification by flow cytometry.



CD45 Antibody 135-4C5 Human Jurkat T Cell Leukemia FACS. Flow cytometry of PFA-fixed human Jurkat T cell leukemia cells using CD45 Antibody 135-4C5 shows a strong rightward shift in fluorescence relative to the isotype control, demonstrating CD45 detection. The histogram shows isotype control staining (red) and CD45 Antibody staining (blue). Clone 135-4C5 supports detection of the leukocyte common antigen on fixed human T cells by flow cytometry.



SDS-PAGE Analysis of Purified, BSA-Free CD45 Antibody (clone 135-4C5). Confirmation of Integrity and Purity of the Antibody.

Description

CD45 Antibody 135-4C5 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 widely studied markers for identifying leukocytes. Its extensive expression across immune cell populations makes CD45 important for research involving hematopoietic tissues, lymphocytes and immune cell characterization.

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.

Alternative splicing of PTPRC generates multiple CD45 isoforms that differ in portions of their extracellular domains. These include forms commonly designated CD45RA, CD45RB and CD45RO, which display characteristic expression patterns among leukocyte populations and different stages of lymphocyte differentiation. Changes in CD45 isoform expression are widely investigated in studies of T cell activation, maturation and immune status. Unless isoform-specific

recognition has been established for an antibody, general CD45 detection is distinct from the selective detection provided by CD45RA, CD45RB or CD45RO antibodies.

CD45 is extensively studied in immunology, hematology, inflammation and cancer biology. Its broad hematopoietic expression makes it useful for identifying leukocytes, characterizing lymphoid tissues and evaluating immune cell populations within tumors and other tissue environments. CD45 is also widely investigated in leukemia and lymphoma research, while its phosphatase activity provides an important link between leukocyte identification and the regulation of immune cell signaling.

Clone 135-4C5 is a mouse monoclonal antibody directed against human CD45/PTPRC and has been used in published research. Its established clone identity provides a useful reagent for studies of CD45 expression and hematopoietic cell populations. A CD45 Antibody can support research into leukocyte identification, lymphocyte biology, hematopoietic cell characterization and immune signaling.

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 135-4C5 may need to be titered for optimal performance.

1. FFPE staining requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Stimulated human leukocytes 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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