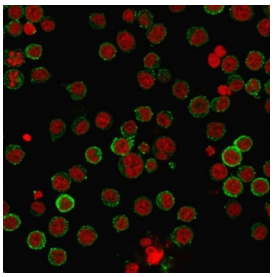
CD45RA Antibody / Protein Tyrosine Phosphatase Receptor Type C Isoform RA [clone 158-4D3] (V2238)

Catalog No.	Formulation	Size
V2238-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2238-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2238SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2238IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

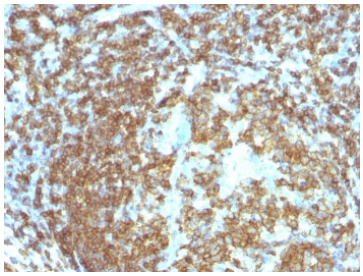
Citations (1)

Bulk quote request

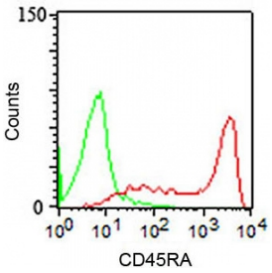
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	158-4D3
Purity	Protein G affinity chromatography
Gene ID	5788
Localization	Cell surface
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This CD45RA antibody is available for research use only.



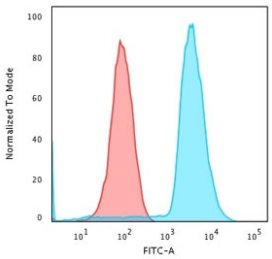
Immunofluorescent staining of PFA-fixed human Raji cells with CD45RA antibody (clone 158-4D3, green) and Reddot nuclear stain (red).



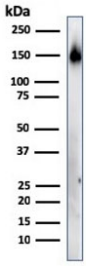
IHC staining of FFPE human tonsil with CD45RA antibody (clone 158-4D3). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



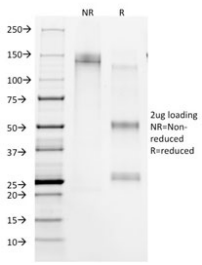
FACS surface staining of human PBMCs using CD45RA antibody (clone 158-4D3, red), and isotype control (green).



Flow cytometry testing of human Jurkat cells with CD45RA antibody (clone 158-4D3); Red=isotype control, Blue= CD45RA antibody.



Western blot testing of human spleen lysate with CD45RA antibody (clone 158-4D3). Expected molecular weight: 147-220 kDa depending on glycosylation level.



SDS-PAGE analysis of purified, BSA-free CD45RA antibody (clone 158-4D3) as confirmation of integrity and purity.

Description

CD45RA antibody targets Protein Tyrosine Phosphatase Receptor Type C isoform RA, a transmembrane protein tyrosine phosphatase encoded by the PTPRC gene and expressed on the surface of hematopoietic cells. CD45RA represents a specific splice isoform of the CD45 family, generated through alternative exon usage, and is predominantly localized to the plasma membrane of leukocytes. This isoform is most well known for its expression on naive T lymphocytes, where it serves as a defining immunophenotypic marker used to distinguish naive from memory T cell populations.

Protein Tyrosine Phosphatase Receptor Type C isoform RA functions as a key regulator of antigen receptor signaling in immune cells. By modulating phosphorylation states of Src family kinases and other signaling intermediates, CD45RA plays a critical role in setting activation thresholds for T cell receptor signaling. A short functional summary is that CD45RA fine tunes immune cell responsiveness and maintains proper signaling balance during early T cell activation and immune surveillance.

CD45RA is highly expressed on naive CD4 positive and CD8 positive T cells, while memory T cells typically downregulate CD45RA and express alternative CD45 isoforms. This differential expression pattern makes CD45RA antibody reagents essential tools in immunology research, particularly in studies of T cell development, immune aging, vaccine responses, and immune reconstitution. CD45RA is also expressed on subsets of B cells and other leukocytes, contributing to its broader relevance in leukocyte biology and immune profiling.

At the structural level, CD45RA contains a large extracellular domain, a single transmembrane region, and a cytoplasmic tail with dual phosphatase domains, one of which is catalytically active. These domains enable CD45RA to directly regulate intracellular signaling cascades downstream of antigen receptors. CD45RA antibody tools are commonly applied to study surface expression, cell subset distribution, and signaling regulation in immune cells under both physiological and pathological conditions.

From a disease relevance perspective, altered CD45RA expression has been associated with immune dysregulation, chronic infection, autoimmunity, and immune senescence. Changes in the balance between CD45RA positive naive T cells and memory T cell populations are frequently assessed in clinical and translational research settings. Clone 158-4D3 is designed to recognize CD45RA and support consistent detection of this isoform in research applications. CD45RA antibodies from NSJ Bioreagents are supplied for research use to support studies in immunophenotyping, immune monitoring, and cellular signaling.

CD45RA is an alternatively spliced form of PTPRC widely studied in lymphocyte differentiation and immune cell phenotyping; learn more about the target and related reagents on our CD45RA Antibody page.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the CD45RA antibody to be titered up or down for optimal performance.

1. 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 this CD45RA antibody.

Storage

Store the CD45RA antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

References (2)

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