

Product datasheet for **AM32858PU-S**

CD45 (PTPRC) (CD45RA) Mouse Monoclonal Antibody [Clone ID: 158-4D3]

Product data:

Product Type:	Primary Antibodies
Clone Name:	158-4D3
Applications:	FC, IF, IHC, IP
Recommended Dilution:	ELISA: Use Antibody without BSA for Coating. Western Blot: 0.5-1 µg/ml. Flow Cytometry: 0.5-1 µg/10 ⁶ cells. Immunoprecipitation: 1-2 µg/500 µg protein lysate. Immunofluorescence: 1-2 µg/ml. Immunohistochemistry on Frozen and Formalin-Fixed Paraffin Sections: 0.5-1 µg/ml for 30 minutes at RT. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes. Positive Control: Daudi, Raji, IM9, and Human lymphocytes. Human lymph nodes and tonsils.
Reactivity:	Human
Host:	Mouse
Isotype:	IgG2a
Clonality:	Monoclonal
Immunogen:	Stimulated Human leukocytes.



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Specificity:	<p>This Monoclonal antibody recognizes a protein of 205-220kDa, identified as CD45RA. CD45RA is isoforms of the Human leukocyte common antigen (CD45). Human CD45 contains three exons which encode peptide segments designated A, B and C, respectively. The differential splicing of the exons generates at least five isoforms, ABC, AB, BC, B and O.</p> <p>This antibody 158-4D3 reacts with ABC and BC isoforms. CD45RA is expressed on 40-50% of peripheral CD4+ T-cells, 50% of peripheral CD8+ T-cells, B-cells, and leukemic B-cell lines. T-cells expressing CD45RA are naive or virgin T-cells. T-cells expressing CD45RO are memory T-cells. CD45RA and CD45RO define complementary, predominantly non-overlapping populations of resting peripheral T-cells.</p> <p>This Monoclonal antibody is useful in study on the subpopulation of CD4+ or CD8+ T-cells. It can especially be used to differentiate T-cell lymphomas (CD45RO +ve) from B cell lymphomas (CD45RA +ve).</p> <p>Cellular Localization: Cell surface.</p>
Formulation:	<p>10mM PBS State: Purified State: Liquid purified IgG fraction from Bioreactor Concentrate Stabilizer: 0.05% BSA Preservative: 0.05% Sodium Azide</p>
Concentration:	lot specific
Purification:	Protein A/G Chromatography
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	205-220 kDa
Gene Name:	protein tyrosine phosphatase, receptor type C
Database Link:	Entrez Gene 5788 Human P08575

Background:

CD45 (leukocyte common antigen), the most common hematopoietic lineage marker, is a transmembrane glycoprotein tyrosine phosphatase with important roles in immune system signal transduction pathways. Antibody panels have been instrumental in identifying multiple isoforms, including CD45RA. Isoforms differ in their extracellular domain and are generated by alternative splicing of exons 4, 5 and 6 encoding peptide segments called A, B, and C, respectively. At least five different isoforms have been identified in humans: containing all three (ABC), two (AB and BC), one (B) or no (O) exons. A given antibody recognizes either every isoform (CD45 antibody) or only a subset ("restricted" CD45R antibody).

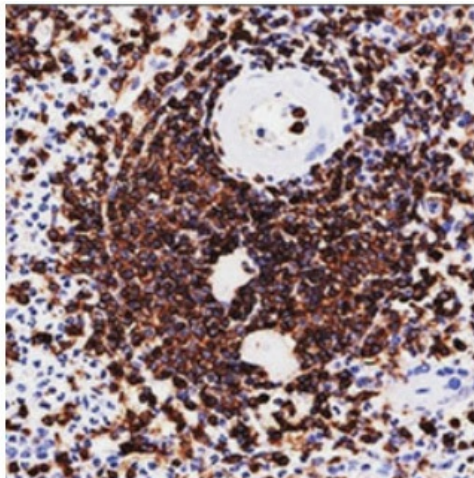
Isoform expression is regulated in lymphocyte type and activation-state dependent manners. CD45RA is expressed on subsets of T and B cells rendering the CD45RA antibody particularly useful for studying subpopulations. For example, naïve T lymphocytes express CD45RA containing the A exon which is lost after activation and replaced by CD45R0. In this regard, the CD45RA antibody is a useful naïve T cells marker since they express CD45RA, and activated or memory T cells are CD45RA negative and CD45R0 positive (Schlossman et al, 1995). CD45RA is differentially expressed on lymphomas and the CD45RA antibody may also be used to help identify or classify lymphomas such as the CD45RA positive B from the CD45R0 positive T cell lymphomas. Researchers are encouraged to consult the scientific literature for additional information about CD45RA expression, including the use of antibody panels that include a CD45RA antibody for characterizing a given malignancy.

Synonyms:

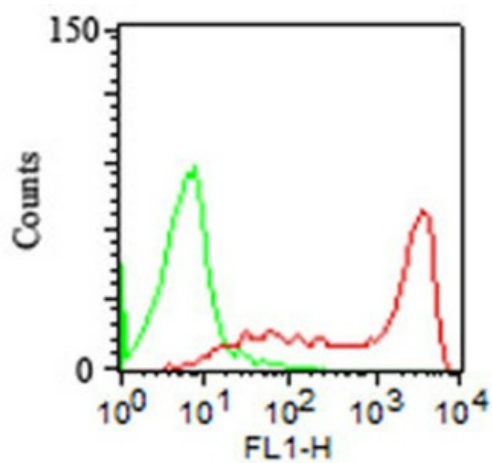
PTPRC, Leukocyte common antigen, L-CA, T200

Note:

The Workshop V code for clone 158-4D3 is CD45.38.

Product images:

Formalin-Fixed, Paraffin-Embedded Human spleen stained with CDR5RA Antibody (Clone 158-4D3).



Surface staining of PBMC using CD45RA Antibody (Clone 158-4D3) (red). Anti Mouse IgG FITC secondary and Mouse IgG2a isotype control (green).