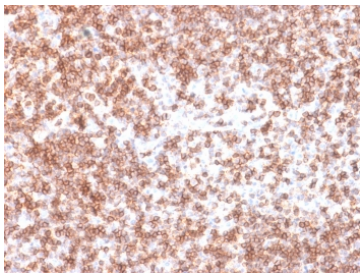
CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen [clone PTPRC/1975R] (V3656)

Catalog No.	Formulation	Size
V3656-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3656-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3656SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3656IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

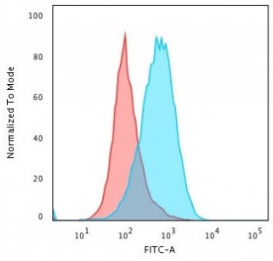
Recombinant RABBIT MONOCLONAL

Bulk quote request

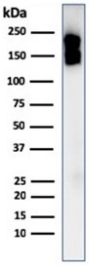
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	PTPRC/1975R
Purity	Protein A affinity chromatography
UniProt	P08575
Localization	Cell surface and cytoplasmic
Applications	Flow cytometry: 0.5-1ug/10^6 cells Western blot: 1-2ug/ml Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen is available for research use only.



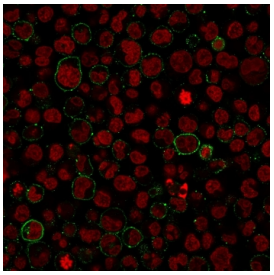
CD45 Antibody PTPRC/1975R Human Lymph Node IHC. Immunohistochemistry of FFPE human lymph node tissue using CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen shows strong HRP-DAB brown staining of lymphoid cells, consistent with the broad expression of CD45 on leukocytes. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. This recombinant CD45 Antibody demonstrates detection of the leukocyte common antigen in human lymphoid tissue.



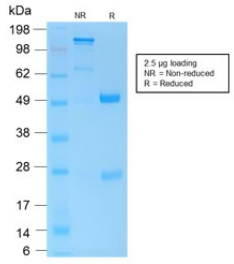
CD45 Antibody PTPRC/1975R Human Raji B Cell Lymphoma FACS. Flow cytometry of PFA-fixed human Raji B cell lymphoma cells using CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen. The histogram shows isotype control (red) and CD45 Antibody staining (blue). The clear rightward shift of the antibody-stained population demonstrates detection of CD45 on Raji cells. This recombinant CD45 Antibody supports detection of the leukocyte common antigen in human B cells.



CD45 Antibody PTPRC/1975R Human Spleen WB. Western blot analysis of human spleen lysate using CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen shows prominent immunoreactive bands within the expected molecular weight range of approximately 147-220 kDa. The broad migration pattern is consistent with the extensive glycosylation and multiple isoforms of CD45/PTPRC. This recombinant CD45 Antibody demonstrates detection of the leukocyte common antigen in human spleen tissue.



CD45 Antibody PTPRC/1975R Human Raji B Cell Lymphoma IF. Immunofluorescence staining of human Raji B cell lymphoma cells using CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen shows CD45 staining in green, predominantly outlining the cell membrane. Phalloidin staining is shown in red to visualize filamentous actin and cellular morphology. This recombinant CD45 Antibody demonstrates detection of the leukocyte common antigen in human Raji cells.



SDS-PAGE analysis of purified, BSA-free recombinant CD45 antibody (clone PTPRC/1975R) as confirmation of integrity and purity.

Description

CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen recognizes CD45, a transmembrane protein tyrosine phosphatase encoded by the PTPRC gene. CD45, also known as leukocyte common antigen or LCA, is broadly expressed on nucleated cells of hematopoietic origin and is one of the most widely used markers for identifying leukocytes. The protein functions as an important regulator of signaling pathways controlling immune cell activation, development and function.

CD45 is a receptor-type protein tyrosine phosphatase with a large extracellular region, a single transmembrane domain and intracellular phosphatase domains. Its phosphatase activity regulates Src family kinases and other signaling proteins

involved in antigen receptor signaling. 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. Its broad hematopoietic expression also makes CD45 Antibody reagents valuable for distinguishing leukocyte populations from many non-hematopoietic cell types.

Alternative splicing of PTPRC produces multiple CD45 isoforms that differ in their extracellular domains. These include forms commonly designated CD45RA, CD45RB and CD45RO, which display characteristic expression patterns among lymphocyte populations and stages of differentiation. CD45RA and CD45RO are frequently used to distinguish naive and memory T cell populations, while changes in CD45 isoform expression accompany immune cell activation and differentiation. The general CD45 designation encompasses the broader PTPRC protein family and should be distinguished from antibodies specifically recognizing individual CD45 isoforms.

CD45 is extensively studied in immunology, hematology and cancer research. As a pan-leukocyte marker, it is commonly used to characterize immune cell populations and hematopoietic tissues and to investigate leukocyte infiltration within tumors and other tissues. CD45 expression is also important in the characterization of leukemias and lymphomas, while its signaling functions make PTPRC relevant to studies of immune regulation, lymphocyte biology and inflammatory responses.

Clone PTPRC/1975R is a recombinant rabbit monoclonal antibody directed against human CD45/PTPRC. Its recombinant format provides a defined antibody sequence for consistent target recognition across production lots. The antibody supports studies of CD45 expression and the characterization of leukocytes and hematopoietic cells in immune and lymphoid research. A CD45 Antibody is an important reagent for investigating leukocyte biology, hematopoietic cell populations, lymphocyte signaling and immune system function.

CD45 is one of the most widely used leukocyte surface markers, connecting this target with other immune and hematopoietic cell markers available on the CD Antibodies page.

Application Notes

Due to variation in protocol and secondary antibody used, the CD45 Antibody PTPRC/1975R / Leukocyte Common Antigen may need to be titered 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

Recombinant human protein was used as immunogen for this recombinant CD45 antibody.

Storage

The recombinant 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

References (2)

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