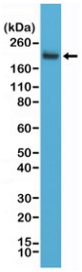
CD45 Antibody / C-Terminal PTPRC Antibody [clone RM291] (R20310)

Catalog No.	Formulation	Size
R20310-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

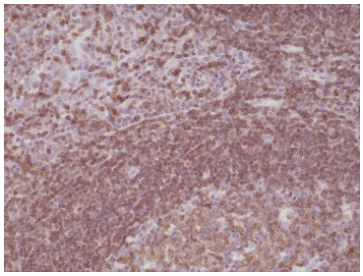
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM291
Purity	Protein A purified from animal origin-free supernatant
UniProt	P08575
Localization	Cell membrane, cytoplasm
Applications	Immunohistochemistry (FFPE) : 1:100-1:200 Western Blot : 1:1000-1:2000
Limitations	This CD45 Antibody / C-Terminal PTPRC Antibody is available for research use only.



CD45 Antibody Human Jurkat T Cell Leukemia WB. Western blot analysis of human Jurkat T cell leukemia lysate using CD45 Antibody / C-Terminal PTPRC Antibody, clone RM291, at a 1:2000 dilution. The antibody detects a prominent band within the expected molecular weight range of approximately 147-220 kDa. Variation in the apparent molecular weight of CD45/PTPRC reflects its extensive glycosylation and multiple isoforms. This recombinant CD45 Antibody demonstrates detection of C-terminal PTPRC in human Jurkat cells.



CD45 Antibody RM291 Human Tonsil IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody / C-Terminal PTPRC Antibody, clone RM291, at a 1:200 dilution shows HRP-DAB brown staining of lymphoid cells, consistent with the broad expression of CD45 in leukocytes. Heat-induced epitope retrieval was performed by steaming sections in pH 6 citrate buffer for 20 min followed by cooling prior to staining. This recombinant CD45 Antibody demonstrates detection of C-terminal PTPRC in human lymphoid tissue.

Description

CD45 Antibody / C-Terminal PTPRC Antibody recognizes CD45, a transmembrane protein tyrosine phosphatase encoded by the PTPRC gene. CD45, also known as leukocyte common antigen or LCA, is broadly expressed by nucleated cells of hematopoietic origin and is one of the most widely studied markers of leukocytes. The protein plays a central role in regulating signaling pathways involved in immune cell activation, development and function.

CD45 is a receptor-type protein tyrosine phosphatase composed of a large extracellular region, a single transmembrane domain and an intracellular region containing tandem phosphatase domains. Through its phosphatase activity, PTPRC regulates Src family kinases and other signaling proteins involved in antigen receptor signaling. CD45 consequently influences signaling through the T cell and B cell receptors and contributes to lymphocyte activation, differentiation, survival and immune responsiveness. Its broad hematopoietic expression also makes CD45 Antibody reagents useful for identifying leukocytes and characterizing immune cell populations.

Alternative splicing of the extracellular region of PTPRC generates multiple CD45 isoforms with different expression patterns among hematopoietic cell populations. These include forms commonly designated CD45RA, CD45RB and CD45RO, which are frequently investigated in studies of lymphocyte differentiation and activation. In contrast, the C-terminal region of CD45 lies within the intracellular portion of the protein and contains sequences shared independently of the alternatively spliced extracellular exons, making this region a useful target for studying broader CD45/PTPRC expression.

CD45 is extensively studied in immunology, hematology, inflammation and cancer research. As a pan-leukocyte marker, it is commonly used to investigate hematopoietic tissues, immune cell populations and leukocyte infiltration into tumors and other tissues. PTPRC expression is also relevant to the characterization of leukemias and lymphomas, while its phosphatase activity provides an important connection between CD45 expression and the regulation of immune signaling.

Clone RM291 is a recombinant rabbit monoclonal antibody generated using a peptide corresponding to the C-terminus of human CD45/PTPRC as the immunogen. Its C-terminal targeting provides a distinct epitope-region approach to CD45 detection, while the recombinant monoclonal format provides a defined antibody sequence for consistent target recognition across production lots. A CD45 Antibody directed against the C-terminal region of PTPRC can support research into leukocyte biology, hematopoietic cell populations, lymphocyte signaling 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

The stated application concentrations are suggested starting points. Titration of the CD45 Antibody / C-Terminal PTPRC Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to the C-terminus of human CD45 (Receptor-type tyrosine-protein phosphatase C) was used as the immunogen for the recombinant CD45 antibody.

Storage

Store the recombinant CD45 antibody at -20oC.

Alternate Names

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

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