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PTPRC Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11708A

Product Information

Application	WB, FC, E
Primary Accession	P08575
Other Accession	NP_563578.1, NP_002829.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB20781
Calculated MW	147486
Antigen Region	336-364

Additional Information

Gene ID	5788
Other Names	Receptor-type tyrosine-protein phosphatase C, Leukocyte common antigen, L-CA, T200, CD45, PTPRC, CD45
Target/Specificity	This PTPRC antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 336-364 amino acids of human PTPRC.
Dilution	WB~~1:2000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PTPRC Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PTPRC (HGNC:9666)
Synonyms	CD45
Function	Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor (PubMed:35767951). Acts as a positive regulator of T-cell

	coactivation upon binding to DPP4. The first PTPase domain has enzymatic activity, while the second one seems to affect the substrate specificity of the first one. Upon T-cell activation, recruits and dephosphorylates SKAP1 and FYN. Dephosphorylates LYN, and thereby modulates LYN activity (By similarity). Interacts with CLEC10A at antigen presenting cell-T cell contact; CLEC10A on immature dendritic cells recognizes Tn antigen- carrying PTPRC/CD45 receptor on effector T cells and modulates T cell activation threshold to limit autoreactivity.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Membrane raft. Synapse. Note=Colocalized with DPP4 in membrane rafts.
Tissue Location	Isoform 1: Detected in thymocytes. Isoform 2: Detected in thymocytes. Isoform 3: Detected in thymocytes. Isoform 4: Not detected in thymocytes. Isoform 5: Detected in thymocytes. Isoform 6: Not detected in thymocytes. Isoform 7: Detected in thymocytes Isoform 8: Not detected in thymocytes.

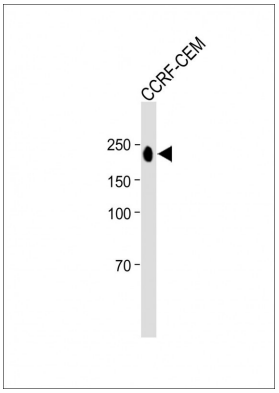
Background

The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus belongs to receptor type PTP. This gene is specifically expressed in hematopoietic cells. This PTP has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. It functions through either direct interaction with components of the antigen receptor complexes, or by activating various Src family kinases required for the antigen receptor signaling. This PTP also suppresses JAK kinases, and thus functions as a regulator of cytokine receptor signaling. Four alternatively spliced transcripts variants of this gene, which encode distinct isoforms, have been reported. [provided by RefSeq].

References

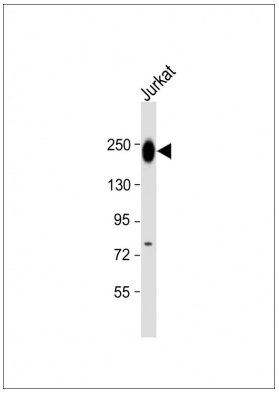
Heyd, F., et al. Mol. Cell 40(1):126-137(2010)
Wu, Z., et al. J. Immunol. 185(1):231-238(2010)
Cui, J., et al. Arthritis Rheum. 62(7):1849-1861(2010)
Booth, N.J., et al. J. Immunol. 184(8):4317-4326(2010)
Capitanescu, B., et al. Rom J Morphol Embryol 51(1):49-54(2010)

Images

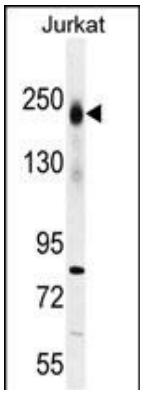


All lanes : Anti-PTPRC Antibody (N-term) at 1:1000 dilution Lane 1: CCRF-CEM whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 180kDa Blocking/Dilution buffer: 5% NFDM/TBST.

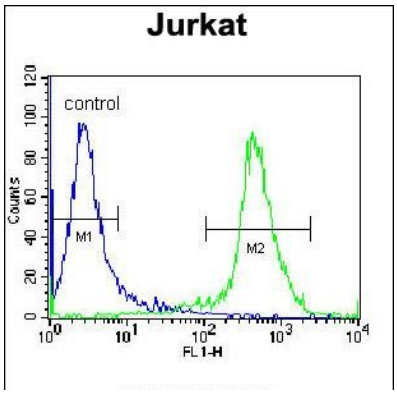
Anti-PTPRC Antibody (N-term) at 1:1000 dilution + Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase



conjugated at 1/10000 dilution. Predicted band size : 147 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



PTPRC Antibody (N-term) (Cat. #AP11708a) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the PTPRC antibody detected the PTPRC protein (arrow).



PTPRC Antibody (N-term) (Cat. #AP11708a) flow cytometric analysis of Jurkat cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated donkey-anti-rabbit secondary antibodies were used for the analysis.