SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

[Primary Antibody]

Recombinant Rabbit Anti-PTPRC Monoclonal Antibody

Catalog Number: SLA0362M

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Mouse
Isotype:	Mouse IgG1, k
Clonality:	Monoclonal
Clone No.:	45F1
GeneID:	5788
SWISS:	P08575
Target:	PTPRC
Immunogen:	KLH conjugated synthetic peptide derived from human CD45RA
Purification:	affinity purified by Protein G
Concentration:	1mg/ml
Storage:	0.01M PBS (pH7.4). Shipped at 4℃. Store at -20℃ for one year. Avoid repeated freeze/thaw cycles.
Applications:	Flow-Cyt (1ug/Test) Not yet tested in other applications. Optimal working dilutions must be determined by the end user.
Reactivity:	Human
Subcellular Location:	Membrane
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 CD45 (LCA, leukocyte common antigen) is a

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	receptor-type protein tyrosine phosphatase (PTP) ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 is absent on non-hematopoietic cell lines, normal and malignant, non-hematopoietic tissues. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing, differ in their extracellular domains but share identical transmembrane and cytoplasmic domains. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. CD45 isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. CD45 has been shown to be an essential regulator of T- and B-cell antigen receptor signaling and suppresses JAK kinases to regulate cytokine receptor signaling. CD45 is also important in promoting cell survival by modulating integrin-mediated signal transduction pathway, DNA fragmentation during apoptosis and inhibition or upregulation of various immunological functions.

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