abcam

ab20139

Anti-CD45R antibody [351C5]

Key facts

Isotype	IgM
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing PTPRC protein. The exact immunogen used to generate this antibody is proprietary information. Database link P08575
Clone number	351C5
Purity	IgM fraction
Specificity	Specific to CD45R. 351C5 can be used in typing of leukaemias and lymphomas and in research on functional subsets of B and T cells.
Light chain type	unknown
Concentration	2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified by size exclusion.

Reactivity data

IHC

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information PTPRC

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. (Microbial infection) Acts as a receptor for human cytomegalovirus protein UL11 and mediates binding of UL11 to T-cells, leading to reduced induction of tyrosine phosphorylation of multiple signaling proteins upon T-cell receptor stimulation and impaired T-cell proliferation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD45R also known as Leukocyte Common Antigen or LCA is a protein that plays a significant role in immune cell function. It is an isoform of the larger protein CD45 which includes several alternatively spliced variants. CD45R is a transmembrane protein tyrosine phosphatase with a mass ranging from 180 to 220 kDa depending on its isoform. This protein is primarily expressed on hematopoietic cells including T cells B cells and other leukocytes. It functions mechanically by modulating signaling thresholds essential for lymphocyte development and activation.
Biological function summary	CD45R influences signaling pathways critical for immune response regulation. It does not form a complex by itself but interacts with other membrane receptors and cytoplasmic kinases to mediate signal transduction. The protein adjusts the activity of Src family kinases through its phosphatase activity impacting cell-cell

	communication and responsive behavior to antigens. CD45R is involved in maintaining a functional immune surveillance system particularly ensuring the adequate responsiveness of lymphocytes.
Pathways	CD45R's phosphatase activity is integral to the T-cell receptor (TCR) and B-cell receptor (BCR) signaling pathways. This activity regulates Lck and Fyn kinases within these pathways contributing to proper lymphocyte activation and development. Any disruption in CD45R function can affect these pathways potentially impacting proteins like ZAP-70 and Syk which are essential for signal transduction downstream of the TCR and BCR respectively.
Associated diseases and disorders	CD45R has been implicated in conditions such as severe combined immunodeficiency (SCID) and autoimmune diseases like multiple sclerosis. Its malfunction or aberrant expression can cause improper immune system activation or suppression. In autoimmune contexts CD45R's interaction with other proteins like CTLA-4 may become dysregulated leading to immune system attacks on the body's tissues. Understanding these connections helps in developing therapeutic strategies targeting immune dysfunctions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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Terms & Conditions.

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