abcam

ab272270

APC Anti-CD45RA antibody [HI100]

Anti-CD45RA antibody [HI100] conjugated to APC - suitable for flow cytometry, and reacts with human samples. Clone [HI100] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG2b
Host species	Mouse
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride, 0.12% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	HI100
Purification technique	Affinity purification
Light chain type	kappa
Concentration	0.025 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^5-10^8 Cells
Notes	In a sample volume of 100 µL

Predicted

Species	Chimpanzee
Dilution info	-
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Supplementary info

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

Activity summary	CD45RA also known as CD45RA antigen and T200 is an isoform of the CD45 protein family. It is a transmembrane protein tyrosine phosphatase with a molecular mass of approximately 220 kDa. CD45RA expression is abundant on naive T-cells and subsets of other immune cells like B cells. Researchers frequently use CD45RA antibodies including CD45RA-PE and CD45RA-FITC for flow cytometry to identify and study immune cell subsets.
Biological function summary	CD45RA plays a significant role in regulating T-cell receptor (TCR) signaling. By dephosphorylating specific phosphotyrosine residues on substrates CD45RA modulates signal transduction pathways important for T-cell activation and differentiation. This protein does not act alone but is part of a regulatory network that influences immune responses and cellular development through its interaction with other cell surface receptors and intracellular kinases.
Pathways	CD45RA modulation is integral to T-cell development and activation processes. It is an important participant in the T-cell receptor signaling pathway and the Jak-STAT signaling pathway. In these pathways CD45 interacts with proteins such as Lck and Fyn which are essential for propagating receptor-mediated signaling events in T-cells. Effective signal regulation through CD45RA is necessary to ensure appropriate immune responses.
Associated diseases and disorders	CD45RA has links to autoimmune diseases such as multiple sclerosis and rheumatoid arthritis. The aberrant expression or function of CD45RA on immune cells can lead to improper immune activation or suppression contributing to the pathology of these diseases. Crossover with other proteins such as CD45RO which is an isoform involved in memory T-cell function indicates a broader network of immune regulation where CD45RA maintains the balance between immune activation and tolerance.

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

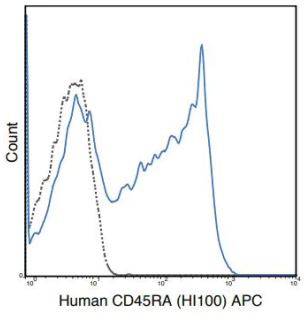
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Flow Cytometry - APC Anti-CD45RA antibody [HI100] (ab272270)

CD45RA Flow Cytometry staining using mouse Anti-CD45RA antibody

Human peripheral blood lymphocytes were stained with 5 uL (0.125 ug) ab272270 (solid line) or 0.125 ug APC Mouse IgG2b isotype control (dashed line).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.