abcam

ab8217

Anti-CD45RA antibody [MEM-56]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% 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	MEM-56
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	Cross reacts with an intracellular 60 kDa protein of unknown identity like other anti-CD45RA MAbs.

IHC-P

Expected

Species	Human
Dilution info	-
Notes	No pre-treatment of tissue sections is needed.

Flow Cyt

Tested

Species	Human
Dilution info	0.3-4 µg/mL
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

Notes

This product was changed from ascites to tissue culture supernatant on 24th January 2018. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

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

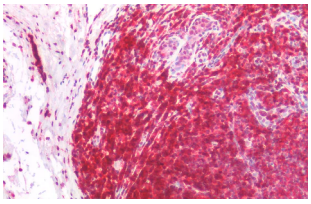
We do not recommend this combination. It is not covered by our product promise.

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.

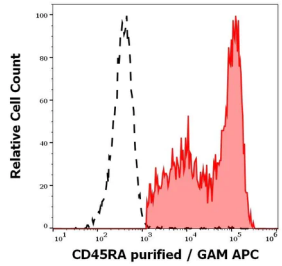
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Terms & Conditions.

3 product images



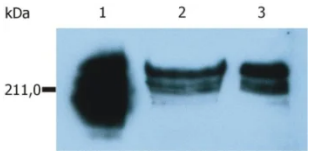
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RA antibody [MEM-56] (ab8217)

Immunohistochemical analysis of Paraffin-embedded sections Human Tonsil tissue labelling CD45RA with ab8217 at 5µg/ml.



Flow Cytometry - Anti-CD45RA antibody [MEM-56] (ab8217)

Flow cytometric analysis of Human Peripheral Blood cells labelling CD45RA with ab8217 at 0.3 ug/ml showing separation of human CD45RA positive lymphocytes (red-filled) from neutrophil granulocytes (black-dashed).



Western blot - Anti-CD45RA antibody [MEM-56] (ab8217)

Lane 1:
CD45 control antibody

Lanes 2 - 3:
Western blot - Anti-CD45RA antibody [MEM-56] (ab8217)

Lane 1:
HUT-78 human cutaneous T cell lymphoma cell line.

Lane 2:
sample of cell lysate prepared under non-reducing conditions

Lane 3:
sample of cell lysate prepared under reducing conditions

Predicted band size: 147 kDa

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