abcam

ab187567

Alexa Fluor® 647 Anti-CD45RB antibody [MEM55]

Anti-CD45RB antibody [MEM55] conjugated to Alexa Fluor® 647 - suitable for flow cytometry, and reacts with human samples. Clone [MEM55] is a mouse monoclonal antibody.

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

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
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	MEM55
Purification technique	Size-exclusion chromatography
Purification notes	ab187567 is conjugated with Alexa Fluor® 647 under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	Use 4 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension.

Predicted

Species	Primates
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	CD45RB also known as protein tyrosine phosphatase receptor type C (PTPRC) is a membrane-associated protein found prominently on all nucleated hematopoietic cell surfaces. This protein has a molecular mass that ranges between 180-220 kDa depending on the variable splicing. Importantly CD45RB is a component of the CD45 group playing an important role in regulating antigen receptor signaling in lymphocytes affecting both T-cell and B-cell function. Its expression occurs mainly in hematopoietic tissues such as the bone marrow lymph nodes and spleen.
Biological function summary	CD45RB functions as an integral transmembrane protein-tyrosine phosphatase and does not operate as part of a complex but rather acts directly on its substrates. It regulates the phosphorylation state of Src family kinases that are necessary for antigen receptor signaling. By modulating this phosphorylation CD45RB controls signal transduction influencing growth differentiation and immune response in lymphocytes. Its regulatory capacity extends to alterations in cell cycle progression and apoptosis maintaining homeostasis within the immune system.
Pathways	Studies link CD45RB to important pathways like the T-cell receptor signaling and B-cell receptor signaling pathways. These pathways are essential for the activation and differentiation of these immune cells. CD45RB acts in coordination with kinases such as Lck and Fyn (of the Src family) aiding in the dephosphorylation required for their activation. This interaction highlights CD45RB's fundamental role in fine-tuning responses to external antigens enabling appropriate immune responses.
Associated diseases and disorders	CD45RB has associations particularly with autoimmune diseases and leukemia. Aberrant expression or function of CD45RB can lead to improper immune function contributing to conditions like multiple sclerosis and certain leukemias. Interactions with other membrane proteins including BRCA1 can also indirectly influence cancer dynamics through immune surveillance mechanisms. These associations make CD45RB a target of interest in developing therapeutic strategies for immune-dysregulation and hematological malignancies.

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

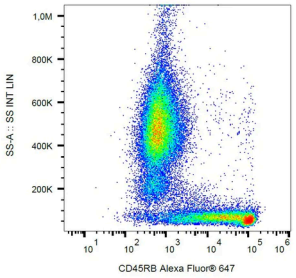
We do not recommend this combination. It is not covered by our product promise.

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 - Alexa Fluor® 647 Anti-CD45RB antibody [MEM55] (ab187567)

CD45RB Flow Cytometry staining of Human peripheral blood using mouse Anti-CD45RB antibody

Flow cytometry analysis (surface staining) of human peripheral blood using ab187567.

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