abcam

ab95520

PE/Cy5® Anti-CD45RO antibody [UCHL1]

Anti-CD45RO antibody [UCHL1] conjugated to PE/Cy5® - suitable for flow cytometry, and reacts with human samples. Clone [UCHL1] 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	IgG2a
Host species	Mouse
Conjugation	PE/Cy5®
Excitation/Emission	Ex: 496nm, Em: 667nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS, 0.87% Sodium chloride, 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	UCHL1
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	0.025 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^6 Cells
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

Supplementary info

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

Activity summary

CD45RO also known as leukocyte common antigen 2 is an important isoform of the protein tyrosine phosphatase receptor type C (PTPRC). This protein has a molecular mass of about 180 kDa. Researchers find CD45RO expressed mostly on memory T cells a subset of T lymphocytes. These cells play an essential role in the immune system by remembering past infections or vaccinations. CD45RO functions mechanistically by modulating T cell receptor (TCR) signaling which is important for antibody production.

Biological function summary	This isoform plays an important role in immune responses by supporting the activation and differentiation of T cells. It is not part of a larger protein complex itself but interacts with other immune cell surface proteins for effective signaling. CD45RO is particularly important in the modulation of signal transduction through its phosphatase activity which removes phosphate groups from specific tyrosine residues on proteins influencing T cell sensitivity and response to antigens.
Pathways	CD45RO influences the JAK/STAT pathway a critical signaling pathway for cytokine receptor signaling in immune cells. It also plays a role in the TCR signaling pathway which is responsible for T cell activation. Within these pathways CD45RO acts in conjunction with other proteins like Lck and ZAP-70 that are also integral parts of T cell activation and proliferation processes essential for adaptive immune responses.
Associated diseases and disorders	CD45RO is associated with autoimmune disorders such as rheumatoid arthritis where memory T cells play a role in sustaining inflammation. CD45RO also relates to chronic hepatitis B infection as it affects the disease progression through memory T cell-mediated immune responses. In these contexts CD45RO's interaction with other proteins like HLA-DR which is another immune-related surface protein becomes significant as it helps modulate immune responses that either suppress or exacerbate the disease symptoms.

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

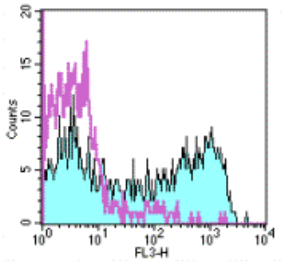
We do not recommend this combination. It is not covered by our product promise.

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 - PE/Cy5® Anti-CD45RO antibody [UCHL1] (ab95520)

CD45RO Flow Cytometry staining using mouse Anti-CD45RO antibody

Flow cytometric staining of normal Human peripheral blood cells with staining buffer (autofluorescence) (open histogram) or ab95520 (filled histogram). Cells in the lymphocyte gate were used for analysis.

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