abcam

**ab755**

# Anti-CD45RA antibody [4KB5]

Recombinant

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | 4KB5 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 1.012 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1.017 µg/mL |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.239 µg/mL |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

## 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

**What are the advantages of a recombinant monoclonal antibody?**
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

**Want a custom formulation?**
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

## 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.

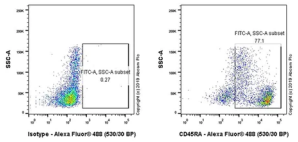
---

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.

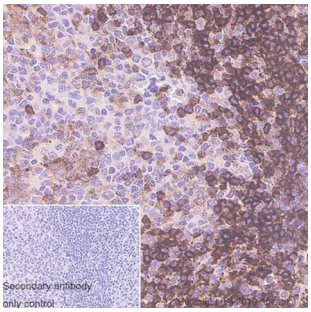
## 2 product images



### Flow Cytometry - Anti-CD45RA antibody [4KB5] (ab755)

CD45RA Flow Cytometry staining using mouse Anti-CD45RA antibody

Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) (right) labeling CD45RA with ab755 at 1.017µg/ml compared with mouse monoclonal IgG Isotype Control (left). Goat anti-mouse IgG (Alexa Fluor® 488) (ab150113) at 1/2000 dilution was used as the secondary antibody.
Gated on viable cells.




### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RA antibody [4KB5] (ab755)

Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling CD45RA with ab755 at 0.239µg/ml, followed by ready to use secondary. Positive staining on human tonsil tissue is observed. The section was incubated with ab755 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, followed by ready to use secondary.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

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