abcam

ab23910

Anti-CD45 antibody [IBL-3/16]

Anti-CD45 antibody [IBL-3/16] (ab23910) is a rat monoclonal antibody detecting CD45 in **Flow Cytometry, IP, IHC-Fr, ICC/IF**. Suitable for **Mouse**.

- Over 20 publications
- Trusted since 2005

Key facts

Isotype	IgG1
Host species	Rat
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Ptprc protein. The exact immunogen used to generate this antibody is proprietary information. Database link P06800
Clone number	IBL-3/16
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Ig fraction prepared by ammonium sulphate precipitation from tissue culture supernatant.

Reactivity data

IP

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Flow Cyt

Expected

Species	Mouse
Dilution info	-
Notes	Use 50ul of the suggested working dilution to label 10^5 cells in 100ul. ab18407 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Rat
Dilution info	-
Notes	Use 50ul of the suggested working dilution to label 10^5 cells in 100ul. ab18407 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	Human
Dilution info	-
Notes	Use 50ul of the suggested working dilution to label 10^5 cells in 100ul. ab18407 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-R

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Ptprc

Function	Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor. 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 (By similarity). Dephosphorylates LYN, and thereby modulates LYN activity. 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.

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

Notes

What is this antibody validated in?
Anti-CD45 antibody [IBL-3/16] (ab23910) is a rat monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse samples.

Trusted by the scientific community
Anti-CD45 [IBL-3/16] (ab23910) was first used in a scientific publication in 2005 and has been cited over 20 times in

peer-reviewed journals.

Supplementary info

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

Activity summary	CD45 also known as Protein tyrosine phosphatase receptor type C (PTPRC) is a transmembrane glycoprotein with a molecular mass ranging between 180-240 kDa depending on its isoform. It is expressed on the surface of almost all hematopoietic cells except for mature erythrocytes and platelets. CD45 has a critical role in regulating antigen receptor signaling by modifying kinases involved in signal transduction and it is essential in lymphocyte development and activation. Because of its broad expression on immune cells CD45 is a valuable marker for differentiating various immune cell types in assays like flow cytometry and immunohistochemistry (IHC) often referred to as CD45 stain.
Biological function summary	CD45 acts by regulating tyrosine phosphorylation in the immune cell signaling context participating directly in signal transduction. It functions by dephosphorylating specific phosphotyrosine residues on various proteins modulating the signaling threshold required for lymphocyte activation. Although not known to be part of a protein complex CD45 itself shows isoform variation that associates with specific immune cell types impacting their function. Importantly CD45 interacts with multiple signaling molecules to affect cell growth and differentiation.
Pathways	Scientists associate CD45 with signaling pathways such as the T-cell receptor (TCR) and B-cell receptor (BCR) signaling. CD45 modulates the activity of Src family kinases important elements in these pathways making it essential for effective immune response and tolerance. Furthermore interactions between CD45 and proteins like Lck in T-cells or Lyn in B-cells highlight its pivotal role in executing its signaling functions.
Associated diseases and disorders	Scientists often link CD45 to immune-related conditions including autoimmunity and leukemia. In autoimmune diseases altered CD45 expression or activity can disrupt normal immune function contributing to pathogenesis. In leukemia CD45 expression levels can assist in disease classification and prognosis as it interacts with proteins involved in cell cycle regulation. The anti-CD45 antibodies can provide diagnostic and therapeutic avenues highlighting their utility in disease management.

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.

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