abcam

Product datasheet

Anti-CD45 antibody [YTH24.5] ab30446

7 References 1 Image

Overview

Product name	Anti-CD45 antibody [YTH24.5]
Description	Rat monoclonal [YTH24.5] to CD45
Host species	Rat
Tested applications	**Suitable for:** Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Tissue, cells or virus corresponding to Human CD45. Human T lymphocytes.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.09% Sodium azide Constituent: PBS
Purity	Protein A purified
Purification notes	Immunoglobulin fraction prepared by ammonium sulphate precipitation.
Clonality	Monoclonal
Clone number	YTH24.5
Myeloma	Y3/Ag1.2.3
Isotype	IgG2b

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab30446 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use 1µg for 10^6 cells. **ab18536** - Rat monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Target

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.

Involvement in disease Defects in PTPRC are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-positive/NK-cell-positive (T(-)B(+)NK(+) SCID) [MIM:608971]. A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.
Genetic variations in PTPRC are involved in multiple sclerosis susceptibility (MS) [MIM:126200]. MS is a neurodegenerative disorder characterized by the gradual accumulation of focal plaques of demyelination particularly in the periventricular areas of the brain. Peripheral nerves are not affected. Onset usually in third or fourth decade with intermittent progression over an extended period. The cause is still uncertain.

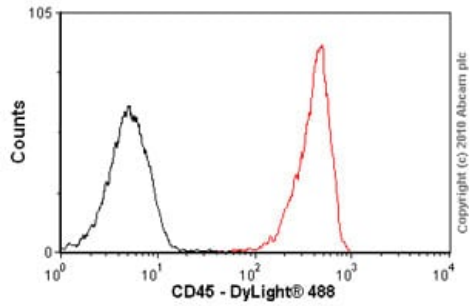
Sequence similarities Belongs to the protein-tyrosine phosphatase family. Receptor class 1/6 subfamily.
Contains 2 fibronectin type-III domains.
Contains 2 tyrosine-protein phosphatase domains.

Domain The first PTPase domain interacts with SKAP1.

Post-translational modifications Heavily N- and O-glycosylated.

Cellular localization Membrane. Membrane raft. Colocalized with DPP4 in membrane rafts.

Images



Flow Cytometry - Anti-CD45 antibody [YTH24.5] (ab30446)

Overlay histogram showing peripheral blood lymphocytes stained with ab30446 (red line). The cells were incubated with the antibody (ab30446, 1µg/1x10^6 cells) for 30 min at 4°C. The secondary antibody used was DyLight® 488 goat anti-rat IgG (Fc) (**ab96971**) at 1/250 dilution for 30 min at 22°C. Isotype control antibody (black line) was rat IgG2b [RTK4530] (**ab18541**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed gating on peripheral blood lymphocytes.

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