abcam

Product datasheet

Anti-CD45RO antibody [UCH-L1] ab23

3 Abreviews 8 References 2 Images

Overview

Product name	Anti-CD45RO antibody [UCH-L1]
Description	Mouse monoclonal [UCH-L1] to CD45RO
Host species	Mouse
Tested applications	**Suitable for:** Flow Cyt, IP, WB, IHC-P, IHC-Fr
Species reactivity	**Reacts with:** Human
Immunogen	Cultured T cells from an IL-2-dependent T-cell line (CA1) prepared from human peripheral blood activated with influenza virus.
Positive control	IHC-P: Human tonsil tissue. WB: Human tonsil and thymus tissue lysate. Flow Cytometry: HeLa cells.

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	Constituent: PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	UCH-L1
Myeloma	P3-NS1/1-Ag4-1
Isotype	IgG2a

Applications

Our Abpromise guarantee covers the use of **ab23** 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

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Flow Cyt		Use at an assay dependent concentration. ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IP		Use at an assay dependent concentration.
WB		Use a concentration of 5 µg/ml. Detects a band of approximately 180 kDa (predicted molecular weight: 131 kDa).
IHC-P	★★★★★	Use at an assay dependent concentration.
IHC-Fr		Use at an assay dependent concentration.

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. Dephosphorylates LYN, and thereby modulates LYN activity.

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.

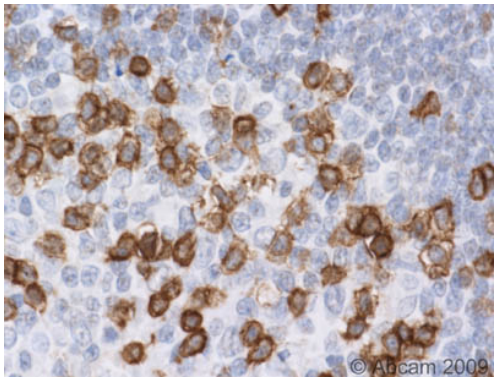
Post-translational modifications

Heavily N- and O-glycosylated.

Cellular localization

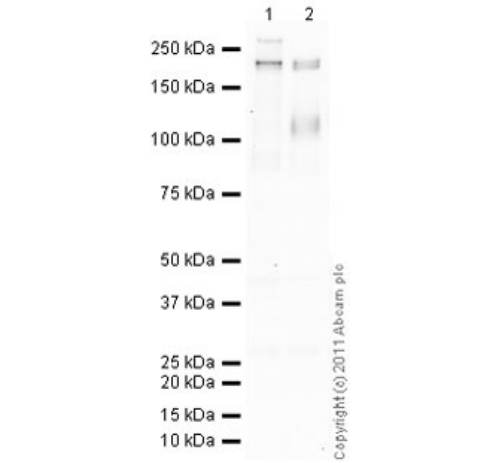
Membrane. Membrane raft. Colocalized with DPP4 in membrane rafts.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45RO antibody [UCH-L1] (ab23)

ab23 (1 µg/ml) staining CD45RO in human tonsil.
Sections were stained using an automated system (DAKO Autostainer Plus), at room temperature: sections were rehydrated and antigen retrieved with the Dako 3 in 1 AR buffers citrate pH 6.1. Slides were peroxidase blocked in 3% H_2O_2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako envision flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with hematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Western blot - Anti-CD45RO antibody [UCH-L1] (ab23)

All lanes : Anti-CD45RO antibody [UCH-L1] (ab23) at 5 µg/ml

Lane 1 : Human tonsil normal tissue lysate - total protein (ab29615)
Lane 2 : Human thymus tissue lysate - total protein (ab30146)

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 131 kDa
Observed band size: 180 kDa
why is the actual band size different from the predicted?
Additional bands at: 120 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 8 minutes

CD45RO contains a number of potential glycosylation sites

(SwissProt) which may explain its migration at a higher molecular weight than predicted.

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