Product datasheet

Anti-CD45 antibody [I3/2.3] ab25386

Overview

Product name: Anti-CD45 antibody [I3/2.3]
Description: Rat monoclonal [I3/2.3] to CD45
Host species: Rat
Tested applications: Suitable for: IP, IHC-Fr, IHC-P, Flow Cyt
Species reactivity: Reacts with: Mouse
Immunogen: The details of the immunogen for this antibody are not available.
Epitope: ab25386 recognizes a framework epitope present on all CD45 isoforms.
Positive control: BALB/c spleen cells.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer: pH: 8.20
Constituent: 100% Borate buffered saline
Purity: Affinity purified
Clonality: Monoclonal
Clone number: I3/2.3
Isotype: IgG2b

Applications

Our Abpromise guarantee covers the use of ab25386 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Abreviews</th>
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<td>IP</td>
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<td>Use at an assay dependent concentration.</td>
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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

Domain
The first PTPase domain interacts with SKAP1.

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

Cellular localization

Images

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<td>IHC-Fr</td>
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<td>Use at an assay dependent concentration. PubMed: 17579051</td>
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<tr>
<td>IHC-P</td>
<td>★★★★★</td>
<td>Use at an assay dependent concentration. PubMed: 19695260</td>
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| Flow Cyt    |           | Use at an assay dependent concentration. See Haider et al.  
ab18536 - Rat monoclonal IgG2b, is suitable for use as an isotype control with this antibody. |

Target
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD45 antibody [I3/2.3] (ab25386)

Wong et al., PLoS, 9(6), e100770, fig6, doi: 10.1371/journal.pone.0100770

ab25386 staining CD45 in E. coli infected Mouse prostate tissue sections 7 days post-instillation by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was blocked with 10% serum and 1% BSA for 1 hour at room temperature; antigen retrieval was by heat mediation in a citrate buffer. Samples were incubated with primary antibody (1/50 in blocking buffer) overnight at 4°C. An Alexa 488 conjugated Donkey polyclonal (1/100) was used as the secondary antibody. CD45 is stained green, Vimentin using ab92547 stained red, Hoechst nuclear stained blue. C is a high magnification of inset box in panel B.

Flow Cytometry - Anti-CD45 antibody [I3/2.3] (ab25386)

Flow Cytometry analysis of BALB/c mouse splenocytes labeling CD45 with ab25386 at 1 μg/10^6 cells (purple). A Mouse Anti-Rat IgG2b-PE was used as the secondary antibody. Grey - Isotype Control, Rat IgG2b-UNLB, followed by Mouse Anti-Rat IgG2b-PE.

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