abcam

ab210237

PerCP/Cy5.5® Anti-CD45.1 antibody [A20]

Anti-CD45.1 antibody [A20] conjugated to PerCP/Cy5.5® - suitable for flow cytometry, and reacts with mouse samples. Clone [A20] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	PerCP/Cy5.5®
Excitation/Emission	Ex: 482nm, Em: 695nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride, 0.12% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	A20
Purification technique	Affinity purification
Specificity	This antibody reacts with mouse CD45.1, also known as Ly5.2, which is a strain-specific allelic form of the CD45 Leukocyte Common Antigen (LCA). This antibody is typically used as a leukocyte marker in Ly5.1 mouse strains: SJL/J, DA, STS/A and RIII. The antibody has been demonstrated to specific for CD45.1 and is not cross-reactive with CD45.2 bearing cells.
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant and conjugated under optimal conditions, with unreacted dye removed from the preparation.

Reactivity data

Flow Cyt

Tested

Species	Mouse
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze, Store in the dark

Supplementary info

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

Activity summary	CD45.1 also known as Leukocyte Common Antigen (LCA) or Protein Tyrosine Phosphatase Receptor Type C (PTPRC) is a protein expressed on the surface of all nucleated hematopoietic cells. It has a molecular mass of approximately 180-220 kDa. This protein acts as a receptor-type protein tyrosine phosphatase. CD45.1 is an essential marker in the immune system particularly found on T cells B cells and other white blood cells. The expression of CD45.1 is seen across leukocytes where it plays a significant role in cell signaling and antigen receptor signaling.
Biological function summary	CD45.1 influences the immune response by modulating signals through antigen receptors. It operates as a single-pass type I membrane protein and is not known to be part of a larger complex. This protein is important in the activation and regulation of T-cells and B-cells by fine-tuning the threshold of signals required for cell activation. The presence of CD45.1 affects multiple processes in adaptive immunity impacting lymphocyte development and their further activation in immune responses.
Pathways	CD45.1 is integral in lymphocyte activation pathways. It influences the T-cell receptor (TCR) and B-cell receptor (BCR) signaling pathways by dephosphorylating specific kinases like Lck and Fyn which are important in initiating TCR and BCR signaling cascades. Moreover CD45.1 interacts with other proteins such as CD3 and CD19 being essential in the regulation of immune response and maintaining proper signaling amplitudes to ensure effective immune function.
Associated diseases and disorders	CD45.1 is intricately linked to autoimmune diseases and leukemia. The protein's dysregulation can lead to improper immune signaling contributing to conditions such as systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA). In leukemia the altered expression of CD45.1 and related proteins such as CD20 often correlates with disease progression and treatment response. Understanding the roles of CD45.1 can facilitate the development of targeted therapies in these contexts.

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

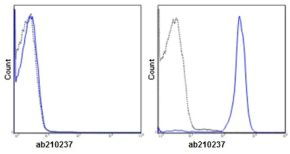
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry - PerCP/Cy5.5® Anti-CD45.1 antibody [A20] (ab210237)

CD45.1 Flow Cytometry staining using mouse Anti-CD45.1 antibody

Flow cytometric analysis of C57BI/6 (left panel) or SJL (right panel) splenocytes labeling CD45.1 with ab210237 at 0.25 µg (solid line) compared to 0.5 µg PerCP-Cy5.5 Mouse IgG2a isotype control (dashed line).

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