abcam

ab218754

APC Anti-CD5 antibody [53-7.3]

Anti-CD5 antibody [53-7.3] conjugated to APC - suitable for flow cytometry, and reacts with mouse samples. Clone [53-7.3] is a rat monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
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	53-7.3
Purification technique	Affinity purification Protein A
Light chain type	kappa
Purification notes	ab218754 was 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	Use 0.25 µg per test

Target data

See full target information CD5

Function	Lymphoid-specific receptor expressed by all T-cells and in a subset of B-cells known as B1a cells. Plays a role in the regulation of TCR and BCR signaling, thymocyte selection, T-cell effector differentiation and immune tolerance. Acts by interacting with several ligands expressed on B-cells such as CD5L or CD72 and thereby plays an important role in contact-mediated, T-dependent B-cell activation and in the maintenance of regulatory T and B-cell homeostasis. Functions as a negative regulator of TCR signaling during thymocyte development by associating with several signaling proteins including LCK, CD3Z chain, PI3K or CBL (PubMed:1384049, PubMed:1385158). Mechanistically, co-engagement of CD3 with CD5 enhances phosphorylated CBL recruitment leading to increased VAV1 phosphorylation and degradation (PubMed:23376399). Modulates B-cell biology through ERK1/2 activation in a Ca(2+)-dependent pathway via the non-selective Ca(2+) channel TRPC1, leading to IL-10 production (PubMed:27499044).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Supplementary info

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

Activity summary	CD5 also known as T1 or Leu-1 is a glycoprotein with a molecular mass of approximately 67 kDa. It is expressed mainly on the surface of T cells and a subset of B cells. CD5 plays a major role in the regulation of immune responses. It functions by modulating T-cell receptor (TCR) signaling often acting as a negative regulator to prevent excessive immune activation. Researchers often utilize CD5 antibodies such as those conjugated with PerCP for immunohistochemistry (IHC) to study this protein's expression and distribution.

Biological function summary	CD5 is essential in the immune system's ability to maintain tolerance to self-antigens thereby preventing autoimmune responses. CD5 forms part of a receptor complex on the cell surface that interacts with ligands and other receptors to fine-tune immune cell signaling. Its localization and function in T cells relate closely to its ability to modulate signaling pathways essential for cell survival and proliferation. This modulation is important for ensuring that immune responses are appropriate to the stimuli encountered.
Pathways	CD5 is involved in signal transduction processes important for immune tolerance and modulation. It intersects with pathways like the T cell receptor (TCR) signaling pathway and the NF-kB signaling pathway. These pathways involve interaction with proteins like Zap70 a tyrosine kinase related to TCR signaling and the downstream activation of transcription factors that regulate immune responses. The protein CRIS1 also appears in some pathway interactions highlighting the interconnected nature of immune regulatory proteins.
Associated diseases and disorders	CD5 has significant associations with autoimmune diseases such as systemic lupus erythematosus (SLE) where its modulatory role can affect autoantibody production. Additionally CD5 in conjunction with proteins like OX19 correlates with certain lymphoproliferative disorders including chronic lymphocytic leukemia (CLL). In these disorders the expression and function of CD5 may impact disease progression and patient response to therapy making it a potential target for intervention in immune-related conditions.

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

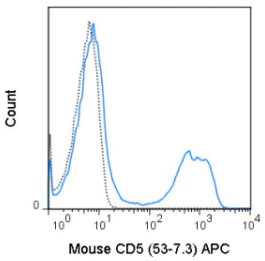
We do not recommend this combination. It is not covered by our product promise.

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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1 product image



Flow Cytometry - APC Anti-CD5 antibody [53-7.3] (ab218754)

CD5 Flow Cytometry staining using rat Anti-CD5 antibody

Flow cytometric analysis of C57Bl/6 splenocytes labeling CD5 with 0.25 µg of ab218754 (solid line) or 0.25 µg of Allophycocyanin Rat IgG2a isotype control (dashed line).

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