abcam

ab244582

Anti-CD5 antibody [OX19] - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	OX19
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Rat
Dilution info	0.2 µg/mL
Notes	-

IHC-Fr

Tested

Species	Rat
Dilution info	1 µg/mL
Notes	-

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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.

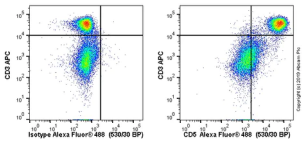
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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2 product images



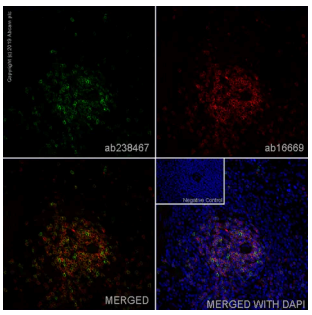
Flow Cytometry - Anti-CD5 antibody [OX19] - BSA and Azide free (ab244582)

CD5 Flow Cytometry staining using mouse Anti-CD5 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab238467)
Lewis rat splenocytes stained with ab238467 (right) or mouse IgG1κ (ab170190) isotype (left). Lewis rat splenocytes were incubated for 30 min on ice in 1x PBS / 10 % rat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab238467) or mouse IgG1κ (ab170190) ($1x^{106}$ in 100 µl at 0.2 µg/ml) for 30 min on ice.

The secondary antibody Goat anti-mouse IgG H&L (Alexa Fluor ® 488, pre-adsorbed) (ab150117) was used at 1/2000 dilution for 30 min on ice. The cells were simultaneously stained with CD3 antibody.

Acquisition of >30,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter. Events were gated on viable lymphocytes.



Immunohistochemistry (Frozen sections) - Anti-CD5 antibody [OX19] - BSA and Azide free (ab244582)

CD5 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD5 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS and sodium azide (ab238467).
IHC image of CD5 staining in a section of frozen normal Rat Spleen.

The section was fixed using 10% formaldehyde in 1XPBS for 10 minutes. No antigen retrieval step was performed prior to staining. Non-specific protein-protein interactions were then blocked in TBS containing 0.025% (v/v) Triton X-100, 0.3M glycine and 1% (w/v) BSA for 1h at room temperature. The section was then incubated overnight at +4°C in TBS containing 0.025% (v/v) Triton X-100 and 1% (w/v) BSA with ab238467 at 1µg/ml and ab16669 (Rabbit monoclonal [SP7] to

CD3) at 1/150, to show the co-staining in T cells. The section was then incubated with ab150117 (Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preabsorbed, (Shown in green) 1/1000) and ab150080 (Goat Anti-Rabbit IgG H&L (Alexa Fluor®594) (Shown in red) 1/1000) for 1 hour at room temperature. The secondary-only control insert image is taken from an identical assay without primary antibody. DAPI was used to stain the cell nuclei (blue). The section was then mounted using Fluoromount®.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

For IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antibody concentrations and incubation times.

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