abcam

ab241934

violetFluor™ 450 Anti-CD19 antibody [1D3]

Anti-CD19 antibody [1D3] conjugated to violetFluor™ 450 - suitable for flow cytometry, and reacts with mouse samples. Clone [1D3] is a rat monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Lab Essentials

Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	violetFluor™ 450
Excitation/Emission	Ex: 405nm, Em: 450nm
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
Immunogen	Cell preparation containing Cd19 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P25918
Clone number	1D3
Purification technique	Affinity purification
Light chain type	kappa
Purification notes	ab241934 was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	Use 0.5 µg.

Target data

See full target information Cd19

Function

Functions as a coreceptor for the B-cell antigen receptor complex (BCR) on B-lymphocytes. Decreases the threshold for activation of downstream signaling pathways and for triggering B-cell responses to antigens (By similarity). Activates signaling pathways that lead to the activation of phosphatidylinositol 3-kinase and the mobilization of intracellular Ca(2+) stores (PubMed:12387743, PubMed:20101619, PubMed:9382888). Is not required for early steps during B cell differentiation in the blood marrow (PubMed:7542548, PubMed:7543183, PubMed:9317126). Required for normal differentiation of B-1 cells (PubMed:12387743, PubMed:7542548, PubMed:7543183). Required for normal B cell differentiation and proliferation in response to antigen challenges (PubMed:12387743, PubMed:7542548, PubMed:9317126). Required for normal levels of serum immunoglobulins, and for production of high-affinity antibodies in response to antigen challenge (PubMed:12387743, PubMed:7542548, PubMed:7543183).

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

CD19 is a transmembrane protein also known as B4 or B-lymphocyte antigen CD19 with an approximate molecular weight of 95 kDa. It is expressed on the surface of

	B cells throughout their development from pro-B cells to mature B cells. CD19 functions mechanically as a coreceptor enhancing the sensitivity of B cell receptor (BCR) signaling. This protein plays a significant role in promoting the activation and proliferation of B cells by lowering the threshold for antigen receptor engagement.
Biological function summary	CD19 acts as an essential player in B cell signaling. CD19 integrates signals from the BCR with other coreceptors acting as a signaling hub. It participates in forming a signaling complex that includes proteins like CD21 and CD81 which further amplifies BCR-mediated signaling. This complex plays a critical role in B cell activation differentiation and survival ensuring that immune responses are efficiently mounted against pathogens.
Pathways	The CD19 protein fits into key immune response pathways such as the BCR signaling pathway and the PI3K-Akt signaling pathway. CD19 collaborates with other proteins like CD21 CD81 and PI3K within these pathways. Its interaction in the PI3K-Akt pathway for instance supports critical processes including B cell activation and homeostasis contributing to the adaptive immune response.
Associated diseases and disorders	CD19 is connected to B cell malignancies and autoimmune diseases. B cell acute lymphoblastic leukemia (ALL) often shows aberrant CD19 expression making it a valuable target for therapeutic interventions like anti-CD19 monoclonal antibodies. Additionally overexpression or mutations of CD19 may contribute to autoimmune diseases by disrupting normal B cell regulation. CD19's connection with proteins like CD22 and CD20 in these pathological contexts highlights its relevance in developing targeted therapies.

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

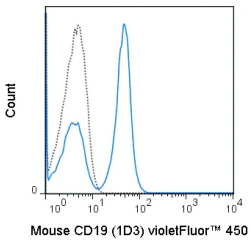
We do not recommend this combination. It is not covered by our product promise.

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 - violetFluor™ 450 Anti-CD19 antibody [1D3] (ab241934)

CD19 Flow Cytometry staining using rat Anti-CD19 antibody

Flow cytometric analysis of C57Bl/6 splenocytes stained for CD19 with 0.5 µg ab241934 (solid line) or 0.5 µg violetFluor™ 450 Rat IgG2a isotype control (dashed line).

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