abcam

ab314289

Alexa Fluor® 647 Anti-CD19 antibody [EPR23174-145]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23174-145
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/500
Notes	-

ICC/IF

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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

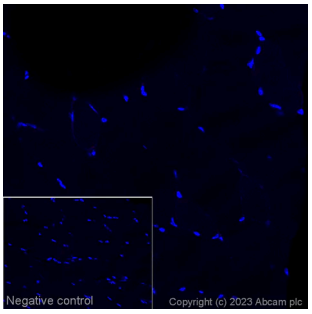
We do not recommend this combination. It is not covered by our product promise.

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.

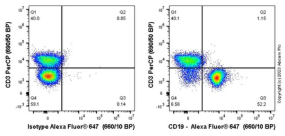
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-CD19 antibody [EPR23174-145] (ab314289)

CD19 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse skeletal muscle using rabbit Anti-CD19 antibody

Negative immunofluorescence staining of CD19 in a section of formalin-fixed paraffin-embedded mouse skeletal muscle. Performed on a Leica BOND. The section was pre-treated using heat mediated antigen retrieval with EDTA (pH9.0) using retrieval settings of 110°C for 40 minutes. The section was then incubated at room temperature for 1 hour with ab314289 at 1/100 dilution. Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Dako Fluorescence Mounting Medium®. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

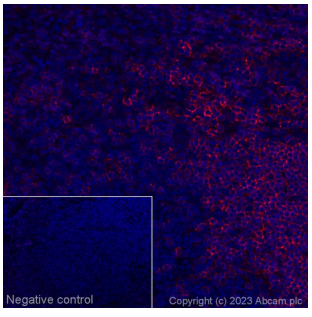


Flow Cytometry - Alexa Fluor® 647 Anti-CD19 antibody [EPR23174-145] (ab314289)

CD19 Flow Cytometry staining of C57/BL6 mouse splenocytes using rabbit Anti-CD19 antibody

Flow cytometry staining of C57/BL6 mouse splenocytes with ab314289 (right) or Alexa Fluor® 647 Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). C57/BL6 mouse splenocytes were incubated for 30 min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab314289 or Alexa Fluor® 647 Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 10^6 in 100 µl at 1 µg/ml (1/500)) for 30min on ice. The cells were simultaneously stained with CD3.

Acquisition of >30000 events were collected using a 40 mW Red laser (638nm) and 660/10 bandpass filter. Events were gated on viable lymphocytes.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-CD19 antibody [EPR23174-145] (ab314289)

Immunofluorescence staining of CD19 in a section of formalin-fixed paraffin-embedded mouse spleen. Performed on a Leica BOND. The section was pre-treated using heat mediated antigen retrieval with EDTA (pH9.0) using retrieval settings of 110°C for 40 minutes. The section was then incubated at room temperature for 1 hour with ab314289 at 1/100 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Dako Fluorescence Mounting Medium®. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). For other IHC staining systems (automated and non-automated),

customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

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