abcam

ab134114

Anti-CD19 antibody [EPR5906]

Anti-CD19 antibody [EPR5906] (ab134114) is a rabbit monoclonal antibody detecting CD19 in **Western Blot, Flow Cytometry (Intra), IHC-P, IHC-Fr, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications

Lab Essentials | Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR5906
Purification technique	Affinity purification Protein A
Concentration	1.217 - 1.222 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	-

IHC-Fr

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CD19

Function

Functions as a coreceptor for the B-cell antigen receptor complex (BCR) on B-lymphocytes (PubMed:29523808). Decreases the threshold for activation of downstream signaling pathways and for triggering B-cell responses to antigens (PubMed:1373518, PubMed:16672701, PubMed:2463100). Activates signaling pathways that lead to the activation of phosphatidylinositol 3-kinase and the mobilization of intracellular Ca(2+) stores (PubMed:12387743, PubMed:16672701, PubMed:9317126, PubMed:9382888). Is not required for early steps during B cell differentiation in the blood marrow (PubMed:9317126). Required for normal differentiation of B-1 cells (By similarity). Required for normal B cell differentiation and proliferation in response to antigen challenges (PubMed:1373518, PubMed:2463100). Required for normal levels of serum immunoglobulins, and for production of high-affinity antibodies in response to antigen challenge (PubMed:12387743, PubMed:16672701, PubMed:9317126).

Storage

Shipped at conditions	Conditional Ambient
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	Stable for 12 months at -20°C

Notes

Anti-CD19 antibody [EPR5906] (ab134114) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-Fr, IHC-P, WB in human samples.

Anti-CD19 antibody [EPR5906] (ab134114) has been cited over 54 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-CD19 antibody [EPR5906] (ab134114) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-CD19 antibody [EPR5906] (ab134114) has 5 independent reviews from customers.

Anti-CD19 antibody [EPR5906] (ab134114) specifically detects CD19 (UniProt ID: P15391; Molecular weight: 59kDa) and is sold in a convenient trial size to enable initial testing (20 µL) and larger sizes for subsequent scaling up experiments (100 µL and 1 mL).

Conjugation-ready, carrier free format available for antibody clone EPR5906 - ab271904.

Antibody clone EPR5906 is also available pre-conjugated to a variety of labels for your convenience - HRP, Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 555, APC (ab195896, ab196468, ab196515, ab274888, ab317484).

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.

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

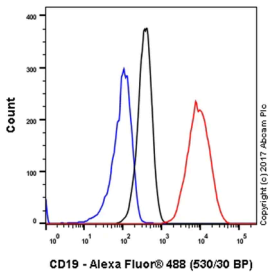
We do not recommend this combination. It is not covered by our product promise.

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.

14 product images

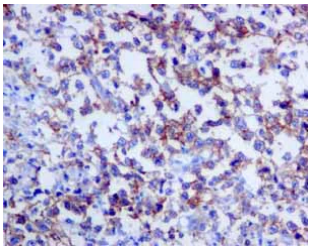


Flow Cytometry (Intracellular) - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Flow Cytometry (Intracellular) staining using rabbit Anti-CD19 antibody

Intracellular Flow Cytometry analysis of Raji cells (Human Burkitt's lymphoma B lymphocyte)labelling CD19 with ab134114 at 1/1000 dilution, 1.186µg/ml (red). Cells were fixed with 4% paraformaldehyde, permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/2000.
Isotype control (black) - Rabbit monoclonal IgG (ab172730)

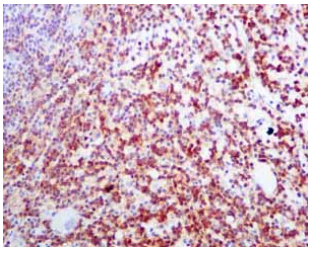
Unlabeled control (blue) - Unlabelled cells



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

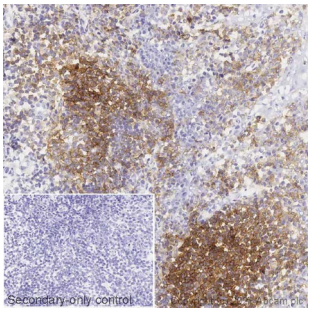
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human diffuse large B-cell lymphoma tissue labelling CD19 with unpurified ab134114.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human B-cell chronic lymphocytic leukaemia tissue labelling CD19 with unpurified ab134114.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

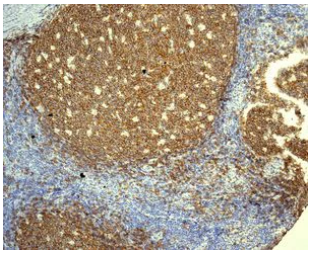


Immunohistochemistry (Frozen sections) - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Immunohistochemistry (Frozen sections) staining using rabbit Anti-CD19 antibody

IHC image of ab134114 staining CD19 in human tonsil frozen tissue sections, performed on a Leica Biosystems BOND® RX instrument. The section was incubated with ab134114 at 1µg/ml for 30 mins at room temperature and detected using an HRP conjugated compact polymer system (Bond™ Polymer Refine Detection). DAB was used as the chromogen. Positive membrane staining was seen in human tonsil. The section was then counterstained with haematoxylin and mounted with DPX. No primary antibody was used in the secondary only control (shown on the inset).

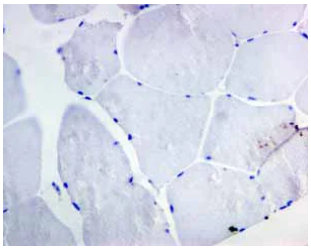
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD19 with unpurified ab134114 at a dilution of 1/250.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

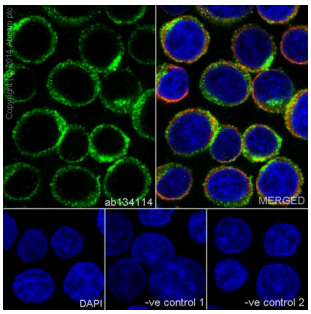


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Immunohistochemical analysis of paraffin embedded human skeletal muscle tissue using unpurified ab134114 showing negative staining.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

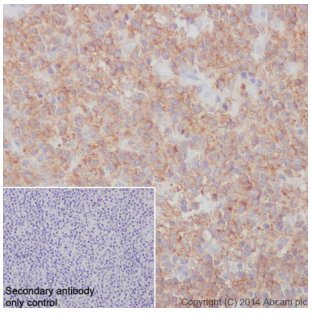


Immunocytochemistry/ Immunofluorescence - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD19 antibody

Immunocytochemistry/Immunofluorescence analysis of Raji cells labelling CD19 with purified ab134114 at a dilution of 1/500. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077 an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291 a mouse anti-tubulin (1/1000) and ab150120 an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.
Control 1: primary antibody (1/500) and secondary antibody ab150120 an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000).

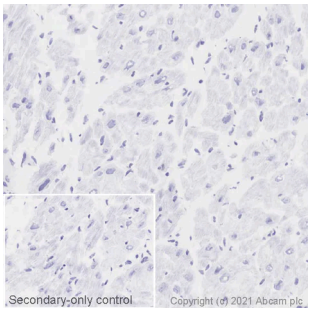
Control 2: ab7291 (1/1000) and secondary antibody ab150077 an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD19 with purified ab134114 at a dilution of 1/500. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051 a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

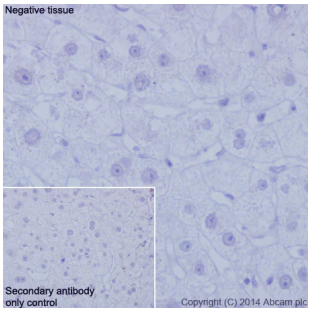


Immunohistochemistry (Frozen sections) - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Immunohistochemistry (Frozen sections) staining using rabbit Anti-CD19 antibody

IHC image of ab134114 staining CD19 in human heart frozen tissue sections, performed on a Leica Biosystems BOND® RX instrument. The section was incubated with ab134114 at 1µg/ml for 30 mins at room temperature and detected using an HRP conjugated compact polymer system (Bond™ Polymer Refine Detection). DAB was used as the chromogen. No staining in human heart (negative tissue) was observed. The section was then counterstained with haematoxylin and mounted with DPX. No primary antibody was used in the secondary only control (shown on the inset).

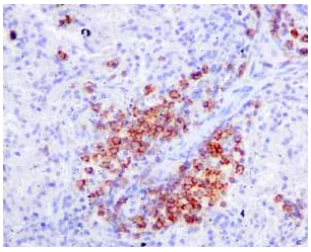
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Negative tissue: Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling CD19 with purified ab134114 at a dilution of 1/500. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051 a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

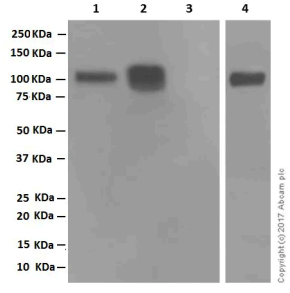


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD19 antibody [EPR5906] (ab134114)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human spleen tissue labelling CD19 with unpurified ab134114.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Western blot staining using rabbit Anti-CD19 antibody

Exposure time:
Lane 1-3: 3 minutes
Lane 4: 30 seconds
Jurkat is a CD19 null cell line according to the paper (PMID: 19147785).

Lanes 1 - 3:
Western blot - Anti-CD19 antibody [EPR5906] (ab134114) at 1/10000 dilution

Lane 4:
Western blot - Anti-CD19 antibody [EPR5906] (ab134114) at 1/2000 dilution

Lane 1:
NAMALWA (Human Burkitt's lymphoma) whole cell lysate) at 20 µg

Lane 2:
Human tonsil tissue lysate at 20 µg

Lane 3:
Jurkat （Human acute T cell leukemia） whole cell lysate at 20 µg

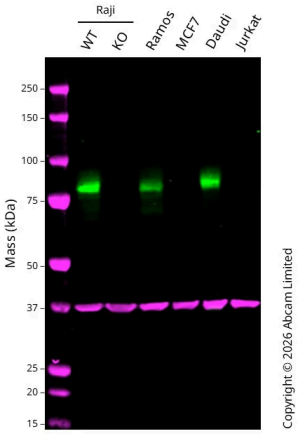
Lane 4:
RAMOS (Human Burkitt's lymphoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 61 kDa

Observed band size: 95 kDa



Western blot - Anti-CD19 antibody [EPR5906] (ab134114)

CD19 Western blot staining using rabbit Anti-CD19 antibody

Western blot: Anti-CD19 antibody [EPR5906] ab134114 staining at 1/10000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 80-90 kDa in Wild-type Raji cell lysates with no signal observed at this size in CD19 knockout Raji cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-CD19 antibody [EPR5906] (ab134114) at 1/10000 dilution

Lane 1:
Wild-type Raji at 20 µg

Lane 2:
Western blot - Human CD19 knockout Raji cell line (ab274913) at 20 µg

Lane 3:
Ramos at 20 µg

Lane 4:
MCF7 at 20 µg

Lane 5:
Daudi at 20 µg

Lane 6:
Jurkat at 20 µg

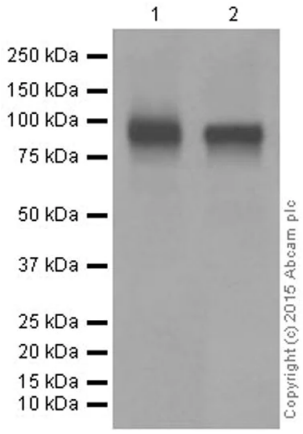
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 80-90 kDa

Observed band size: 80-90 kDa



Western blot - Anti-CD19 antibody [EPR5906] (ab134114)

Blocking and dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-CD19 antibody [EPR5906] (ab134114) at 1/5000 dilution

Lane 1:
Namalwa whole cell lysate at 20 µg

Lane 2:
Daudi whole cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 61 kDa

Observed band size: 95 kDa

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