abcam

ab134147

Anti-CD79b antibody [EPR6861]

Anti-CD79b antibody [EPR6861] (ab134147) is a rabbit monoclonal antibody detecting CD79b in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 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	EPR6861
Purification technique	Affinity purification Protein A
Dissociation constant	4.7 x 10^{-11} M
Concentration	0.11 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	**For unpurified use at 1/250 - 1/500.** Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/250 - 1/500.** Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500
Notes	**For unpurified use at 1/250 - 1/500.** Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Dog
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Pig
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Horse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Cow
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Sheep

Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Goat
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Chicken
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Serinus canarius
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Pigeon
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Llama
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Cat
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Flow Cyt

Tested

Species	Human

Dilution info	1/20
Notes	**For unpurified use at 1/10 - 1/100.** ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Dog
Dilution info	-
Notes	-

Species	Pig
Dilution info	-
Notes	-

Species	Horse
Dilution info	-
Notes	-

Species	Cow
Dilution info	-
Notes	-

Species	Sheep
Dilution info	-
Notes	-

Species	Goat
Dilution info	-
Notes	-

Species	Chicken
Dilution info	-
Notes	-

Species	Serinus canarius
Dilution info	-

Notes	-

Species	Pigeon
Dilution info	-
Notes	-

Species	Llama
Dilution info	-
Notes	-

Species	Cat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1/20
Notes	**For unpurified use at 1/10 - 1/100.** ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	1/20
Notes	**For unpurified use at 1/10 - 1/100.** ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Species	Rat
Dilution info	1/1000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Expected

Species	Dog, Pig, Horse, Cow, Sheep, Goat, Chicken, Serinus canarius, Pigeon, Llama, Cat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Expected

Species	Dog
Dilution info	-
Notes	-

Species	Pig
Dilution info	-
Notes	-

Species	Horse
Dilution info	-
Notes	-

Species	Cow
Dilution info	-
Notes	-

Species	Sheep
Dilution info	-
Notes	-

Species	Goat
Dilution info	-
Notes	-

Species	Chicken
Dilution info	-
Notes	-

Species	Serinus canarius
Dilution info	-
Notes	-

Species	Pigeon
Dilution info	-
Notes	-

Species	Llama
Dilution info	-
Notes	-

Species	Cat
Dilution info	-
Notes	-

Species	Mouse
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Species	Rat
Dilution info	1/50
Notes	**For unpurified use at 1/250 - 1/500.**

Target data

See full target information CD79B

Function	Required in cooperation with CD79A for initiation of the signal transduction cascade activated by the B-cell antigen receptor complex (BCR) which leads to internalization of the complex, trafficking to late endosomes and antigen presentation. Enhances phosphorylation of CD79A, possibly by recruiting kinases which phosphorylate CD79A or by recruiting proteins which bind to CD79A and protect it from dephosphorylation.

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	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-CD79b antibody [EPR6861] (ab134147) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of CD79b?
Anti-CD79b [EPR6861] (ab134147) specifically detects a band for CD79b (UniProt: P40259) at a molecular weight of 26kDa.

Other related products
We have a range of other formats of antibody clone [EPR6861] also available for your convenience: ab134147, Carrier free - ab240083, PE - ab305961, APC - ab305962, HRP - ab305963, Alkaline Phosphatase - ab308976, Alexa Fluor® 488 - ab309920, Alexa Fluor® 647 - ab310288, Alexa Fluor® 594 - ab310749, Alexa Fluor® 555 - ab312276, Alexa Fluor® 568 - ab312770, Alexa Fluor® 750 - ab321079

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	CD79b also known as Ig-beta is a protein that plays a mechanical role as part of the B-cell antigen receptor complex. This protein with a mass of approximately 40 kDa is mainly expressed on the surface of B lymphocytes. It is an important component of the heterodimeric complex composed of CD79a (Ig-alpha) and CD79b which associates with membrane-bound immunoglobulins to form the B-cell receptor (BCR). CD79b is essential for transducing activation signals following antigen binding to the BCR.
Biological function summary	The primary role of CD79b within the immune system is to support signal transduction. Upon binding of an antigen to BCR on B cells CD79b as part of the BCR complex initiates signaling cascades which lead to B-cell activation proliferation and differentiation. These processes are critical for humoral immunity ensuring adequate antibody production. CD79b is often found in association with CD19 another important B-cell surface protein and together they aid in amplifying the signals required for B-cell response.
Pathways	CD79b is deeply involved in the B-cell receptor signaling pathway and the broader adaptive immune response. Once the BCR is engaged by an antigen CD79b helps activate intracellular signaling pathways that involve kinases such as SYK and BLNK which help propagate and amplify the immune response. These pathways also interact with other receptor components like CD22 and CD19 creating a network of interactions ensuring effective pathogen recognition and response.
Associated diseases and disorders	CD79b carries significant relevance in the context of B-cell malignancies such as chronic lymphocytic leukemia (CLL) and some types of lymphoma. Dysregulation or mutations in CD79b can affect BCR signaling leading to unchecked B-cell proliferation characteristic of these diseases. Additionally CD79b's interaction with proteins such as SYK in the signaling pathways makes it a potential therapeutic target in treating B-cell related cancers. Researchers are actively investigating anti-CD79b therapies to disrupt abnormal signaling in B-cell malignancies.

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

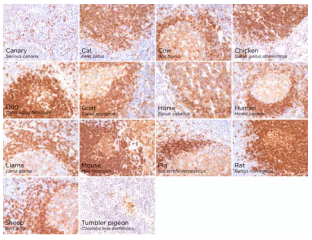
We do not recommend this combination. It is not covered by our product promise.

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.

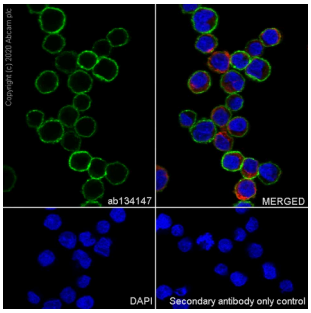
9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD79b antibody

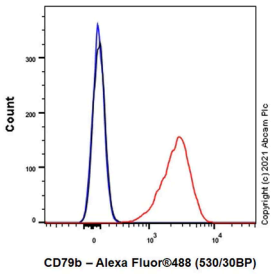
The BOND™ Polymer Refine Detection System on the BOND RX Automated Stainer (DS9800, Leica Biosystems, Wetzlar, Germany) was used for immunohistochemical labelling of formalin-fixed, paraffin-embedded (FFPE) tissues. The protocol includes a peroxide block, post-primary reagent, polymer detection, DAB chromogen, and haematoxylin counterstain, all automated to minimize variability. Antigen retrieval was performed by heat-induced epitope retrieval (HIER) for 20 minutes in Tris-EDTA buffer (BOND Epitope Retrieval Solution 2, AR9640, Leica Biosystems, Wetzlar, Germany). For mouse and rabbit antibodies, the sequence comprised peroxide block (10 min), primary antibody incubation (30 min), post-primary (10 min), polymer (10 min), DAB (10 min), and haematoxylin (8 min). For rat antibodies, an anti-rat step (1:300 dilution, Vector Laboratories, California, USA; 20 min) was included prior to polymer application (15 min).
For mouse tissues, antigen retrieval was performed using high pH buffers (Dako, Agilent), followed by blocking of endogenous peroxidase activity with 3% hydrogen peroxide. Slides were then incubated with the primary antibody. Antigen/antibody complexes detection was carried out using a horseradish peroxidase-conjugated visualization system (Novolink Polymer, Leica). Staining was developed with 3,3′-diaminobenzidine (EnVision FLEX DAB Enhancer, Dako, Agilent), and nuclei were counterstained with hematoxylin (FLEX Hematoxylin, SM806, Dako, Agilent). Images were acquired using an Axiocam CCD camera (Zeiss) and processed with ZEN 2.1 software and Photoshop 9.0.



Immunocytochemistry/ Immunofluorescence - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD79b antibody

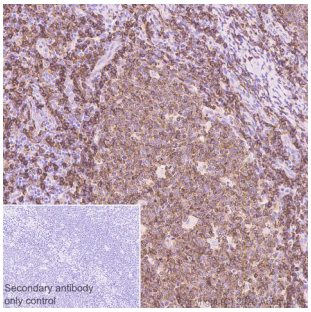
Immunocytochemistry analysis of Daudi (Human Burkitt's lymphoma lymphoblast) cells labeling CD79b with purified ab134147 at 1/50 dilution (2.04 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Flow Cytometry staining using rabbit Anti-CD79b antibody

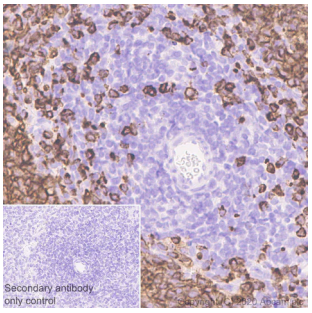
Flow Cytometry analysis of Raji (Human Burkitt's lymphoma B lymphocyte) cells labelling CD79b with purified ab134147 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD79b antibody

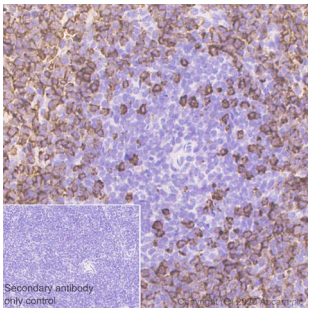
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue sections labeling CD79b with purified ab134147 at 1/500 dilution (0.20 µg/mL). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD79b antibody

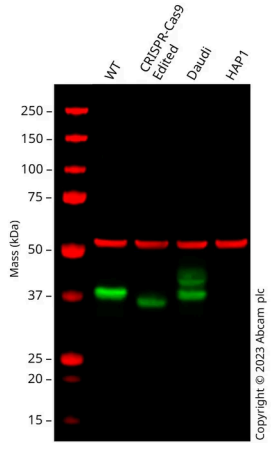
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat spleen tissue sections labeling CD79b with purified ab134147 at 1/500 dilution (0.20 µg/mL). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD79b antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse spleen tissue sections labeling CD79b with purified ab134147 at 1/500 dilution (0.20 µg/mL). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Western blot - Anti-CD79b antibody [EPR6861] (ab134147)

CD79b Western blot staining using rabbit Anti-CD79b antibody

False colour image of Western blot: Anti-CD79b antibody [EPR6861] staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab134147 was shown to bind specifically to CD79b. A band was observed at 39 kDa in wild-type Raji cell lysates with no signal observed at this size in CD79B CRISPR-Cas9 edited cell line ab273839 (CRISPR-Cas9 edited cell lysate ab273793). The band observed in the CRISPR-Cas9 edited lysate lane below 39 kDa is likely to represent a truncated form of CD79b. This has not been investigated further and the functional properties of the gene product have not been determined. To generate this image, wild-type and CD79B CRISPR-Cas9 edited Raji cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % 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 IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-CD79b antibody [EPR6861] (ab134147) at 1/1000 dilution

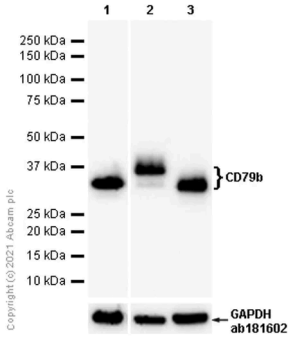
Lane 1:
Wild-type Raji cell lysate at 20 µg

Lane 2:
CD79B CRISPR-Cas9 edited Raji cell lysate at 20 µg

Lane 3:
Daudi cell lysate at 20 µg

Lane 4:
HAP1 cell lysate at 20 µg

Performed under reducing conditions.



Western blot - Anti-CD79b antibody [EPR6861] (ab134147)

All lanes:
Western blot - Anti-CD79b antibody [EPR6861] (ab134147) at 1/1000 dilution

Lane 1:
Raji (Human Burkitt's lymphoma B lymphocyte) whole cell lysate

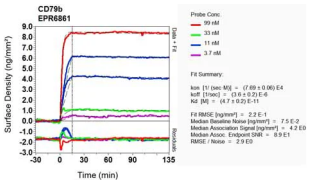
Lane 2:
Mouse spleen lysate

Lane 3:
Rat spleen lysate

Secondary

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

Predicted band size: 26 kDa



OI-RD Scanning - Anti-CD79b antibody [EPR6861] (ab134147)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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