abcam

# ab133483

# Anti-CD79a antibody [EPR3619]

Recombinant | RabMAb | KO Validated

## 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** | EPR3619 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.509 - 0.512 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

### IP

**Not recommended**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### WB

**Tested**

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

## IHC-P

**Not recommended**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/12500 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

# Target data

See full target information CD79A

**Function** Required in cooperation with CD79B for initiation of the signal transduction cascade activated by binding of antigen to the B-cell antigen receptor complex (BCR) which leads to internalization of the complex, trafficking to late endosomes and antigen presentation. Also required for BCR surface expression and for efficient differentiation of pro- and pre-B-cells. Stimulates SYK autophosphorylation and activation. Binds to BLNK, bringing BLNK into proximity with SYK and allowing SYK to phosphorylate BLNK. Also interacts with and increases activity of some Src-family tyrosine kinases. Represses BCR signaling during development of immature B-cells.

# Storage

**Shipped at conditions** Conditional Ambient

| | |
|---|---|
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Storage information** | Stable for 12 months at -20°C |

## Notes

**Species reactivity**
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

**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** | CD79a also known as Ig-alpha or MB-1 is a component of the B cell antigen receptor (BCR) complex. It is a transmembrane protein with a molecular mass of approximately 47 kDa. CD79a is part of a heterodimer with CD79b and is mainly expressed on the surface of B lymphocytes. This protein plays a critical mechanical role in signaling transduction through the BCR by associating with membrane-bound immunoglobulin molecules helping to initiate the immune response upon antigen binding. |
| **Biological function summary** | This protein acts as an essential mediator in the immune system. CD79a together with CD79b forms part of the BCR complex critical for B cell development and maturation. The BCR complex activates signaling cascades that influence B cell fate decisions such as proliferation differentiation and apoptosis. By transmitting signals from the BCR CD79a helps regulate these cellular functions necessary for efficient immune defense. |
| **Pathways** | CD79a plays a pivotal role in the B cell receptor signaling pathway. This pathway involves signaling molecules such as spleen tyrosine kinase (SYK) and phosphoinositide 3-kinase (PI3K) which are activated upon BCR engagement. |

| | |
|---|---|
| | CD79a acts in concert with other proteins including CD79b and the IgM receptor facilitating downstream signaling cascades that ensure proper B cell responses. Its role is important for linking extracellular antigen recognition to intracellular signaling events. |
| **Associated diseases and disorders** | CD79a is significant in conditions like B cell lymphomas and certain immunodeficiencies. Abnormal expression or mutations in CD79a are associated with some types of non-Hodgkin lymphoma. The protein's interaction with CD79b is particularly relevant as alterations in these proteins' function or expression can impact B cell development and lead to pathogenesis in lymphoproliferative disorders. Consequently CD79a serves as an important biomarker and potential therapeutic target in these diseases. |

## 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**

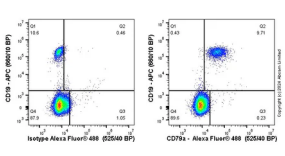
We do not recommend this combination. It is not covered by our product promise.

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.

## 4 product images



### Flow Cytometry (Intracellular) - Anti-CD79a antibody [EPR3619] (ab133483)

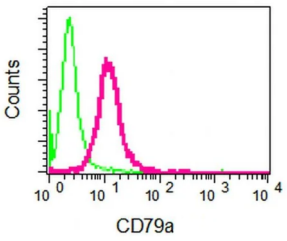
CD79a Flow Cytometry (Intracellular) staining of PBMC using rabbit Anti-CD79a antibody

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab133483 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left).

PBMCs were incubated for 30 min on ice in 1x PBS containing 10 µg/ml human IgG and 10 % normal goat serum to block FC receptors and non-specific protein-protein interactions. Cells were fixed and permeabilised with BD Cytofix/Cytoperm™ for 20 min, followed by addition of the antibody ab133483 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x $10^6$ in 100 µl at 0.008 µg/ml (1/62,5000) for 30 min at 22°C .

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

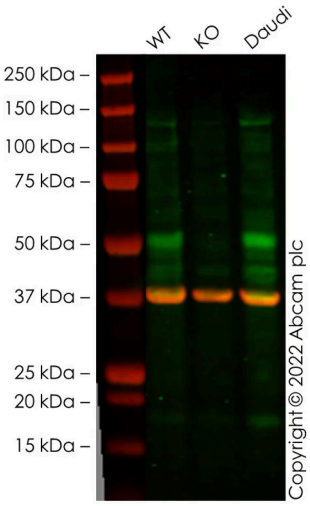
Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on live cells.




## Flow Cytometry - Anti-CD79a antibody [EPR3619] (ab133483)

CD79a Flow Cytometry staining using rabbit Anti-CD79a antibody

Flow cytometric analysis of permeabilised Ramos cells labelled with ab133483 at 1/100 dilution (red) or negative rabbit IgG (green).




## Western blot - Anti-CD79a antibody [EPR3619] (ab133483)

CD79a Western blot staining using rabbit Anti-CD79a antibody

False colour image of Western blot: Anti-CD79a antibody [EPR3619] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab133483 was shown to bind specifically to CD79a. A band was observed at 50 kDa in wild-type Raji cell lysates with no signal observed at this size in CD79A knockout cell line ab274911 (knockout cell lysate ab281361). To generate this image, wild-type and CD79A knockout Raji cell lysates were analysed. First, 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 IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-CD79a antibody [EPR3619] (ab133483) at 1/1000 dilution

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

Lane 2:
Western blot - Human CD791 knockout Raji cell lysate (ab281361) at 20 µg

Lane 3:
Daudi cell lysate at 20 µg

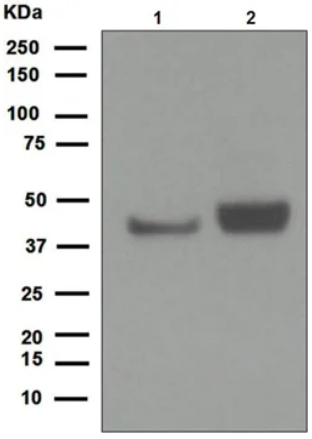
Secondary

Lanes 1 - 3:
Goat anti-Rabbit IgG H&L 800CW at 1/20000 dilution

Lanes 1 - 3:
Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 50 kDa




## Western blot - Anti-CD79a antibody [EPR3619] (ab133483)

CD79a Western blot staining using rabbit Anti-CD79a antibody

All lanes:
Western blot - Anti-CD79a antibody [EPR3619] (ab133483) at 1/1000 dilution

Lane 1:
Raji cell lysate at 10 µg

Lane 2:
Ramos cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 25 kDa

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