abcam

ab170939

Anti-PDE4B antibody [EPR11830]

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, 50% Tissue culture supernatant, 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	EPR11830
Purity	Tissue culture supernatant

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/5000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100

Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information PDE4B

Function	Hydrolyzes the second messenger cAMP, which is a key regulator of many important physiological processes (PubMed:15260978). May be involved in mediating central nervous system effects of therapeutic agents ranging from antidepressants to antiasthmatic and anti-inflammatory agents.

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

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	Phosphodiesterase 4B (PDE4B) also known as PDE4B2 is an enzyme that specifically breaks down cyclic adenosine monophosphate (cAMP) to AMP an important process in cellular signaling. It belongs to the PDE4 family which is characterized by its ability to regulate the concentration of cAMP within cells. PDE4B has a molecular mass of approximately 75 kDa and is frequently expressed in immune cells including monocytes and neutrophils as well as in the brain.
Biological function summary	PDE4B plays a significant role in modulating intracellular signaling by controlling the levels of cAMP a second messenger involved in various cellular processes. As part of the larger PDE4 family complex PDE4B assists in fine-tuning immune responses and inflammatory processes. This enzyme modulates the activity of protein kinase A (PKA) impacting processes such as cell proliferation differentiation and apoptosis.
Pathways	PDE4B operates within the cAMP signaling pathway which is essential for transducing extracellular signals into cellular responses. This pathway involves interaction with other proteins such as PKA and CREB (cAMP response element-binding protein) which are critical for regulating gene expression and cellular functions. PDE4B's ability to modulate this pathway makes it fundamental in controlling the dynamics of cellular signaling.
Associated diseases and disorders	PDE4B has been associated with inflammatory diseases such as asthma and chronic obstructive pulmonary disease (COPD). Its involvement in regulating cAMP levels affects the inflammatory response linking it to the pathogenesis of these conditions. Additionally PDE4B influences the activity of inflammatory mediators and cytokines contributing to disease progression and symptoms. For example PDE4 inhibitors can modulate these pathways presenting potential therapeutic opportunities for managing related inflammatory disorders.

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

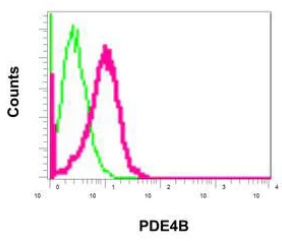
We do not recommend this combination. It is not covered by our product promise.

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.

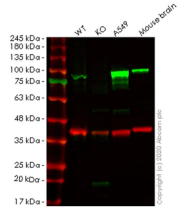
3 product images



Flow Cytometry (Intracellular) - Anti-PDE4B antibody [EPR11830] (ab170939)

PDE4B Flow Cytometry (Intracellular) staining using rabbit Anti-PDE4B antibody

Intracellular flow cytometric analysis of permeabilized A549 cells labeling PDE4B using ab170939 (red)at 1/10 dilution,or a rabbit IgG (negative) (green).



Western blot - Anti-PDE4B antibody [EPR11830] (ab170939)

Lanes 1-4: Merged signal (red and green). Green - ab170939 observed at 83 kDa. Red - loading control ab8245 observed at 36 kDa.
ab170939 Anti-PDE4B antibody [EPR11830] was shown to specifically react with PDE4B in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265259 (knockout cell lysate ab257576) was used. Wild-type and PDE4B knockout samples were subjected to SDS-PAGE. ab170939 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PDE4B antibody [EPR11830] (ab170939) at 1/500 dilution

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

Lane 2:
PDE4B knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human PDE4B knockout HeLa cell line (ab265259)

Lane 3:
A549 cell lysate at 20 µg

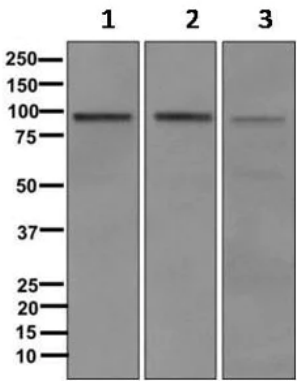
Lane 4:
Mouse brain tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 83 kDa

Observed band size: 83 kDa



Western blot - Anti-PDE4B antibody [EPR11830] (ab170939)

All lanes:
Western blot - Anti-PDE4B antibody [EPR11830] (ab170939) at 1/1000 dilution

Lane 1:
Human fetal brain lysates at 10 µg

Lane 2:
Human glioma lysates at 10 µg

Lane 3:
A549 lysates at 10 µg

Predicted band size: 83 kDa

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