abcam

ab170914

Anti-PDE7B antibody [EPR11491]

Recombinant | RabMAb

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	EPR11491
Purification technique	Affinity purification Protein A
Concentration	0.935 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	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PDE7B

Function	Hydrolyzes the second messenger cAMP, which is a key regulator of many important physiological processes (PubMed:10814504, PubMed:10872825). May be involved in the control of cAMP-mediated neural activity and cAMP metabolism in the brain (PubMed:10814504).

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 7B (PDE7B) is an enzyme that plays an important role in the hydrolysis of cyclic adenosine monophosphate (cAMP) a critical second messenger in cellular signaling. Also known as HCP1 PDE7B has a molecular mass of approximately 49 kDa. It is expressed in various tissues throughout the body with marked expression in the brain particularly in regions associated with cognition and motor function. This expression pattern suggests that PDE7B may have specialized roles in neural activities and processes.
Biological function summary	The involvement of PDE7B in the hydrolysis of cAMP points to its role in signal transduction pathways that regulate physiological responses. By degrading cAMP PDE7B modulates signal strength and duration influencing cellular responses such as proliferation differentiation and survival. While there is no evidence PDE7B forms part of a larger protein complex its action interacts with multiple signaling cascades making it an integral part of cellular response machinery.
Pathways	The functions of PDE7B are integral to cAMP-specific signaling pathways such as the PKA (protein kinase A) signaling cascade. By regulating cAMP levels PDE7B indirectly influences the activity of PKA which phosphorylates various target proteins to execute cellular functions. PDE7B is closely related to other phosphodiesterases like PDE4 and PDE1 in these pathways which also target cAMP but have different expression and activity regulation.
Associated diseases and disorders	PDE7B presents potential involvement in neurological and inflammatory conditions. Abnormal PDE7B function or expression could contribute to disorders such as Parkinson's disease where altered signaling may impact neuronal survival and dopamine regulation. Moreover by modulating cAMP levels PDE7B might also

associate with chronic inflammatory disorders wherein dysregulated immune responses play an important role. Research into PDE7B's interactions with other proteins like PDE4 could uncover new therapeutic strategies for managing these conditions.

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

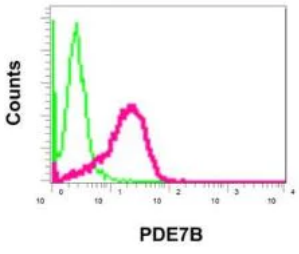
We do not recommend this combination. It is not covered by our product promise.

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.

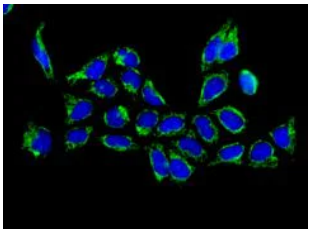
5 product images



Flow Cytometry (Intracellular) - Anti-PDE7B antibody [EPR11491] (ab170914)

PDE7B Flow Cytometry (Intracellular) staining using rabbit Anti-PDE7B antibody

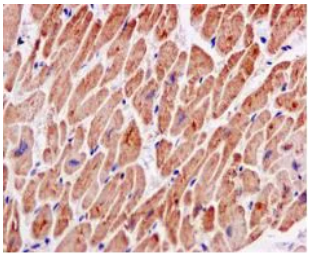
Intracellular flow cytometric analysis of permeabilized Hela cells labeling PDE7Busing ab170914 at 1/500 dilution (red) or a rabbit IgG negative (green).



Immunocytochemistry/ Immunofluorescence - Anti-PDE7B antibody [EPR11491] (ab170914)

PDE7B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PDE7B antibody

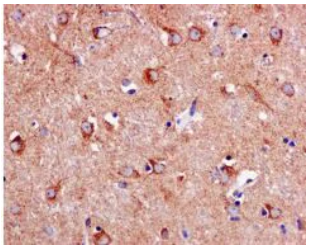
Immunofluorescent analysis of HeLa cells labeling PDE7B using ab170914 at 1/500 dilution. DAPI nuclear staining (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PDE7B antibody [EPR11491] (ab170914)

PDE7B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PDE7B antibody

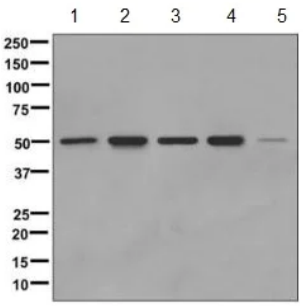
Immunohistochemical analysis of paraffin-embedded Human heart tissue labeling PDE7B with ab170914 at 1/100 dilution
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PDE7B antibody [EPR11491] (ab170914)

PDE7B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PDE7B antibody

Immunohistochemical analysis of paraffin-embedded Human brain tissue labeling PDE7B with ab170914 at 1/100 dilution
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-PDE7B antibody [EPR11491] (ab170914)

All lanes:
Western blot - Anti-PDE7B antibody [EPR11491] (ab170914) at 1/1000 dilution

Lane 1:
MCF-7 cell lysate at 10 µg

Lane 2:
HeLa cell lysate at 10 µg

Lane 3:
HepG2 cell lysate at 10 µg

Lane 4:
BxPC-3 cell lysate at 10 µg

Lane 5:
Human fetal brain tissue lysate at 10 µg

Secondary

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

Predicted band size: 52 kDa

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