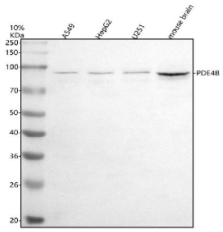
PDE4B Antibody / Phosphodiesterase 4B (FY12523)

Catalog No.	Formulation	Size
FY12523	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q07343
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This PDE4B antibody is available for research use only.



Western blot analysis of PDE4B using anti-PDE4B antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human U251 whole cell lysates, Lane 4: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PDE4B antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. PDE4B (~83 kDa predicted) was detected at 95-97 kDa, consistent with expression of the longer PDE4B5 isoform and phosphorylation-dependent mobility shift characteristic of PDE4 family enzymes.

Description

PDE4B antibody detects Phosphodiesterase 4B, an enzyme that hydrolyzes cyclic AMP (cAMP) into AMP, terminating

cAMP-dependent signaling. PDE4B belongs to the type 4 phosphodiesterase family, which provides fine control of intracellular cAMP concentrations. The PDE4B antibody is used in research focused on inflammation, neuroscience, and psychiatric disorders involving cAMP signaling dysregulation.

PDE4B is encoded by the PDE4B gene on human chromosome 1p31.3. The protein exists in multiple isoforms ranging from 70 to 100 kilodaltons, all containing a catalytic domain, upstream conserved regions (UCR1 and UCR2), and regulatory sequences that determine localization and activation. PDE4B localizes to cytoplasmic and perinuclear regions and interacts with signaling complexes via A-kinase anchoring proteins (AKAPs).

The PDE4B antibody identifies characteristic isoforms in western blot. Functionally, PDE4B hydrolyzes cAMP generated by G protein-coupled receptor activation, shaping responses to neurotransmitters, hormones, and immune stimuli. It regulates protein kinase A (PKA) activity and downstream transcription factors such as CREB.

In immune cells, PDE4B modulates cytokine production and inflammatory responses. Inhibition of PDE4B enhances cAMP signaling, reducing pro-inflammatory cytokines like TNF-alpha and IL-6. In the central nervous system, PDE4B regulates neuronal excitability, memory, and emotional processing. Genetic and pharmacologic studies implicate PDE4B dysfunction in depression, schizophrenia, and addiction.

PDE4B is a therapeutic target for anti-inflammatory and neuropsychiatric drugs. Selective inhibitors such as rolipram and roflumilast have been developed to modulate cAMP signaling. NSJ Bioreagents provides a validated PDE4B antibody optimized for its applications, supporting investigation into cyclic nucleotide metabolism, immune regulation, and neuronal signaling.

Application Notes

Optimal dilution of the PDE4B antibody should be determined by the researcher.

Immunogen

E.coli-derived human PDE4B recombinant protein (Position: M1-T736) was used as the immunogen for the PDE4B antibody.

Storage

After reconstitution, the PDE4B antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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