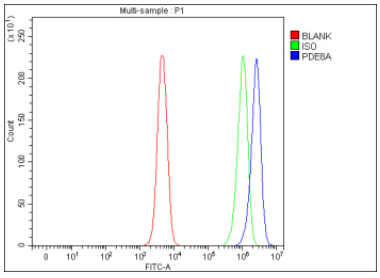
PDE8A Antibody / Phosphodiesterase 8A (FY12544)

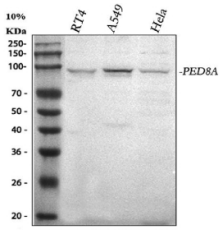
Catalog No.	Formulation	Size
FY12544	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	O60658
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PDE8A antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-PDE8A antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PDE8A antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of PDE8A using anti-PDE8A antibody. Lane 1: human RT4 whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human Hela whole cell 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-PDE8A 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 enhanced chemiluminescent. A specific band was detected for PDE8A at approximately 93 kDa. The expected molecular weight of PDE8A is ~93 kDa.

Description

PDE8A antibody detects Phosphodiesterase 8A, an enzyme that specifically hydrolyzes cyclic adenosine monophosphate (cAMP) to AMP, thereby regulating intracellular signaling pathways mediated by this second messenger. PDE8A belongs to the type 8 family of cyclic nucleotide phosphodiesterases, which are distinct in their insensitivity to common PDE inhibitors such as IBMX. The PDE8A antibody is widely used in studies of hormonal regulation, metabolism, and immune signaling, where precise modulation of cAMP levels is critical.

PDE8A is encoded by the PDE8A gene located on human chromosome 15q25.3. The enzyme is approximately 93 kilodaltons and contains a conserved catalytic domain flanked by unique N-terminal and C-terminal regulatory regions. PDE8A is expressed in various tissues, including adrenal gland, heart, testis, and immune cells, where it contributes to compartmentalized cAMP degradation and pathway specificity. Its high substrate affinity and resistance to standard inhibitors make it a key regulator of localized signaling domains.

The PDE8A antibody detects multiple isoforms ranging from 85-100 kilodaltons on western blot and reveals cytoplasmic and perinuclear staining in immunofluorescence assays. PDE8A associates with A-kinase anchoring proteins (AKAPs) and participates in cAMP microdomain organization, influencing downstream activation of protein kinase A (PKA) and exchange proteins activated by cAMP (EPACs). In immune cells, PDE8A modulates T-cell receptor signaling and cytokine production, contributing to immune tolerance and inflammatory regulation.

Functional studies indicate that PDE8A influences steroidogenesis, insulin secretion, and energy balance by controlling cAMP-mediated transcriptional events. Knockdown or pharmacological inhibition enhances cAMP signaling and affects processes such as sperm motility, cortisol synthesis, and cardiac contractility. Altered PDE8A expression has been linked to autoimmune diseases, infertility, and metabolic disorders.

PDE8A also plays roles in cancer biology, where its dysregulation affects cell proliferation and migration through altered PKA activity and transcriptional responses. NSJ Bioreagents provides a validated PDE8A antibody optimized for western blot, flow cytometry, and enzyme localization assays, enabling precise exploration of cyclic nucleotide signaling, endocrine regulation, and immune modulation.

Application Notes

Optimal dilution of the PDE8A antibody should be determined by the researcher.

Immunogen

E.coli-derived human PDE8A recombinant protein (Position: R32-E495) was used as the immunogen for the PDE8A antibody.

Storage

After reconstitution, the PDE8A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.