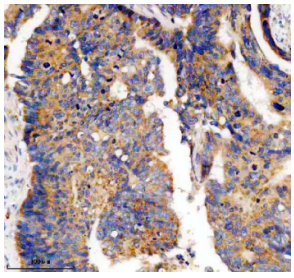
PDE4A Antibody / Phosphodiesterase 4A (FY13442)

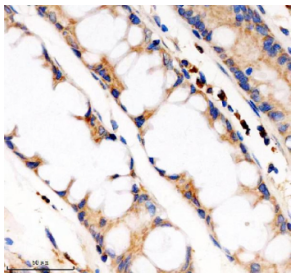
Catalog No.	Formulation	Size
FY13442	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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 and 0.2 mg Na2HPO4.
UniProt	P27815
Localization	Cytoplasm
Applications	Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This PDE4A antibody is available for research use only.



Immunohistochemistry analysis of Phosphodiesterase 4A using PDE4A antibody. Phosphodiesterase 4A expression was examined in a paraffin-embedded section of human colon cancer tissue. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0). Tissue sections were blocked with normal goat serum and incubated with PDE4A antibody overnight at 4Â°C. Immunoreactivity was visualized using an HRP-based detection system with DAB chromogen, followed by hematoxylin counterstaining.



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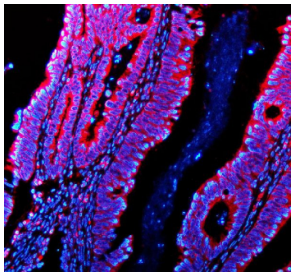

Immunofluorescence analysis of Phosphodiesterase 4A using PDE4A antibody. Phosphodiesterase 4A expression was examined in a paraffin-embedded section of human colon cancer tissue. Heat-mediated antigen retrieval was performed using EDTA buffer (pH 8.0). Tissue sections were blocked with normal goat serum and incubated with PDE4A antibody overnight at 4Â°C. Detection was performed using a fluorescently labeled secondary antibody, and nuclei were counterstained with DAPI. Fluorescent images were acquired using appropriate filter sets.

Description

PDE4A antibody targets Phosphodiesterase 4A, encoded by the PDE4A gene. Phosphodiesterase 4A is a member of the phosphodiesterase 4 family of enzymes that specifically hydrolyze cyclic adenosine monophosphate (cAMP), a key second messenger involved in intracellular signaling. PDE4A is predominantly localized to the cytoplasm and associates with signaling complexes that spatially restrict cAMP degradation within cells.

Functionally, Phosphodiesterase 4A regulates the amplitude and duration of cAMP-dependent signaling pathways by controlling intracellular cAMP concentrations. Through this activity, PDE4A influences protein kinase A activation and downstream transcriptional and metabolic responses. A PDE4A antibody supports studies focused on cAMP signaling, signal compartmentalization, and regulation of second messenger dynamics.

PDE4A is expressed in multiple tissues and cell types, with particularly important roles in immune cells, neuronal tissues, and inflammatory environments. Its expression pattern reflects the widespread reliance on cAMP signaling for regulation of immune responses, neurotransmission, and cellular homeostasis. PDE4A often functions as part of multiprotein signaling assemblies, allowing precise local control of cAMP levels.

From a disease-relevance perspective, Phosphodiesterase 4A has been investigated in inflammatory disorders, neuropsychiatric conditions, and cancer. Dysregulated PDE4A activity can lead to abnormal cAMP signaling, contributing to altered immune activation, impaired neuronal signaling, and changes in cell proliferation. As a result, PDE4A and related family members are considered important targets in studies of inflammation and signal transduction.

At the molecular level, Phosphodiesterase 4A contains conserved catalytic domains responsible for cAMP hydrolysis, along with regulatory regions that mediate protein-protein interactions and subcellular targeting. Alternative splicing and post-translational regulation can influence its apparent behavior in biochemical assays without altering the primary amino acid sequence. PDE4A antibody reagents support research applications focused on second messenger signaling and disease-associated alterations in cAMP regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PDE4A antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Phosphodiesterase 4A was used as the immunogen for the PDE4A antibody.

Storage

After reconstitution, the PDE4A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.