

# PDE4B (H-56): sc-25812

## BACKGROUND

PDE4B (phosphodiesterase 4B, cAMP-specific phosphodiesterase E4 dunce homolog, DPDE4, PDEIVB) catalyzes the hydrolysis of the second messenger cyclic adenosine 3',5' monophosphate (cAMP). PDE4B is a member of the type IV, cAMP-specific, cyclic nucleotide PDE family. Cyclic nucleotides are important second messengers that transmit cellular responses to extracellular signals, such as hormones, light and neurotransmitters. Altered activity of PDE4B may have an influence on schizophrenia and bipolar conditions. Transcription splice variants encoding different isoforms have been characterized. PDE4A, PDE4B and PDE4D are widely expressed in human inflammatory cells, including monocytes and T lymphocytes. There are 11 families of PDEs that put together are responsible for the metabolism of cAMP and cGMP.

## REFERENCES

- Huston, E., et al. 1997. Molecular cloning and transient expression in COS7 cells of a novel human PDE4B cAMP-specific phosphodiesterase, HSPDE4B3. *Biochem. J.* 328: 549-558.
- Manning, C.D., et al. 1999. Suppression of human inflammatory cell function by subtype-selective PDE4 inhibitors correlates with inhibition of PDE4A and PDE4B. *Br. J. Pharmacol.* 128: 1393-1398.

## CHROMOSOMAL LOCATION

Genetic locus: PDE4B (human) mapping to 1p31.3; Pde4b (mouse) mapping to 4 C6.

## SOURCE

PDE4B (H-56) is a rabbit polyclonal antibody raised against amino acids 681-736 mapping at the C-terminus of PDE4B of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PDE4B (H-56) is recommended for detection of PDE4B isoforms 1-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PDE4B (H-56) is also recommended for detection of PDE4B isoforms 1-3 in additional species, including equine, bovine and porcine.

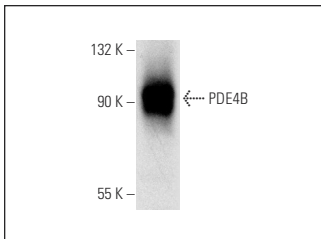
Suitable for use as control antibody for PDE4B siRNA (h): sc-44003, PDE4B siRNA (m): sc-45426, PDE4B siRNA (r): sc-270121, PDE4B shRNA Plasmid (h): sc-44003-SH, PDE4B shRNA Plasmid (m): sc-45426-SH, PDE4B shRNA Plasmid (r): sc-270121-SH, PDE4B shRNA (h) Lentiviral Particles: sc-44003-V, PDE4B shRNA (m) Lentiviral Particles: sc-45426-V and PDE4B shRNA (r) Lentiviral Particles: sc-270121-V.

Positive Controls: mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PDE4B (H-56): sc-25812. Western blot analysis of PDE4B expression in mouse brain tissue extract.

## SELECT PRODUCT CITATIONS

- Nishi, A., et al. 2008. Distinct roles of PDE4 and PDE10A in the regulation of cAMP/PKA signaling in the striatum. *J. Neurosci.* 28: 10460-10471.
- Kuroiwa, M., et al. 2011. Phosphodiesterase 4 inhibition enhances the dopamine D1 receptor/PKA/DARPP-32 signaling cascade in frontal cortex. *Psychopharmacology* 219: 1065-1079.
- Oliva, A.A., et al. 2012. Phosphodiesterase isoform-specific expression induced by traumatic brain injury. *J. Neurochem.* 123: 1019-1029.
- Suhasini, A.N., et al. 2016. A phosphodiesterase 4B-dependent interplay between tumor cells and the microenvironment regulates angiogenesis in B-cell lymphoma. *Leukemia* 30: 617-626.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.