

# PDE4B3 (D-14): sc-25088

## 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: PDE4B1 (also designated Tm72), PDE4B2 (also designated PDE32) and PDE4B3. PDE4A, PDE4B and PDE4D are widely expressed in human inflammatory cells, including monocytes and T lymphocytes. A group of eleven families of PDEs are responsible for the metabolism of cAMP and cGMP.

## REFERENCES

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- 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.
- Farooqui, S.M., et al. 2000. Noradrenergic lesions differentially alter the expression of two subtypes of low Km cAMP-sensitive phosphodiesterase type 4 (PDE4A and PDE4B) in rat brain. *Brain Res.* 867: 52-61.
- Jin, S.L., et al. 2002. Induction of the cyclic nucleotide phosphodiesterase PDE4B is essential for LPS-activated TNF- $\alpha$  responses. *Proc. Natl. Acad. Sci. USA* 99: 7628-7633.
- Jacob, C., et al. 2002. DMSO-treated HL60 cells: a model of neutrophil-like cells mainly expressing PDE4B subtype. *Int. Immunopharmacol.* 2: 1647-1656.
- Smith, P.G., et al. 2005. The phosphodiesterase PDE4B limits cAMP-associated PI3K/AKT-dependent apoptosis in diffuse large B-cell lymphoma. *Blood* 105: 308-316.
- Ahmed, T., et al. 2005. Phosphodiesterase 4B (PDE4B) and cAMP-level regulation within different tissue fractions of rat hippocampal slices during long-term potentiation *in vitro*. *Brain Res.* 1041: 212-222.
- Millar, J.K., et al. 2005. DISC1 and PDE4B are interacting genetic factors in schizophrenia that regulate cAMP signaling. *Science* 310: 1187-1191.

## CHROMOSOMAL LOCATION

Genetic locus: PDE4B (human) mapping to 1p31.3.

## SOURCE

PDE4B3 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PDE4B3 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-25088 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PDE4B3 (D-14) is recommended for detection of PDE4B3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

PDE4B3 (D-14) is also recommended for detection of PDE4B3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDE4B3 siRNA (h): sc-41600, PDE4B3 shRNA Plasmid (h): sc-41600-SH and PDE4B3 shRNA (h) Lentiviral Particles: sc-41600-V.

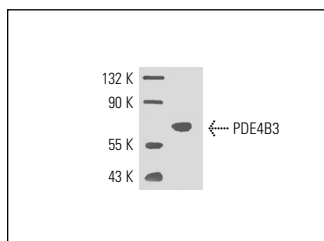
Molecular Weight of PDE4B3: 83 kDa.

Positive Controls: PC-3 cell lysate: sc-2220.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PDE4B3 (D-14): sc-25088. Western blot analysis of PDE4B3 expression in PC-3 whole cell lysate.

## STORAGE

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