

PDE4B1 (N-15): sc-25086

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; Tm72, PDE4B2;PDE32, and PDE4B3. 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

1. Bolger, G., Michaeli, T., Martins, T., St John, T., Steiner, B., Rodgers, L., Riggs, M., Wigler, M. and Ferguson, K. 1993. A family of human phosphodiesterases homologous to the dunce learning and memory gene product of *Drosophila melanogaster* are potential targets for antidepressant drugs. *Mol. Cell. Biol.* 13: 6558-6571.
2. Milatovich, A., Bolger, G., Michaeli, T. and Francke, U. 1994. Chromosome localizations of genes for five cAMP-specific phosphodiesterases in man and mouse. *Somat. Cell. Mol. Genet.* 20: 75-86.
3. Francis, S.H., Turko, I.V. and Corbin, J.D. 2001. Cyclic nucleotide phosphodiesterases: relating structure and function. *Prog. Nucleic Acid Res. Mol. Biol.* 65: 1-52.
4. Richter, W. and Conti, M. 2002. Dimerization of the type 4 cAMP-specific phosphodiesterases is mediated by the upstream conserved regions (UCRs). *J. Biol. Chem.* 277: 40212-40221.
5. SWISS-PROT Protein knowledgebase. TrEMBL Computer-annotated supplement to SWISS-PROT. (Q07343), <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

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

SOURCE

PDE4B1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PDE4B1 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.

Blocking peptide available for competition studies, sc-25086 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PDE4B1 (N-15) is recommended for detection of PDE4B1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PDE4B1 (N-15) is also recommended for detection of PDE4B1 in additional species, including equine, canine 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.

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) 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.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.