SANTA CRUZ BIOTECHNOLOGY, INC.

PDE1B (D-11): sc-393349

BACKGROUND

cAMP-hydrolyzing cyclic nucleotide phosphodiesterase (PDE) catalyzes hydrolysis of the cyclic nucleotides cAMP and cGMP to the corresponding nucleoside 5'-monophosphates. PDEs are key enzymes in signaling pathways that influence smooth muscle tone regulation. The PDE1 family are calmodulin-dependent (CaM-PDEs) that undergo stimulation through a calcium-calmodulin complex. Human PDE1B (PDE1B1) protein is present in neuronal cells of the cerebellum, hippocampus, and caudate, and lymphoblastoid lines, such as RPMI-8392 cells. PDE1B may participate in learning, memory, and regulation of phosphorylation of DARPP-32 in dopaminergic neurons. A splice variant known as PDE1B2 encodes a 516-amino acid protein and diverges from PDE1B1 by the replacement of the first 38 residues with an alternative 18 residues. The human PDE1B gene maps to chromosome 12q13, contains 13 exons, and encodes a 536 amino acid protein.

REFERENCES

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2. Yu, J., Wolda, S.L., Frazier, A.L.B., Florio, V.A., Martins, T.J., Snyder, P.B., Harris, E.A.S., McCaw, K.N., Farrell, C.A., Steiner, B., Bentley, J.K., Beavo, J.A., Ferguson, K. and Gelinas, R. 1997. Identification and characterisation of a human calmodulin-stimulated phosphodiesterase PDE1B1. Cell. Signal. 9: 519-529.
3. Reed, T.M., Browning, J.E., Blough, R.I., Vorhees, C.V. and Repaske, D.R. 1998. Genomic structure and chromosome location of the murine PDE1B phosphodiesterase gene. Mamm. Genome 9: 571-576.
4. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 171891. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Kuthe, A., Wiedenroth, A., Magert, H.J., Uckert, S., Forssmann, W.G., Stief, C.G. and Jonas, U. 2001. Expression of different phosphodiesterase genes in human cavernous smooth muscle. J. Urol. 165: 280-283.
6. Fidock, M., Miller, M. and Lanfear, J. 2002. Isolation and differential tissue distribution of two human cDNAs encoding PDE1 splice variants. Cell. Signal. 14: 53-60.
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CHROMOSOMAL LOCATION

Genetic locus: PDE1B (human) mapping to 12q13.2; Pde1b (mouse) mapping to 15 F3.

SOURCE

PDE1B (D-11) is a mouse monoclonal antibody raised against amino acids 435-536 mapping at the C-terminus of PDE1B of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

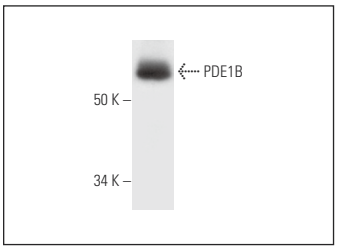
PDE1B (D-11) is recommended for detection of PDE1B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PDE1B siRNA (h): sc-60088, PDE1B siRNA (m): sc-60089, PDE1B shRNA Plasmid (h): sc-60088-SH, PDE1B shRNA Plasmid (m): sc-60089-SH, PDE1B shRNA (h) Lentiviral Particles: sc-60088-V and PDE1B shRNA (m) Lentiviral Particles: sc-60089-V.

Molecular Weight of PDE1B: 63 kDa.

Positive Controls: mouse brain extract: sc-2253.

DATA



PDE1B (D-11): sc-393349. Western blot analysis of PDE1B expression in mouse brain tissue extract.

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 for detailed protocols and support products.