SANTA CRUZ BIOTECHNOLOGY, INC.

PDE1C (T-17): sc-54939

BACKGROUND

PPhosphodiesterases (PDEs, also designated cyclic nucleotide phosphodiesterase) are important for the downregulation of intracellular levels of the second messengers cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP). The PDE1 family are calmodulin-dependent (CaM-PDE) proteins that undergo stimulation through a calcium-calmodulin complex and function to hydrolyze cAMP to 5'AMP and cGMP to 5'GMP. PDE1C (phosphodiesterase 1C), also known as HCAM3, is a widely expressed protein that has a high affinity for both cAMP and cGMP. Two isoforms, designated PDE1C1 and PDE1C2, exist due to alternative splicing at the C-terminus. While both isoforms are expressed in low levels throughout the body, PDE1C2 is expressed predominately in the brain and heart, while PDE1C1 is expressed predominately in the brain, heart and lung.

REFERENCES

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3. Rybalkin, S.D., et al. 2003. Cyclic GMP phosphodiesterases and regulation of smooth muscle function. Circ. Res. 93: 280-291.
4. Ahlström, M., et al. 2005. Cyclic nucleotide phosphodiesterases (PDEs) in human osteoblastic cells; the effect of PDE inhibition on cAMP accumulation. Cell. Mol. Biol. Lett. 10: 305-319.
5. Evgenov, O.V., et al. 2006. Inhibition of phosphodiesterase 1 augments the pulmonary vasodilator response to inhaled nitric oxide in awake lambs with acute pulmonary hypertension. Am. J. Physiol. Lung Cell. Mol. Physiol. 290: L723-L729.
6. Dolci, S., et al. 2006. Subcellular localization and regulation of type-1C and type-5 phosphodiesterases. Biochem. Biophys. Res. Commun. 341: 837-846.
7. Torsney, C., et al. 2006. Characterization of sensory neuron subpopulations selectively expressing green fluorescent protein in phosphodiesterase 1C BAC transgenic mice. Mol. Pain 2: 17.
8. Murray, F., et al. 2007. Expression and activity of cAMP phosphodiesterase isoforms in pulmonary artery smooth muscle cells from patients with pulmonary hypertension: role for PDE1. Am. J. Physiol. Lung Cell. Mol. Physiol. 292: L294-L303.
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CHROMOSOMAL LOCATION

Genetic locus: PDE1C (human) mapping to 7p14.3.

SOURCE

PDE1C (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDE1C 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-54939 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE1C (T-17) is recommended for detection of PDE1C of human and rat 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).

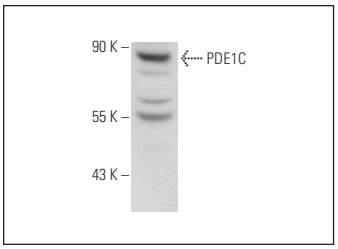
PDE1C (T-17) is also recommended for detection of PDE1C in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDE1C siRNA (h): sc-62765, PDE1C shRNA Plasmid (h): sc-62765-SH and PDE1C shRNA (h) Lentiviral Particles: sc-62765-V.

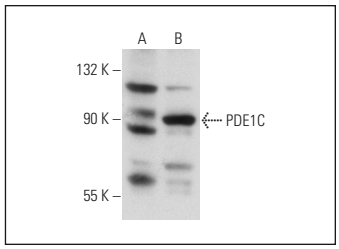
Molecular Weight of PDE1C: 81 kDa.

Positive Controls: PDE1C (h3): 293 Lysate: sc-158826, rat cerebellum extract: sc-2398 or rat brain extract: sc-2392.

DATA



PDE1C (T-17): sc-54939. Western blot analysis of PDE1C expression in 293T whole cell lysate.



PDE1C (T-17): sc-54939. Western blot analysis of PDE1C expression in non-transfected: sc-110760 (**A**) and human PDE1C transfected: sc-158826 (**B**) 293 whole cell lysates.

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 or our catalog for detailed protocols and support products.