

PDE1C (G-7): sc-376474

BACKGROUND

Phosphodiesterases (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

- Cherry, J.A. and Pho, V. 2002. Characterization of cAMP degradation by phosphodiesterases in the accessory olfactory system. *Chem. Senses* 27: 643-652.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 60298. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Rybalkin, S.D., et al. 2003. Cyclic GMP phosphodiesterases and regulation of smooth muscle function. *Circ. Res.* 93: 280-291.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: PDE1C (human) mapping to 7p14.3; Pde1c (mouse) mapping to 6 B3.

SOURCE

PDE1C (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-35 at the N-terminus of PDE1C of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE1C (G-7) is available conjugated to agarose (sc-376474 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376474 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376474 PE), fluorescein (sc-376474 FITC), Alexa Fluor® 488 (sc-376474 AF488), Alexa Fluor® 546 (sc-376474 AF546), Alexa Fluor® 594 (sc-376474 AF594) or Alexa Fluor® 647 (sc-376474 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376474 AF680) or Alexa Fluor® 790 (sc-376474 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376474 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PDE1C (G-7) is recommended for detection of PDE1C 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

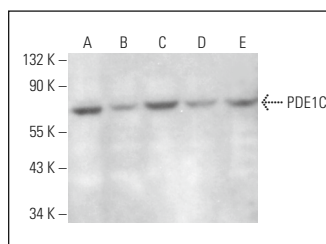
PDE1C (G-7) is also recommended for detection of PDE1C in additional species, including equine and canine.

Suitable for use as control antibody for PDE1C siRNA (h): sc-62765, PDE1C siRNA (m): sc-62766, PDE1C shRNA Plasmid (h): sc-62765-SH, PDE1C shRNA Plasmid (m): sc-62766-SH, PDE1C shRNA (h) Lentiviral Particles: sc-62765-V and PDE1C shRNA (m) Lentiviral Particles: sc-62766-V.

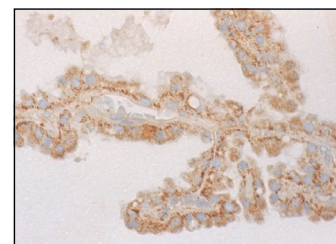
Molecular Weight of PDE1C: 81 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260, U-251-MG whole cell lysate: sc-364176 or Neuro-2A whole cell lysate: sc-364185.

DATA



PDE1C (G-7): sc-376474. Western blot analysis of PDE1C expression in WI-38 (A), U-251-MG (B), Neuro-2A (C), PC-12 (D) and C6 (E) whole cell lysates.



PDE1C (G-7): sc-376474. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells, glial cells and choroid plexus epithelial cells.

SELECT PRODUCT CITATIONS

- Choi, W.S., et al. 2021. Vinpocetine alleviates lung inflammation via macrophage inflammatory protein-1β inhibition in an ovalbumin-induced allergic asthma model. *PLoS ONE* 16: e0251012.

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.

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