

PDE1A (I-16): sc-67733

BACKGROUND

Phosphodiesterases (PDE, also designated cyclic nucleotide phosphodiesterase) are important for the downregulation of the intracellular level of the second messenger cyclic adenosine monophosphate (cAMP) by hydrolyzing cAMP to 5'AMP. The PDE1 family are calmodulin-dependent (CaM-PDE) proteins that undergo stimulation through a calcium-calmodulin complex. The activation of PDE1A requires a sustained influx of Ca²⁺. Excluding its two short unique regions, human PDE1A has a predicted amino acid sequence exhibiting 94% homology to PDE of cow origin. PDE1A is most highly expressed in the brain, heart, kidney and skeletal muscle.

REFERENCES

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3. Lefievre, L., et al. 2002. Presence of cyclic nucleotide phosphodiesterases PDE1A, existing as a stable complex with calmodulin, and PDE3A in human spermatozoa. *Biol. Reprod.* 67: 423-430.
4. Goraya, T.A., et al. 2004. Sustained entry of Ca²⁺ is required to activate Ca²⁺-calmodulin-dependent phosphodiesterase 1A. *J. Biol. Chem.* 279: 40494-40504.
5. Ahlstrom, 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.
6. Vasta, V., et al. 2005. Identification of a new variant of PDE1A calmodulin-stimulated cyclic nucleotide phosphodiesterase expressed in mouse sperm. *Biol. Reprod.* 73: 598-609.
7. 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.
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CHROMOSOMAL LOCATION

Genetic locus: Pde1a (mouse) mapping to 2 C3.

SOURCE

PDE1A (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDE1A of mouse 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-67733 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE1A (I-16) is recommended for detection of PDE1A of mouse 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).

Suitable for use as control antibody for PDE1A siRNA (m): sc-62764, PDE1A shRNA Plasmid (m): sc-62764-SH and PDE1A shRNA (m) Lentiviral Particles: sc-62764-V.

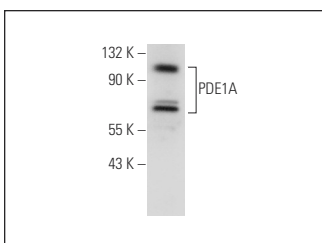
Molecular Weight of PDE1A isoforms: 57-63 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or NIH/3T3 whole cell lysate: sc-2210.

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



PDE1A (I-16): sc-67733. Western blot analysis of PDE1A expression in PC-12 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.

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.