

PDE3A (G-20): sc-11832

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. Phosphodiesterase type 3 isoforms, PDE3A and 3B, are expressed primarily in cardiovascular tissue and adipose tissue, respectively. PDE3A, is found in myocardium and platelets and PDE3B is found in lymphocytes. The PDE7A1 (HCP1) isozyme and the PDE7A2 proteins, alternate splice products of PDE7A, are highly expressed in skeletal muscle. PDE7B is most highly expressed in pancreas. The PDE family contains proteins that serve tissue-specific roles in regulation of lipolysis, glycogenolysis, myocardial contractility and smooth muscle relaxation.

REFERENCES

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- Fisher, D.A., et al. 1998. Isolation and characterization of PDE8A, a novel human cAMP-specific phosphodiesterase. *Biochem. Biophys. Res. Commun.* 246: 570-577.
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- Hetman, J.M., et al. 2000. Cloning and characterization of PDE7B, a cAMP-specific phosphodiesterase. *Proc. Natl. Acad. Sci. USA* 97: 472-476.
- Kasuya, J., et al. 2000. Cardiac type cGMP-inhibited phosphodiesterase (PDE3A) gene structure: similarity and difference to adipocyte type PDE3B gene. *Biochem. Biophys. Res. Commun.* 268: 827-834.

CHROMOSOMAL LOCATION

Genetic locus: Pde3a (mouse) mapping to 6 G2.

SOURCE

PDE3A (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PDE3A 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-11832 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE3A (G-20) is recommended for detection of PDE3A of mouse and rat 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).

Suitable for use as control antibody for PDE3A siRNA (m): sc-41593, PDE3A shRNA Plasmid (m): sc-41593-SH and PDE3A shRNA (m) Lentiviral Particles: sc-41593-V.

Molecular Weight of PDE3A: 110 kDa.

Positive Controls: Mouse heart extract: sc-2254.

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.

SELECT PRODUCT CITATIONS

- Elbatany, H.S., et al. 2005. Leptin-mediated activation of human platelets: involvement of a leptin receptor and phosphodiesterase 3A-containing cellular signaling complex. *Am. J. Physiol. Endocrinol. Metab.* 289: E695-E702.
- Baxendale, R.W., et al. 2005. Mammalian sperm phosphodiesterases and their involvement in receptor-mediated cell signaling important for capacitation. *Mol. Reprod. Dev.* 71: 495-508.

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.