

PDE7A1/3 (N-19): sc-11128

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

1. Bloom, T.J. and Beavo, J.A. 1996. Identification and tissue-specific expression of PDE7 phosphodiesterase splice variants. *Proc. Natl. Acad. Sci. USA* 93: 14188-14192.
2. Han, P., Zhu, X. and Michaeli, T. 1997. Alternative splicing of the high affinity cAMP-specific phosphodiesterase (PDE7A) mRNA in human skeletal muscle and heart. *J. Biol. Chem.* 272: 16152-16157.
3. Fisher, D.A., et al. 1998. Isolation and characterization of PDE8A, a novel human cAMP-specific phosphodiesterase. *Biochem. Biophys. Res. Commun.* 246: 570-577.
4. Gantner, F., et al. 1998. Phosphodiesterase profile of human B lymphocytes from normal and atopic donors and the effects of PDE inhibition on B cell proliferation. *Br. J. Pharmacol.* 123: 1031-1038.
5. Liu, H. and Maurice, D.H. 1998. Expression of cyclic GMP-inhibited phosphodiesterases 3A and 3B (PDE3A and PDE3B) in rat tissues: differential subcellular localization and regulated expression by cyclic AMP. *Br. J. Pharmacol.* 125: 1501-1510.

CHROMOSOMAL LOCATION

Genetic locus: PDE7A (human) mapping to 8q13; Pde7a (mouse) mapping to 3 A2.

SOURCE

PDE7A1/3 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PDE7A1 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-11128 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PDE7A1/3 (N-19) is recommended for detection of PDE7A1 and PDE7A3 of mouse, rat and human 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 PDE7A siRNA (h): sc-44005, PDE7A siRNA (m): sc-41609, PDE7A shRNA Plasmid (h): sc-44005-SH, PDE7A shRNA Plasmid (m): sc-41609-SH, PDE7A shRNA (h) Lentiviral Particles: sc-44005-V and PDE7A shRNA (m) Lentiviral Particles: sc-41609-V.

Molecular Weight of PDE7A1/3: 57/50 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208 or L8 cell lysate: sc-3807.

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.

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.



Try **PDE7A (B-11): sc-398031** or **PDE7A1/3 (F-5): sc-271324**, our highly recommended monoclonal alternatives to PDE7A1/3 (N-19).