

PDE3B (F-9): sc-376823

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., et al. 1997. Alternative splicing of the high affinity cAMP-specific phosphodiesterase (PDE7A) mRNA in human skeletal muscle and heart. *J. Biol. Chem.* 272: 16152-16157.

CHROMOSOMAL LOCATION

Genetic locus: PDE3B (human) mapping to 11p15.2.

SOURCE

PDE3B (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of PDE3B of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-376823 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PDE3B (F-9) is recommended for detection of PDE3B of 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).

Suitable for use as control antibody for PDE3B siRNA (h): sc-41594, PDE3B shRNA Plasmid (h): sc-41594-SH and PDE3B shRNA (h) Lentiviral Particles: sc-41594-V.

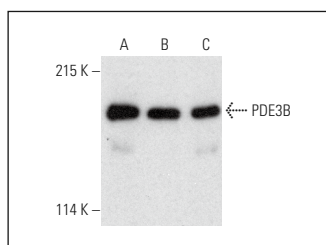
Molecular Weight of PDE3B: 135 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, Jurkat whole cell lysate: sc-2204 or H9 whole cell lysate: sc-364778.

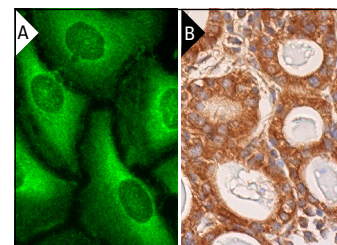
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PDE3B (F-9): sc-376823. Western blot analysis of PDE3B expression in HuT 78 (A), TK-1 (B) and H9 (C) whole cell lysates.



PDE3B (F-9): sc-376823. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Mahmood, B., et al. 2016. Phosphodiesterases in non-neoplastic appearing colonic mucosa from patients with colorectal neoplasia. *BMC Cancer* 16: 938.
2. Beute, J., et al. 2018. A pathophysiological role of PDE3 in allergic airway inflammation. *JCI Insight* 3: e94888.
3. Dillard, J., et al. 2020. Nitric oxide activates AMPK by modulating PDE3A in human pulmonary artery smooth muscle cells. *Physiol. Rep.* 8: e14559.
4. Zuo, Y., et al. 2023. Hsa_circ_0007707 participates in PDE3B-mediated apoptosis inhibition and inflammation promotion in fibroblast-like synoviocytes. *Int. Immunopharmacol.* 119: 110157.

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.