

PDE7A (B-11): sc-398031

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 three 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.
3. Sheth, S.B., et al. 1997. Cyclic AMP phosphodiesterases in human lymphocytes. *Br. J. Haematol.* 99: 784-789.
4. Fisher, D.A., et al. 1998. Isolation and characterization of PDE8A, a novel human cAMP-specific phosphodiesterase. *Biochem. Biophys. Res. Commun.* 246: 570-577.

CHROMOSOMAL LOCATION

Genetic locus: PDE7A (human) mapping to 8q13.1; Pde7a (mouse) mapping to 3 A2.

SOURCE

PDE7A (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 451-482 at the C-terminus of PDE7A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE7A (B-11) is available conjugated to agarose (sc-398031 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398031 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398031 PE), fluorescein (sc-398031 FITC), Alexa Fluor[®] 488 (sc-398031 AF488), Alexa Fluor[®] 546 (sc-398031 AF546), Alexa Fluor[®] 594 (sc-398031 AF594) or Alexa Fluor[®] 647 (sc-398031 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398031 AF680) or Alexa Fluor[®] 790 (sc-398031 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

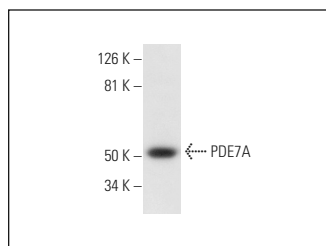
PDE7A (B-11) is recommended for detection of PDE7A1 and PDE7A2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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).

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.

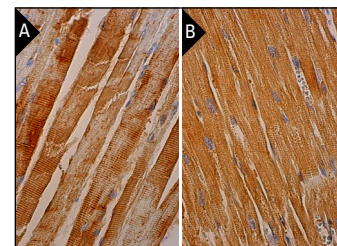
Molecular Weight of PDE7A: 57/50 kDa.

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

DATA



PDE7A (B-11): sc-398031. Western blot analysis of PDE7A expression in HuT 78 whole cell lysate.



PDE7A (B-11): sc-398031. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

SELECT PRODUCT CITATIONS

1. Park, J.H., et al. 2022. Obesity enhances antiviral immunity in the genital mucosa through a microbiota-mediated effect on $\gamma\delta$ T cells. *Cell Rep.* 41: 111594.

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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