SANTA CRUZ BIOTECHNOLOGY, INC.

PDE7A1/3 (F-5): sc-271324

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. Sheth, S.B., et al. 1997. Cyclic AMP phosphodiesterases in human lymphocytes. Br. J. Haematol. 99: 784-789.
3. 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.
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.
5. 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.

CHROMOSOMAL LOCATION

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

SOURCE

PDE7A1/3 (F-5) is a mouse monoclonal antibody raised against amino acids 1-50 of PDE7A1 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.

PDE7A1/3 (F-5) is available conjugated to agarose (sc-271324 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271324 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271324 PE), fluorescein (sc-271324 FITC), Alexa Fluor® 488 (sc-271324 AF488), Alexa Fluor® 546 (sc-271324 AF546), Alexa Fluor® 594 (sc-271324 AF594) or Alexa Fluor® 647 (sc-271324 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271324 AF680) or Alexa Fluor® 790 (sc-271324 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PDE7A1/3 (F-5) is recommended for detection of PDE7A1 and PDE7A3 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) 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.

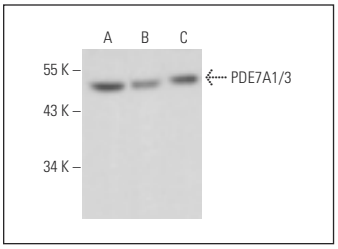
Molecular Weight of PDE7A1/3: 57/50 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, HuT 78 whole cell lysate: sc-2208 or L8 cell lysate: sc-3807.

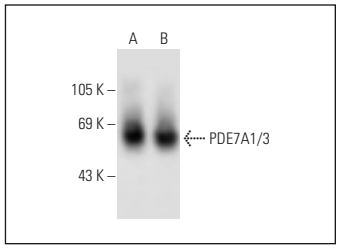
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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.

DATA



PDE7A1/3 (F-5): sc-271324. Western blot analysis of PDE7A1/3 expression in Raji (**A**), MOLT-4 (**B**) and Caco-2 (**C**) whole cell lysates.



PDE7A1/3 (F-5): sc-271324. Western blot analysis of PDE7A1/3 expression in L8 (**A**) and HuT 78 (**B**) whole cell lysates.

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.