SANTA CRUZ BIOTECHNOLOGY, INC.

PDE7A1/2 (H-7): sc-28374

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: PDE7A (human) mapping to 8q13.1.

SOURCE

PDE7A1/2 (H-7) is a mouse monoclonal antibody epitope corresponding to amino acids 431-482 of PDE7A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE7A1/2 (H-7) is available conjugated to agarose (sc-28374 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-28374 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28374 PE), fluorescein (sc-28374 FITC), Alexa Fluor® 488 (sc-28374 AF488), Alexa Fluor® 546 (sc-28374 AF546), Alexa Fluor® 594 (sc-28374 AF594) or Alexa Fluor® 647 (sc-28374 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28374 AF680) or Alexa Fluor® 790 (sc-28374 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

PDE7A1/2 (H-7) is recommended for detection of PDE7A1 and PDE7A2 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 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.

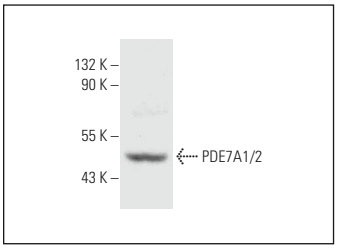
Molecular Weight of PDE7A1/2: 57/50 kDa.

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

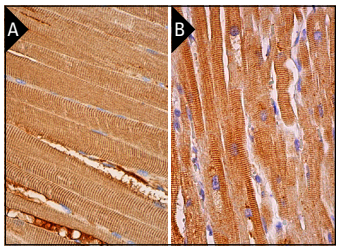
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PDE7A1/2 (H-7): sc-28374. Western blot analysis of PDE7A1/2 expression in HuT 78 whole cell lysate.



PDE7A1/2 (H-7): sc-28374. 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**).

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.