SANTA CRUZ BIOTECHNOLOGY, INC.

PDE5A (H-120): sc-32884

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. The PDE family contains proteins that serve tissue-specific roles in the regulation of lipolysis, glycogenolysis, myocardial contractility and smooth muscle relaxation. PDE5A, also designated cGMP-binding cGMP-specific phosphodiesterase or CGB-PDE, regulates the intracellular concentration of cyclic nucleotides and thereby is important in signal transduction. PDE5A catalyzes the hydrolysis of cGMP to 5'GMP and the protein is expressed in heart, placenta, aortic smooth muscle cells, skeletal muscle and pancreas.

REFERENCES

1. Cheung, P.P., et al. 1998. Partial characteriz-ation of the active site human platelet cAMP phosphodiesterase, PDE3A, by site-directed mutagenesis. Arch. Biochem. Biophys. 360: 99-104.
2. 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: PDE5A (human) mapping to 4q26; Pde5a (mouse) mapping to 3 G1.

SOURCE

PDE5A (H-120) is a rabbit polyclonal antibody raised against amino acids 31-150 mapping near the N-terminus of PDE5A 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.

APPLICATIONS

PDE5A (H-120) is recommended for detection of PDE5A isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

PDE5A (H-120) is also recommended for detection of PDE5A isoforms 1 and 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PDE5A siRNA (h): sc-44918, PDE5A siRNA (m): sc-44919, PDE5A shRNA Plasmid (h): sc-44918-SH, PDE5A shRNA Plasmid (m): sc-44919-SH, PDE5A shRNA (h) Lentiviral Particles: sc-44918-V and PDE5A shRNA (m) Lentiviral Particles: sc-44919-V.

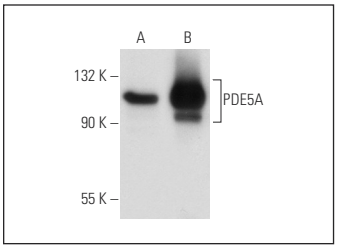
Molecular Weight of PDE5A: 95 kDa.

Positive Controls: PDE5A (h): 293 Lysate: sc-129430 or rat lung extract: sc-2396.

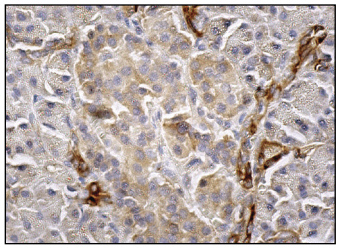
STORAGE

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

DATA



PDE5A (H-120): sc-32884. Western blot analysis of PDE5A expression in non-transfected: sc-110760 (**A**) and human PDE5A transfected: sc-129430 (**B**) 293 whole cell lysates.



PDE5A (H-120): sc-32884. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells and Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Moro, C., et al. 2007. Phosphodiesterase-5A and neutral endopeptidase activities in human adipocytes do not control atrial natriuretic peptide-mediated lipolysis. Br. J. Pharmacol. 152: 1102-1110.
2. Tao, X., et al. 2008. Fosinopril prevents the pulmonary arterial remodeling in sinoaortic-denervated rats by regulating phosphodiesterase. J. Cardiovasc. Pharmacol. 51: 24-31.
3. Arozarena, I., et al. 2011. Oncogenic BRAF induces melanoma cell invasion by downregulating the cGMP-specific phosphodiesterase PDE5A. Cancer Cell 19: 45-57.
4. Nagel, S., et al. 2011. t(4;8)(q27;q24) in Hodgkin lymphoma cells targets phosphodiesterase PDE5A and homeobox gene ZHX2. Genes Chromosomes Cancer 50: 996-1009.

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.