SANTA CRUZ BIOTECHNOLOGY, INC.

PDE8A (H-64): sc-30059

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphodiesterases (PDEs) are important for the downregulation of the intracellular level of the second messenger cyclic adenosine monophosphate (cAMP) by hydrolyzing cAMP to 5'AMP. Human cyclic GMP-stimulated 3',5'-cyclic nucleotide phosphodiesterase (PDE2A) is expressed in cerebellum, neocortex, heart, kidney, placenta, lung, pulmonary artery, skeletal muscle and pancreas. PDE2A expression is detected in venous and capillary endothelial cells in cardiac and renal tissue. PDE8A is a high affinity cAMP-specific protein that is expressed in a wide variety of tissues including testis, ovary, small intestine, and colon. PDE8B is expressed specifically and abundantly in the thyroid gland and shares 65% sequence identity (83% similarity) with PDE8A.

REFERENCES

1. Rosman, G.J., et al. 1997. Isolation and characterization of human cDNAs encoding a cGMP-stimulated 3',5'-cyclic nucleotide phosphodiesterase. Gene 191: 89-95.
2. Fisher, D.A., et al. 1998. Isolation and characterization of PDE8A, a novel human cAMP-specific phosphodiesterase. Biochem. Biophys. Res. Commun. 246: 570-577.
3. 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.
4. Cheung, P.P., et al. 1998. Partial characterization of the active site human platelet cAMP phosphodiesterase, PDE3A, by site-directed mutagenesis. Arch. Biochem. Biophys. 360: 99-104.
5. Hayashi, M., et al. 1998. Molecular cloning and characterization of human PDE8B, a novel thyroid-specific isozyme of 3',5'-cyclic nucleotide phosphodiesterase. Biochem. Biophys. Res. Commun. 250: 751-756.
6. Sadhu, K., et al. 1999. Differential expression of the cyclic GMP-stimulated phosphodiesterase PDE2A in human venous and capillary endothelial cells. J. Histochem. Cytochem. 47: 895-906.
7. Hetman, J.M., et al. 2000. Cloning and characterization of PDE7B, a cAMP-specific phosphodiesterase. Proc. Natl. Acad. Sci. USA 97: 472-476.

CHROMOSOMAL LOCATION

Genetic locus: PDE8A (human) mapping to 15q25.3; Pde8a (mouse) mapping to 7 D3.

SOURCE

PDE8A (H-64) is a rabbit polyclonal antibody raised against amino acids 317-380 mapping within an internal region of PDE8A 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PDE8A (H-64) is recommended for detection of PDE8A 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PDE8A (H-64) is also recommended for detection of PDE8A in additional species, including equine and porcine.

Suitable for use as control antibody for PDE8A siRNA (h): sc-41617, PDE8A siRNA (m): sc-41616, PDE8A shRNA Plasmid (h): sc-41617-SH, PDE8A shRNA Plasmid (m): sc-41616-SH, PDE8A shRNA (h) Lentiviral Particles: sc-41617-V and PDE8A shRNA (m) Lentiviral Particles: sc-41616-V.

Molecular Weight of PDE8A: 85/90 kDa.

Positive Controls: mouse ovary extract: sc-2404.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Dong, H., et al. 2010. Inhibition of PDE3, PDE4 and PDE7 potentiates glucocorticoid-induced apoptosis and overcomes glucocorticoid resistance in CEM T leukemic cells. Biochem. Pharmacol. 79: 321-329.
2. Oliva, A.A., et al. 2012. Phosphodiesterase isoform-specific expression induced by traumatic brain injury. J. Neurochem. 123: 1019-1029.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.