SANTA CRUZ BIOTECHNOLOGY, INC.

PDE6β (C-14): sc-30719

BACKGROUND

Cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase (PDE6) plays a crucial role in the phototransduction cascade in the vertebrate retina. The enzyme consists of an α and a β subunit, with catalytic and cGMP binding activity, respectively, as well as two inhibitory γ subunits and a δ subunit. PDE6 reduces intracellular cytoplasmic cGMP levels, specifically in photoreceptor cells. Mutations in the human PDE6A gene, which encodes the α subunit, account for roughly 3-4% of the cases of recessive retinitis pigmentosa (RP) in North America.

REFERENCES

1. Mohamed, M.K., Taylor, R.E., Feinstein, D.S., Huang, X. and Pittler, S.J. 1998. Structure and upstream region characterization of the human gene encoding rod photoreceptor cGMP phosphodiesterase α-subunit. J. Mol. Neurosci. 10: 235-250.
2. Dryja, T.P., Rucinski, D.E., Chen, S.H. and Berson, E.L. 1999. Frequency of mutations in the gene encoding the α subunit of rod cGMP-phosphodiesterase in autosomal recessive retinitis pigmentosa. Invest. Ophthalmol. Vis. Sci. 40: 1859-1865.
3. Dekomien, G. and Epplen, J.T. 2000. Exclusion of the PDE6A gene for generalised progressive retinal atrophy in 11 breeds of dog. Anim. Genet. 31: 135-139.
4. Pittler, S.J., Zhang, Y., Chen, S., Mears, A.J., Zack, D.J., Ren, Z., Swain, P.K., Yao, S., Swaroop, A. and White, J.B. 2004. Functional analysis of the rod photoreceptor cGMP phosphodiesterase α-subunit gene promoter: Nrl and Crx are required for full transcriptional activity. J. Biol. Chem. 279: 19800-19807.

CHROMOSOMAL LOCATION

Genetic locus: PDE6B (human) mapping to 4p16.3; Pde6b (mouse) mapping to 5 F.

SOURCE

PDE6β (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PDE6β 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.

Blocking peptide available for competition studies, sc-30719 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PDE6β (C-14) is recommended for detection of precursor and mature PDE6β and, to a lesser extent, PDE6α 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).

PDE6β (C-14) is also recommended for detection of precursor and mature PDE6β and, to a lesser extent, PDE6α in additional species, including equine, canine, bovine and porcine.

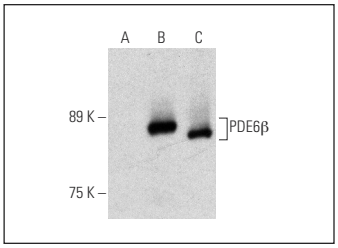
Molecular Weight of PDE6β: 98 kDa.

Positive Controls: PDE6β (h3): 293 Lysate: sc-158829 or mouse eye tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PDE6β (C-14): sc-30719. Western blot analysis of PDE6β expression in non-transfected: sc-110760 (**A**) and human PDE6β transfected: sc-158829 (**B**) 293 whole cell lysates and mouse eye tissue extract (**C**).

RESEARCH USE

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