

PDE6A α (C-17): sc-28490

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

- 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.
- 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.
- 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.
- 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: PDE6A (human) mapping to 5q32; Pde6a (mouse) mapping to 18 E1.

SOURCE

PDE6A α (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PDE6A α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28490 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4 $^{\circ}$ 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

PDE6A α (C-17) is recommended for detection of phosphodiesterase 6A, α subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PDE6A α (C-17) is also recommended for detection of Phosphodiesterase 6A, α subunit in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PDE6A α siRNA (h): sc-45461, PDE6A α siRNA (m): sc-45462, PDE6A α shRNA Plasmid (h): sc-45461-SH, PDE6A α shRNA Plasmid (m): sc-45462-SH, PDE6A α shRNA (h) Lentiviral Particles: sc-45461-V and PDE6A α shRNA (m) Lentiviral Particles: sc-45462-V.

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) 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.

RESEARCH USE

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