SANTA CRUZ BIOTECHNOLOGY, INC.

PDE6G/H (C-12): sc-50263

BACKGROUND

Phosphodiesterases (PDEs, also designated cyclic nucleotide phosphodesterases) are important for the downregulation of the intracellular level of the second messenger cyclic adenosine monophosphate (cAMP), as they are responsible for hydrolyzing cAMP to 5'AMP. PDE6G, also designated phosphodiesterase 6G cGMP-specific rod γ, is an oligomer composed of two catalytic chains (α and β), an inhibitory chain (γ) and an δ chain. PDEG6G functions in the processes of transmission and amplification of the visual signal. A mutation in the rod PDE-γ gene desensitizes and delays murine rod photoreceptors. PDE6H, also designated phosphodiesterase 6H cGMP-specific cone γ, is a tetramer composed of two catalytic chains (α and β) and two inhibitory chains (γ). It functions similarly to PDE6H in vision processes. Defects of the PDE6H gene cause retinal cone dystrophy 3 (rcd3), also designated cone dystrophy with night blindness and supernormal rod responses.

REFERENCES

1. Hamilton, S.E. and Hurley, J.B. 1990. A phosphodiesterase inhibitor specific to a subset of bovine retinal cones. J. Biol. Chem. 265: 11259-11264.
2. Tsang, S.H., Gouras, P., Yamashita, C.K., Kjeldbye, H., Fisher, J., Farber, D.B. and Goff, S.P. 1996. Retinal degeneration in mice lacking the γ subunit of the rod cGMP phosphodiesterase. Science 272: 1026-1029.
3. Shimizu-Matsumoto, A., Itoh, K., Inazawa, J., Nishida, K., Matsumoto, Y., Kinoshita, S., Matsubara, K. and Okubo, K. 1996. Isolation and chromosomal localization of the human cone cGMP phosphodiesterase γ cDNA (PDE6H). Genomics 32: 121-124.
4. Salchow, D.J., Gouras, P., Doi, K., Goff, S.P., Schwinger, E. and Tsang, S.H. 1999. A point mutation (W70A) in the rod PDE-γ gene desensitizing and delaying murine rod photoreceptors. Invest. Ophthalmol. Vis. Sci. 40: 3262-3267.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 180073. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Dekomien, G. and Epplen, J.T. 2003. Analysis of PDE6D and PDE6G genes for generalised progressive retinal atrophy (gPRA) mutations in dogs. Genet. Sel. Evol. 35: 445-456.
7. Yu, M., Liu, B., Yerle, M., Zhu, M., Pan, P., Fan, B. and Li, K. 2003. Physical mapping of the rod cGMP-phosphodiesterase -subunit (PDE6G) gene to pig chromosome 12. Anim. Genet. 34: 76-77.
8. Piri, N., Gao, Y.Q., Danciger, M., Mendoza, E., Fishman, G.A. and Farber, D.B. 2005. A substitution of G to C in the cone cGMP-phosphodiesterase γ subunit gene found in a distinctive form of cone dystrophy. Ophthalmology 112: 159-166.

CHROMOSOMAL LOCATION

Genetic locus: PDE6G (human) mapping to 17q25; Pde6g (mouse) mapping to 11 E2.

RESEARCH USE

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

SOURCE

PDE6G/H (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PDE6G 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-50263 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE6G/H (C-12) is recommended for detection of PDE6G and PDE6H of mouse, rat and human origin byWestern 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).

Suitable for use as control antibody for PDE6G/H siRNA (h): sc-61311 and PDE6G/H siRNA (m): sc-61312.

Molecular Weight of PDE6G/H: 9-9.5 kDa.

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.

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.