

PDE6G/H (A-2): sc-166350

BACKGROUND

Phosphodiesterases (PDEs, also designated cyclic nucleotide phosphodiesterases) 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. PDE6G 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

- Hamilton, S.E., et al. 1990. A phosphodiesterase inhibitor specific to a subset of bovine retinal cones. *J. Biol. Chem.* 265: 11259-11264.
- Tsang, S.H., et al. 1996. Retinal degeneration in mice lacking the γ subunit of the rod cGMP phosphodiesterase. *Science* 272: 1026-1029.
- Shimizu-Matsumoto, A., et al. 1996. Isolation and chromosomal localization of the human cone cGMP phosphodiesterase γ cDNA (PDE6H). *Genomics* 32: 121-124.
- Salchow, D.J., et al. 1999. A point mutation (W70A) in the rod PDE- γ gene desensitizing and delaying murine rod photoreceptors. *Invest. Ophthalmol. Vis. Sci.* 40: 3262-3267.
- 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/>

CHROMOSOMAL LOCATION

Genetic locus: PDE6G (human) mapping to 17q25.3, PDE6H (human) mapping to 12p12.3; Pde6g (mouse) mapping to 11 E2, Pde6h (mouse) mapping to 6 G1.

SOURCE

PDE6G/H (A-2) is a mouse monoclonal antibody raised against amino acids 1-87 representing full length PDE6G of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE6G/H (A-2) is available conjugated to agarose (sc-166350 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166350 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166350 PE), fluorescein (sc-166350 FITC), Alexa Fluor® 488 (sc-166350 AF488), Alexa Fluor® 546 (sc-166350 AF546), Alexa Fluor® 594 (sc-166350 AF594) or Alexa Fluor® 647 (sc-166350 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166350 AF680) or Alexa Fluor® 790 (sc-166350 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PDE6G/H (A-2) is recommended for detection of PDE6G and PDE6H of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

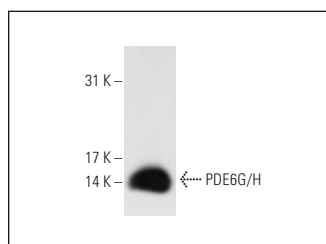
Molecular Weight of PDE6G/H: 9-10 kDa.

Positive Controls: mouse eye extract: sc-364241 or human eye extract: sc-364223.

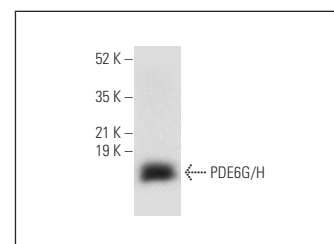
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PDE6G/H (A-2): sc-166350. Western blot analysis of PDE6G/H expression in mouse eye tissue extract.



PDE6G/H (A-2): sc-166350. Western blot analysis of PDE6G/H expression in human eye tissue extract.

SELECT PRODUCT CITATIONS

- Sarfare, S., et al. 2014. Overexpression of rod photoreceptor glutamic acid rich protein 2 (GARP2) increases gain and slows recovery in mouse retina. *Cell Commun. Signal.* 12: 67.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

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