

# PDE6D (E-7): sc-166854

## 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) by hydrolyzing cAMP to 5'AMP. The PDE family contains proteins that serve tissue-specific roles in the regulation of lipolysis, glycogenolysis, myocardial contractility and smooth muscle relaxation. PDE6D, also designated phosphodiesterase 6D cGMP-specific rod  $\delta$ , is a retina-specific oligomer composed of two catalytic chains ( $\alpha$  and  $\beta$ ), an inhibitory chain ( $\gamma$ ) and the  $\delta$  chain. It interacts with RPGR, ARL2 and ARL3, and contains 150 amino acids, which are unusually well conserved, with only a few conservative substitutions in human, bovine, mouse and rat PDE6D. The PDE6D protein contains two N-linked glycosylation sites.

## REFERENCES

1. Florio, S.K., Prusti, R.K. and Beavo, J.A. 1996. Solubilization of membrane-bound rod phosphodiesterase by the rod phosphodiesterase recombinant  $\delta$  subunit. *J. Biol. Chem.* 271: 24036-24047.
2. Ershova, G., Derre, J., Chetelin, S., Nancy, V., Berger, R., Kaplan, J., Munnich, A. and de Gunzburg, J. 1998. cDNA sequence, genomic organization and mapping of PDE6D, the human gene encoding the  $\delta$  subunit of the cGMP phosphodiesterase of retinal rod cells to chromosome 2q36. *Cytogenet. Cell Genet.* 79: 139-141.
3. Li, N., Florio, S.K., Pettenati, M.J., Rao, P.N., Beavo, J.A. and Baehr, W. 1998. Characterization of human and mouse rod cGMP phosphodiesterase  $\delta$  subunit (PDE6D) and chromosomal localization of the human gene. *Genomics* 49: 76-82.
4. Lorenz, B., Migliaccio, C., Lichtner, P., Meyer, C., Strom, T.M., D'Urso, M., Becker, J., Ciccodicola, A. and Meitinger, T. 1998. Cloning and gene structure of the rod cGMP phosphodiesterase  $\delta$  subunit gene (PDED) in man and mouse. *Eur. J. Hum. Genet.* 6: 283-290.
5. Linari, M., Hanzal-Bayer, M. and Becker, J. 1999. The  $\delta$  subunit of rod specific cyclic GMP phosphodiesterase, PDE  $\delta$ , interacts with the ARF-like protein ARL3 in a GTP specific manner. *FEBS Lett.* 458: 55-59.

## CHROMOSOMAL LOCATION

Genetic locus: PDE6D (human) mapping to 2q37.1; Pde6d (mouse) mapping to 1 D.

## SOURCE

PDE6D (E-7) is a mouse monoclonal antibody raised against amino acids 1-150 representing full length PDE6D of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

PDE6D (E-7) is recommended for detection of PDE6D of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for PDE6D siRNA (h): sc-61309, PDE6D siRNA (m): sc-61310, PDE6D shRNA Plasmid (h): sc-61309-SH, PDE6D shRNA Plasmid (m): sc-61310-SH, PDE6D shRNA (h) Lentiviral Particles: sc-61309-V and PDE6D shRNA (m) Lentiviral Particles: sc-61310-V.

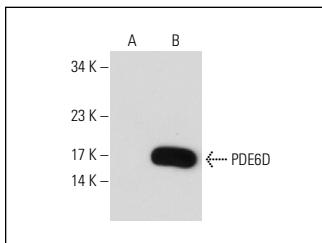
Molecular Weight of PDE6D: 17 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, PDE6D (m): 293T Lysate: sc-122458 or HeLa whole cell lysate: sc-2200.

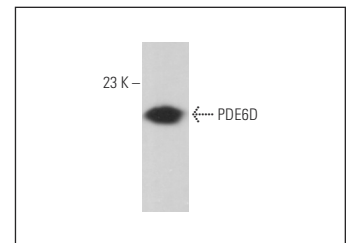
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



PDE6D (E-7): sc-166854. Western blot analysis of PDE6D expression in non-transfected: sc-117752 (A) and mouse PDE6D transfected: sc-122458 (B) 293T whole cell lysates.



PDE6D (E-7): sc-166854. Western blot analysis of PDE6D expression in MOLT-4 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Siddiqui, F.A., Alam, C., Rosenqvist, P., Ora, M., Sabt, A., Manoharan, G.B., Bindu, L., Okutachi, S., Catillon, M., Taylor, T., Abdelhafez, O.M., Lönnberg, H., Stephen, A.G., Papageorgiou, A.C., Virta, P., et al. 2020. PDE6D inhibitors with a new design principle selectively block K-Ras activity. *ACS Omega* 5: 832-842.

## RESEARCH USE

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