SANTA CRUZ BIOTECHNOLOGY, INC.

PDE6D siRNA (m): sc-61310

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 δ, is a retina-specific oligomer composed of two catalytic chains (α and β), an inhibitory chain (γ) and the δ 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., et al. 1996. Solubilization of membrane-bound rod phosphodiesterase by the rod phosphodiesterase recombinant δ subunit. J. Biol. Chem. 271: 24036-24047.
2. Ershova, G., et al. 1998. cDNA sequence, genomic organization and mapping of PDE6D, the human gene encoding the δ subunit of the cGMP phosphodiesterase of retinal rod cells to chromosome 2q36. Cytogenet. Cell Genet. 79: 139-141.
3. Li, N., et al. 1998. Characterization of human and mouse rod cGMP phosphodiesterase δ subunit (PDE6D) and chromosomal localization of the human gene. Genomics 49: 76-82.
4. Lorenz, B., et al. 1998. Cloning and gene structure of the rod cGMP phosphodiesterase δ subunit gene (PDED) in man and mouse. Eur. J. Hum. Genet. 6: 283-290.

CHROMOSOMAL LOCATION

Genetic locus: Pde6d (mouse) mapping to 1 D.

PRODUCT

PDE6D siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDE6D shRNA Plasmid (m): sc-61310-SH and PDE6D shRNA (m) Lentiviral Particles: sc-61310-V as alternate gene silencing products.

For independent verification of PDE6D (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61310A, sc-61310B and sc-61310C.

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.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PDE6D siRNA (m) is recommended for the inhibition of PDE6D expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

PDE6D (A-8): sc-376724 is recommended as a control antibody for monitoring of PDE6D gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDE6D gene expression knockdown using RT-PCR Primer: PDE6D (m)-PR: sc-61310-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.