SANTA CRUZ BIOTECHNOLOGY, INC.

DP siRNA (h): sc-62226

BACKGROUND

DP (prostanoid DP receptor or prostaglandin D2 receptor), also known as AS1 or ASRT1, is a member of the G protein-coupled receptor 1 family. It localizes to the cell membrane and is widely expressed, found in cells and tissues such as lung, platelets, nasal mucosa, small intestine and retina. DP functions as one of the two receptors for prostaglandin D2 (the other being CRTH2). Responses mediated by DP include mucin secretion, vasorelaxation via synthesis of intracellular cAMP, inhibition of platelet aggregation, and the lowering of intraocular pressure. DP also plays an important role in eosinophil trafficking and may serve as a target protein in the treatment of allergic disease. Variations in the gene encoding DP are implicated in the susceptibility to asthma-related traits including symptoms such as wheezing, coughing and dyspnea.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604687. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Moreland, R.B., et al. 2002. Expression of functional prostaglandin D (DP) receptors in human corpus cavernosum smooth muscle. Int. J. Impot. Res. 14: 446-452.
3. Liang, X., et al. 2005. Prostaglandin D2 mediates neuronal protection via the DP1 receptor. J. Neurochem. 92: 477-486.
4. Shiraishi, Y., et al. 2005. Prostaglandin D2-induced eosinophilic airway inflammation is mediated by CRTH2 receptor. J. Pharmacol. Exp. Ther. 312: 954-960.
5. Qu, W.M., et al. 2006. Lipocalin-type prostaglandin D synthase produces prostaglandin D2 involved in regulation of physiological sleep. Proc. Natl. Acad. Sci. USA 103: 17949-17954.
6. Kostenis, E., et al. 2006. Emerging roles of DP and CRTH2 in allergic inflammation. Trends Mol. Med. 12: 148-158.

CHROMOSOMAL LOCATION

Genetic locus: PTGDR (human) mapping to 14q22.1.

PRODUCT

DP siRNA (h) 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 DP shRNA Plasmid (h): sc-62226-SH and DP shRNA (h) Lentiviral Particles: sc-62226-V as alternate gene silencing products.

For independent verification of DP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62226A, sc-62226B and sc-62226C.

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

DP siRNA (h) is recommended for the inhibition of DP expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DP gene expression knockdown using RT-PCR Primer: DP (h)-PR: sc-62226-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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