SANTA CRUZ BIOTECHNOLOGY, INC.

P2Y11 siRNA (h): sc-76026

BACKGROUND

P2Y purinoceptor 11 (P2Y11) is a 374 amino acid protein belonging to the G protein-coupled receptor one family. P2Y11 is a multi-pass cell membrane protein that acts as a receptor for both ATP and ATD coupled to G proteins. Due to these interactions, P2Y11 is involved in phosphatidylinositol-calcium and adenylyl cyclase pathways. Induced by DMSO and retinoic acid, P2Y11 is highly expressed in spleen tissue. A putative *trans*-splicing event involving the gene that encodes P2Y11 and an upstream gene encoding PPAN has been found to result in a fusion protein, designated PPAN-P2RY11.

REFERENCES

1. Communi, D., et al. 1997. Cloning of a human purinergic P2Y receptor coupled to phospholipase C and adenylyl cyclase. J. Biol. Chem. 272: 31969-31973.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602697. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Lee, D.H., et al. 2006. Expression of P2 receptors in human B cells and Epstein-Barr virus-transformed lymphoblastoid cell lines. BMC Immunol. 7: 22.
4. Ecke, D., et al. 2006. Opposite diastereoselective activation of P2Y1 and P2Y11 nucleotide receptors by adenosine 5'-O-(α-boranotriphosphate) analogues. Br. J. Pharmacol. 149: 416-423.
5. Lakshmi, S. and Joshi, P.G. 2006. Activation of Src/kinase/phospholipase C/mitogen-activated protein kinase and induction of neurite expression by ATP, independent of nerve growth factor. Neuroscience 141: 179-189.
6. Sundqvist, M. 2007. Developmental changes of purinergic control of intestinal motor activity during metamorphosis in the African clawed frog, *Xenopus laevis*. Am. J. Physiol. Regul. Integr. Comp. Physiol. 292: R1916-R1925.
7. Amisten, S., et al. 2007. Increased risk of acute myocardial infarction and elevated levels of C-reactive protein in carriers of the Thr-87 variant of the ATP receptor P2Y11. Eur. Heart J. 28: 13-18.

CHROMOSOMAL LOCATION

Genetic locus: P2RY11 (human) mapping to 19p13.2.

PRODUCT

P2Y11 siRNA (h) is a pool of 2 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 P2Y11 shRNA Plasmid (h): sc-76026-SH and P2Y11 shRNA (h) Lentiviral Particles: sc-76026-V as alternate gene silencing products.

For independent verification of P2Y11 (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-76026A and sc-76026B.

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

P2Y11 siRNA (h) is recommended for the inhibition of P2Y11 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 P2Y11 gene expression knockdown using RT-PCR Primer: P2Y11 (h)-PR: sc-76026-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Umapathy, N.S., et al. 2010. Extracellular β-nicotinamide adenine dinucleotide (β-NAD) promotes the endothelial cell barrier integrity via PKA- and EPAC1/Rac1-dependent Actin cytoskeleton rearrangement. J. Cell. Physiol. 223: 215-223.

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.