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SANTA CRUZ BIOTECHNOLOGY, INC.

P2Y9 siRNA (m): sc-45615

BACKGROUND

Nucleotides are emerging as important extracellular signaling molecules that mediate several effects, such as proliferation, differentiation, chemotaxis and cytokine release. The P2 receptor family is activated by the binding of nucleotides and is divided into two subfamilies, P2X and P2Y. The P2X receptor family is comprised of ligand-gated ion channels that allow for the increased permeability of calcium into the cell in response to extracellular ATP. The P2Y receptor family are G protein-coupled receptors which mediate the effects of extracellular nucleotides, primarily through the activation of phospholipase C. To some extent, the P2Y receptors can also activate potassium channels or, alternatively, inhibit adenylate cyclase and N-type calcium channels in response to extracellular nucleotides. P2Y9 is activated by lysophosphatidic acid (LPA), a lipid mediator involved in cell proliferation, differentiation, survival and death. In hamsters, P2Y9 mRNA is significantly expressed in ovary tissue compared to other tissues, and innervation with 1-oleoly LPA increases intracellular calcium ion concentration and stimulates adenylyl cyclase activity. P2Y9 is structurally related to nucleotide receptors, and shares 20-24% amino acid homology with the three other LPA receptors (LPA1, LPA2, LPA3).

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Lpar4 (mouse) mapping to X D.

RESEARCH USE

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

PRODUCT

P2Y9 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 P2Y9 shRNA Plasmid (m): sc-45615-SH and P2Y9 shRNA (m) Lentiviral Particles: sc-45615-V as alternate gene silencing products.

For independent verification of P2Y9 (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-45615A, sc-45615B and sc-45615C.

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

P2Y9 siRNA (m) is recommended for the inhibition of P2Y9 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor P2Y9 gene expression knockdown using RT-PCR Primer: P2Y9 (m)-PR: sc-45615-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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