



P2Y7 siRNA (h): sc-42586

BACKGROUND

Nucleotides are important extracellular signaling molecules that mediate several events, such as cell proliferation, differentiation, chemotaxis and cytokine release. The P2 receptor family is activated by the binding of nucleotides and is divided into two subfamilies, designated P2X and P2Y. The P2Y receptor family are G protein-coupled receptors that mediate the effects of extracellular nucleotides, primarily through the activation of phospholipase C (PLC). 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. P2Y7 (leukotriene B4 receptor 1), also known as leukotriene B4 receptor 1 (LTB4-R1), chemoattractant receptor-like 1 or GPR16 (G protein-coupled receptor 16), is a 352 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family and functions as an extracellular receptor for ATP, UTP and ADP. P2Y7 is highly expressed in heart where it regulates muscle contraction via L-type calcium current modulation.

REFERENCES

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- Lundeen, K.A., et al. 2006. Leukotriene B4 receptors BLT1 and BLT2: expression and function in human and murine mast cells. *J. Immunol.* 177: 3439-3447.
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CHROMOSOMAL LOCATION

Genetic locus: LTB4R (human) mapping to 14q12.

PROTOCOLS

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

PRODUCT

P2Y7 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see P2Y7 shRNA Plasmid (h): sc-42586-SH and P2Y7 shRNA (h) Lentiviral Particles: sc-42586-V as alternate gene silencing products.

For independent verification of P2Y7 (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-42586A, sc-42586B and sc-42586C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

P2Y7 siRNA (h) is recommended for the inhibition of P2Y7 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 μ M in 66 μ l. 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 P2Y7 gene expression knockdown using RT-PCR Primer: P2Y7 (h)-PR: sc-42586-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Tang, F., et al. 2015. Cysteinyl leukotrienes mediate lymphokine killer activity induced by NKG2D and IL-15 in cytotoxic T cells during celiac disease. *J. Exp. Med.* 212: 1487-1495.

RESEARCH USE

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