

GPR17 siRNA (r): sc-270023

BACKGROUND

G protein-coupled receptor 17, GPR17, also known as uracil nucleotide/cysteinyl leukotriene receptor or P2Y-like receptor (P2YL), is a 367 amino acid member of the G protein-coupled receptor 1 family of proteins. While GPR17 is expressed in kidney, heart and umbilical vein endothelial cells, it is expressed in the highest levels in the brain. Upon brain injury, the extracellular concentrations of nucleotides and cysteinyl leukotrienes (CysLTs), two families of endogenous signaling molecules, increase significantly at the site of damage. In some neurons, GPR17, a membrane receptor for uracil nucleotide and CysLTs, is upregulated as well, infiltrating the lesioned area. GPR17 is thought to play a role in mediating neuronal death, remodeling brain circuitries by microglia and initiating remyelination in damaged neurons. Two named isoforms of GPR17 exist as a result of alternative splicing events.

REFERENCES

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4. Belous, A.E., et al. 2006. Mitochondrial calcium transport is regulated by P2Y1- and P2Y2-like mitochondrial receptors. *J. Cell. Biochem.* 99: 1165-1174.
5. von Kügelgen, I. 2006. Pharmacological profiles of cloned mammalian P2Y-receptor subtypes. *Pharmacol. Ther.* 110: 415-432.
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8. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 603071. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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CHROMOSOMAL LOCATION

Genetic locus: Gpr17 (rat) mapping to 18p12.

PRODUCT

GPR17 siRNA (r) is a target-specific 19-25 nt siRNA 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 GPR17 shRNA Plasmid (r): sc-270023-SH and GPR17 shRNA (r) Lentiviral Particles: sc-270023-V as alternate gene silencing 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 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

GPR17 siRNA (r) is recommended for the inhibition of GPR17 expression in rat 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.

GENE EXPRESSION MONITORING

GPR17 (A-10): sc-514723 is recommended as a control antibody for monitoring of GPR17 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 GPR17 gene expression knockdown using RT-PCR Primer: GPR17 (r)-PR: sc-270023-PR (20 μ l). 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.

PROTOCOLS

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