



RTP2 siRNA (h): sc-78100

BACKGROUND

Members of the RTP (receptor transporter proteins) family have recently been discovered to influence bitter taste receptor expression in addition to inducing the expression of mammalian odorant receptors. RTP2 [receptor (chemo-sensory) transporter protein 2], whose alternative names include MGC78665 or receptor-transporting protein 2, is a 225 amino acid single-pass type III membrane protein whose cell surface expression is dependent on olfactory receptor interaction. RTP2 belongs to the TMEM7 family, playing a role in both the function of odorant receptors and their translocation to the plasma membrane. RTP2 is highly expressed olfactory and vomeronasal organs with low expression in brain. While RTP2 lacks a signal peptide it contains a C-terminal transmembrane domain. The gene encoding RTP2 maps to human chromosome 3q27.3.

REFERENCES

1. Saito, H., et al. 2004. RTP family members induce functional expression of mammalian odorant receptors. *Cell* 119: 679-691.
2. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). *Genome Res.* 14: 2121-2127.
3. Clark, A.J., et al. 2005. Inherited ACTH insensitivity illuminates the mechanisms of ACTH action. *Trends Endocrinol. Metab.* 16: 451-457.
4. Behrens, M., et al. 2006. Members of RTP and REEP gene families influence functional bitter taste receptor expression. *J. Biol. Chem.* 281: 20650-20659.
5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 609138. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: RTP2 (human) mapping to 3q27.3.

PRODUCT

RTP2 siRNA (h) 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 RTP2 shRNA Plasmid (h): sc-78100-SH and RTP2 shRNA (h) Lentiviral Particles: sc-78100-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

RTP2 siRNA (h) is recommended for the inhibition of RTP2 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 RTP2 gene expression knockdown using RT-PCR Primer: RTP2 (h)-PR: sc-78100-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.