SANTA CRUZ BIOTECHNOLOGY, INC.

RTP1 siRNA (h): sc-78411

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. RTP1 (receptor (chemosensory) transporter protein 1), whose alternative names include MGC35450 or receptor-transporting protein 1, is a 263 amino acid single-pass type III membrane protein whose cell surface expression is dependent on olfactory receptor interaction. RTP1 belongs to the TMEM7 family, playing a role in both the function of odorant receptors and their translocation to the plasma membrane. RTP1 is found in olfactory and vomeronasal organs with low expression in brain. While RTP1 lacks a signal peptide it contains a C-terminal transmembrane domain. The gene encoding RTP1 maps to human chromosome 3q27.3.

REFERENCES

1. Saito, H., Kubota, M., Roberts, R.W., Chi, Q. and Matsunami, H. 2004. RTP family members induce functional expression of mammalian odorant receptors. Cell 119: 679-691.
2. Clark, A.J., Metherell, L.A., Cheetham, M.E. and Huebner, A. 2005. Inherited ACTH insensitivity illuminates the mechanisms of ACTH action. Trends Endocrinol. Metab. 16: 451-457.
3. Behrens, M., Bartelt, J., Reichling, C., Winnig, M., Kuhn, C. and Meyerhof, W. 2006. Members of RTP and REEP gene families influence functional bitter taste receptor expression. J. Biol. Chem. 281: 20650-20659.
4. Zhuang, H. and Matsunami, H. 2007. Synergism of accessory factors in functional expression of mammalian odorant receptors. J. Biol. Chem. 282: 15284-15293.
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CHROMOSOMAL LOCATION

Genetic locus: RTP1 (human) mapping to 3q27.3.

PRODUCT

RTP1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RTP1 shRNA Plasmid (h): sc-78411-SH and RTP1 shRNA (h) Lentiviral Particles: sc-78411-V as alternate gene silencing products.

For independent verification of RTP1 (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-78411A, sc-78411B and sc-78411C.

PROTOCOLS

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

RTP1 siRNA (h) is recommended for the inhibition of RTP1 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 RTP1 gene expression knockdown using RT-PCR Primer: RTP1 (h)-PR: sc-78411-PR (20 µl). 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.