SANTA CRUZ BIOTECHNOLOGY, INC.

RTP3 siRNA (h): sc-78072

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. RTP3 [receptor (chemosensory) transporter protein 3], also known as LTM1, TMEM7, receptor-transporting protein 3 or transmembrane protein 7, is a 232 amino acid single-pass type III membrane protein belonging to the TMEM7 family. Unlike other RTP proteins, RTP3 is not expressed in olfactory neurons but is expressed predominantly in liver. RTP3 is involved in the functional expression of bitter taste receptors and suppresses cell proliferation, and is also found in human circumvallate papillae and testis (regions where bitter taste receptors are expressed). The gene encoding RTP3 maps to human chromosome 3p21.31 within C3CER1 (chromosome 3 common eliminated region 1), which is frequently eliminated in chromosomal deletions of solid tumors.

REFERENCES

1. Kiss, H., et al. 2002. The transcriptional map of the common eliminated region 1 (C3CER1) in 3p21.3. Eur. J. Hum. Genet. 10: 52-61.
2. Saito, H., et al. 2004. RTP family members induce functional expression of mammalian odorant receptors. Cell 119: 679-691.
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. Zhou, X., et al. 2007. The interferon-alpha responsive gene TMEM7 suppresses cell proliferation and is downregulated in human hepatocellular carcinoma. Cancer Genet. Cytogenet. 177: 6-15.
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CHROMOSOMAL LOCATION

Genetic locus: RTP3 (human) mapping to 3p21.31.

PRODUCT

RTP3 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 RTP3 shRNA Plasmid (h): sc-78072-SH and RTP3 shRNA (h) Lentiviral Particles: sc-78072-V as alternate gene silencing products.

For independent verification of RTP3 (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-78072A, sc-78072B and sc-78072C.

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

RTP3 siRNA (h) is recommended for the inhibition of RTP3 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 RTP3 gene expression knockdown using RT-PCR Primer: RTP3 (h)-PR: sc-78072-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.