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- Expressversand

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# RTP4 siRNA (m): sc-153171

## 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. RTP4 (receptor (chemosensory) transporter protein 4), also known as IFRG28 or receptor-transporting protein 4, is a 246 amino acid single-pass type III membrane protein belonging to the TMEM7 family. Unlike other RTP members which are highly expressed in olfactory organs, RTP4 shows low expression levels in olfactory neurons. RTP4 can be induced by interferons and plays a role in the functional expression of bitter taste receptors and suppresses cell proliferation. RTP4 has also been found in human circumvallate papillae and testis, regions where bitter taste receptors are expressed. The gene encoding RTP4 maps to human chromosome 3q27.3.

## REFERENCES

- 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.
- Gerhard, D.S., Wagner, L., Feingold, E.A., Shenmen, C.M., Grouse, L.H., Schuler, G., Klein, S.L., Old, S., Rasooly, R., Good, P., Guyer, M., Peck, A.M., Derge, J.G., Lipman, D., Collins, F.S., Jang, W., Sherry, 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.
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- 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.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 609350. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Rtp4 (mouse) mapping to 16 B1.

## PRODUCT

RTP4 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RTP4 shRNA Plasmid (m): sc-153171-SH and RTP4 shRNA (m) Lentiviral Particles: sc-153171-V as alternate gene silencing products.

For independent verification of RTP4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153171A, sc-153171B and sc-153171C.

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

## APPLICATIONS

RTP4 siRNA (m) is recommended for the inhibition of RTP4 expression in mouse 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  $\mu$ M in 66  $\mu$ 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 RTP4 gene expression knockdown using RT-PCR Primer: RTP4 (m)-PR: sc-153171-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.