

T2R60 siRNA (m): sc-154027

BACKGROUND

T2R60 (taste receptor type 2 member 60), also known as TAS2R60 or T2R56 (taste receptor type 2 member 56), is a 318 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor T2R family. T2R60 acts as a receptor that may play a role in the perception of bitterness, and is also thought to be involved in sensing the chemical composition of gastrointestinal content. As a gustducin-linked receptor, the activity of T2R60 may stimulate $G_{\alpha t}$ (α gustducin), mediate PLC $\beta 2$ activation and lead to the gating of TRPM5. While expressed in subsets of taste receptor cells of the tongue and palate epithelium, T2R60 is found exclusively in gustducin-positive cells. The gene that encodes T2R60 contains 957 bases and maps to human chromosome 7q35. Chromosome 7 houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Iwasaki, S., Usami, S., Abe, S., Isoda, H., Watanabe, T. and Hoshino, T. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. *Arch. Otolaryngol. Head Neck Surg.* 127: 705-708.
2. Montmayeur, J.P. and Matsunami, H. 2002. Receptors for bitter and sweet taste. *Curr. Opin. Neurobiol.* 12: 366-371.
3. Conte, C., Ebeling, M., Marcuz, A., Nef, P. and Andres-Barquin, P.J. 2002. Identification and characterization of human taste receptor genes belonging to the TAS2R family. *Cytogenet. Genome Res.* 98: 45-53.
4. Margolskee, R.F. 2002. Molecular mechanisms of bitter and sweet taste transduction. *J. Biol. Chem.* 277: 1-4.
5. Zhang, Y., Hoon, M.A., Chandrashekar, J., Mueller, K.L., Cook, B., Wu, D., Zuker, C.S. and Ryba, N.J. 2003. Coding of sweet, bitter, and umami tastes: different receptor cells sharing similar signaling pathways. *Cell* 112: 293-301.
6. Shi, P., Zhang, J., Yang, H. and Zhang, Y.P. 2003. Adaptive diversification of bitter taste receptor genes in Mammalian evolution. *Mol. Biol. Evol.* 20: 805-814.
7. Go, Y., Satta, Y., Takenaka, O. and Takahata, N. 2005. Lineage-specific loss of function of bitter taste receptor genes in humans and nonhuman primates. *Genetics*. 170: 313-326.
8. Fischer, A., Gilad, Y., Man, O. and Pääbo, S. 2005. Evolution of bitter taste receptors in humans and apes. *Mol. Biol. Evol.* 22: 432-436.
9. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. *Neuromolecular Med.* 8: 547-565.

CHROMOSOMAL LOCATION

Genetic locus: Tas2r135 (mouse) mapping to 6 B2.1.

PROTOCOLS

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

PRODUCT

T2R60 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see T2R60 shRNA Plasmid (m): sc-154027-SH and T2R60 shRNA (m) Lentiviral Particles: sc-154027-V as alternate gene silencing products.

For independent verification of T2R60 (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-154027A, sc-154027B and sc-154027C.

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

T2R60 siRNA (m) is recommended for the inhibition of T2R60 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 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 T2R60 gene expression knockdown using RT-PCR Primer: T2R60 (m)-PR: sc-154027-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.