SANTA CRUZ BIOTECHNOLOGY, INC.

T2R5 siRNA (h): sc-89379

BACKGROUND

The sense of taste provides animals with valuable information about the quality and nutritional value of food. A family of G protein-coupled receptors are involved in taste perception and include T1R, which is involved in sweet and umami taste perception, and T2R, which is involved in bitter taste perception. Both types of taste receptors couple to various G proteins to initiate signal transduction cascades. Single taste receptor cells express a variety of T2Rs, suggesting that each cell is capable of recognizing multiple tastants. T2R5 (taste receptor type 2 member 5), also known as MGC126635 or TAS2R5, is a 299 amino acid member of the G protein-coupled receptor T2R protein family. Localized to the cell membrane, T2R5 may play a role in the perception of bitterness as well as sensing the chemical composition of the gastrointestinal content. The activity of T2R5 may stimulate alpha gustucin, moderate PLC β2 activation and lead to the gating of the cation channel TRPM5.

REFERENCES

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2. Matsunami, H., Montmayeur, J.P. and Buck, L.B. 2000. A family of candidate taste receptors in human and mouse. Nature 404: 601-604.
3. Kinnamon, S.C. 2000. A plethora of taste receptors. Neuron 25: 507-510.
4. Montmayeur, J.P. and Matsunami, H. 2002. Receptors for bitter and sweet taste. Curr. Opin. Neurobiol. 12: 366-371.
5. Margolskee, R.F. 2002. Molecular mechanisms of bitter and sweet taste transduction. J. Biol. Chem. 277: 1-4.
6. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R5 (human) mapping to 7q34.

PRODUCT

T2R5 siRNA (h) is a pool of 2 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 T2R5 shRNA Plasmid (h): sc-89379-SH and T2R5 shRNA (h) Lentiviral Particles: sc-89379-V as alternate gene silencing products.

For independent verification of T2R5 (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-89379A and sc-89379B.

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

T2R5 siRNA (h) is recommended for the inhibition of T2R5 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 T2R5 gene expression knockdown using RT-PCR Primer: T2R5 (h)-PR: sc-89379-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.

PROTOCOLS

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