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T2R49 siRNA (h): sc-45449

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. T2R49 plays a role in sensing the chemical composition of the gastrointestinal content. T2R49 is expressed in subsets of taste receptor cells of the tongue and exclusively in gustducin-positive cells.

REFERENCES

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2. 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.
3. Margolskee, R.F. 2002. Molecular mechanisms of bitter and sweet taste transduction. *J. Biol. Chem.* 277: 1-4.
4. 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.
5. Fischer, A., Gilad, Y., Man, O. and Paabo, S. 2005. Evolution of bitter taste receptors in humans and apes. *Mol. Biol. Evol.* 22: 432-436.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R20 (human) mapping to 12p13.2.

PRODUCT

T2R49 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see T2R49 shRNA Plasmid (h): sc-45449-SH and T2R49 shRNA (h) Lentiviral Particles: sc-45449-V as alternate gene silencing products.

For independent verification of T2R49 (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-45449A, sc-45449B and sc-45449C.

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

T2R49 siRNA (h) is recommended for the inhibition of T2R49 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 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 T2R49 gene expression knockdown using RT-PCR Primer: T2R49 (h)-PR: sc-45449-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.

PROTOCOLS

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