SANTA CRUZ BIOTECHNOLOGY, INC.

T2R38 siRNA (h): sc-45339

BACKGROUND

The sense of taste is essential for the survival of organisms. For example, the ability to identify sweet-tasting foods enables animals to seek out food with high nutritive value, whereas the ability to identify bitter substances enables them to avoid the ingestion of potentially harmful substances. A family of integral membrane proteins are involved in taste perception and include T1R, which is involved in sweet 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. Specifically, T2R38 is expressed in subsets of taste receptor cells of the tongue and exclusively in gustducin-positive cells. Variations in T2R38 are associated with the ability to taste the bitter chemical phenylthiocarbamide (PTC), also called thiourea tasting.

REFERENCES

1. Margolskee, R.F., et al. 2002. Molecular mechanisms of bitter and sweet taste transduction. J. Biol. Chem. 277: 1-4.
2. Zhang, Y., et al. 2003. Coding of sweet, bitter and umami tastes: different receptor cells sharing similar signaling pathways. Cell 112: 293-301.
3. Andres-Barquin, P.J., et al. 2004. Molecular basis of bitter taste: the T2R family of G protein-coupled receptors. Cell Biochem. Biophys. 41: 99-112.
4. Fischer, A., et al. 2005. Evolution of bitter taste receptors in humans and apes. Mol. Biol. Evol. 22: 432-436.
5. SWISS-PROT/TrEMBL (Q7TQA6). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R38 (human) mapping to 7q34.

PRODUCT

T2R38 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 T2R38 shRNA Plasmid (h): sc-45339-SH and T2R38 shRNA (h) Lentiviral Particles: sc-45339-V as alternate gene silencing products.

For independent verification of T2R38 (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-45339A, sc-45339B and sc-45339C.

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

T2R38 siRNA (h) is recommended for the inhibition of T2R38 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 T2R38 gene expression knockdown using RT-PCR Primer: T2R38 (h)-PR: sc-45339-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.