



## T2R47 siRNA (h): sc-45577

### 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. Taste receptor type 2 member 47 (T2R47), also designated G protein-coupled receptor 47, is linked to gustducin and plays an important role in sensing the chemical composition of the content of the gastrointestinal. T2R47 stimulates  $\alpha$ -gustducin and mediates PLC- $\beta$ -2. It is expressed in subsets of tongue taste receptor cells and in gustducin-positive cells.

### REFERENCES

1. Margolskee, R.F., et al. 2002. Molecular mechanisms of bitter and sweet taste transduction. *J. Biol. Chem.* 277: 1-4.
2. Bufo, B., et al. 2002. The human TAS2R16 receptor mediates bitter taste in response to  $\beta$ -glucopyranosides. *Nat. Genet.* 32: 397-401.
3. Montmayeur, J.P., et al. 2002. Receptors for bitter and sweet taste. *Curr. Opin. Neurobiol.* 12: 366-371.
4. Zhang, Y., et al. 2003. Coding of sweet, bitter and umami tastes: different receptor cells sharing similar signaling pathways. *Cell* 112: 293-301.
5. Fischer, A., et al. 2005. Evolution of bitter taste receptors in humans and apes. *Mol. Biol. Evol.* 22: 432-436.
6. Lannoo, M.J., et al. 2005. Brain and sensory organ morphology in Antarctic eelpouts (perciformes: Zoarcidae: Lycodinae). *J. Morphol.* 267: 115-127.
7. SWISS-PROT/TrEMBL (P59541). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

### CHROMOSOMAL LOCATION

Genetic locus: TAS2R30 (human) mapping to 12p13.2.

### PRODUCT

T2R47 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see T2R47 shRNA Plasmid (h): sc-45577-SH and T2R47 shRNA (h) Lentiviral Particles: sc-45577-V as alternate gene silencing products.

For independent verification of T2R47 (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-45577A, sc-45577B and sc-45577C.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### 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

T2R47 siRNA (h) is recommended for the inhibition of T2R47 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  $\mu$ 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 T2R47 gene expression knockdown using RT-PCR Primer: T2R47 (h)-PR: sc-45577-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.