

T1R1 siRNA (h): sc-45318

BACKGROUND

T1R1 (TR1, GPR70, gm148, taste receptor type 1 member 1, TAS1R1) is a G protein-coupled receptor and is a component of the heterodimeric amino acid taste receptor T1R1+3. T1R1+3 responds to L-amino acids that are perceived as sweet. Multiple transcript variants encoding several different isoforms have been found for this gene. The T1R receptors are a family of taste-specific class C G protein-coupled receptors. PLC β 2 and IP $_3$ R3 co-localize together with G $_{12}$ as downstream components of two different types of taste receptors, T1R and T2R, in taste bud cells.

REFERENCES

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3. Montmayeur, J.P., et al. 2001. A candidate taste receptor gene near a sweet taste locus. *Nat. Neurosci.* 4: 492-498.
4. Max, M., et al. 2001. Tas1r3, encoding a new candidate taste receptor, is allelic to the sweet responsiveness locus Sac. *Nat. Genet.* 28: 58-63.
5. Xu, H., et al. 2004. Different functional roles of T1R subunits in the heteromeric taste receptors. *Proc. Natl. Acad. Sci. USA* 101: 14258-14263.
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7. Dyer, J., et al. 2005. Expression of sweet taste receptors of the T1R family in the intestinal tract and enteroendocrine cells. *Biochem. Soc. Trans.* 33: 302-305.
8. Winnig, M., et al. 2005. Valine 738 and Lysine 735 in the fifth transmembrane domain of rTas1r3 mediate insensitivity towards lactisole of the rat sweet taste receptor. *BMC Neurosci.* 6: 22.

CHROMOSOMAL LOCATION

Genetic locus: TAS1R1 (human) mapping to 1p36.31.

PRODUCT

T1R1 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 T1R1 shRNA Plasmid (h): sc-45318-SH and T1R1 shRNA (h) Lentiviral Particles: sc-45318-V as alternate gene silencing products.

For independent verification of T1R1 (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-45318A, sc-45318B and sc-45318C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

T1R1 siRNA (h) is recommended for the inhibition of T1R1 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 T1R1 gene expression knockdown using RT-PCR Primer: T1R1 (h)-PR: sc-45318-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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