SANTA CRUZ BIOTECHNOLOGY, INC.

T2R43 siRNA (h): sc-106590

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. The molecular events in the perception of bitter taste are believed to start with the binding of specific water-soluble molecules to G protein-coupled receptors encoded by the TAS2R/T2R family of taste receptor genes. These receptors are expressed at the surface of taste receptor cells and are coupled to G proteins to initiate signal transduction cascades. In human embryonic kidney cells saccharin and acesulfame K activate two members of the human TAS2R family (TAS2R43 and TAS2R44) at concentrations known to stimulate bitter taste. These receptors are expressed in tongue taste papillae.

REFERENCES

1. Conte, C., et al. 2002. Identification and characterization of human taste receptor genes belonging to the TAS2R family. Cytogenet. Genome. Res. 98: 45-53.
2. Conte, C., et al. 2003. Evolutionary relationships of the Tas2r receptor gene families in mouse and human. Physiol. Genomics 14: 73-82.
3. Ueda, T., et al. 2003. Functional interaction between T2R taste receptors and G-protein α subunits expressed in taste receptor cells. J. Neurosci. 23: 7376-7380.
4. Parry, C.M., et al. 2004. Divergence of T2R chemosensory receptor families in humans, bonobos, and chimpanzees. Proc. Natl. Acad. Sci. USA 101: 14830-14834.
5. Kuhn, C., et al. 2004. Bitter taste receptors for saccharin and acesulfame K. J. Neurosci. 24: 10260-10265.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R43 (human) mapping to 12p13.2.

PRODUCT

T2R43 siRNA (h) is a target-specific 19-25 nt siRNA 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 T2R43 shRNA Plasmid (h): sc-106590-SH and T2R43 shRNA (h) Lentiviral Particles: sc-106590-V as alternate gene silencing 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 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

T2R43 siRNA (h) is recommended for the inhibition of T2R43 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 T2R43 gene expression knockdown using RT-PCR Primer: T2R43 (h)-PR: sc-106590-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.