SANTA CRUZ BIOTECHNOLOGY, INC.

T2R4 (T-13): sc-169494

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Single taste receptor cells express a variety of T2Rs, suggesting that each cell is capable of recognizing multiple tastants. T2R4 (taste receptor type 2 member 4), also known as TAS2R4 or MGC-163311, is a 299 amino acid member of the G-protein coupled receptor T2R protein family. Localized to the cell membrane of gustducin positive cells, T2R4 is a gustducin-coupled receptor for denatonium and N-propyl-2-thiouracil and is involved in the perception of bitter compounds in the oral cavity and the gastrointestinal tract. In airway epithelial cells, binding of denatonium to T2R4 increases the intracellular calcium ion concentration, which stimulates ciliary beat frequency.

REFERENCES

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2. Matsunami, H., et al. 2000. A family of candidate taste receptors in human and mouse. Nature 404: 601-604.
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4. Ueda, T., et al. 2001. Identification of coding single-nucleotide polymorphisms in human taste receptor genes involving bitter tasting. Biochem. Biophys. Res. Commun. 285: 147-151.
5. Montmayeur, J.P. and Matsunami, H. 2002. Receptors for bitter and sweet taste. Curr. Opin. Neurobiol. 12: 366-371.
6. Margolskee, R.F. 2002. Molecular mechanisms of bitter and sweet taste transduction. J. Biol. Chem. 277: 1-4.
7. Zhang, Y., et al. 2003. Coding of sweet, bitter, and umami tastes: different receptor cells sharing similar signaling pathways. Cell 112: 293-301.
8. Go, Y., et al. 2005. Lineage-specific loss of function of bitter taste receptor genes in humans and nonhuman primates. Genetics 170: 313-326.
9. Fischer, A., et al. 2005. Evolution of bitter taste receptors in humans and apes. Mol. Biol. Evol. 22: 432-436.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R4 (human) mapping to 7q34.

SOURCE

T2R4 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of T2R4 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169494 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

T2R4 (T-13) is recommended for detection of T2R4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with T2R9.

T2R4 (T-13) is also recommended for detection of T2R4 in additional species, including equine.

Suitable for use as control antibody for T2R4 siRNA (h): sc-89642, T2R4 shRNA Plasmid (h): sc-89642-SH and T2R4 shRNA (h) Lentiviral Particles: sc-89642-V.

Molecular Weight of T2R4: 34 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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