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T1R3 (h): 293T Lysate: sc-174385

BACKGROUND

The sense of taste provides animals with valuable information about the quality and nutritional value of food. There are four widely accepted categories of taste perception: sweet, bitter, salty and sour. A controversial fifth taste, known as umami or monosodium glutamate (MSG), has also been described. 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 T1R family consists of three members: T1R1, T1R2 and T1R3. These proteins form heterodimers, which alter the selectivity of the subunits. The T1R2 and T1R3 heterodimer functions as a receptor for sweet taste, and recognizes several sweet-tasting molecules such as sucrose, saccharin, dulcin and acesulfame-K. The T1R1 and T1R3 heterodimer recognizes L-amino acids to perceive umami taste. Sweet taste transduction is carried out by two pathways. First, sucrose and other sugars activate G_{α_s} via the T1Rs, which activates adenylyl cyclase to generate cAMP. Artificial sweeteners bind to either $G_{\beta\gamma}$ - or G_{α_q} -coupled T1Rs to activate PLC β_2 and generate IP3 and DAG. Both pathways ultimately lead to neurotransmitter release. The mouse T1R3 gene maps to chromosome 4 near the Sac locus, a primary determinant of sweet preference in mice. It is expressed in a subset of taste cells in circumvallate, foliate and fungiform taste papillae.

REFERENCES

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4. Margolskee, R.F. 2002. Molecular mechanisms of bitter and sweet taste transduction. *J. Biol. Chem.* 277: 1-4.
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CHROMOSOMAL LOCATION

Genetic locus: TAS1R3 (human) mapping to 1p36.33.

PRODUCT

T1R3 (h): 293T Lysate represents a lysate of human T1R3 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

T1R3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive T1R3 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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.