SANTA CRUZ BIOTECHNOLOGY, INC.

T2R21 (D-8): sc-514219

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

T2R21, also known as Tas2r121 (taste receptor, type 2, member 121), mGR21, mT2r48, Tas2r13 or Tas2r21, is a 305 amino acid transmembrane protein belonging to the G protein-coupled receptor T2R family. While it signals through PLC β2 and the calcium-regulated cation channel TRPM5, T2R21 acts as a gustducin-coupled receptor implicated in the perception of bitter compounds in the oral cavity and the gastrointestinal tract. The gene that encodes T2R21 maps to mouse chromosome 6 G1. T2R21 is homologous to human T2R13, a 303 amino acid protein expressed in subsets of taste receptor cells of the tongue and palate epithelium, and is found exclusively in gustducin-positive cells. T2R13 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Adler, E., et al. 2000. A novel family of mammalian taste receptors. Cell 100: 693-702.
2. Montmayeur, J.P. and Matsunami, H. 2002. Receptors for bitter and sweet taste. Curr. Opin. Neurobiol. 12: 366-371.
3. Zhang, Y., et al. 2003. Coding of sweet, bitter, and umami tastes: different receptor cells sharing similar signaling pathways. Cell 112: 293-301.
4. Shi, P., et al. 2003. Adaptive diversification of bitter taste receptor genes in Mammalian evolution. Mol. Biol. Evol. 20: 805-814.
5. Fischer, A., et al. 2005. Evolution of bitter taste receptors in humans and apes. Mol. Biol. Evol. 22: 432-436.
6. Forzano, F., et al. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. Am. J. Med. Genet. A 143A: 2815-2820.
7. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. Virchows Arch. 453: 203-207.

CHROMOSOMAL LOCATION

Genetic locus: Tas2r121 (mouse) mapping to 6 G1.

SOURCE

T2R21 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 148-167 within an extracellular domain of T2R21 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514219 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

T2R21 (D-8) is recommended for detection of T2R21 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for T2R21 siRNA (m): sc-154014, T2R21 shRNA Plasmid (m): sc-154014-SH and T2R21 shRNA (m) Lentiviral Particles: sc-154014-V.

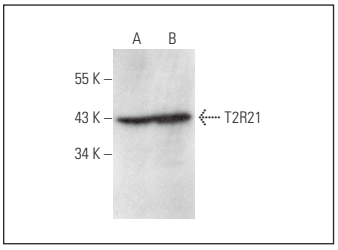
Molecular Weight of T2R21: 36 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or A-10 cell lysate: sc-3806.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



T2R21 (D-8): sc-514219. Western blot analysis of T2R21 expression in A-10 (**A**) and NIH/3T3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Schroer, A.B., et al. 2021. The stability of tastant detection by mouse lingual chemosensory tissue requires regulator of G protein signaling-21 (RGS21). Chem. Senses 46: bjab048.

STORAGE

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

RESEARCH USE

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