

T2R3 (E-12): sc-398489

BACKGROUND

Intron-less taste receptor genes encode for a family of seven-transmembrane receptor proteins, which function as bitter taste receptors. One such member is the T2R3 (taste receptor type 2 member 3), also known as TAS2R3, which is a 316 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor T2R family. Acting in the oral cavity and the gastrointestinal tract, T2R3 is a gustducin-coupled receptor that is implicated in the perception of bitter compounds. T2R3 mediates responses to certain taste through PLC β 2, a phospholipase C selectively expressed in taste tissue, and the calcium-regulated cation channel TRPM5. While expressed in subsets of taste receptor cells of the tongue and palate epithelium and exclusively in gustducin-positive cells, T2R3 is expressed in the antrum and fundus (part of the stomach), duodenum and in gastric endocrine cells. The gene that encodes T2R3 contains approximately 1,101 bases and maps to human chromosome 7q34.

REFERENCES

1. Adler, E., et al. 2000. A novel family of mammalian taste receptors. *Cell* 100: 693-702.
2. Chandrashekar, J., et al. 2000. T2Rs function as bitter taste receptors. *Cell* 100: 703-711.
3. Kinnamon, S.C. 2000. A plethora of taste receptors. *Neuron* 25: 507-510.

CHROMOSOMAL LOCATION

Genetic locus: TAS2R3 (human) mapping to 7q34; Tas2r137 (mouse) mapping to 6 B1.

SOURCE

T2R3 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 72-89 within an extracellular domain of T2R3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG λ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

T2R3 (E-12) is available conjugated to agarose (sc-398489 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398489 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398489 PE), fluorescein (sc-398489 FITC), Alexa Fluor[®] 488 (sc-398489 AF488), Alexa Fluor[®] 546 (sc-398489 AF546), Alexa Fluor[®] 594 (sc-398489 AF594) or Alexa Fluor[®] 647 (sc-398489 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398489 AF680) or Alexa Fluor[®] 790 (sc-398489 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398489 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

T2R3 (E-12) is recommended for detection of T2R3 of human origin, T2R37 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 T2R3 siRNA (h): sc-89478, T2R37 siRNA (m): sc-154021, T2R3 shRNA Plasmid (h): sc-89478-SH, T2R37 shRNA Plasmid (m): sc-154021-SH, T2R3 shRNA (h) Lentiviral Particles: sc-89478-V and T2R37 shRNA (m) Lentiviral Particles: sc-154021-V.

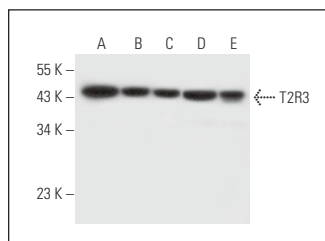
Molecular Weight of T2R3: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

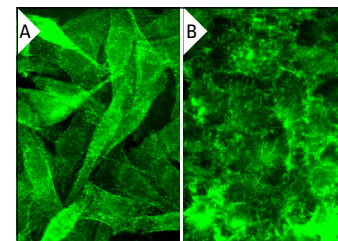
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



T2R3 (E-12): sc-398489. Western blot analysis of T2R3 expression in HeLa (A), A549 (B), Jurkat (C), A-431 (D) and SCC-25 (E) whole cell lysates.



T2R3 (E-12): sc-398489. Immunofluorescence staining of formalin-fixed SW480 cells showing membrane localization (A). Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization. Detection reagent used: m-IgG λ BP-CFL 488: sc-516190 (B).

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.