

Product Specification Sheet

**Taste receptor type 1 member 3 (TR3; TS1R3) Antibodies**

<b>Cat # T1R31-P</b>	Rat TR3 Control/Blocking Peptide	<b>SIZE:</b> 100 µg
<b>Cat # T1R31-A</b>	Rabbit anti-rat TR3 IgG (affinity pure)	<b>SIZE:</b> 100 µg

Higher vertebrates are believed to possess at least five basic tastes: Sweet, bitter, sour, salty, and umami (the taste of monosodium glutamate).

Recently, three novel taste receptors, **TR1, TR2 and TR3** have been cloned with distinct topographical distribution in taste receptor cells and taste buds. TR1 (rat 840 aa), TR2 (rat 843 aa) and TR3 (rat 858 aa) share ~20% homology with each other, and ~30% with CaSR, and 22-30% with V2R pheromone receptors and mGLURs. TR1/TR3 responds to the umami taste stimulus (the taste of monosodium glutamate) and also to most of the 20 standard L-amino acids, but not to their D- enantiomers or other compounds. TR2/TR3 recognizes diverse natural and synthetic sweeteners. TR3 is essential for the recognition and response to the disaccharide trehalose. Sequence differences within and between species can significantly influence the selectivity and specificity of taste responses.

**TR3:** human: 852 aa; mouse and rat: 858 aa each – 94.8 kDa; Rat chromosome: 5q36. Rat TR3 has a sequence identity of 92 and 72% with mouse and human TR3 proteins respectively. TR3 is expressed selectively in taste receptor cells but its expression has been reported in brain, liver and pancreas as well.

**Source of Antigen and Antibodies**

<b>Antigen</b>	20-aa peptide of Rat TR3 (Protein accession # (Q7RTX0); ref. 1); designated as T1R31-P control/blocking peptide conjugated to KLH
<b>Epitope Location</b>	~C-terminus
<b>Antibody host/type</b>	Rabbit, Polyclonal IgG (Cat # T1R31-A), purified over antigen-Agarose
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>Negative Control Ab</b>	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

**Form & Storage of Antibodies/Peptide Control**

**Affinity pure IgG**

100 ug/100ul solution lyophilized powder  
Supplied in Buffer: PBS+0.1% BSA  
**Reconstitute powder** in PBS at 1mg/ml

**Control/blocking peptide**

100 ug/100 ul solution lyophilized powder  
Supplied in Buffer: PBS pH 7.5,  
**Reconstitute powder** in PBS at 1 mg/ml.

**Storage**

**Short-term:** unopened, undiluted vials for less than a week at 4oC.

**Long-term:** at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at –20°C or below.

**Shipping:** 4°C for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting:** 1-10 µg/ml; using affinity pure antibody (chemiluminescence technique).

**ELISA:** 1:100K; using 50-100 ng control peptide/well.

**Histochemistry & Immunofluorescence:** Not tested; we recommend the use of affinity purified antibody at 2-10 µg/ml.

**Specificity & Cross-reactivity**

Rat T1R31-P peptide sequence is unique to rat with no significant identity to any other known mammalian protein sequences. Antibody cross-reactivity in various species is not known. The control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-30 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

**General References:**

(1) Nelson G et al (2001) *Cell.*; 106:381-90; Li X et al. (2002) *Proc. Natl. Acad. Sci. U S A.*; 99:4692-6

\*This product is for in vitro research use only.

**Related material available from ADI**

Antibodies to all Rat Taste receptors

T1R31-A-P

70403J

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