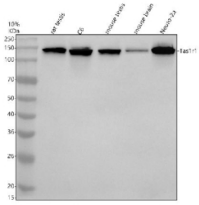
TAS1R1 Antibody / Taste receptor type 1 member 1 (FY12039)

Catalog No.	Formulation	Size
FY12039	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q99PG6
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This TAS1R1 antibody is available for research use only.



Western blot analysis of TAS1R1 using anti-TAS1R1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat testis tissue lysates, Lane 2: rat C6 whole cell lysates, Lane 3: mouse testis tissue lysates, Lane 4: mouse brain tissue lysates, Lane 5: mouse Neuro-2a whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TAS1R1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected band size for TAS1R1 is at 93 kDa but the glycoprotein may be observed at higher molecular weights due to glycosylation.

Description

TAS1R1 antibody detects Taste receptor type 1 member 1, encoded by the TAS1R1 gene. Taste receptor type 1 member 1 is a G protein-coupled receptor that forms a heterodimer with TAS1R3 to detect umami flavor, specifically amino acids

such as glutamate. TAS1R1 antibody provides researchers with a specific reagent for studying chemosensory biology, taste signaling, and G protein-coupled receptor function.

Taste receptor type 1 member 1 belongs to the class C family of GPCRs, which includes metabotropic glutamate and GABA receptors. Research using TAS1R1 antibody has shown that when paired with TAS1R3, it functions as the principal umami receptor in taste buds. Binding of amino acids activates G protein signaling, leading to calcium release and neurotransmitter secretion in taste cells. This response enables perception of savory taste.

Studies with TAS1R1 antibody have revealed expression beyond the tongue. Taste receptor type 1 member 1 is found in gastrointestinal tract, pancreas, and brain, where it may regulate nutrient sensing, hormone secretion, and feeding behavior. These extraoral functions suggest that TAS1R1 contributes to metabolic control as well as taste perception.

Dysregulation of TAS1R1 has been linked to metabolic disorders. Research using TAS1R1 antibody has shown that altered receptor expression or function affects glucose metabolism, appetite regulation, and insulin secretion. This expands the relevance of TAS1R1 from taste biology to systemic metabolic health.

In addition to metabolism, TAS1R1 has been implicated in cancer. Studies with TAS1R1 antibody have reported altered expression in gastric and pancreatic tumors, where nutrient-sensing pathways are hijacked for growth. These findings highlight the clinical importance of TAS1R1 in disease contexts.

TAS1R1 antibody is widely applied in immunohistochemistry, western blotting, and receptor localization studies. Immunohistochemistry highlights expression in taste buds and gastrointestinal tissues, western blotting quantifies receptor expression, and receptor assays demonstrate functionality. These applications make TAS1R1 antibody a valuable tool in sensory and metabolic research.

By providing validated TAS1R1 antibody reagents, NSJ Bioreagents supports studies into taste signaling, metabolism, and disease. Detection of Taste receptor type 1 member 1 provides researchers with insights into how GPCRs regulate sensory perception and metabolic pathways.

Application Notes

Optimal dilution of the TAS1R1 antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse TAS1R1 recombinant protein (Position: E102-T842) was used as the immunogen for the TAS1R1 antibody.

Storage

After reconstitution, the TAS1R1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.