

Product datasheet for **AP51877PU-N**

GNAT3 (Center) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	FC, IHC, WB
Recommended Dilution:	Peptide ELISA: 1/1000. Western Blot: 1/1000. Flow Cytometry: 1/10-1/50. Immunohistochemistry on Paraffin Sections: 1/50-1/100.
Reactivity:	Human
Host:	Rabbit
Isotype:	Ig
Clonality:	Polyclonal
Immunogen:	KLH conjugated synthetic peptide between 78-105 amino acids from the Central region of Human GNAT3
Specificity:	This antibody recognizes Human GNAT3 (Center).
Formulation:	PBS containing 0.09% (W/V) Sodium Azide as preservative State: Aff - Purified State: Liquid purified Ig fraction
Concentration:	lot specific
Purification:	Protein A column, followed by peptide affinity purification
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	G protein subunit alpha transducin 3
Database Link:	Entrez Gene 346562 Human A8MTJ3



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Background:

Guanine nucleotide-binding protein (G protein) alpha subunit playing a prominent role in bitter and sweet taste transduction as well as in umami (monosodium glutamate, monopotassium glutamate, and inosine monophosphate) taste transduction. Transduction by this alpha subunit involves coupling of specific cell-surface receptors with a cGMP-phosphodiesterase; Activation of phosphodiesterase lowers intracellular levels of cAMP and cGMP which may open a cyclic nucleotide-suppressible cation channel leading to influx of calcium, ultimately leading to release of neurotransmitter. Indeed, denatonium and strychnine induce transient reduction in cAMP and cGMP in taste tissue, whereas this decrease is inhibited by GNAT3 antibody. Gustducin heterotrimer transduces response to bitter and sweet compounds via regulation of phosphodiesterase for alpha subunit, as well as via activation of phospholipase C for beta and gamma subunits, with ultimate increase inositol trisphosphate and increase of intracellular Calcium. GNAT3 can functionally couple to taste receptors to transmit intracellular signal: receptor heterodimer TAS1R2/TAS1R3 senses sweetness and TAS1R1/TAS1R3 transduces umami taste, whereas the T2R family GPCRs act as bitter sensors. Functions also as luminal sugar sensors in the gut to control the expression of the Na⁺-glucose transporter SGLT1 in response to dietary sugar, as well as the secretion of Glucagon-like peptide-1, GLP-1 and glucose-dependent insulinotropic polypeptide, GIP. Thus, may modulate the gut capacity to absorb sugars, with implications in malabsorption syndromes and diet-related disorders including diabetes and obesity.

Synonyms:

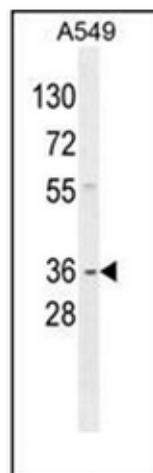
Gustducin alpha-3 chain, G protein G(t) subunit alpha-3

Note:

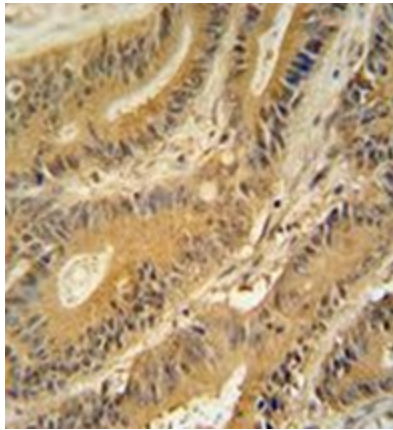
Molecular Weight: 40357 Da

Protein Pathways:

Taste transduction

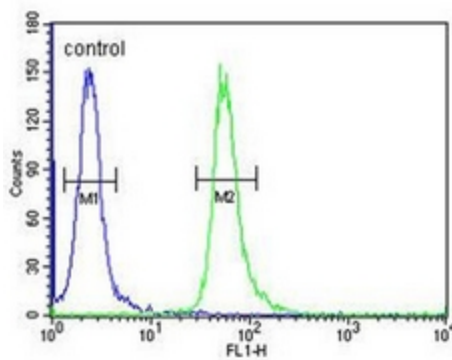
Product images:

Western blot analysis of GNAT3 Antibody (Center) in A549 cell line lysates (35ug/lane). This demonstrates the GNAT3 antibody detected the GNAT3 protein (arrow).



Immunohistochemistry analysis in formalin fixed and paraffin embedded human colon carcinoma reacted with GNAT3 Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining.

A549



Flow cytometric analysis of A549 cells using GNAT3 Antibody (Center) (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.