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GNAT3 Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF2670a

Specification

GNAT3 Antibody (internal region) - Product Information

Application	**IHC, E**
Primary Accession	A8MTJ3
Other Accession	NP_001095856.1, 346562, 242851 (mouse), 286924 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**40357**

GNAT3 Antibody (internal region) - Additional Information

Gene ID 346562

Other Names
Guanine nucleotide-binding protein G(t) subunit alpha-3, Gustducin alpha-3 chain, GNAT3

Dilution
IHC~~1:100~500
E~~N/A

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
GNAT3 Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

GNAT3 Antibody (internal region) - Protein Information

Name GNAT3

Function
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 (PubMed:38600377, PubMed:38776963). 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 such as TAS2R14 act as bitter sensors (PubMed:38600377, PubMed:38776963). Also functions as lumenal sugar sensors in the gut to control the expression of the Na+-glucose transporter SGLT1 in response to dietaty 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.

Cellular Location
Cytoplasm. Note=Dual distribution pattern; plasmalemmal pattern with apical region localization and cytosolic pattern with localization throughout the cytoplasm

Tissue Location
Expressed in taste buds (sensory organs of clustered epithelial cells) of the circumvallate and foliate papillae of the tongue at protein level. Expressed in enteroendocrine L cells of the gut. Detected also in spermatozoa.

GNAT3 Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GNAT3 Antibody (internal region) - Images

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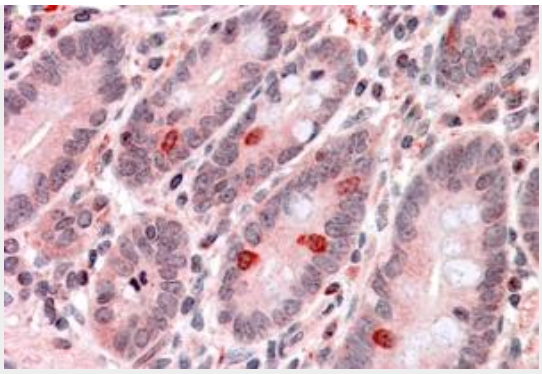

AF2670a (3.8 µg/ml) staining of paraffin embedded Human Small Intestine. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

GNAT3 Antibody (internal region) - References

Gut-expressed gustducin and taste receptors regulate secretion of glucagon-like peptide-1. Jang HJ, Kokrashvili Z, Theodorakis MJ, Carlson OD, Kim BJ, Zhou J, Kim HH, Xu X, Chan SL, Juhaszova M, Bernier M, Mosinger B, Margolskee RF, Egan JM. Proc Natl Acad Sci U S A. 2007 Sep 18;104(38):15069-74. Epub 2007 Aug 27. PMID: 17724330