

Product datasheet for TP523870

Gnat3 (NM_001081143) Mouse Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Mouse guanine nucleotide binding protein, alpha transducing 3 (Gnat3), with C-terminal MYC/DDK tag, expressed in HEK293T cells, 20ug
Species:	Mouse
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>MR223870 representing NM_001081143 Red =Cloning site Green =Tags(s)

MGSGISSESKESARRSKELEKKLQEDAERDARTVKLLLLGAGESGKSTIVKQMKIIHKNGYSKQECMEFK
AVIYSNTLQSI LAIVKAMATLGIDYVNP RSREDQEQ LHS MANTLEDGDMTPQLAEIHKRLWGD PGIQACF
ERASEYQLNDS AAYLNDLDR LTAPGYVPNEQDVLHSRVKTTGIIETQFSFKDLNFRMFDVGGQRSE RKK
WIHCFEGVT CII FCAALSAYDMVLVEDEEVNRMHESLHLFNSICNHKYFATTSIVLFLNKKDLFQEKVAK
VHLSICFPEYTGPNTFEDAGNYIKNQFLDLNLKKEDKEIYSHMTCATDTQNVKVFVDAVTDIIIKENLKD
CGLF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Tag:	C-MYC/DDK
Predicted MW:	40.8 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C after receiving vials.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_001074612
Locus ID:	242851
UniProt ID:	Q3V3I2 , B2RVZ3



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RefSeq Size: 1174

Cytogenetics: 5 A3

RefSeq ORF: 1062

Synonyms: Ggust; Gtn

Summary: 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.[UniProtKB/Swiss-Prot Function]