



[Go to Product page](#)

Datasheet for ABIN3092787

## GNAT3 Protein (AA 2-354) (His tag)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	GNAT3
Protein Characteristics:	AA 2-354
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GNAT3 protein is labelled with His tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB), Crystallization (Crys)

#### Product Details

Sequence: GSGISSESKE SAKRSKELEK KLQEDAERDA RTVKLLLLGA GESGKSTIVK QMKIIHKNGY  
SEQECMEFKA VIYSNTLQSI LAIVKAMTTL GIDYVNPRSA EDQRQLYAMA NTLEDGGMTP  
QLAEVIKRLW RDPGIQACFE RASEYQLNDS AAYYLNDLDR ITASGYVPNE QDVLHSRVKT  
TGIIETQFSF KDLHFRMFDV GGQRSERKKW IHCFEGVTCI IFCAALSAYD MVLVEDEEVN  
RMHESLHLFN SICNHKYFST TSIVLFLNKK DIFQEKVTKV HLSICFPEYT GPNTFEDAGN  
YIKNQFLDLN LKKEDKEIYS HMTCATDTQN VKFVFDAVTD IIKENLKDC GLF

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
  - Human GNAT3 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
  - State-of-the-art algorithm used for plasmid design (Gene synthesis).

## Product Details

---

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

---

Purification:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells: <ol style="list-style-type: none"><li>1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.</li><li>2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.</li></ol>
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

---

## Target Details

---

Target:	GNAT3
Alternative Name:	GNAT3 ( <a href="#">GNAT3 Products</a> )
Background:	Guanine nucleotide-binding protein (G protein) alpha subunit playing a prominent role in bitter

---

## Target Details

---

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<sup>+</sup>-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. {ECO:0000269|PubMed:11917125, ECO:0000269|PubMed:17724330}.

---

Molecular Weight: 41.2 kDa Including tag.

---

UniProt: [A8MTJ3](#)

---

Pathways: [Peptide Hormone Metabolism](#), [G-protein mediated Events](#), [Phototransduction](#)

## Application Details

---

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

---

Restrictions: For Research Use only

## Handling

---

Format:	Liquid
Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

## Images

---



**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process