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# GPR39 Protein (AA 1-456) (Strep Tag)



#### Overview

Quantity:	1 mg
Target:	GPR39
Protein Characteristics:	AA 1-456
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This GPR39 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

#### **Product Details**

Sequence:

MASSSGSNHI CSRVIDHSHV PEFEVATWIK ITLILVYLII FVVGILGNSV TIRVTQVLQK
KGYLQKEVTD HMVSLACSDI LVFLIGMPME FYSIIWNPLT TPSYALSCKL HTFLFETCSY
ATLLHVLTLS FERYIAICHP FKYKAVSGPR QVKLLIGFVW VTSALVALPL LFAMGIEYPL
VNVPTHKGLN CNLSRTRHHD EPGNSNMSIC TNLSNRWEVF QSSIFGAFAV YLVVLASVAF
MCWNMMKVLM KSKQGTLAGT GPQLQLRKSE SEESRTARRQ TIIFLRLIVV TLAVCWMPNQ
IRRIMAAAKP KHDWTRTYFR AYMILLPFSD TFFYLSSVVN PLLYNVSSQQ FRKVFWQVLC
CRLTLQHANQ EKRQRARFIS TKDSTSSARS PLIFLASRRS NSSSRRTNKV FLSTFQTEAK
PGEAKPQPLS PESPQTGSET KPAGSTTENS LQEQEV

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- · Made in Germany from design to production by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- · State-of-the-art algorithm used for plasmid design (Gene synthesis).

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.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require posttranslational modifications.
- During lysate production, the cell wall and other cellular components that are not required for
  protein production are removed, leaving only the protein production machinery and the
  mitochondria to drive the reaction. During our lysate completion steps, the additional
  components needed for protein production (amino acids, cofactors, etc.) are added to
  produce something that functions like a cell, but without the constraints of a living system all that's needed is the DNA that codes for the desired protein!

#### Concentration:

- 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.
- We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

#### Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

- 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
- 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.

# **Product Details** ≥ 80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. Purity: Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg) Target Details GPR39 Target: Alternative Name: Gpr39 (GPR39 Products) Background: G-protein coupled receptor 39,FUNCTION: Zinc-sensing receptor that can sense changes in extracellular Zn(2+), mediate Zn(2+) signal transmission, and participates in the regulation of numerous physiological processes including glucose homeostasis regulation, gastrointestinal mobility, hormone secretion and cell death (PubMed:17030183, PubMed:18180304). Activation by Zn(2+) in keratinocytes increases the intracellular concentration of Ca(2+) and activates the ERK/MAPK and PI3K/AKT signaling pathways leading to epithelial repair (By similarity). Plays an essential role in normal wound healing by inducing the production of cytokines including the major inflammatory cytokine IL6 via the PKC/MAPK/CEBPB pathway (PubMed:31346193). Regulates adipose tissue metabolism, especially lipolysis, and regulates the function of lipases, such as hormone-sensitive lipase and adipose triglyceride lipase (PubMed:21784784). Plays a role in the inhibition of cell death and protects against oxidative, endoplasmic reticulum and mitochondrial stress by inducing secretion of the cytoprotective pigment epithelium-derived growth factor (PEDF) and probably other protective transcripts in a GNA13/RHOA/SREdependent manner. Forms dynamic heteroreceptor complexes with HTR1A and GALR1 depending on cell type or specific physiological states, resulting in signaling diversity: HTR1A-GPR39 shows additive increase in signaling along the serum response element (SRE) and NFkappa-B pathways while GALR1 acts as an antagonist blocking SRE (By similarity). {ECO:0000250|UniProtKB:043194, ECO:0000269|PubMed:17030183, ECO:0000269|PubMed:18180304, ECO:0000269|PubMed:21784784, ECO:0000269|PubMed:31346193}. Molecular Weight: 51.6 kDa UniProt: Q5U431 Pathways: Positive Regulation of Peptide Hormone Secretion, Carbohydrate Homeostasis, Feeding Behaviour

### **Application Details**

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies

## **Application Details**

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	as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from
	Nicotiana tabacum c.v This contains all the protein expression machinery needed to produce
	even the most difficult-to-express proteins, including those that require post-translational
	modifications.
	During lysate production, the cell wall and other cellular components that are not required for
	protein production are removed, leaving only the protein production machinery and the
	mitochondria to drive the reaction. During our lysate completion steps, the additional
	components needed for protein production (amino acids, cofactors, etc.) are added to produce
	something that functions like a cell, but without the constraints of a living system - all that's
	needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only
Handling	
Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request,
	please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)