Datasheet for ABIN3080948

# GNA12 Protein (AA 1-381) (Strep Tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | GNA12 |
| Protein Characteristics: | AA 1-381 |
| Origin: | Human |
| Source: | Cell-free protein synthesis (CFPS) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This GNA12 protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

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| Brand: | AliCE® |
| Sequence: | MSGVVRTLSR CLLPAEAGGA RERRAGSGAR DAEREARRRS RDIDALLARE RRAVRRLVKI LLLGAGESGK STFLKQMRII HGREFDQKAL LEFRDTIFDN ILKGSRVLVD ARDKLGIPWQ YSENEKHGMF LMAFENKAGL PVEPATFQLY VPALSALWRD SGIREAFSRR SEFQLGESVK YFLDNLDRIG QLNYFPSKQD ILLARKATKG IVEHDFVIKK IPFKMVDVGG QRSQRQKWFQ CFDGITSILF MVSSSEYDQV LMEDRRTNRL VESMNIFETI VNNKLFFNVS IILFLNKMDL LVEKVKTVSI KKHFPDFRGD PHRLEDVQRY LVQCFDRKRR NRSKPLFHHF TTAIDTENVR FVFHAVKDTI LQENLKDIML Q<br>**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: |

## Product Details

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 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!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

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| Purification: | One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®). |
| Purity: | > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC). |
| Grade: | custom-made |

## Target Details

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| Target: | GNA12 |

## Target Details

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| Alternative Name: | GNA12 (GNA12 Products) |
| Background: | Guanine nucleotide-binding protein subunit alpha-12 (G alpha-12) (G-protein subunit alpha-12),FUNCTION: Guanine nucleotide-binding proteins (G proteins) are involved as modulators or transducers in various transmembrane signaling systems (PubMed:22609986, PubMed:15525651, PubMed:15240885, PubMed:17565996, PubMed:12515866, PubMed:16787920, PubMed:16705036, PubMed:23762476, PubMed:27084452). Activates effector molecule RhoA by binding and activating RhoGEFs (ARHGEF12/LARG) (PubMed:15240885, PubMed:12515866, PubMed:16202387). GNA12-dependent Rho signaling subsequently regulates transcription factor AP-1 (activating protein-1) (By similarity). GNA12-dependent Rho signaling also regulates protein phosphatese 2A activation causing dephosphorylation of its target proteins (PubMed:15525651, PubMed:17565996). Promotes tumor cell invasion and metastasis by activating RhoA/ROCK signaling pathway and up-regulating pro-inflammatory cytokine production (PubMed:23762476, PubMed:16787920, PubMed:16705036, PubMed:27084452). Inhibits CDH1-mediated cell adhesion in process independent from Rho activation (PubMed:11976333, PubMed:16787920). Together with NAPA promotes CDH5 localization to plasma membrane (PubMed:15980433). May play a role in the control of cell migration through the TOR signaling cascade (PubMed:22609986). {ECO:0000250\|UniProtKB:P27600, ECO:0000269\|PubMed:11976333, ECO:0000269\|PubMed:12515866, ECO:0000269\|PubMed:15240885, ECO:0000269\|PubMed:15525651, ECO:0000269\|PubMed:15980433, ECO:0000269\|PubMed:16705036, ECO:0000269\|PubMed:16787920, ECO:0000269\|PubMed:17565996, ECO:0000269\|PubMed:22609986, ECO:0000269\|PubMed:23762476, ECO:0000269\|PubMed:27084452}. |
| Molecular Weight: | 44.3 kDa |
| UniProt: | Q03113 |

## Application Details

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| 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: | 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. |

## Application Details

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| | 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

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer.<br>Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.** |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |