Datasheet for ABIN3095092

# POLR3G Protein (AA 1-223) (Strep Tag)

1 Image

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## Overview

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| Quantity: | 1 mg |
| Target: | POLR3G |
| Protein Characteristics: | AA 1-223 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This POLR3G protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

Sequence: MAGNKGRGRA AYTFNIEAVG FSKGEKLPDV VLKPPPLFPD TDYKPVPLKT GEGEEYMLAL KQELRETMKR MPYFIETPEE RQDIERYSKR YMKVYKEEWI PDWRRLPREM MPRNKCKKAG PKPKKAKDAG KGTPLTNTED VLKKMEELEK RGDGEKSDEE NEEKEGSKEK SKEGDDDDDD DAAEQEEYDE EEQEEENDYI NSYFEDGDDF GADSDDNMDE ATY

**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 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 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.

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| Purification: | Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):<br>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.<br>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. |
| Purity: | >80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. |
| Endotoxin Level: | Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg) |

## Product Details

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| Grade: | Crystallography grade |

## Target Details

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| Target: | POLR3G |
| Alternative Name: | POLR3G (POLR3G Products) |
| Background: | DNA-directed RNA polymerase III subunit RPC7 (RNA polymerase III subunit C7) (DNA-directed RNA polymerase III subunit G) (RNA polymerase III 32 kDa apha subunit) (RPC32-alpha) (RNA polymerase III 32 kDa subunit) (RPC32),FUNCTION: DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates (PubMed:20413673, PubMed:35637192, PubMed:34675218, PubMed:33558764). Specific peripheric component of RNA polymerase III (Pol III) which synthesizes small non-coding RNAs including 5S rRNA, snRNAs, tRNAs and miRNAs from at least 500 distinct genomic loci (PubMed:20413673, PubMed:20154270, PubMed:35637192). Acts as a long tether that bridges POLR3C/RPC3-POLR3F/RPC6-POLR3G/RPC7 heterotrimer and the mobile stalk of Pol III, coordinating the dynamics of Pol III stalk and clamp modules during the transition from apo to elongation state. Pol III exists as two alternative complexes defined by the mutually exclusive incorporation of subunit POLR3G/RPC7alpha or POLR3GL/RPC7beta. POLR3G/RPC7alpha modulates Pol III transcriptome by specifically enhancing the transcription of snaR-A non-coding RNAs. At resting state, occupies the active site of apo Pol III and keeps Pol III in an autoinhibitory mode, preventing non-specific transcription (PubMed:33558766, PubMed:33558764, PubMed:35637192). Pol III plays a key role in sensing and limiting infection by intracellular bacteria and DNA viruses. Acts as a nuclear and cytosolic DNA sensor involved in innate immune response. Can sense non-self dsDNA that serves as template for transcription into dsRNA. The non-self RNA polymerase III transcripts, such as Epstein-Barr virus-encoded RNAs (EBERs), induce type I interferon and NF-kappa-B through the RIG-I pathway (PubMed:19609254, PubMed:19631370). {ECO:0000269\|PubMed:19609254, ECO:0000269\|PubMed:19631370, ECO:0000269\|PubMed:20154270, ECO:0000269\|PubMed:20413673, ECO:0000269\|PubMed:33558764, ECO:0000269\|PubMed:33558766, ECO:0000269\|PubMed:34675218, ECO:0000269\|PubMed:35637192}. |
| Molecular Weight: | 25.9 kDa |
| UniProt: | O15318 |

## 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.<br>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. 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) |


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

 