

Datasheet for ABIN3092387

## EGLN3 Protein (AA 1-239) (Strep Tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	EGLN3
Protein Characteristics:	AA 1-239
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This EGLN3 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

#### Product Details

Sequence:	<p>MPLGHIMRLD LEKIALEYIV PCLHEVGFCY LDNFLGEVVG DCVLERVKQL HCTGALRDGQ</p> <p>LAGPRAGVSK RHLRGDQITW IGGNEEGCEA ISFLLSLIDR LVLYCGSRLG KYYVKERSKA</p> <p>MVACYPGNGT GYVRHVDNPN GDGRCITCIY YLNKNWDAKL HGGILRIFPE GKSFIADVEP</p> <p>IFDRLLFFWS DRRNPHEVQP SYATRYAMTV WYFDAEERAE AKKKFRNLTR KTESALTED</p> <p><b>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.</b></p>
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Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none"> <li>• Made in Germany - from design to production - by highly experienced protein experts.</li> <li>• Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.</li> <li>• These proteins are normally active (enzymatically functional) as our customers have</li> </ul>
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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®):  <ol style="list-style-type: none"><li>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.</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:	>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)

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## Product Details

Grade: Crystallography grade

## Target Details

Target: EGLN3

Alternative Name: EGLN3 ([EGLN3 Products](#))

Background: Prolyl hydroxylase EGLN3 (EC 1.14.11.-) (Egl nine homolog 3) (EC 1.14.11.29) (HPH-1) (Hypoxia-inducible factor prolyl hydroxylase 3) (HIF-PH3) (HIF-prolyl hydroxylase 3) (HPH-3) (Prolyl hydroxylase domain-containing protein 3) (PHD3),FUNCTION: Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as PKM, TELO2, ATF4 and HIF1A (PubMed:19584355, PubMed:21620138, PubMed:21483450, PubMed:22797300, PubMed:20978507, PubMed:21575608). Target proteins are preferentially recognized via a LXXLAP motif. Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins (PubMed:11595184, PubMed:12181324). Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N-terminal, NODD, and C-terminal, CODD) of HIF1A (PubMed:11595184, PubMed:12181324). Also hydroxylates HIF2A (PubMed:11595184, PubMed:12181324). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed:11595184, PubMed:12181324). Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site (PubMed:11595184, PubMed:12181324). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:11595184, PubMed:12181324). Under hypoxic conditions, the hydroxylation reaction is attenuated allowing HIFs to escape degradation resulting in their translocation to the nucleus, heterodimerization with HIF1B, and increased expression of hypoxia-inducible genes (PubMed:11595184, PubMed:12181324). ELGN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis (PubMed:21620138, PubMed:21483450). Under normoxia, hydroxylates and regulates the stability of ADRB2 (PubMed:19584355). Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex (PubMed:20849813). In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity (PubMed:16098468). Also essential for hypoxic regulation of neutrophilic inflammation (PubMed:21317538). Plays a crucial role in DNA damage response (DDR) by hydroxylating TELO2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway (PubMed:22797300). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (Probable). {ECO:0000269|PubMed:11595184,

## Target Details

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ECO:0000269|PubMed:19584355, ECO:0000269|PubMed:20849813,  
ECO:0000269|PubMed:20978507, ECO:0000269|PubMed:21317538,  
ECO:0000269|PubMed:21483450, ECO:0000269|PubMed:21575608,  
ECO:0000269|PubMed:21620138, ECO:0000269|PubMed:22797300,  
ECO:0000305|PubMed:17684156}.

Molecular Weight: 27.3 kDa

UniProt: [Q9H6Z9](#)

Pathways: [Positive Regulation of Endopeptidase Activity](#)

## 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: 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.

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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

## Handling

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