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Datasheet for ABIN3136829

**PHD1 Protein (AA 1-419) (His tag)****1** Image

## Overview

Quantity:	1 mg
Target:	PHD1 (EGLN2)
Protein Characteristics:	AA 1-419
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PHD1 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB), Crystallization (Crys)

## Product Details

Sequence: MDSPCQPQAL NQALPQLPGS VSESLESSRA RMGVESYLPC PLLPAYHRPG ASGEASAGNG  
TPRTTATATT TTASPLREGF GGQDGGELWP LQSEGAAALV TKECQLAAQ GARPEAPKRK  
WAKDGGDAPS PSKRPPWARQE NQEAKGESGM GCDSGASNSS SSSSNTTSSS GEASARLREE  
VQPSAPERLA LDYIVPCMRY YGICVKDNFL GAVLGGRVLA EVEALKWGGR LRDGQLVSQR  
AIPPRSIRGD QIAWVEGHEP GCRSIGALMA HVDAVIRHCA GRLGNYVING RTKAMVACYP  
GNGLGYVRHV DNPBGDGRCI TCIYYLNQNW DVKVHGGLLQ IFPEGRPVVA NIEPLFDRLL  
IFWSDRRNPH EVKPAYATRY AITVWYFPAK ERAAARDKYQ LASGQKGVQV PVSQPTTPT

**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.
  - Mouse EglN2 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.

## Product Details

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- 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.

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.

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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

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## Target Details

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Target:	PHD1 (EGLN2)
Alternative Name:	EglN2 ( <a href="#">EGLN2 Products</a> )

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## Target Details

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**Background:** Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N-terminal, NODD, and C-terminal, CODD) of HIF1A. Also hydroxylates HIF2A. Has a preference for the CODD site for both HIF1A and HIF2A. Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex. 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. EGLN2 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle. Also regulates susceptibility to normoxic oxidative neuronal death. Links oxygen sensing to cell cycle and primary cilia formation by hydroxylating the critical centrosome component CEP192 which promotes its ubiquitination and subsequent proteasomal degradation. Hydroxylates IKBKB, mediating NF-kappaB activation in hypoxic conditions. Target proteins are preferentially recognized via a LXXLAP motif. {ECO:0000269|PubMed:18176562, ECO:0000269|PubMed:19587290, ECO:0000269|PubMed:21083501}.

**Molecular Weight:** 46.1 kDa Including tag.

**UniProt:** [Q91YE2](#)

**Pathways:** [Intracellular Steroid Hormone Receptor Signaling Pathway](#), [Cell RedoxHomeostasis](#)

## 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:** Protein has not been tested for activity yet. 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

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**Format:** Liquid

**Buffer:** 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

## Handling

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Handling Advice: Avoid repeated freeze-thaw cycles.

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Storage: -80 °C

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Storage Comment: Store at -80°C.

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Expiry Date: Unlimited (if stored properly)

## Images

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