Datasheet for ABIN3092321

PHD1 Protein (AA 1-407) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PHD1 (EGLN2)
Protein Characteristics:	AA 1-407
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PHD1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Brand:	AliCE®
Sequence:	MDSPCQPQPL SQALPQLPGS SSEPLEPEPG RARMGVESYL PCPLLPSYHC PGVPSEASAG SGTPRATATS TTASPLRDGF GGQDGGELRP LQSEGAAALV TKGCQRLAAQ GARPEAPKRK WAEDGGDAPS PSKRPWARQE NQEAEREGGM SCSCSSGSGE ASAGLMEEAL PSAPERLALD YIVPCMRYYG ICVKDSFLGA ALGGRVLAEV EALKRGGRLR DGQLVSQRAI PPRSIRGDQI AWVEGHEPGC RSIGALMAHV DAVIRHCAGR LGSYVINGRT KAMVACYPGN GLGYVRHVDN PHGDGRCITC IYYLNQNWDV KVHGGLLQIF PEGRPVVANI EPLFDRLLIF WSDRRNPHEV KPAYATRYAI TVWYFDAKER AAAKDKYQLA SGQKGVQVPV SQPPTPT **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.

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

Target:	PHD1 (EGLN2)

Target Details

Alternative Name:	EGLN2 (EGLN2 Products)
Background:	Prolyl hydroxylase EGLN2 (EC 1.14.11.-) (Egl nine homolog 2) (EC 1.14.11.29) (Estrogen-induced tag 6) (EIT-6) (HPH-3) (Hypoxia-inducible factor prolyl hydroxylase 1) (HIF-PH1) (HIF-prolyl hydroxylase 1) (HPH-1) (Prolyl hydroxylase domain-containing protein 1) (PHD1),FUNCTION: Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as ATF4, IKBKB, CEP192 and HIF1A (PubMed:11595184, PubMed:12039559, PubMed:15925519, PubMed:16509823, PubMed:17114296, PubMed:23932902). Target proteins are preferentially recognized via a LXXLAP motif (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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:12039559, PubMed:12181324, PubMed:15925519, PubMed:19339211). 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:12039559, PubMed:12181324, PubMed:15925519). Also hydroxylates HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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 hypoxy-inducible genes (PubMed:11595184, PubMed:12039559, PubMed:15925519). EGLN2 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle (PubMed:11595184, PubMed:12039559, PubMed:15925519). Also regulates susceptibility to normoxic oxidative neuronal death (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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 (PubMed:23932902). Hydroxylates IKBKB, mediating NF-kappa-B activation in hypoxic conditions (PubMed:17114296). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (By similarity). {ECO:0000250|UniProtKB:Q91YE2, ECO:0000269|PubMed:11595184, ECO:0000269|PubMed:12039559, ECO:0000269|PubMed:12181324, ECO:0000269|PubMed:15925519, ECO:0000269|PubMed:16509823, ECO:0000269|PubMed:17114296, ECO:0000269|PubMed:19339211, ECO:0000269|PubMed:23932902}.
Molecular Weight:	43.7 kDa

Target Details

UniProt:	Q96KS0
Pathways:	Intracellular Steroid Hormone Receptor Signaling Pathway, Cell RedoxHomeostasis

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. 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. 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