

PHD3 recombinant protein

Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag

CATALOG #
AAA60179

HOST
Baculovirus

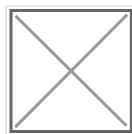
PRODUCT SYNONYMS

PHD3; Recombinant PHD3 (EGLN3) protein; DYKDDDDK-Tag; Egl-9 Family Hypoxia Inducible Factor 3; Prolyl Hydroxylase Domain-Containing Protein 3; HIF-Prolyl Hydroxylase 3; PHD3 recombinant protein

PRODUCT SPECIFICATIONS

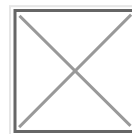
Host	Baculovirus
Form/Format	Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag is supplied in 25mM HEPES pH7.5, 300mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5mM TCEP.
Protein Species	Human
Tag	DYKDDDDK-Tag
Notes	Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag is suitable for use in binding assays, inhibitor screening, and selectivity profiling. Assay Conditions:3uM HIF1A (HIF-1a) peptide (peptide sequence: biotin-DLDLEALAPYIPADDDFQL) was incubated with 300nM PHD3 protein in a 30ul reaction system containing 20mM Tris-HCl pH 7.5, 5mM KCl, 1.5mM MgCl ₂ , 1mM DTT, 100uM 2-oxoglutarate, 100uM ascorbate and 50uM (NH ₄) ₂ Fe(SO ₄) ₂ ·6H ₂ O for 2 hours at 30 degree C. MALDI-TOF was used for detection.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



Application Data

MALDI-TOF for Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag 3 ?M HIF1A peptide was incubated with 300 nM PHD3 protein in 30 ?l reaction system containing 20 mM Tris-HCl pH 7.5, 5 mM KCl, 1.5 mM MgCl₂, 1 mM DTT, 100 ?M 2-oxoglutarate, 100 ?M ascorbate and 50 ?M (NH₄)₂Fe(SO₄)₂·6H₂O for 2 hours at 30 degree C. MALDI-TOF was used for detection.



SDS-PAGE

Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag 10% SDS-PAGE Coomassie staining
MW: 28.9 kDa Purity: >80%

ADDITIONAL INFORMATION

Related Product Information for PHD3 recombinant protein	Short Description: Recombinant PHD3 (EGLN3) protein, DYKDDDDK-Tag was expressed in a baculovirus expression system as the full-length protein (accession number NP_071356.1) with an N-terminal DYKDDDDK tag. The molecular weight of the protein is 28.9 kDa. Background: Prolyl Hydroxylase Domain-Containing Protein 3 (PHD3) or Egl-9 Family Hypoxia Inducible Factor 3 (EGLN3), also known as PHIF-PH3 or HPH-3, is a prolyl hydroxylase. PHD3 is a cellular oxygen sensor that catalyzes the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins under normoxic conditions. It can hydroxylate a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N-terminal, NODD, and C-terminal, CODD) of HIF1A, also HIF2A. PHD3 has a preference for the CODD site for both HIF1A and HIF2A. Hydroxylation on the NODD site by PHD3 appears to require prior hydroxylation on the CODD site, and then hydroxylated HIFs are 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. PHD3 can also hydroxylate PKM in hypoxia, limiting glycolysis, while under normoxia, hydroxylate and regulates the stability of ADRB2. In cardiomyocytes, it inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex. In neurons, it has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity. PHD3 is essential for hypoxic regulation of neutrophilic inflammation. Beside, it plays a crucial role in DNA damage response (DDR) by hydroxylating TEL2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway. Its target proteins are preferentially recognized via a LXXLAP motif.
Product Categories/Family for PHD3 recombinant protein	Recombinant Proteins ; Transcription

NCBI AND UNIPROT INFORMATION

NCBI GI #	11545787
NCBI GeneID	112399
NCBI Accession #	NP_071356.1
NCBI GenBank Nucleotide #	NM_022073.3
UniProt Accession #	Q9H6Z9; Q2TA79; Q3B8N4; Q6P1R2
Molecular Weight	27,261 Da
NCBI Official Full Name	egl nine homolog 3
NCBI Official Synonym Full Names	egl-9 family hypoxia-inducible factor 3
NCBI Official Symbol	EGLN3
NCBI Official Synonym Symbols	PHD3; HIFPH3; HIFP4H3
NCBI Protein Information	egl nine homolog 3; HIF prolyl hydroxylase 3; HIF-PH3; HIF-prolyl hydroxylase 3; HPH-1; HPH-3; egl nine-like protein 3 isoform; hypoxia-inducible factor prolyl hydroxylase 3; prolyl hydroxylase domain-containing protein 3
UniProt Protein Name	Egl nine homolog 3
UniProt Gene Name	EGLN3
UniProt Synonym Gene Names	HIF-PH3; HIF-prolyl hydroxylase 3; HPH-3; PHD3
UniProt Entry Name	EGLN3_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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 Online datasheet: <https://stage.aaabiotech.com/egln3-recombinant-protein-baculovirus/60179>