

PHD1 recombinant protein

Recombinant PHD1 (EGLN2) protein

CATALOG # AAA60115	HOST Baculovirus
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PRODUCT SYNONYMS

PHD1; Recombinant PHD1 (EGLN2) protein; prolyl-4-hydroxylase 1; Egl-9 Family Hypoxia Inducible Factor 2; HIF-PH1; PHD1 recombinant protein

PRODUCT SPECIFICATIONS

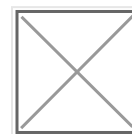
Host	Baculovirus
Form/Format	Recombinant PHD1/EGLN2 protein is in 25mM HEPES-NaOH pH7.5, 300mM NaCl, 10% glycerol, 0.04% Triton X-100 and 0.5mM TCEP.
Protein Species	Human
Tag	DYKDDDDK-Tag
Notes	This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling. Assay Conditions: 3uM HIF1A (HIF-1a) peptide (DLDLEALAPYIPADDDFQL) was incubated with 300nm PHD1 protein in 30ul reaction system containing 20mM Tris-HCl pH 7.5, 5mM KCl, 1.5mM MgCl2, 1mM DTT, 100uM 2-oxoglutarate, 100uM ascorbate and 50uM (NH4)2Fe(SO4)2·6H2O 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 PHD1 / EGLN2 protein 3 uM HIF-1a peptide (biotin-DLDLEALAPYIPADDDFQL) was incubated with 300 nM PHD1 / EGLN2 protein in a 30 ul reaction containing 20 mM Tris-HCl pH 7.5, 5 mM KCl, 1.5 mM MgCl2, 1 mM DTT, 100 uM 2-oxoglutarate, 100 uM ascorbate and 50 uM (NH4)2Fe(SO4)2·6H2O for 2 hr. at 30 degree C. Single 3 uM HIF-1a peptide was used as a negative control. MALDI-TOF was used for detection.



SDS-PAGE

Recombinant PHD1 / EGLN2 protein gel 10% SDS-PAGE Coomassie staining MW: 44.9 kDa
Purity: >90%

ADDITIONAL INFORMATION

Related Product Information for PHD1 recombinant protein	Short Description: Recombinant human PHD1/EGLN2 protein was expressed in a baculovirus expression system as the full-length protein (accession number NP_542770.2) with an N-terminal DYKDDDDK tag. The molecular weight of the protein is 44.9 kDa. It is suitable for use in binding assays, inhibitor screening, and selectivity profiling. Background: Prolyl Hydroxylase Domain-Containing Protein 1 (PHD1) or Egl-9 Family Hypoxia Inducible Factor 2 (EGLN2), also known as HIF-PH1 or EIT6, 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. PHD1 has a preference for the CODD site for both HIF1A and HIF2A. 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. PHD1 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle. It also regulates susceptibility to normoxic oxidative neuronal death. PHD1 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. Besides, PHD1 can hydroxylate IKBKB, mediating NF-kappaB activation in hypoxic conditions. Its target proteins are preferentially recognized via a LXXLAP motif.
Product Categories/Family for PHD1 recombinant protein	Recombinant Proteins ; Transcription

NCBI AND UNIPROT INFORMATION

NCBI GI #	145701012
NCBI GeneID	112398
NCBI Accession #	NP_542770.2
NCBI GenBank Nucleotide #	NM_080732.3
Molecular Weight	40,168 Da
NCBI Official Full Name	egl nine homolog 2
NCBI Official Synonym Full Names	egl-9 family hypoxia-inducible factor 2
NCBI Official Symbol	EGLN2
NCBI Official Synonym Symbols	EIT6; PHD1; HPH-1; HPH-3; HIFPH1; HIF-PH1
NCBI Protein Information	egl nine homolog 2; estrogen-induced tag 6; HIF-prolyl hydroxylase 1; hypoxia-inducible factor prolyl hydroxylase 1; prolyl hydroxylase domain-containing protein 1

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/phd1-recombinant-protein-baculovirus/60115>