

Product datasheet for PH310319

PHD3 (EGLN3) (NM_022073) Human Mass Spec Standard

Product data:

Product Type:	Mass Spec Standards
Description:	EGLN3 MS Standard C13 and N15-labeled recombinant protein (NP_071356)
Species:	Human
Expression Host:	HEK293
Expression cDNA Clone or AA Sequence:	RC210319
Predicted MW:	27.3 kDa
Protein Sequence:	>RC210319 protein sequence Red=Cloning site Green=Tags(s) MPLGHIMRLDLEKIALEYIVPCLHEVGFYLDNFLGEVVGDCVLERVKQLHCTGALRDGQLAGPRAGVSK RHLRGDQITWIGNEEGCEAISFLLSLIDRLVLYCGSRLGKYVYKERSKAMVACYPGNGTGYYRHDNPN GDGRCITCIYYLNKNWDAKLHGGILRIFPEGKSF IADVEPIFDRLFFWSDRRNPHEVQPSYATRYAMTV WYFDAEERAEAKKKFRNLTRKTESALTED TRTRPLEQKLI SEEDLAANDILDYKDDDDKV
Tag:	C-Myc/DDK
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Labeling Method:	Labeled with [U- ¹³ C ₆ , ¹⁵ N ₄]-L-Arginine and [U- ¹³ C ₆ , ¹⁵ N ₂]-L-Lysine
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3
Storage:	Store at -80°C. Avoid repeated freeze-thaw cycles.
Stability:	Stable for 3 months from receipt of products under proper storage and handling conditions.
RefSeq:	NP_071356
RefSeq Size:	2722
RefSeq ORF:	717
Synonyms:	HIFP4H3; HIFPH3; PHD3
Locus ID:	112399
UniProt ID:	Q9H6Z9



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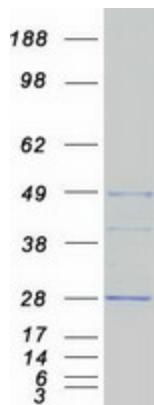
Cytogenetics: 14q13.1

Summary: 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. Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site. 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. EGLN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis. Under normoxia, hydroxylates and regulates the stability of ADRB2. Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex. In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity. Also essential for hypoxic regulation of neutrophilic inflammation. 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. Target proteins are preferentially recognized via a LXXLAP motif.[UniProtKB/Swiss-Prot Function]

Protein Families: Druggable Genome

Protein Pathways: Pathways in cancer, Renal cell carcinoma

Product images:



Coomassie blue staining of purified EGLN3 protein (Cat# [TP310319]). The protein was produced from HEK293T cells transfected with EGLN3 cDNA clone (Cat# [RC210319]) using MegaTran 2.0 (Cat# [TT210002]).