

Product datasheet for TP310319M

OriGene Technologies, Inc.

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PHD3 (EGLN3) (NM_022073) Human Recombinant Protein

Product data:

Product Type: Recombinant Proteins

Description: Recombinant protein of human egl nine homolog 3 (C. elegans) (EGLN3), 100 μg

Species: Human
Expression Host: HEK293T

Expression cDNA Clone >RC210319 protein sequence or AA Sequence: Red=Cloning site Green=Tags(s)

MPLGHIMRLDLEKIALEYIVPCLHEVGFCYLDNFLGEVVGDCVLERVKQLHCTGALRDGQLAGPRAGVSK RHLRGDQITWIGGNEEGCEAISFLLSLIDRLVLYCGSRLGKYYVKERSKAMVACYPGNGTGYVRHVDNPN GDGRCITCIYYLNKNWDAKLHGGILRIFPEGKSFIADVEPIFDRLLFFWSDRRNPHEVQPSYATRYAMTV

WYFDAEERAEAKKKFRNLTRKTESALTED

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Tag: C-Myc/DDK
Predicted MW: 27.1 kDa

Concentration: >0.05 µg/µL as determined by microplate BCA method

Purity: > 80% as determined by SDS-PAGE and Coomassie blue staining

Buffer: 25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol

Preparation: Recombinant protein was captured through anti-DDK affinity column followed by

conventional chromatography steps.

Note: For testing in cell culture applications, please filter before use. Note that you may experience

some loss of protein during the filtration process.

Storage: Store at -80°C.

Stability: Stable for 12 months from the date of receipt of the product under proper storage and

handling conditions. Avoid repeated freeze-thaw cycles.

 RefSeq:
 NP 071356

 Locus ID:
 112399

 UniProt ID:
 Q9H6Z9





RefSeq Size: 2722

Cytogenetics: 14q13.1 RefSeq ORF: 717

Synonyms: HIFP4H3; HIFPH3; PHD3

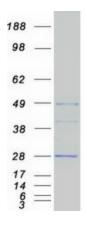
Summary: Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational

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 (Nterminal, 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 hypoxy-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 NGFinduced 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]).