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Product datasheet for SC215935

PHD3 (EGLN3) (NM_022073) Human 3' UTR Clone

Product data:

Product Type:	3' UTR Clones
Product Name:	PHD3 (EGLN3) (NM_022073) Human 3' UTR Clone
Symbol:	PHD3
Synonyms:	HIFP4H3; HIFPH3; PHD3
Mammalian Cell Selection:	Neomycin
Vector:	pMirTarget (PS100062)
ACCN:	NM_022073
Insert Size:	1694 bp

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Insert Sequence:

>SC215935 3'UTR clone of NM_022073
The sequence shown below is from the reference sequence of NM_022073. The complete sequence of this clone may contain minor differences, such as SNPs.
Blue=Stop Codon Red=Cloning site

GGCAAGTTGGACGCCCGCAAGATCCGCGAGATTCTCATTAAGGCCAAGAAGGGCGGAAAGATCGCCGTG
TAACAATTGGCAGAGCTCAGAATTCAAGCGATCGCC
AAAACTGAATCTGCCCTCACTGAAGACTGACCGTGCTCTGAAATCTGCTGGCCTTGTTCATTTTAGTAA
CGGTTCCTGAATTCTCTTAAATTCTTTGAGATCCAAAGATGGCCTCTTCAGTGACAACAATCTCCCTGC
TACTTCTTGCATCCTTCACATCCCTGTCTTGTGTGTGGTACTTCATGTTTTCTTGCCAAGACTGTGTTG
ATCTTCAGATACTCTCTTTGCCAGATGAAGTTACTTGCTAACTCCAGAAATTCCTGCAGACATCCTACT
CGGCCAGCGGTTTACCTGATAGATTCGGTAATACTATCAAGAGAAGAGCCTAGGAGCACAGCGAGGGAA
TGAACCTTACTTGCACTTTATGTATACTTCCTGATTTGAAAGGAGGAGGTTTGAAAAGAAAAAAATGGA
GGTGGTAGATGCCACAGAGAGGCATCACGGAAGCCTTAACAGCAGGAAACAGAGAAATTTGTGTCATCT
GAACAATTTCCAGATGTTCTTAATCCAGGGCTGTTGGGGTTTCTGGAGAATTATCACAACCTAATGACA
TTAATACCTCTAGAAAGGGCTGCTGTCATAGTGAACAATTTATAAGTGTCCCATGGGGCAGACACTCCT
TTTTTCCCAGTCCTGCAACCTGGATTTTCTGCCTCAGCCCCATTTTGCTGAAAATAATGACTTTCTGAA
TAAAGATGGCAACACAATTTTTTCTCCATTTTCAGTTCTTACCTGGGAACCTAATTCCCCAGAAGCTAA
AAAACTAGACATTAGTTGTTTTGGTTGCTTTGTTGGAATGGAATTTAAATTTAAATGAAAGGAAAAATA
TATCCCTGGTAGTTTTGTGTTAACCACTGATAACTGTGGAAAGAGCTAGGTCTACTGATATACAATAAA
CATGTGTGCATCTTGAACAATTTGAGAGGGGAGGTGGAGTTGGAAATGTGGGTGTTCCTGTTTTTTTTT
TTTTTTTTTTTTTAGTTTTCCTTTTTAATGAGCTCACCCTTTAACACAAAAAAAGCAAGGTGATGTATT
TTAAAAAAGGAAGTGGAAATAAAAAAATCTCAAAGCTATTTGAGTTCTCGTCTGTCCCTAGCAGTCTTT
CTTCAGCTCACTTGGCTCTCTAGATCCACTGTGGTTGGCAGTATGACCAGAATCATGGAATTTGCTAGA
ACTGTGGAAGCTTCTACTCCTGCAGTAAGCACAGATCGCACTGCCTCAATAACTTGGTATTGAGCACGT
ATTTTGCAAAAGCTACTTTTCCTAGTTTTCAGTATTACTTTCATGTTTTAAAAATCCCTTTAATTTCTT
GCTTGAAAATCCCATGAACATTAAAGAGCCAGAAATATTTTCCTTTGTTATGTACGGATATATATATAT
ATAGTCTTCCAAGATAGAAGTTTACTTTTTCCTCTTCTGGTTTTGGAAAATTTCCAGATAAGACATGTC
ACCATTAATTCTCAACGACTGCTCTATTTTGTTGTACGGTAATAGTTATCACCTTCTAAATTACTATGT
AATTTATTCACTTATTATGTTTATTGTCTTGTATCCTTTCTCTGGAGTGTAAGCACAATGAAGACAGGA
ATTTTGTATATTTTTAACCAATGCAACATACTCTCAGCACCTAAAATAGTGCCGGGAACATAGTAAGGG
CTCAGTAAATACTTGTTGAATAAACTCAGTCTCCTACA
ACGCGTAAGCGGCCGCGGCATCTAGATTCGAAGAAAATGACCGACCAAGCGACGCCCAACCTGCCATCA
CGAGATTTCGATTCCACCGCCGCCTTCTATGAAAGG

Restriction Sites: SgfI-MluI

OTI Disclaimer: Our molecular clone sequence data has been matched to the sequence identifier above as a point of reference. Note that the complete sequence of this clone is largely the same as the reference sequence but may contain minor differences , e.g., single nucleotide polymorphisms (SNPs).

Components: The cDNA clone is shipped in a 2-D bar-coded Matrix tube as 10 ug dried plasmid DNA. The package also includes 100 pmols of both the corresponding 5' and 3' vector primers in separate vials.

RefSeq: NM_022073.4

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 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 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]

Locus ID: 112399

MW: 65.8