

Product datasheet for **MC203329**

Egln3 (NM_028133) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Egln3 (NM_028133) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Egln3
Synonyms:	2610021G09Rik; AI505553; AI648162; Hif-p4h-3; Phd3; SM-20
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >BC058278
 CGCTGGGTGGCGGAGCCCTACTGCTCCCGCCGGTCCCAGAGCCGGGATCCCTTCTCTTCAGAGTTTCG
 AGCAACTTTCCCGCCTCTGGAGCTAAAGTGGCTTGGGGACTGTGACCACCGCAGGTGGGAGAGTCCCCG
 GCCCGGCTCTCCGCATCTTCGCTGTGCGCTCGCGCTGGGCAAGCCCTGGGTGCGTGACCCCTGGGGGTCC
 CCGGCCTCGGCTCTGTGGCGAGATGCCTCTGGGACACATCATGAGGCTGGATCTGGAGAAGATCGCCCT
 GGAGTACATCGTCCCTGTCTGCACGAGGTCGGCTTCTGCTACCTGGACAACCTCTAGGCGAGGTGGTG
 GGCGACTGCGTGGTGGAGCGAGTCAAGCAGCTGCCTACAACGGGGCCCTGCGTGACGGCCAGCTGGCCG
 GGCCGCGCGCTGGCGTCTCCAAGCGGCACCTGCGAGGCGACCAGATCACGTGGATCGGGGCAACGAGGA
 GGGCTGCGAGGCCATCAACTTCCCTCTGTCCCTCATCGACCGGCTGGTCTGTACTGCGGGAGCCGGCTG
 GGCAAATACTATGTCAAGGAGCGGTCCAAGGCAATGGTGGCTTGTATCCAGGAAATGGGACAGGTTATG
 TTCGCCATGTGGACAACCCCAATGGTGTGGCCGCTGTATCACCTGTATCTACTACCTGAATAAGAATTG
 GGACGCCAAGTTACACGGAGGGTCTGCGGATATTTCCGGAAGGAAATCGTTTGTAGCAGACGTGGAG
 CCCATTTTGGACAGACTTCTGTTCTTCTGGTCCAGCCGAGGAATCCACATGAAGTCCAGCCCTCTATG
 CCACCAGGTACGCTATGACTGTCTGGTACTTCGATGCTGAAGAAAGGGCAGAAGCCAAAAAGAAATTCAG
 GAATTTAACTAGAAAACTGAATCTGCTTGGCTAAAGACTGACTGTGGTGTGCAATCCGCTGGCCGCAT
 TCGTGTAGTAACAGTTCGGAAATGTTAAGTGTCAAGATCCAAAGAATCCATACAATCCCTCTGCCAC
 GTCGTTACAGTCCCCACCTTGTGGTGGTACTTCAATGTTTTCTTCCCGGACTGCGGTGACCTTCAGACA
 CTCTCTTTGCCAGATGAACCTATTTGCTAACTCCAGAAATACCTGCAGACGACATCCTAGCTGGCCAGCG
 GTTTAAAGATAGATTTGGGAATTCGGCTGTTGAGCCAGGACTGCTTCTTATTGCACTTTATGTATGCG
 TCCTGATTTGAAGGGAGGAGGTTTCGAAAGAAATAAAGTTGGTGCAGATGCCACGAAGGGGTACCTCC
 AAACCCTCACAGCAAGAAAGAGAAATATCTGAACGATTTCCAGATGTTGTTAACCAGAGTCTAGACAGTG
 ACGACGACCTAATGACATTATCACCTCTAGAAAGGGCTGCTGCTTAGCAATCGATTTATAGATATCCAC
 GGTGGATGCTCCATTTTCTGGTTTACGACCCGACTTTCTGAAGTCAATGCTAAGTCAATGGCTCTCT
 TGTGGAAGATGATCCAGCATTATTATGCACTATGTTTACTTCTTACTTGGGGAACCTAATTATCCAGA
 GAATAAAATTCGCCAGGTAGTTTGGGTTGTTTTCTGGTATTGAAATTTGAAGTTAAATCAGAGGATAGA
 AAGCTTCTGGTAATTCAGCACTGGATTCTGCTAACTCTATGGGAAGAGCAAAGCCCACTTACATGATT
 CGTCCGAGCATCCCCATCCCGAGCAGTTCAGTTCGGGGAGGAGATGGGTTGGAAGTGCAGACAGGGTC
 CTTTCATCCGTGTGTGTTCCCTTAACGGTTCATCGTCCATAACAAGAAGCAGTGTGCTGTACTCTTAAA
 AGAGATGGAAATAAAAAGACCTCAGAGCTATTGGAGTTCCTCCACATCATCTGCTCTGCCAGCCTCACTT
 GAGTCGCTTGTATCCTTACTGCAACTGGCTGGTAGGACGGCCAGAGTTGTGGGATTTCCAGAACCCTG
 GGAGGGTCTCCTGCTGCAGGGGGCAGGTGTCGCTTCTCCGAACTCTGTACGAAACACCTATTTTACGA
 AAGTTAGCACCCCTCGTTTCTGCTGCTACTTCCCAACACCCACCCCGCCCAACACCCCAACCCCGT
 GCCCGTCCCGTGGCTCAGTTTTGTTTTATTTAGTATTTCCACCTTCTAACTTGAATGTCATGTCCTT
 ATTTATTTTGTATTGTCTCTTTAGCCTGTGATGCCTAGAGTGTAAAGTACAACGAAGACAGGGATTTT
 GTACATTTTGGCCATGCAATATTTCCAGCGCCTAACCTAATGCCTGGCATATAGCAAGAAAGGGCTTA
 GTAATAACATGCTCAATAAACTCAGTCTCCTCTGTAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Restriction Sites: RsrII-NotI

ACCN: NM_028133

Insert Size: 720 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [BC058278](#), [AAH58278](#)

RefSeq Size: 2441 bp

RefSeq ORF: 720 bp

Locus ID: 112407

UniProt ID: [Q91UZ4](#)

Cytogenetics: 12 C1

Gene Summary: 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 (By similarity). 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. ELGN3 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. Target proteins are preferentially recognized via a LXXLAP motif.[UniProtKB/Swiss-Prot Function]