

## Product datasheet for **MG200563**

### **Egln3 (BC022961) Mouse Tagged ORF Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Egln3 (BC022961) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Egln3  
**Synonyms:** SM-20  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG200563 representing BC022961  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGTGGCTTGTCTATCCAGGAAATGGGACAGGTTATGTTGCGCCATGTGGACAACCCCAATGGTGATGGCC  
 GCTGTATCACCTGTATCTACTACCTGAATAAGAATTGGGACGCCAAGTTACACGGAGGGTCTCGGGAT  
 ATTTCCGGAAGGAAATCGTTTGTAGCAGACGTGGAGCCATTTTGGACAGACTTCTGTTCTTCTGGTCA  
 GACCGCAGGAATCCACATGAAGTCCAGCCCTCCTATGCCACCAGGTACGCTATGACTGTCTGGTACTTCC  
 ATGCTGAAGAAAGGCAGAAAGCCAAAAAGAAATTCAGGAATTTAACTAGAAAACTGAATCTGCTCTTGC  
 TAAAGAC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG200563 representing BC022961  
 Red=Cloning site Green=Tags(s)  
 MVACYPGNGTGYVRHVDNPNNGDGRICITCIYYLNKNWDAKLHGGVLRIFPEGKSFVADVEPIFDRLLFFWS  
 DRRNPHEVQPSYATRYAMTVWYFDAEERAEAKKKFRNLTRKTESALAKD

**TRTRPLE** - GFP Tag - V

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja2687\\_a05.zip](https://cdn.origene.com/chromatograms/ja2687_a05.zip)

**Restriction Sites:** SgfI-MluI



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**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:** [BC022961](#)

**RefSeq Size:** 2156 bp

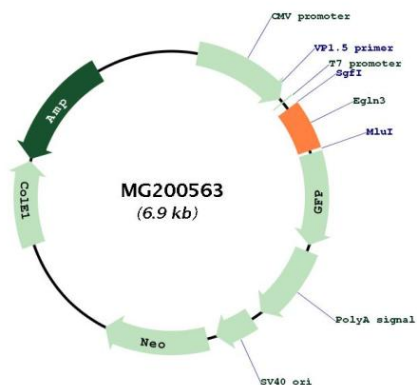
**RefSeq ORF:** 359 bp

**Locus ID:** 112407

**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]

Product images:



Circular map for MG200563