

Protein Sequence: >MG206645 representing NM_053208
 Red=Cloning site Green=Tags(s)

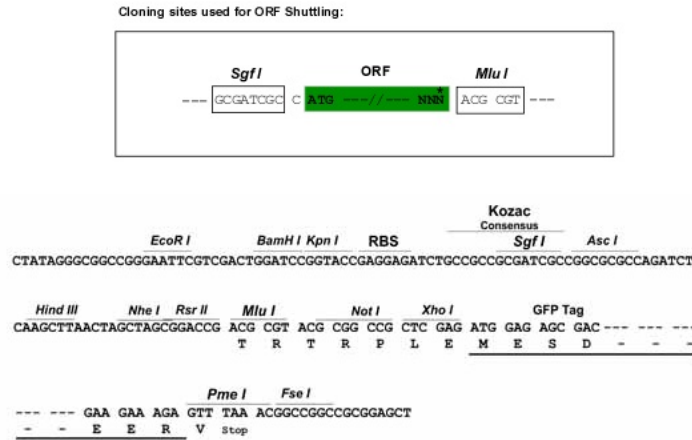
MDSPCQPQALNQALPQLPGSVSESLSSRARMGVESYLPCLLPAYHRPGASGEASAGNGTPRRTTATATT
 TTASPLREGFGGQDGGELWPLQSEGAALVTKECQRLAAQGARPEAPKRKWKADGGDAPSPSKRPWARQE
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 GAVLGGRVLAEVEALKWGGRLRDGQLVSRRAIPPRSIRGDQIAWVEGHEPGCRSIGALMAHVDAVIRHCA
 GRLGNYVINGRTKAMVACYPGNGLGYVRHVDNPHGDGRCITCIYYLNQNWVDKVVHGLLQIFPEGRPVVA
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TRTRPLE - GFP Tag - V

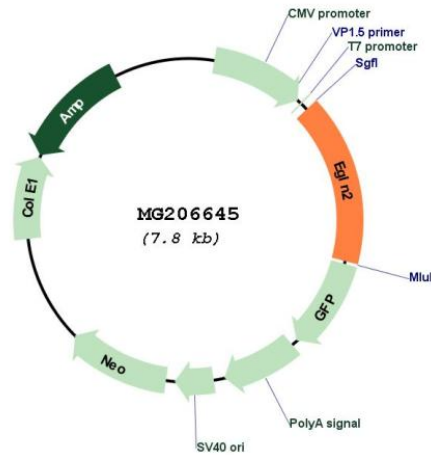
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:

NM_053208

| | |
|-------------------------------|---|
| ORF Size: | 1257 bp |
| OTI Disclaimer: | The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info |
| OTI Annotation: | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene. |
| 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: | <ol style="list-style-type: none">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: | NM_053208.4 |
| RefSeq Size: | 2029 bp |
| RefSeq ORF: | 1260 bp |
| Locus ID: | 112406 |
| UniProt ID: | Q91YE2 |
| Cytogenetics: | 7 15.83 cM |
| Gene 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. 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. EGLN2 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle. Also regulates susceptibility to normoxic oxidative neuronal death. Links oxygen sensing to cell cycle and primary cilia formation by hydroxylating the critical centrosome component CEP192 which promotes its ubiquitination and subsequent proteasomal degradation. Hydroxylates IKBKB, mediating NF-kappaB activation in hypoxic conditions. Target proteins are preferentially recognized via a LXXLAP motif.[UniProtKB/Swiss-Prot Function] |