

Product datasheet for **MG211593**

Helb (NM_080446) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Helb (NM_080446) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Helb
Synonyms:	A1447783; D10Ertd664e
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG211593 representing NM_080446 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCTAGGCAGGATCGTCTGCGCGAGCTCCTGGGCCCTCTGCACCCGTACAAGAGCGACGACGAGGAGG
AGGATTGTGCGCAGGAGGAGGAGGGGAGCAGGAGGAGGAGTTTGTGGATGCCGAGGAACCTGCAGCGG
GGGCATCAAGGCGGCAGCCTCCCTGGGCGCGCGAGTGTCTATCCCTGATGAGTATACTAAAGAGAAA
TGTACCGTGTACGACGTTTCCCACTCAAAGTCCGTGGTGGCGCGTGAAGTCCAGGTCCTGAAACCC
AGCGATCCAGGAGCTATCAAGTCAAGGCTTTCCGGCATACTTTCTACAGTTGATATGTCGCCACCAGA
TCAAAAACAAATCTGTTTCGCTTTTTCTTAAAGAAATGCAACTTAGCCTCTGAGCGCATACAGGAATTTT
AAATGGGTAGAAAAAGTGTCAAGCTTTGAAAATCTACACTTTGAAAATCTTTGGGAAACATTAAGGCTTT
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GACCAGGAAGCCTCAGAAGAGTGGCTTGACTGTCTAAGCAGAGCCCAGCCGGTGTGGACAAGGCTGTAG
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 GACAATCAAGACACAGGTACGGCAGGTGTGGCGGACGACGCCAACGATCCAGCAATCAGGAGATGGAAA
 TG

AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG211593 representing NM_080446
 Red=Cloning site Green=Tags(s)

MARQDRLRELLGPLHPYKSDDEEEDCAQEEEGEQQEEFVDAEELCSGGIKAGSLPGRARVSIPEYTKK
 CTYYGRFPLKGPWWRVVKVQLKQRSRSYQVQGFAYFLQVDMSPDQKQICSLFLKECNLASERIQEF
 KWVEKVSFFENLHFENLWETLRLFYRETEKDKKLSTPREQQGEEMRVEKSF AFISAMVALQFPKVMFL
 PSLFPRHFKRLISSSSDVLGCIEDVLGTQPKLGFRRITYREMKLVRCEASWTAFSQCPSSLQLMTPLQ
 KNALVIYSKLRQTCREDGHTYIEVKDLTSGLEHMSFEEACQSLAFLKIDVVIYEKDYVFLSEL YEA
 EQDIASSICELMSRPPWHLKVDVKNVLASIRGAKPNDPGSAEAVEGSKPEEVGSEQDQSVLDAQDGDH
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 TFFVRLPEEDSRSQSSKGEHRSNLYTAVKTLQKDFCSFESSKTSQFI AFRRQDCDLINDCC
 CKHYTGHLIKDHEKKLIFAVGDKICCTR NAYLSDLLPKDQEAEGKGYGDAPDDDAKIKQDF
 FESSTRLCNGEIFFITRDVTDVTFKRKRLTINNEAGLEVTVDFSKLMANCQIKHAWARTIHT
 FQGEENTVVYVVGKAGRQHWQHVYTA VTRGRSRVYIIAQESELRSATRKRGFPRQTRLKHFL
 QKKL SGSCAPSTGFASQPSPRVGRPDTPPASHLCRTPDNKATADSARGDERWLSASVND
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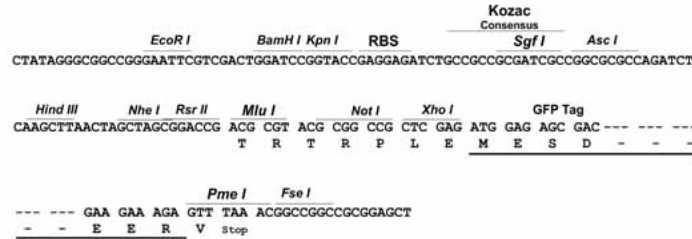
SGPTRRRLE - GFP Tag - V

Restriction Sites:

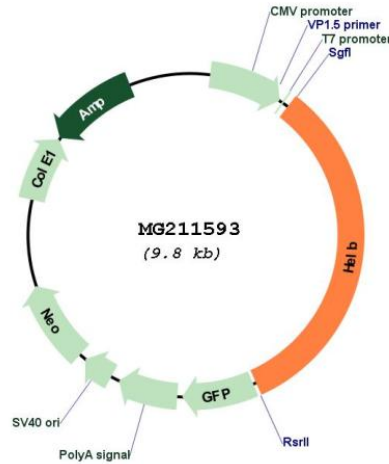
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_080446

ORF Size: 3222 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:	<u>NM_080446.2</u> , <u>NP_536694.2</u>
RefSeq Size:	4540 bp
RefSeq ORF:	3225 bp
Locus ID:	117599
UniProt ID:	<u>Q6NVF4</u>
Cytogenetics:	10 67.94 cM
Gene Summary:	5'-3' DNA helicase involved in DNA damage response by acting as an inhibitor of DNA end resection (PubMed:26774285). Recruitment to single-stranded DNA (ssDNA) following DNA damage leads to inhibit the nucleases catalyzing resection, such as EXO1, BLM and DNA2, possibly via the 5'-3' ssDNA translocase activity of HELB (PubMed:26774285). As cells approach S phase, DNA end resection is promoted by the nuclear export of HELB following phosphorylation (PubMed:26774285). Acts independently of TP53BP1 (PubMed:26774285). Unwinds duplex DNA with 5'-3' polarity. Has single-strand DNA-dependent ATPase and DNA helicase activities. Prefers ATP and dATP as substrates. During S phase, may facilitate cellular recovery from replication stress (PubMed:11557815, PubMed:7596831, PubMed:7794903). [UniProtKB/Swiss-Prot Function]