

Product datasheet for **MG209482**

Eif2ak1 (NM_013557) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Eif2ak1 (NM_013557) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Eif2ak1
Synonyms:	HCR; Hri
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG209482 representing NM_013557
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGCTGGGGGACAGCTCCGTGGACGGCAGCGCAGACCGACGACGACGCGGGGGGGCGGTGGCCGCGC
 CTCTGCCATCGACTTCCCCGAGAGGTGTCGGACCCCAAGTATGATGAGTCCGATGTCGCCGAGAGCT
 CCAAGTGTAAAAGAGCCCTACAGCAGCCACGTTCCCTTTCTGGTGGCAAACAGCTGCTGCTCGTC
 TCCTTACTGGAACACTTGAGCCATGTGCACGAGCCAAACCCGCTCCACTCCAAACAGGTGTTAAATTAC
 TGTGCCAGACTTTTATCAAGATGGGGCTGCTCTCTTCTTTACCTGCAGTGATGAGTTTGTCTCTGAG
 ACTCCACCACAACAGAGCCATCACTCATTTAATGAGGTCTGCCAAAGAGAGAGTCCGTCAGGATCCTTGT
 CAAGATAATTCTTACATGCAGAAAATCAGATCCAGAGAGATAGCCTTCGAAGCACAAACGTCACGCTACT
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 GTGCTACGGGAAGTGAAGTTCTGGCAGGTCTCCAGCATCCCAATATTGTTGGCTACCACACTGCGTGGA
 TAGAACATGTTTATGTGGTTCAGCCACAAGACAGAGTTCCGATTCAACTGCCCTCTCTCGAAGTGTGTC
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 TGTCTCTACGCGTACCCGAACAGCTGGAGGGATCCCAGTACGATGCCAAGTCAGATATGTATAGCTTGG
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 AAGGACTGGTCGGATACCCGAATCCCTCAGTAAAAGGTGTCCGGTGAAGCAAGTATATCCAGCTCCTA
 ACCGGGAGGAATCGCTCACAGAGACCATCTGCCCTTACGCTGCTGCAGAGTGAGCTTTTTCAACAACCTG
 GAAATGTTAATCTCACATTGCAGATGAAGATAATAGAACAAGAGAAGGAAATTGAAGAACTAAAGAAGCA
 ACTAAGCCTCCTTTCTCAGGACAGAGGGCTGAAGAGA

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG209482 representing NM_013557
 Red=Cloning site Green=Tags(s)

MLGGSSVDGERDTHDDAAGAVAAPPAIDFPAEVS DPKYDES DVP AELQVLKEPLQQPTFPFLVANQLLLV
 SLLEHLSHVHEPNPLHSKQVFKLLCQTFIKMGLLSSFTCSDEFSSLRLHNNRAITHLMRS AKERVQRDPC
 QDNSYMQKIRSREIAFEAQTSRYLNEFEELAILKGGYGRVYKVRNKLDGQHAIKKILIKSATKTDCKM
 VLREVKVLAGLQHPNIVGYHTAWIEHVHVVPQDRVPIQLPSLEVLSEQEGDRDQGGVKDNESSSIVFA
 ELTPEKEKPFGESEVKNENNLVSYTANL VVRNSSESESSIELQEDGLTDL SVRPVVRHQLPLGHSSELE
 GNFTSTDESSEGNLNLGQTEVRYHMLHIQMQLCEL SLWDWITERNKRSREYVDEAACPYVMASVATKI
 FQELVEGVFYIHNMGIVHRDLKPRNIFLHGPDQVKIGDFGLACADI IQNADWTNRNGKTRTHTSRVGT
 CLYASPEQLEGSQYDAKSDMYSLGVILLELFQPFGTEMERATVLTGVRTGRIPESLSKRCPVQAKYIQLL
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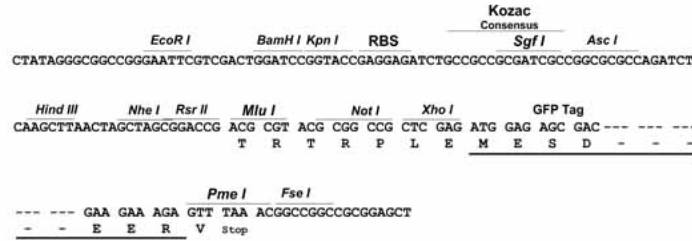
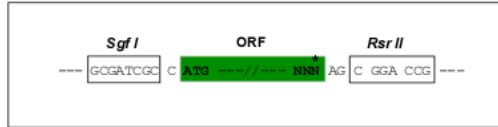
SGP**TRRRLE** - GFP Tag - V

Restriction Sites:

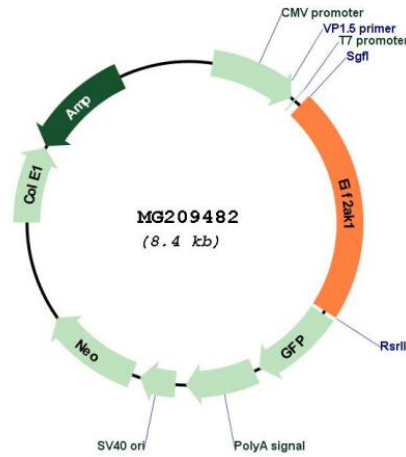
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_013557
 ORF Size: 1857 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_013557.2 , NP_038585.2
RefSeq Size:	2805 bp
RefSeq ORF:	1860 bp
Locus ID:	15467
UniProt ID:	Q9Z2R9
Cytogenetics:	5 G2
Gene Summary:	Inhibits protein synthesis at the translation initiation level, in response to various stress conditions, including oxidative stress, heme deficiency, osmotic shock and heat shock. Exerts its function through the phosphorylation of EIF2S1 at 'Ser-48' and 'Ser-51', thus preventing its recycling. Binds heme forming a 1:1 complex through a cysteine thiolate and histidine nitrogenous coordination. This binding occurs with moderate affinity, allowing it to sense the heme concentration within the cell. Thanks to this unique heme-sensing capacity, plays a crucial role to shut off protein synthesis during acute heme-deficient conditions. In red blood cells (RBCs), controls hemoglobin synthesis ensuring a coordinated regulation of the synthesis of its heme and globin moieties. Thus plays an essential protective role for RBC survival in anemias of iron deficiency. Similarly, in hepatocytes, involved in heme-mediated translational control of CYP2B and CYP3A and possibly other hepatic P450 cytochromes. May also contain ER stress during acute heme-deficient conditions.[UniProtKB/Swiss-Prot Function]