

Product datasheet for **MG211654**

Eif2ak3 (NM_010121) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Eif2ak3 (NM_010121) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Eif2ak3
Synonyms:	PE; Pek; Perk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG211654 representing NM_010121 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGCGCGCCACCCGGCCCGGCCGCGCGCTGCTGCTGCTTCTGTTCTGCTGCTGGGCTGCGCGG
CGGGGATCTCGGCGGTGCGCGCCCGCGCAGTTTGCTTGTCCCGCTCGGAGACAGTGTTGGCTTAGG
GGCAGCGCGCCCGGACTTCGGCCGCGCGGTGCTGCGGTGGCAACGCGCGAAGTGACCGTGGAGGAC
GCCGAGGCATTGCCGGCTGCCGCTGGCGAACCGGAGTCACGCGGACGGAGCCCGATGACGACGTGGAAC
TGCGGCCCTCGCGCAGGTCTTGGTAATCATCAGCACTTAGATGGACGAATCGTGCACCTGGATGCCGA
GAATGATGGGAAAAGCAGTGGGATTTGGACGTGGGGTCTGGTTCCTTGGTTTCATCTAGCCTCAGCAAG
CCAGAGGTGTTTGGGAACAAGATGATCATCCCCTCCCTGGATGGAGACCTCTCCAGTGGACCGGGACC
GAGAGAGCATGGAGGCCCTCCCTTCACGGTGGAGTCCCTGCTCGAATCTTCTACAAGTTTGGAGATGA
TGTTGTTCTGGTTGGAGGGAAATCTCTGACTACATACGGACTCAGTGCTTACAGTGGAAAGCTGAGGTAT
ATCTGTTCTGCCTGGGATGTCGCCGATGGGATAGTGATGAAATGGAAGAAGAGGAAGACATCTTGCTTC
TGCAGCGTACGCAGAAGACTGTGCGAGCTGTCGGCCCTCGAAGCGGCAGTGAGAAGTGAATTTCAAGTGT
TGGCCACTTTGAACTTCGGTATATTCCAGACATGGAAGTGAAGCCGATTCATTGAAAGCACCTTTAAA
CCGGGTGGAACAAGAAGACTCTAAAATTTTCAGATGTGGAAGAACAAGAAGCCACCATGCTGGACA
CAGTGATAAAAAGTTTCCGTTGCTGATTGGAAGTTCATGGCGTTTAGTAGGAAGGGAGGCCCGCTGGAATG
GGAGTACCAGTTTTGTAATCCATCGCTCCGCTGGCTGGTGGAGGATGGCAAGTTCATCCCCATCAGC
CTGTTTGTGATACAAGTTACACAGCCAGCGAAGAAGCCTTGGGAGACGAAGAAGACATTGTAGAGGCTG
CTCGGGGAGCCACAGAGAACAGCGTGTACTTAGGGATGTACAGAGGCCAGCTGTACCTGCAGTCTGCCGT
CAGGGTCTCAGAAAAGTTCCCTACAAGCCCAAAGGCCCTGGAGTCTGTAATGGCGAAAATGCAATTATT
CCTCTGCCGACGATCAAATGGAAGCCCTTAATCCATTCTCCTTCTAGGACTCCTGTCTTGGTTGGGCTG
ATGAATTTGACAAATGTCTAAGTAAATGATAAGTATTCCCAGGAAGAACAGTAATGGTGCACCTTCAAT
CCTCCAGTATCCATACGATAACGGTTACTACTGCCATACTACAAGAGAGAAAGGAATAAGCGGAGCAGC



CAGATCACAGTCAGGTTCTGGACAGCCCCACTACAGCAAGAACATCCGCAAGAAGGACCCTATCCTCC
 TGCTGCACTGGTGAAGGAGATATTCGGGACGATCCTGCTTTCATCGTAGCCACGACCTTCATCGTGCG
 CAGGCTTTTCCATCCTCAGCCCCACAGGCAGCGGAAGGAGTCTGAAACTCAGTGCCAGACTGAAAGTAAA
 TACGACTCCGTGAGTGCCGATGTCAGTGACAACAGCTGGAATGACATGAAGTACTCAGGATACGTATCCC
 GATATCTAACAGATTTTGAAGCAATTACGTGATGGGTCGTGGTGGCTTTGGCGTTGTCTTTGAAGCTAA
 AAACAAAGTAGACTGCAATTACGCTATCAAGAGGATCCGGCTCCCAACAGGGAGTTGGCACGGGAG
 AAGGTAATGCGGAAGTTAAAGCCTTGGCTAAGCTGGAACACCCAGGCATTGTGAGGTATTTCAACGCT
 GGCTGGAACCCACCAGAGAAGTGGCAAGAAGAGATGGATGAGATCTGGCTCAAAGACGAAAGCACAGA
 CTGGCCGCTCAGCTCCCCTAGCCCGATGGATGCCCATCTGTTAAGATCCGAAGGATGGATCCTTTCTCT
 ACAAAGAGCAGATCGAAGTCATAGCTCCTTCTCTGAAAGAAGTCGGTCTTTCTCGGTGGGCATTTCT
 GTGGCCAGACAAGCTCATCGGAGAGCCAGTTCTCTCCCCTGGAGTTCTCAGGGACAGACTGCGGAGACAA
 CAGTGACTCAGCGGACGCAGCCTACAACCTCCAGGACAGTTGCCTGACGGACTGCGAGGACGTGGAAGAT
 GGCACCGTGGACGGCAATGACGAGGGACTCCTTTGAACCTTGTCCGTCGAAGCTTCTCCCTATACCC
 GGTCAAGGAAGGAACGCTCCTCCTCATAGTGTGTTGAGGACTCTGGCTGCGGCAACGCGTCCAGTAAGGA
 GGAGCCCAGAGGGAACCGCTGCATGATGGCAACCATTATGTTAATAAGCTAACTGATCTCAAGTGTCC
 AGCAGCAGGTCTTCTTCAAGAACCCACCCTTGTCTACCTCCCCTACCAGGCAACCACTCTAAGCTTGG
 ATTTACCAAGAACAAGTGTGGGCCAGCTCCAGCCAGCTCCCCAAGGTGTATCTGTACATTCAGATGCA
 GCTGTGCAAGGAAGGAGAACCCTCAAAGACTGGATGAACCGGCGCTGCAGCTTGGAGGACGGGAGCACGGC
 GTGTGCCTGCACATCTTCTGCAGATCGCAGAGGCAGTGGAGTTCTGCACAGCAAGGGACTCATGCACA
 GGGACCTCAAGCCTTCCAACATATTCTTCACAATGGATGATGTGGTCAAGGTTGGGGACTTTGGACTGGT
 GACTGCTATGGACCAAGATGAAGAAGAGCAGACTGACTGACTCCAATGCCAGCCTATGCTACGCACAGC
 GGACAAGTAGGGACCAAGCTATACATGAGCCCAGAGCAGATTATGGAACAACACTACTCCATAAAGTGG
 ACATCTTCTCTTAGGCTTGATTTCTGTTGAACTCCTCTACCCATTGAGCACCCTGAGGAACGAGTCCG
 GATTTTAACTGATGTCAGAAATCTCAAGTTTCTTACTGTTCACTCAGAAATATCCCAAGAGCATATG
 ATGGTTCAAGACATGCTCTCTCCATCCCCACGGAGCGGCTGAAGCCACAGACATCATTGAAAATGCCA
 TATTTGAGAACTTGGAGTTTCCCGGAAAACGGTCTGAGACAGCGGTCCCGCTCCATGAGTTCATCTGG
 AACAAAACATTCCAGACAGCCAGCTGCTCGTACAGCCACTGCCTGGCAAC

AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG211654 representing NM_010121
 Red=Cloning site Green=Tags(s)

MERATRPGPRALLLLFLLLGCAAGISAVAPARSLAPASETVFLGAAAAPTSAARVPAVATAEVTVED
 AEALPAAAGEPESRATEPDDDELPRGRSLVIISTLDGRIAALDAENDGKKQWDLVVGSLVSSSLSK
 PEVFGNKMIIPSLDGDLFQWDRDRESMEAVPFTVESLLESSYKFGDDVVLVGGKSLTTYGLSAYSGKLY
 ICSALGCRRWDSDEMEEEEIILLQRTQKTVRAVGPRSGSEKWNFSVGHFELRYIPDMETRAGFIESTFK
 PGGNKEDSKIISDVVEEQEATMLDTVIKVSADWKVMAFSRKGGRLEWEYQFCTPIASAWLVRDGKVIPI
 LFDDTSYTAEEALGDEEDIVEAARGATENSVYLGMYRGQLYLQSSVRVSEKFPSPKALESVNGENAI
 PLPTIKWKPLIHSPSRTPVLVGSDEFDKCLSNKYSHHEYSNGALSILQYPYDNGYYLPYKRENRKRST
 QITVRFLDSPHYSKNIRKDPILLHWWKEIFGTILLCIVATTFIVRRLFHPQPHRQRKESETQCQTESK
 YDSVSADVSDNSWDMKYSGYVSRYLTFEPIQCMGRGGFVVFVFEAKNKVDDCNYAIAKRIPLNRELARE
 KVMREVKALAKLEHPGIVRYFNAWLETPEKQWQEMDEIWLKDESTDWPLSSPSPMDAPSVKIRRMDFPS
 TKEQIEVIAPSPERSRFSVGIISCGQTSSESQFSPLEFSGTDCGDNDSADAAYNLQDSCLTDCEDVED
 GTVDGNDEGHSELCPEASESPYTRSREGTSSSIVFEDSGCGNASSKEEPRGNRLHDGNHYVNKLTLKCS
 SSRSSSEATTLSTSPTRPTTSLDFTKNTVGLQPSPPKVVLYIQMQLCRKENLKDWMNRRCSELDREHG
 VCLHIFLQIAEAVEFLHSGKLMHRDLKPSNIFFTMDDVVKVGDVGLVTAMDQDEEEQTVLTPMPAYATHT
 GQVGTGLYMSPEQIHGNYSKVDIFSLGLILFELLYPFSTLMERVIRILTDVRNLKFPPLFTQKYPQEHM
 MVQDMLSPSPTERPEATDIIENAIENLEFPGKTVLRQRSRSMSSSGTKHSRQPSCSYSPPLPNN

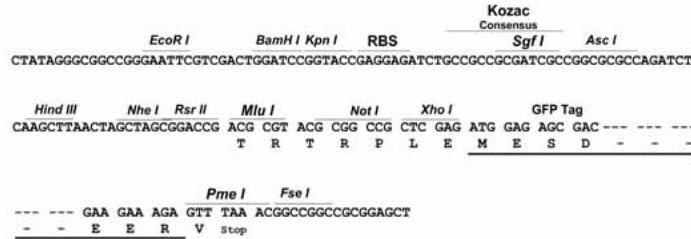
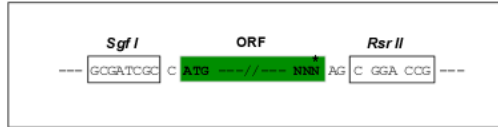
SGPTRRRLE - GFP Tag - V

Restriction Sites:

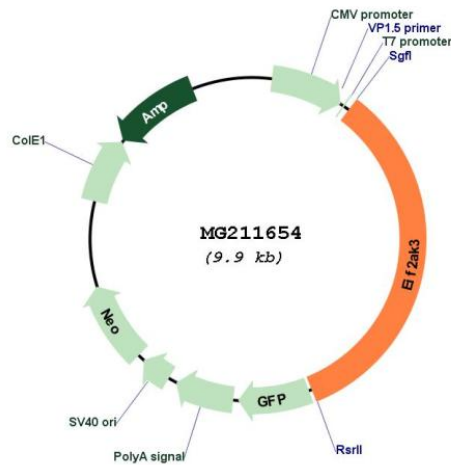
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_010121

ORF Size: 3342 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_010121.2, NP_034251.2</u>
RefSeq Size:	4512 bp
RefSeq ORF:	3345 bp
Locus ID:	13666
Cytogenetics:	6 C1
Gene Summary:	The protein encoded by this gene phosphorylates the alpha subunit of eukaryotic translation-initiation factor 2, leading to its inactivation, and thus to a rapid reduction of translational initiation and repression of global protein synthesis. This protein is thought to modulate mitochondrial function. It is a type I membrane protein located in the endoplasmic reticulum (ER), where it is induced by ER stress caused by malformed proteins. Mutations in a similar gene in human are associated with Wolcott-Rallison syndrome. [provided by RefSeq, Sep 2015]