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Product datasheet for RR201451

Eif4a3 (NM_001100158) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Eif4a3 (NM_001100158) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Eif4a3
Synonyms:	eIF4A-III
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RR201451 representing NM_001100158 Red=Cloning site Blue=ORF Green=Tags(s) TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGGCGGCCACGGCCACGATGGCGACGTCGGGCTCCGCGCGGAAGCGGCTGCTCAAAGAGGAGGACATGA CCAAAGTGGAGTTCGAGACCAGCGAGGAGGTGGACGTGACCCCCACGTTCGACACCATGGGCCTTCGGGA GGACCTGCTGCGCGGCATCTACGCCTACGGTTTTGAAAAACCTTCTGCGATCCAACAGCGTGCTATCAAG CAGATAATTAAAGGGAGAGATGTCATTGCACAGTCTCAGTCTGGCACAGGCAAGACGGCCACCTTCAGTA TTTCAGTCCTTCAGTGCTTGGATATCCAGGTTCGAGAAACCCAAGCTTTGATATTGGCTCCAACAAGAGA GTTAGCAGTGCAGATTCAGAAGGGTCTGCTTGCTTTGGGGGATTACATGAACGTGCAGTGCCATGCCTGC ATTGGTGGCACCAATGTCGGGGAGGACATCCGGAAGCTGGACTATGGGCAGCATGTTGTGGCGGGCACAC CAGGACGAGTCTTTGATATGATCCGCCGTAGAAGTTTAAGGACACGGGCAATCAAGATGTTGGTTTTGGA TGAAGCTGATGAAATGTTGAACAAAGGTTTCAAGGAGCAGATCTATGACGTGTACAGGTACTTGCCACCA GCCACTCAGGTTGTTCTCATCAGCGCCACGCTGCCCCATGAGATCCTGGAGATGACCAACAAGTTCATGA CCGACCCCATCCGCATCTTGGTGAAGCGTGATGAGTTGACTCTGGAAGGCATCAAACAGTTCTTCGTGGC CGTGGAAAGAGAGGAATGGAAGTTCGACACTCTCTGTGATCTCTACGACACGCTGACCATCACCCAGGCT GTCATCTTCTGCAACACCAAGAGGAAGGTTGACTGGCTGACAGAGAAAATGAGAGAAGCCAATTTCACAG TGTCGTCCATGCACGGAGACATGCCCCAGAAAGAGCGTGAGTCCATCATGAAGGAGTTCCGGTCAGGTGC CAGCCGAGTGCTCATCTCCACAGATGTCTGGGCGCGGGGCCTCGATGTCCCTCAGGTGTCCCTCATCATT AACTATGACCTGCCCAACAACAGAGAACTGTACATTCACAGAATCGGGAGATCAGGTCGATATGGACGCA AAGGTGTGGCCATCAATTTTGTGAAGAATGATGACATCCGCATCCTCAGGGACATTGAGCAGTACTACTC CACCCAGATAGATGAGATGCCTATGAATGTGGCTGACCTCATCCACCCAGATAGATGAGATGCCTATGAA TGTGGCTGACCTCATC ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

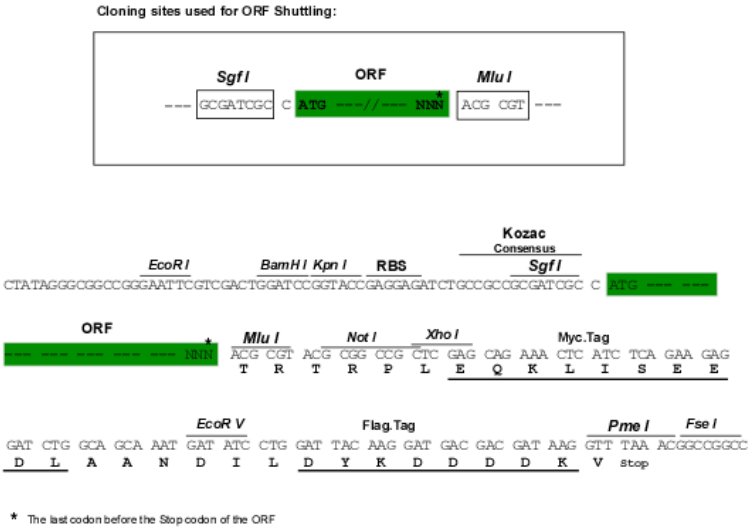
>RR201451 representing NM_001100158
Red=Cloning site Green=Tags(s)

MAATATMATSGSARKRLLKEEDMTKVEFETSEEVDVTPTFDTMGLREDLLRGIYAYGFEKPSAIQQRAIK
QIIKGRDVIAQSQSGTGKTATFSISVLQCLDIQVRETQALILAPTRELAVQIQKGLLALGDYMNVQCHAC
IGGTNVGEDIRKLDYGQHVVAGTPGRVFDMIRRRSLRTRAIKMLVLDEADEMLNKGFKEQIYDVYRYLPP
ATQVVLISATLPHEILEMTNKFMTDPIRILVKRDELTLEGIKQFFVAVEREEWKFDTLCDLYDTLTITQA
VIFCNTKRKVDWLTEKMREANFTVSSMHGDMPQKERESIMKEFRSGASRVLISTDVWARGLDVPQVSLII
NYDLPNNRELYIHRIGRSGRYGRKGVAINFVKNDDIRILRDIEQYYSTQIDEMPMNVADLIHPDR*DAYE
CG*PH

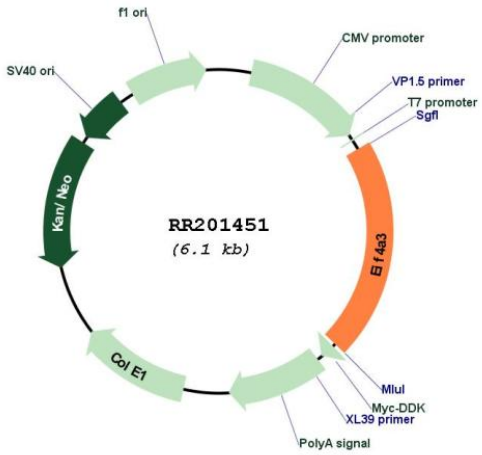
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001100158

ORF Size:	1233 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:	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 Size:	1515 bp
RefSeq ORF:	1236 bp
Locus ID:	688288
UniProt ID:	Q3B8Q2
Cytogenetics:	10q32.3
MW:	46.8 kDa

Gene Summary: ATP-dependent RNA helicase. Involved in pre-mRNA splicing as component of the spliceosome. Core component of the splicing-dependent multiprotein exon junction complex (EJC) deposited at splice junctions on mRNAs. The EJC is a dynamic structure consisting of core proteins and several peripheral nuclear and cytoplasmic associated factors that join the complex only transiently either during EJC assembly or during subsequent mRNA metabolism. The EJC marks the position of the exon-exon junction in the mature mRNA for the gene expression machinery and the core components remain bound to spliced mRNAs throughout all stages of mRNA metabolism thereby influencing downstream processes including nuclear mRNA export, subcellular mRNA localization, translation efficiency and nonsense-mediated mRNA decay (NMD). Its RNA-dependent ATPase and RNA-helicase activities are induced by CASC3, but abolished in presence of the MAGOH-RBM8A heterodimer, thereby trapping the ATP-bound EJC core onto spliced mRNA in a stable conformation. The inhibition of ATPase activity by the MAGOH-RBM8A heterodimer increases the RNA-binding affinity of the EJC. Involved in translational enhancement of spliced mRNAs after formation of the 80S ribosome complex. Binds spliced mRNA in sequence-independent manner, 20-24 nucleotides upstream of mRNA exon-exon junctions. Shows higher affinity for single-stranded RNA in an ATP-bound core EJC complex than after the ATP is hydrolyzed. Involved in the splicing modulation of BCL2L1/Bcl-X (and probably other apoptotic genes); specifically inhibits formation of proapoptotic isoforms; the function is different from the established EJC assembly. Involved in craniofacial development.[UniProtKB/Swiss-Prot Function]