

Product datasheet for **MC202874**

Eif2ak1 (NM_013557) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Eif2ak1 (NM_013557) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Eif2ak1
Synonyms:	HCR; Hri
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >BC028923 sequence for NM_013557
 GGGGAGGCTCTAGTGGCCGGCAGCGTCTGGGGACCGGCAGAGCGAGGTTACTATCCACGCTCCGAACGGC
 AATGCTGGGGGGCAGCTCCGTGGACGGCGAGCGGACACGGACGACGCGCGGGGGCGGTGGCCGCG
 CCTCTGCCATCGACTTCCCCGACAGGTTGTGGACCCCAAGTATGATGAGTCCGATGTCCCCGACAGC
 TCCAAGTGTTAAAAGAGCCCCTACAGCAGCCCAGTTCCTTTTCTGGTGGCAAACCAGCTGCTGCTCGT
 CTCCTTACTGGAACACTTGAGCCATGTGCACGAGCCAAACCCGCTCCACTCCAAACAGGTGTTAAATTA
 GACTCCACCACAACAGAGCCATCACTCATTAAATGAGGTCTGCCAAAGAGAGAGTCCGTCAGGATCCTTG
 TCAAGATAAATTCTTACATGCAGAAAATCAGATCCAGAGAGATAGCCTTCGAAGCACAACGTCACGCTAC
 TTAATGAATTTGAAGAGCTTGCCATCTTAGGAAAGGAGGATATGGAAGAGTTTACAAGTCCGGAACA
 AATTAGATGGTCAGCATTATGCAATTAAGAAAATCCTGATTAAGAGCGCAACTAAAACAGATTGTATGAA
 GGTGCTACGGGAAGTGAAGGTTCTGGCAGGTCTCCAGCATCCCAATATTGTTGGTACCACACTGCGTGG
 ATAGAACATGTTTATGTGGTTCAGCCACAAGACAGAGTTCGATTCAACTGCCCTCTCTCGAAGTGTGT
 CGGAGCAGGAAGGGGACAGAGACCAAGGTGGTGTAAAGATAATGAAAGCAGTTCGTCCATTGTCTTTGC
 TGAACACACCCAGAAAAGAAAACCTTTTGGGGAGTCTGAGGTAAAAATGAGAATAAACACCTGGTG
 AGCTACACGGCCAACTTGTGGTACAGGACAGCAGTGAAGTGAATCGTCCATTGAGCTCCAAGAAGACG
 GCTTGACTGATTTGCCGTCAGACCAGTTGTACAGGCATCAGTGGCGTGGGGCATAGCTCGGAATTGGA
 AGGGAATTTTACATCCACGGATGAGTCTTGAAGGCAACTTGAACCTGTGGGGCAGACGGAGGTTCCG
 TACCACCTGATGTTGCACATCCAGATGCAGCTGTGTGAGCTCTCCCTGTGGGACTGGATAACTGAGAGGA
 ACAAGCGGAGCCGGGAGTATGTGGACGAAGCTGCTTGTCCCTATGTTATGGCCAGTGTGCAACAAAAAT
 TTTTCAAGAAATGGTGAAGGTGCTTTTACATACATAACATGGGCATTGTCCACAGAGATCTGAAGCCT
 AGAAATATTTTCTTATGGCCCTGATCAGCAAGTAAAAATAGGAGACTTTGGTCTGGCCTGTGCAGACA
 TCATCCAGAATGCAGACTGGACCAACAGAAATGGGAAAGGAACACGGACACACATCCAGAGTGGGGAC
 TTGTCTCTACGCGTCACCGGAACAGCTGGAGGGATCCCAGTACGATGCCAAGTCAGATATGTATAGCTTG
 GGTGTGATCCTGCTCGAGCTCTTTCAGCCATTCGGGACAGAAATGGAGAGGGCAACAGTCTTAACAGGCG
 TAAGGACTGGTCGGATACCCGAATCCCTCAGTAAAAGGTGTCGGTGCAAGCCAAGTATATCCAGCTCCT
 AACCGGGAGGAATGCGTCACAGAGACCATCTGCCCTTCAGCTGCTGCAGAGTGAAGTCTTTTCAAACAACT
 GGAAATGTTAATCTCACATTGCAGATGAAGATAATAGAACAAGAGAAGGAAATGAAGAATAAAGAAGC
 AACTAAGCCTCCTTCTCAGGACAGAGGGCTGAAGAGATGAGAGGGAAAAATGGGGCTACCCTGTGGCCT
 GAGTTATGCCCAAGCATGTGAAAGTGGACTTGCAATTACAGTCAATAGGAATGTACATTTCCAACCTT
 AGTGAGGACAGGTGTGACTCCCAGTTGACTGAGAAAACCTATGTAAGACTTAAAAGGACCCAGCTTC
 CTTTTCTCAACCTTCCATGACCCAAGACTGGACTAAATGAAGCCTCTTCTCCACCTCCTCCAAGTT
 TTGATTCCTCAGTTTCTACTCAATGTTACTCCCACCCTGAACCTATTTTTTAAAGCTGTGCCTATT
 GACCAGGAATCCTGCCTCCTTCCCAGGGCTGTACTACAGAATCAGTGTCCCTCCCCACACCCGCTTG
 CCTGCCCCAGGATGACTGCCAGCCTGGCTGCTGTTGCTGTGGCAGCTGCAAGTCTTCCCTGGTCTTCTG
 TACTGTGCCATGGCCAGTTACCAGGACACTTGATCACTCCTTGGCTCAAAAATGTCTGTGGGCTCTGTAC
 TGCCTGGAAGGTGAGAGTCTGCTTGAAGCACTTCCAGCCCTCTGTTCTTTCCACTTGGCATCATCC
 TGCAGCTTGCCCTAAAGTGATCTCAGCAGCTAAAATGTCTTCTACCTTTATTCTGTATAGTCTCCCATGA
 TCCGTTGCCTCCTTAAAGCCCCAACTCCCCAAACCACCTGAAGTCCTCAGATAGCAATCTCTGACGCCAT
 AAAGTGCTGCCTCTGGCTGGCAGCCATCTCAGTGCACCTGGTTTTACTCACTTTAAAATAAAAT
 AAACCTCCATAGATGAAAAAAAAAAAAAAAAA

Restriction Sites: RsrII-NotI

ACCN: NM_013557

Insert Size: 1860 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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>BC028923</u> , <u>AAH28923</u>
RefSeq Size:	2761 bp
RefSeq ORF:	1860 bp
Locus ID:	15467
UniProt ID:	<u>Q9Z2R9</u>
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]