

Product datasheet for MC224631

Eprs (NM_029735) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Eprs (NM_029735) Mouse Untagged Clone
Tag: Tag Free
Symbol: Eprs
Synonyms: 2410081F06Rik; 3010002K18Rik; C79379; Qprs
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC224631 representing NM_029735
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGCGGCGCTGTGCCTCAGGTGAACGCCGAAACCCTCCGCTGGAAGCTCTGCTGGCGGTGGAACATG
 TAAAAGGTGATGTCAGCATTCTGTGGAAGAAGGGAAAGAGAATCTTCTCGGGTTCTGAGACTGTGCC
 ATTCAGTACGATGAAATCAATCCTGCGCTACCTGGCTAGAATTGCAACTACGTCTGGGCTGTATGGGACT
 AACCTGATGGAGCACACTGAGATTGATCATTGGTTGGAGTTTAGTGTACAAAGTTGCTTCGTTGTGATA
 GGCTGACTTCTGCAATCAACGAGCTTAATCATTGCCTGTCTCTGAGAACATACCTAGTTGGGAACTCCTT
 GACCTTAGCAGATCTATGTGTTGGGCCACCCTAAAAGGAAGTGTGCATGGCAGGAACACTTGAACAG
 AACAAACTCTAGTCCACGTTAAACGCTGGTTTGGCTTCTTGGAGCCAGCAGGCTTCCGCTCAGTTG
 GCACCAAGTGGGATGTTTCAGGAAACAGAGCTACAGTGGCACCTGACAAAAACAAGATGTTGGGAAAT
 CGTGGAGCTTCCAGGTGCAGAGATGGGAAAGGTGACAGTCAGATTCCCCCAGAGGCTAGTGGTTACTTA
 CACATTGGGATGCGAAAGCTGCTTCTGAAACCAGCACTACCAGGTTAACTTTAAAGGAAACTGATCA
 TGAGATTTGATGACACAAACCCAGAAAAGGAAAGGAAATTTGAGAAGGTCATCTTGGAAAGTTGCA
 AATGCTGCATATTAACCAGATCAGTTTACTTACACTTCAGATCATTTTGAACATAAATGAAGTATGCA
 GAGAAATTAATCAAGAAGGGAAGGCTTATGTGGATGACACTCCTGCAGAACAGATGAAGCGGAACGTG
 AACAGAGGACAGAATCCAAACACAGGAAGAAGTCTGTTGAGAAGAATCTACAGATGTGGGAAAGAAATGAA
 AAAAGGAGCCAGTTTGGTCACTCCTGTTGCTGCGAGCAAAAATGACATGAGTAGTAACAATGGGTGT
 ATGAGAGACCCGACCCTTACCAGTCAAAAATCCAGCCCCACCAAGGACTGGGAATAAATAAATGTTT
 ATCCAACATATGACTTTGCCTGCCCTATAGTGGACAGCATTGAAGGTGTTACTCATGCCTTGAGGACAAC
 AGAGTACCACGACCGAGATGAACAATTTTATTGGATCATTGAAGCTTTAGGCATAAGGAAACCATACATC
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 AAGGACTGGTAGATGGATGGGATGACCCACGGTTTCTACAGTTCTGGAGTTCTGAGAAGAGGGATGAC
 AGTTGAGGGGCTGAAGCAGTTTATTGCTGCTCAGGGCTCCTCAAGGTCTGTTGTGAACATGGAATGGGAC
 AAAATCTGGGCGTTCAACAAAAGGTTATTGACCCAGTGGCTCCACGGTACGTTGCATTGCTGAAGAAGG



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AAGTCGTCCCAGTGAATGTCCTGGATGCCAGGAGGAGATGAAGGAAGTAGCCAGACACCCCAAGAATCC
 TGATGTTGGTTTGAAGCCTGTGTGGTACAGTCCCAAGGTTTTATAGAAGGGGCCGATGCAGAGACTTTC
 TCAGAGGGTGAGATGGTACATTTATAAAGTGGGGCAACATCAACATTACTAAAAACACAAAAATGCAG
 ATGGAAAAATTACATCTCTAGATGCAAAATTTGAATTTGGAAAAACAAGACTACAAGAAAACCACCAAGAT
 CACTTGGCTTGTGAGAGCACACACGCTCTCTCGATCCCAGCCGCTGTGTCACTTATGAGCACTTGATC
 ACAAGGCCAGTGTGGGAAAAGATGAGGACTTCAAGCAGTACATCAACAAAGACAGTAAGCATGAAGAGC
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 TACATACCTGATGGGCACACAAAGGAAATGCCAACATCCGGATCAAGGAAAAAGACCAAAAGTGAAATCT
 CAAAAAAGGAGACAAGCTCTGCTCTAAAGAAAGACCAGCACCTGCTGTGAGTTCTACTTGTGCTACAGC
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 ATCAAACACTGTGAAAGTACATCTTTATACAATAAAGTCGCTGCCAAGGGGAGGTGGTCCGAAAGCTG
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 TGTCAAGTAAAGCTCAGCCTGCTGGAGCGGAGAAAACAGAAAGCCAAAGTGCTATTTGACAGAGTGGCTGT
 CAAGGAGAAGTAGTTGCAAAACTTAAAGCTGAAAAGGCCCTAAGGATCAAGTGGATTCCGGCGTACAAG
 AACTTCTCAGCTGAAGGCACAGTACAAGTCGCTGACAGGAATCGAGTATAAGCCTGTGTCTGCTACTGG
 GGCAGAAGACAAAGATAAAAAAGAAGAAAGAAAAAGAAAATAAATCTGAAAAGCAGAAACAGCCTCAGAAA
 CAAAATGATGGCAAGGGAAAGACTCTTCCAAAAGCCAAGGCAGTGGCCTGTATCAGGTGGAGCAGGAG
 AAGGGCAGGGGCTAAGAAACAGACCAGATTGGGTCTTGAAGCAAAAAAGAAGAAAATCTTGCCGAATG
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 CCTGGTGGTACTCCATCTGGGAGTCCATTAAGGACTTCTTGGAGCTGAGATCAAGAAGCTCGGTGTTG
 AGAACTGCTACTTCCCCATATTTGTGTCTCAGGCTGCGTTAGAGAAAGAGAAGAATCACATCGAAGACTT
 TGCTCCTGAGGTTGCTTGGGTTACAAGATCAGGAAAAACAGAGTTGGCAGAGCCAATTGCCATTCGTCT
 ACTAGTGAACAGTGATGTATCCGGCATATGCTAAATGGGTGCAGTCCCACAGAGACCTGCCCGTACGGC
 TCAACCAAGTGGTCAATGTGGTGCCTGGGAGTCAAACACCCACAGCCTTTCTCCGAAGTCCGGAGTT
 CCTGTGGCAGGAGGGGCACAGCCTTTGCCACCTTTGAGGAAGCAGCTGATGAGGTTTTACAGATCCTT
 GAGTTATATGCTCGAGTATATGAAGAGCTTAGCCATTCTGTGTGAGAGGAAGGAAAGACTGAAAAGG
 AGAAGTTTGCAGGAGGAGACTACACAACCAATAGAAGCCTTATATCTGCCAGCGGACCGCCATTCA
 GGGAGCAACATCACACATTTAGGCCAGATTTCTCCAAAATGTGTGAAATAGTTTTTGAAGATCCCAAG
 ACACCAGGAGAAAAGCAGTTTGCATACCAAGTGTCTCCTGGGGCTGACAACACGAACCATCGGTGTGATGG
 TCATGGTCCATGGGGACAACATGGGCTAGTGCTCCACCCGAGTAGCATCTGTCCAGGTGGTAGTCAT
 TCCCTGTGGAATCACAATGCCCTGTCTGAAGAAGACAGAGAGGCACTGATGGCAAAATGCAACGAGTAC
 AGAAGGCGGCTGCTTGGTGTAAACATCCGAGTCCGAGTCGATCTACGAGACAACACTCCCAGGCTGGA
 AGTTCAACCACTGGGAATCAAGGGAGTCCAGTCAGACTTGAGGTGGGGCCACGTGATATGAAGAGCTG
 TCAGTTTGTAGCAGTCAGACGAGATACTGGAGAGAAAAGTACAATTGCTGAGAAGGAGGCTGAGGCTAAG
 CTGGAAAAGGTTTTGGAAGACATCCAGCTGAACCTTTTACAAGGGCTTCTGAAGACCTTAAAACCCACA
 TGGTTGTGCTAATACTGGAGGACTTCCAGAAGGTGCTAGATGCTGGAAGGTTGCACAGATTCCATT
 TTGTGGGAAAATTGACTGTGAGGACTGGATCAAAAAGATGACTGCCAGGGATCAAGATGTGGAACCTGGT
 GCTCCATCCATGGGAGCCAAAAGCCTTTGCATTCTTTCAACCCTCTGTGTGAGTGCAGCCCGGAGCCA
 TGTGTGCTGTGGCAAGAATCCTGCCAAGTTCTACACCTGTTTTGGTCCGAGTTACTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
 ACCN: NM_029735
 Insert Size: 4539 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

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: [NM_029735.1](#), [NP_084011.1](#)

RefSeq Size: 4850 bp

RefSeq ORF: 4539 bp

Locus ID: 107508

UniProt ID: [Q8CGC7](#)

Cytogenetics: 1 H5

Gene Summary:

Multifunctional protein which is primarily part of the aminoacyl-tRNA synthetase multienzyme complex, also known as multisynthetase complex, that catalyzes the attachment of the cognate amino acid to the corresponding tRNA in a two-step reaction: the amino acid is first activated by ATP to form a covalent intermediate with AMP and is then transferred to the acceptor end of the cognate tRNA (By similarity). The phosphorylation of EPRS, induced by interferon-gamma, dissociates the protein from the aminoacyl-tRNA synthetase multienzyme complex and recruits it to the GAIT complex that binds to stem loop-containing GAIT elements in the 3' UTR of diverse inflammatory mRNAs (such as ceruplasmin), suppressing their translation. Interferon-gamma can therefore redirect, in specific cells, the EPRS function from protein synthesis to translation inhibition (PubMed:23071094). Also functions as an effector of the mTORC1 signaling pathway by promoting, through SLC27A1, the uptake of long-chain fatty acid by adipocytes. Thereby, it also plays a role in fat metabolism and more indirectly influences lifespan (PubMed:28178239).[UniProtKB/Swiss-Prot Function]