

## Product datasheet for MR200578

### Eif4ebp2 (NM\_010124) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Eif4ebp2 (NM\_010124) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Eif4ebp2  
**Synonyms:** 4E-BP2; 2810011119Rik; AA792569; BC010348; PHAS-II  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR200578 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGATCGCC

ATGTCCGCGTCGGCCGGTGGTAGCCACCAGCCCAGCCAGAGCCGCGCCATCCCCACGCGCACCGTGGCTA  
 TCAGCGACGCCGCGCAGCTACCTCAGGACTACTGCACCACGCCCGGGGGACGCTGTTCTCCACAACGCC  
 GGGAGGAACACGAATCATTTATGACCGAAAGTTTCTGTTGGACCGTCGCAATTCTCCATGGCGCAGACC  
 CCACCTTGCCATCTGCCAATATCCCTGGAGTCACCAGTCCTGGCGCCTAATTGAAGACTCCAAAGTAG  
 AAGTGAACAACCTAAACAACCTGAACAATCATGACAGGAAGCATGCAGTTGGGGATGAGGCTCAGTTGA  
 GATGGACATC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR200578 protein sequence  
 Red=Cloning site Green=Tags(s)

MSASAGGSHQPSQSRAIPTRTVAISDAAQLPQDYCTTPGGTLFSTTPGGTRIIYDRKFLLDRRNSPMAQT  
 PPCHLPNIPGVTSFGALIEDSKVEVNNLNNLNNHDKHAGVDEAQFEMDI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** Sgfl-MluI



[View online »](#)

**Cloning Scheme:**


**ACCN:** NM\_010124

**ORF Size:** 363 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:** [NM\\_010124.2](#), [NP\\_034254.1](#)

**RefSeq Size:** 1786 bp

**RefSeq ORF:** 363 bp

**Locus ID:** 13688

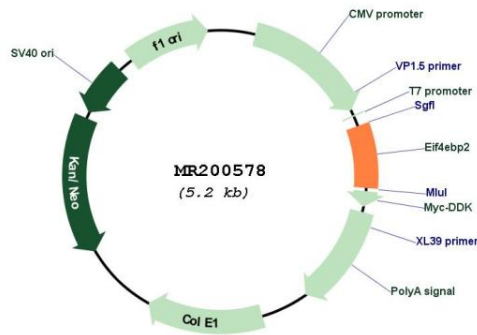
UniProt ID: [P70445](#)

Cytogenetics: 10 32.21 cM

MW: 12.9 kDa

**Gene Summary:** Repressor of translation initiation involved in synaptic plasticity, learning and memory formation (PubMed:16237163, PubMed:17029989). Regulates EIF4E activity by preventing its assembly into the eIF4F complex: hypophosphorylated form of EIF4EBP2 competes with EIF4G1/EIF4G3 and strongly binds to EIF4E, leading to repress translation. In contrast, hyperphosphorylated form dissociates from EIF4E, allowing interaction between EIF4G1/EIF4G3 and EIF4E, leading to initiation of translation (PubMed:17029989, PubMed:20347422, PubMed:23172145). EIF4EBP2 is enriched in brain and acts as a regulator of synapse activity and neuronal stem cell renewal via its ability to repress translation initiation (PubMed:20347422, PubMed:24139800, PubMed:23172145). Mediates the regulation of protein translation by hormones, growth factors and other stimuli that signal through the MAP kinase and mTORC1 pathways (PubMed:8939971).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for MR200578