

## Product datasheet for **MC208444**

### Epm2a (NM\_010146) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Epm2a (NM\_010146) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Epm2a  
**Synonyms:** TcrbK)TG-BFlv; Tg(TcraK; TG-B  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Fully Sequenced ORF:** >MC208444 representing NM\_010146  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGCTCTTCCGCTTCGGCGTGGTGGTGCCGCCCGGGTGGCCGGCGCTCGGCAGGAGCTGCTGCTCGCCG  
 GCTCGCGGCCGAGTTAGGGCGCTGGGAGCCGACGGCGCCGTGCGTCTCAGGCCCGGGTACCGCGGC  
 GGGCGCCGCTGCGCTGGCGCTGCAGGAGCCCGCCTGTGGCTCGCCGAGGTGGAGCTGGAGGCGTACGAG  
 GAGGCCGGCGGGGCGGAGCCGGGCCGCTTGACACGTTCTGGTACAAGTTCCTGCAGCGCGAGCCTGGAG  
 GCGAGCTGCACTGGGAAGGAAATGGACCTACCATGACCGTTGCTGCACATATAATGAGGACAATTGGT  
 GGATGGTGTATTGTCTCCAGTAGGACTGGATTGAGGCCACTGGGCACACCAATGAAATGAAGCAC  
 ACAACAGACTTCTATTTAATATTGCTGGCCACCAAGCCATGCACTATTCAAGAATTCTACCAAATATCT  
 GGCTGGGTAGCTGCCCTCGCCAACCTGGAACATGTGACCATCAAATGAAGCATGAACTGGGAGTTACAGC  
 TGTGATGAATTTCCAGACTGAATGGGATATCATCCAGAATTTCTCAGGCTGCAACCGCTACCCTGAACCC  
 ATGACTCCAGACACCATGATGAAGCTGTATAAGGAAGAAGGCTTGTCTCATCTGGATGCCCACTCCAG  
 ACATGAGCACTGAGGGCCGAGTGCAGATGCTGCCACAGGCTGTGTCTCCTGCACGCGCTTCTGGAGAA  
 TGGACACACGGTGTATGTCCACTGCAACGCTGGCGTGGGTGCTCCACAGCTGCAGTGTGCGGCTGGCTC  
 CACTATGTGATTGGCTGGAATCTGCGCAAGGTGCAGTACTTCATCATGGCCAAGAGGCCTGCGGTCTACA  
 TTGACGAGGACGCTTTGGCTCAAGCACAACAAGACTTTTCTCAGAAGTTCGGGAAGGTTCACTCTCCAT  
 ATGCGCTTT**TAG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI



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|                               |   |
|-------------------------------|---|
| <b>ACCN:</b>                  | NM_010146   |
| <b>Insert Size:</b>           | 993 bp  |
| <b>OTI Disclaimer:</b>        | 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).  |
| <b>Components:</b>            | 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).  |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>   |
| <b>RefSeq:</b>                | <a href="#">NM_010146.2</a> , <a href="#">NP_034276.2</a>   |
| <b>RefSeq Size:</b>           | 1079 bp   |
| <b>RefSeq ORF:</b>            | 993 bp  |
| <b>Locus ID:</b>              | 13853   |
| <b>UniProt ID:</b>            | <a href="#">Q9WUA5</a>  |
| <b>Cytogenetics:</b>          | 10 A1   |
| <b>Gene Summary:</b>          | Plays an important role in preventing glycogen hyperphosphorylation and the formation of insoluble aggregates, via its activity as glycogen phosphatase, and by promoting the ubiquitination of proteins involved in glycogen metabolism via its interaction with the E3 ubiquitin ligase NHLRC1/malin (PubMed:18040046, PubMed:18852261, PubMed:19036738, PubMed:23663739, PubMed:24430976, PubMed:24068615). Dephosphorylates phosphotyrosine and synthetic substrates, such as para-nitrophenylphosphate (pNPP), and has low activity with phosphoserine and phosphothreonine substrates (in vitro) (PubMed:16971387, PubMed:24430976). Has also been shown to dephosphorylate MAPT (PubMed:19542233). Shows strong phosphatase activity towards complex carbohydrates in vitro, avoiding glycogen hyperphosphorylation which is associated with reduced branching and formation of insoluble aggregates (PubMed:18040046, PubMed:18852261, PubMed:23663739). Forms a complex with NHLRC1/malin and HSP70, which suppresses the cellular toxicity of misfolded proteins by promoting their degradation through the ubiquitin-proteasome system (UPS) (PubMed:19036738, PubMed:24068615). Acts as a scaffold protein to facilitate PPP1R3C/PTG ubiquitination by NHLRC1/malin. Also promotes proteasome-independent protein degradation through the macroautophagy pathway (PubMed:20453062). [UniProtKB/Swiss-Prot Function] |