

Product datasheet for MR222730

Epm2a (NM_010146) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Epm2a (NM_010146) Mouse Tagged ORF Clone
Tag: Myc-DDK
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)
ORF Nucleotide Sequence: >MR222730 representing NM_010146
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGCTCTTCCGCTTCGGCGTGGTGGTGCCGCCCGCGGTGGCCGGCGCTCGGCAGGAGCTGCTGCTCGCCG
 GCTCGCGGCCGAGTTAGGGCGCTGGGAGCCGACGGCGCCGTGCGTCTCAGGCCCGGGTACCGCGGC
 GGGCGCCGCTGCGCTGGCGCTGCAGGAGCCGGCCTGTGGCTCGCCGAGGTGGAGCTGGAGGCGTACGAG
 GAGGCCGGCGGGCGGAGCCGGGCCGCTTGACACGTTCTGGTACAAGTTCCTGCAGCGCGAGCCTGGAG
 GCGAGCTGCACTGGGAAGGAAATGGACCTACCATGACCGTTGCTGCACATATAATGAGGACAATTGGT
 GGATGGTGTATTGTCTCCAGTAGGACTGGATTGAGGCCACTGGGCACACCAATGAAATGAAGCAC
 ACAACAGACTTCTATTTAATATTGCTGGCCACCAAGCCATGCACTATTCAAGAATTCTACCAAATATCT
 GGCTGGGTAGCTGCCCTCGCCAACCTGGAACATGTGACCATCAAATGAAGCATGAACTGGGAGTTACAGC
 TGTGATGAATTTCCAGACTGAATGGGATATCATCCAGAATTTCTCAGGCTGCAACCGCTACCCTGAACCC
 ATGACTCCAGACACCATGATGAAGCTGTATAAGGAAGAAGGCTTGTCTCATCTGGATGCCCACTCCAG
 ACATGAGCACTGAGGGCCGAGTGCAGATGCTGCCACAGGCTGTGTCTCCTGCACGCGCTTCTGGAGAA
 TGGACACACGGTGTATGTCCACTGCAACGCTGGCGTGGTTCGCTCCACAGCTGCAGTGTGCGGCTGGCTC
 CACTATGTGATTGGCTGGAATCTGCGCAAGGTGCAGTACTTCATCATGGCCAAGAGGCCTGCGGTCTACA
 TTGACGAGGACGCTTTGGCTCAAGCACAACAAGACTTTTCTCAGAAGTTCCGGGAAGGTTCACTCTCCAT
 ATGCGCTTTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR222730 representing NM_010146
Red=Cloning site Green=Tags(s)

MLFRFGVVVPPAVAGARQELLLAGSRPELGRWEPHGAVRLRPAGTAAGAAALALQEPGLWLAEEVELEAYE
 EAGGAEPGRVDTFWYKFLQREPGGELHWEONGPHHDCCTYNEDNLVDGVYCLPVGHWIEATGHTNEMKH
 TTDFYFNIAGHQAMHYSRILPNIWLGSCPRLQLEHVTIKLKHGVTAVMNFQTEWDIIQNSSGCNRYPEP
 MTPDPTMMKLYKEEGLSYIWMPTPDMSTEGRVQMLPQAVCLLHALLENGHTVYVHCNAGVGRSTAAVCGWL
 HYVIGWNLKRVQYFIMAKRPVYIDEDALAAQQQDFSQKFGKVVHSSICAL

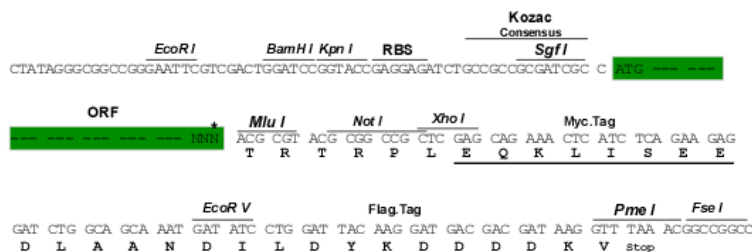
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mm9039_h02.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_010146

ORF Size: 990 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_010146.2](#), [NP_034276.2](#)

RefSeq Size: 1079 bp

RefSeq ORF: 993 bp

Locus ID: 13853

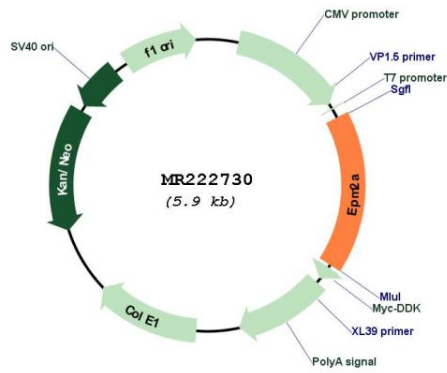
UniProt ID: [Q9WUA5](#)

Cytogenetics: 10 A1

MW: 37.4 kDa

Gene Summary: 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]

Product images:



Circular map for MR222730