

## Product datasheet for **MR212040**

### Fmn2 (NM\_019445) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Fmn2 (NM_019445) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Fmn2
Synonyms:	AU024104
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR212040 representing NM_019445, <b>codon optimized</b> . Due to the complexity of NM_019445, the ORF clone is codon optimized for mammalian Expression. The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGTAATCAGGATGGGAACTGAAGCGCTCTGCTGGCGACGCATCACACGAAGGCGGTGGAGCCGAGG  
ATGCTGCAGGCCCGAGGGACGCCGAGATCACTAAGAAGGCTAGCGGCTCAAAAAAGCCCTTGGCAAACA  
CGGTAAGGGTGGCGGGGGAGTGGGGAGACATCTAAGAAGAAGAGCAAGTCTGACTCCCGAGCTTCTGTC  
TTTTCCAATTTGCGAATTCGGAAAACTGACAAAGGGTAAAGGCGCTTGTGATAGCAGGGAGGACGTGC  
TCGACAGCCAGGCCCTGCCATTGGAGAGCTGGACTCAGCACACTCAATCGTAACATAAAACACCTGACCT  
TAGCCTGTACAGCGAAGAACAAGGCCCTGAGCGATACCGAGTGCCTGACCCGTTTGAGGTATCCACCCC  
GGCGCCTCTCGACCAGCGAAGCCGAGTCCGGATACAAGCGACCGCGGAGGACCTCGAAACCCGCTGCAG  
GCGCCCAGGACGCCAGCGCACCAGCTCTGGTAGCGATACCGATATCTATTCTTTTCATTAGCCACCGA  
GCAGGAGGACCTGCTGTCTGACATTCAGCAGGCCATTCGGCTTACGACGAGCAGCAGCAAAAGCTGCTT  
CTTCAAGATTCTGAAGAGCCCGTGCCTCCCTGACATAAGCCCAACCTGGGGCATTCTGGGTC  
TGGATCAGTTTTTGTGGCCCTCGCTCCGAAGCGGAGAAGGACACCGTGCAGGCACTCCCGTCAGACC  
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TGAAGAGGACGCATTGAGGATGCACCAAGGGGTTCCCGCGGAGGAATGGGTCCCGAGGTGGAGGAA  
GCTTACAACGGTTGGAGAAGGAACCCGAGGAGGCATGCGCGAGAGCATTACTAGTGTGTGGTGTCCC  
TCCCGGGAGCCCTGCCCTTACCACGCTGCTTAAACCGTACCACACTATTAGCCGTGCTATATTA



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GACAACTACACGCCAGTTGAGCTCTCCAAACCACAGTCTAGCCAGTCACCAAATCAGTCCCCACGAATC  
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 GGCGGATCTCCGTTCTGGCCGCAAAGGCGCCGGGGTCCAGCCACGGCTGACGGCTCCAGAACGTGT  
 TCACCCGTAGGACTCTGCTGGAGAAGCTGTTACGCCAACAGGAGAACGGCCACCTGAGGAGGCAGAGAA  
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 CAGAATGCAGGCTCTAGCGCACCGTTCGACCAGGATCAACTTTATACTTGGGCGCCGCTCTCTCAGC  
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**Protein Sequence:**

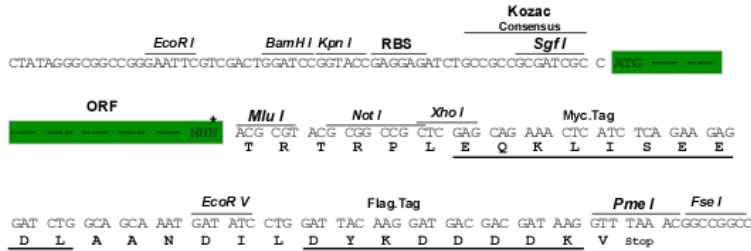
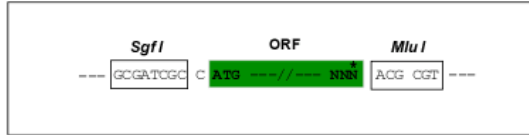
>MR212040 representing NM\_019445  
Red=Cloning site Green=Tags(s)

MGNQDGKLRKSAGDASHEGGGAEDAAGPRDAEITKKASGSKKALGKHGKGGGSGETSKKKSKSDSRASV  
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GASRPAEAGVGIQATAEDLETAAGAQQDQRTSSGSDTDIYSFHSATEQEDLLSDIQQAIRLQQQQQKLL  
LQDSEEPAAPTAISPPQGAFLGLDQFLGPRSEAEKDTVQALPVRPDLPETTKSLVPEHPPSSGSHLTS  
ETPGYATAPSAVTDLSLSPAFTFPEAGPGEGAAGVPVAGTGDTEECEEDAFEDAPRGSPEGEEWVPEVEE  
ASQRLEKEPEEGMRESITSAVVSLPGSPAPSPRCFKPYPLITPCYIKTTTRQLSSPNHSPSQSPNQSPRI  
KKRPDPVSVSRSSRTALASAAAPAKKHRLEGLTGGLSRSADWTEELGVRTPGAGGSVHLLGRGATADDG  
GGSPVLAAGAPGAPATADGFQNVFTGRTLLEKLF SQQENGPPEEAKEKFSRIIAMGLLLPFSDCFREPCN  
QNAGSSAPFDQDQLYTWAAVSQPTHSMDYSEQFPRREPSMWPSSKLPPEEPSPKDVEDTEPKSSILESP  
KKCSNGVQQEVFDVKSEGOATVIQQLEQTIEDLRTKIAELEKQYPALDLEGRPLSGLENGLTASADVSL  
DALVLHGKVAQPPRTLEAKSIQTSPTTEGRILTLPPPAPPEGLLGSAAAASGESALLTSPSGPQTKFCS  
EISLIVSPRRISVQLDAQIQSASQLPPPPPLGSDSQGQPSQPSLHTESETSHEHSVSSSFGNCCNVPP  
APPLPCTESSFMPGLGMAIPPPPCLSDITVPALPSPTAPALQFSLNQGPEMLPAPPQPPPLPGLGVPPP  
PPAPPLPGMGI PPPPLPGMGI PPPPLPGMGI SPLPPLPGMGI PPPPLPGVGI PPPPLPGVGI PPPPLPG  
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PPLPTGLFGLGMNQDRVARKQLIEPCRPMKPLYWTRIQLHRSKRDSPLIWEKIEEPSIDCHEFEELFSK  
TAVKERKKPISDTISKTKAKQVVKLLSNKRSQAVGILMSSLHLDKMDIQHVVNLDNSVVDLETLQALYE  
NRAQSDELEKIEKHSRSDKENAKSLDKPEQFLYELSLIPNFSERVFCILFQSTFSESICSIKRLLELL  
QKL CETLKNPGVMQVLGLVLAFGNYMAGNKTRGQADGFLDILPKLKDVKSSDNSRSLLSYIVSYLRL  
NFDEDAGKEQCVFPLAEPQELFQASQMKFEDFQKDLRKLKDLKACEAEAGKVYQVSSAEHMQPFKENME  
QFISQAKIDQESQEAAL TETHKCFLETTAYYFMKPKLGEKEVSPNVFFSVWHEFSSDFKDAWKKENKLLI  
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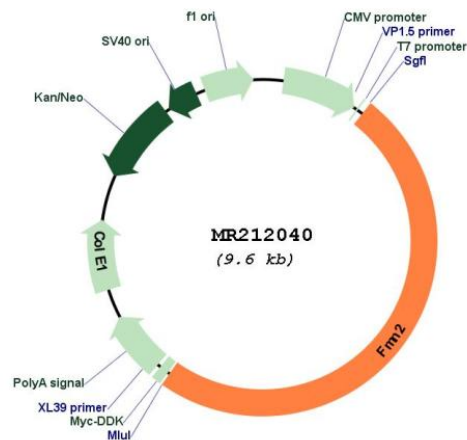
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**
**Cloning Scheme:**
**Sgfl-MluI**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**Plasmid Map:**


**ACCN:** NM\_019445

**ORF Size:** 4734 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\\_019445.2](#), [NP\\_062318.2](#)

**RefSeq Size:** 6461 bp

**RefSeq ORF:** 4737 bp

**Locus ID:** 54418

UniProt ID: [Q9JL04](#)

Cytogenetics: 1 81.04 cM

MW: 167.4 kDa

**Gene Summary:** Actin-binding protein that is involved in actin cytoskeleton assembly and reorganization (PubMed:18848445, PubMed:21620703). Acts as an actin nucleation factor and promotes assembly of actin filaments together with SPIRE1 and SPIRE2 (PubMed:18848445, PubMed:21620703). Involved in intracellular vesicle transport along actin fibers, providing a novel link between actin cytoskeleton dynamics and intracellular transport (PubMed:21983562). Required for asymmetric spindle positioning, asymmetric oocyte division and polar body extrusion during female germ cell meiosis (PubMed:12447394, PubMed:18848445, PubMed:19062278, PubMed:21620703). Plays a role in responses to DNA damage, cellular stress and hypoxia by protecting CDKN1A against degradation, and thereby plays a role in stress-induced cell cycle arrest (By similarity). Also acts in the nucleus: together with SPIRE1 and SPIRE2, promotes assembly of nuclear actin filaments in response to DNA damage in order to facilitate movement of chromatin and repair factors after DNA damage (By similarity). Protects cells against apoptosis by protecting CDKN1A against degradation (By similarity).[UniProtKB/Swiss-Prot Function]