

## Product datasheet for **MR226448**

### **Dna2 (NM\_177372) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Dna2 (NM_177372) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Dna2
Synonyms:	Dna2l; E130315B21 Rik
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>MR226448 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

ATGGAGCCGCTGGACGAGCTGGACCTGCTGCTGCTGGAAGAGGACGGCGGAGCGGAGGCCGTGCCGCGGG  
TGGAGCTACTTCGGAAGAAGGCGGACGCTTTGTTCCAGAGACAGTTCTGAGCCGAGGAGTGATAAACCG  
GTACCTGGTGCTAGCTGTTGAGACCTCGCAGAATGAAAGAGGAGCCGAGGAGAAGCGCTTGCACGTCACG  
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CCTCCGAGAAGTGAGGCATTTGAAGGAAATGTATCGCTTGAATCTGAGCCAAGATGAAACTCTGTGAA  
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TCCTCAAATGCAGCTCTCTGCAAGCGATGGCAGTAACAGAAGTTACCTTGTAAACATTGAAGTAGT  
CAAGTCACTGGATATCGAAGAAAGCATCTGGTCCCTAGGTTTGGACTGAAGGGCAAAAATAGACGTCACA  
GTCCGGGTCAAAAATACATCGAGATTGTAATAAGTAACAAGGTAATGCCACTGGAGCTGAAGACCCGGCA  
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GAAGCCATGCTGTCCAAAATCCAGGAAGAAACACGGCACCTGCAGCTGGCGCACTTGAAGTATTTAGCC  
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CAGAGACAAGCAATGAAGAGAGTCTTCTTTTCGAAAGACTACACGCTCATTGTTGGGATGCCAGGGACAG  
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CTACACGCACTCCGCCGTTGACAATATTCTCTGAAGTTAGCCAAGTTTAAAGTCGGATTTTTGCGCTTG  
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CCCTGGTTGTAACCGAGAGGCAAGAGCTCTGGGCATGAGCGAGAGCTTGTTCAGAGGGCTGGAGCGGAA  
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GGTGTAGCAATGTCACAGAAGCCAGACTATTGTCTTCTAACCTCACTTTTATAAAGGCTGCAGCCC  
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**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
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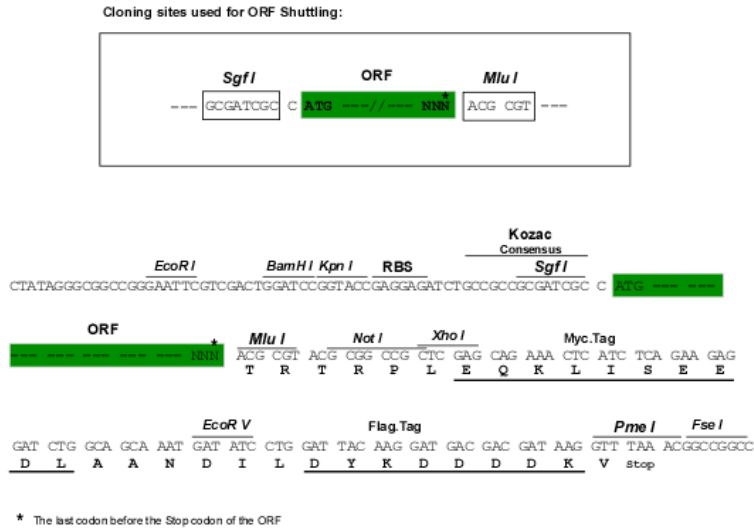
Protein Sequence: >MR226448 protein sequence  
 Red=Cloning site Green=Tags(s)

MEPLDEL DLLLLEEDGGAEAVPRVELLRKKADALFPETVLSRGVDNRYLVLAVETSQNERGAEKRLHVT  
 ASQDREHEVLCILRNGWSSVPEPGDIVHLEGDCTSEPWIIDDDFGYFILYPMIMISGTSVASSIRCLR  
 AVLSETRGSDPATRQMLIGTILHEVFQKAISESFAPERLQELALQTLREVRHLKEMYRLNLSQDEILCE  
 VEEYLPFSFKWAEDFMRKGPSSEFFPQMQLSLPSDGSNRSSPCNIEVVKSLDIEESIWSPRFGLKGI  
 DVTVGVKIHRRDCKMKYKVMPLLELKTGKESNSIEHRSQVVLYTLLSQERRREDPEAGWLLYLK  
 TGMYPVPANHLDKRELLKLRNWLAAASLLHRVSRAAPGEEARLSALPQIIIEEKTCKYCSQIGNC  
 ALYSRAVEEQGDDASIP EAMLSKIQEETRHQLAHLKYFSLWCLMLTLESQSKDNRKTHQSIWLT  
 PASELEESGNCVGNLVRTEPVSRVCDGQYLHNFQRKNGPMPATNLMAGDRIILSGEERKLFALSKG  
 YVKKMNKAAVTCLLDRNLSTLPATTV FRLDREERHGDISTPLGNLSKLMESTDPSKRLREL  
 IIDFREPFQIAYLSSVLPHDAKDTVANILKGLNKPQRQAMKRVLLSKDYTLIVGMPGTGKTTT  
 ICALVRILSACGFSVLLTSYTHSAVDNILLKAKFKVGFRLRGQSHKVPDIQKFTEEEICRSRS  
 IASLAHLEELYN SHPIVATTCMGINHPFISRKTFDFCIVDEASQISQPVCLGPLFFSRRFV  
 LVDHQQLPPLVFNREARALGMSESLFKRLERNESAVVQLTVQYRMRKIMSLSNKLT  
 YAGKLECGSDRVANAVLALPNLKDARLSQLYADYS DSPWLAGVLEPDNPVCLNTDKVPAPEQ  
 VENG GVS NVTEARLIVFLTSTFIKAAAPQTLASSPRTDSSCGSSATYWPGLLLGWLRLTQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

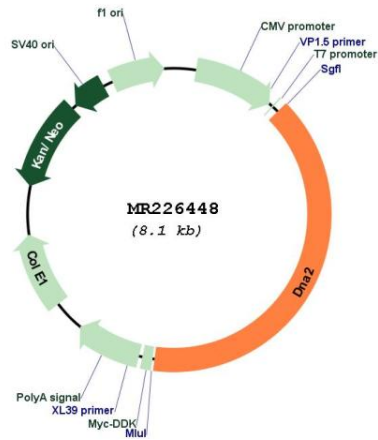


ACCN: NM\_177372

ORF Size: 2901 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<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_177372.1</a> , <a href="#">NM_177372.2</a> , <a href="#">NM_177372.3</a> , <a href="#">NP_796346.2</a>
<b>RefSeq Size:</b>	4122 bp
<b>RefSeq ORF:</b>	3189 bp
<b>Locus ID:</b>	327762
<b>UniProt ID:</b>	<a href="#">Q6ZQJ5</a>
<b>Cytogenetics:</b>	10 B4
<b>MW:</b>	108.5 kDa
<b>Gene Summary:</b>	Key enzyme involved in DNA replication and DNA repair in nucleus and mitochondrion. Involved in Okazaki fragments processing by cleaving long flaps that escape FEN1: flaps that are longer than 27 nucleotides are coated by replication protein A complex (RPA), leading to recruit DNA2 which cleaves the flap until it is too short to bind RPA and becomes a substrate for FEN1. Also involved in 5'-end resection of DNA during double-strand break (DSB) repair: recruited by BLM and mediates the cleavage of 5'-ssDNA, while the 3'-ssDNA cleavage is prevented by the presence of RPA. Also involved in DNA replication checkpoint independently of Okazaki fragments processing. Possesses different enzymatic activities, such as single-stranded DNA (ssDNA)-dependent ATPase, 5'-3' helicase and endonuclease activities. While the ATPase and endonuclease activities are well-defined and play a key role in Okazaki fragments processing and DSB repair, the 5'-3' DNA helicase activity is subject to debate. According to various reports, the helicase activity is weak and its function remains largely unclear. Helicase activity may promote the motion of DNA2 on the flap, helping the nuclease function (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226448