

## Product datasheet for **MR211052**

### **Ddx11 (NM\_001003919) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Ddx11 (NM_001003919) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ddx11
Synonyms:	4732462I11Rik; CHL1; CHLR1; essa15a; KRG2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR211052 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTGACGAAAACCAGGAGATTGGTGGCATCCATTTTCTTTTCCCTTCCCGCCTATCCTATCCAGA  
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**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
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**Protein Sequence:**

>MR211052 protein sequence  
 Red=Cloning site Green=Tags(s)

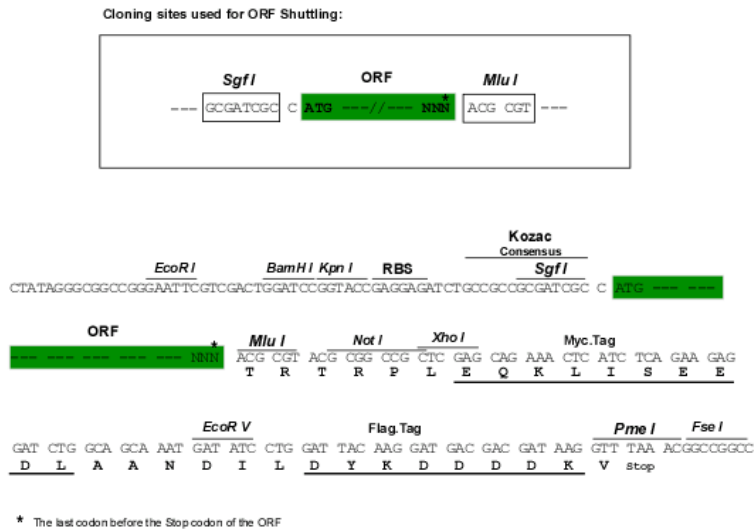
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 PSLSDSQENRGLAGFQQFLKSLQSGPTEDSPEEGQAVLRPASPLMHIEAFLAALTTANQDGRVIVNRQG  
 SVGQSSLKFLLLNPAVHFAQVVKCRAVVIAGGTMQPMDFREQLLACSGVEAGRVVEFCGHVIPPNDI  
 LPLIICSGPSNQLEFTYQRRELPMVEETGRILCNLCNVVPGGVVCFLPSEYELRQVHAHWKDTGLLTR  
 LSVRKKIFQEPKRASQVEQVLMAYSKCIMSCSHSEGLTGALLSVVGGKMSEGINFSDDLGRCVVMVGM  
 PYPNIKPELQEKMAYLNQTLPTQGPPLPGTVLIENLCMKAINQSIGRAIRHQDFASIVLLDHRYP  
 SILAKLPAWIRDRVEVKATFGPAFAAVRKFHREKSHPSLV

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**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

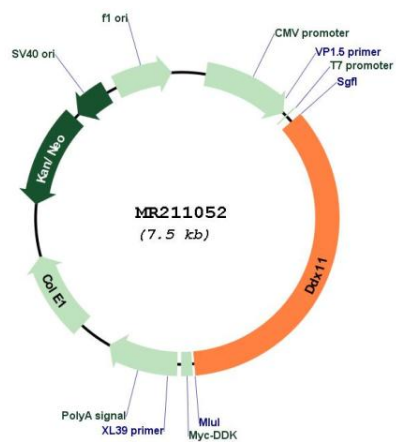


<b>ACCN:</b>	NM_001003919
<b>ORF Size:</b>	2643 bp
<b>OTI Disclaimer:</b>	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), 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_001003919.2</a>
<b>RefSeq Size:</b>	4167 bp
<b>RefSeq ORF:</b>	2643 bp
<b>Locus ID:</b>	320209
<b>UniProt ID:</b>	<a href="#">Q6AXC6</a>
<b>Cytogenetics:</b>	17 E1.1
<b>MW:</b>	98.7 kDa

**Gene Summary:**

DNA-dependent ATPase and ATP-dependent DNA helicase that participates in various functions in genomic stability, including DNA replication, DNA repair and heterochromatin organization as well as in ribosomal RNA synthesis. Its double-stranded DNA helicase activity requires either a minimal 5'-single-stranded tail length of approximately 15 nt (flap substrates) or 10 nt length single-stranded gapped DNA substrates of a partial duplex DNA structure for helicase loading and translocation along DNA in a 5' to 3' direction. The helicase activity is capable of displacing duplex regions up to 100 bp, which can be extended up to 500 bp by the replication protein A (RPA) or the cohesion CTF18-replication factor C (Ctf18-RFC) complex activities. Shows also ATPase- and helicase activities on substrates that mimic key DNA intermediates of replication, repair and homologous recombination reactions, including forked duplex, anti-parallel G-quadruplex and three-stranded D-loop DNA molecules. Plays a role in DNA double-strand break (DSB) repair at the DNA replication fork during DNA replication recovery from DNA damage. Recruited with TIMELESS factor upon DNA-replication stress response at DNA replication fork to preserve replication fork progression, and hence ensure DNA replication fidelity (By similarity). Cooperates also with TIMELESS factor during DNA replication to regulate proper sister chromatid cohesion and mitotic chromosome segregation (PubMed:17611414). Stimulates 5'-single-stranded DNA flap endonuclease activity of FEN1 in an ATP- and helicase-independent manner; and hence it may contribute in Okazaki fragment processing at DNA replication fork during lagging strand DNA synthesis. Its ability to function at DNA replication fork is modulated by its binding to long non-coding RNA (lncRNA) cohesion regulator non-coding RNA DDX11-AS1/CONCR, which is able to increase both DDX11 ATPase activity and binding to DNA replicating regions (By similarity). Plays also a role in heterochromatin organization (PubMed:21854770). Involved in rRNA transcription activation through binding to active hypomethylated rDNA gene loci by recruiting UBTF and the RNA polymerase Pol I transcriptional machinery (By similarity). Plays a role in embryonic development and prevention of aneuploidy (PubMed:17611414). Involved in melanoma cell proliferation and survival. Associates with chromatin at DNA replication fork regions. Binds to single- and double-stranded DNAs (By similarity).[UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR211052