

## Product datasheet for MR226419

### Dhx36 (NM\_028136) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Dhx36 (NM_028136) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Dhx36
Synonyms:	2810407E23Rik; AI452301; AU022184; Ddx36; mKIAA1488
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR226419 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAGCTACGACTATCATCAGAGCTGGAGCCGCGATGGGGGCCACGGGGCTCCGGCCAGGGCTCCAGCG  
GCGGCGCGGAGGGAGCCGGGGCTCGGGCGCGCGGAGGGGGCCGCGCGGGCCGGGGCCGGCATCCCGC  
ACACCTTAAGGGTCGCGAGATCGGCCTGTGGTACGCCAAGAAGCAGACGCAGAAGAACAAGGAGGCTGAG  
AGGCAGGAGAGAGCTGTAGTGCACATGGATGAACGTCGAGAAGAGCAAATGTGCAGCTGCTGAATTCAG  
TCCAAGCTAAGACTGACAAAGATTCAGAAGCGCAGATATCCTGGTTTGTCTCTGAGGATCATGGGTATGG  
TACTGAAGTTTCTCAGAGAAAAAATAAACTCAGAGAAGAACTTGACAACCAGGAAAAAGAAATGCTA  
AACCAAGAAAAAAGACATTTAGGATCACAGACAAATCATATATTGACCGAGATACTGAGTATTTATTGC  
AAGAAAAAGAGCCAAACCTAAGCTTAGATCAACATTTACTGGAAGATTTACAAAGAAAAAAGTACCC  
TCGATATATAGAGATGCAGCGTTTCAGAAAAAGCTGCCTTCATATGGAATGCAGAAGGAGCTGGTAAAT  
CTAATCAATAACCATCAGGTGACAGTAATAAGTGGTAACTGGTTGTGGCAAACCACTCAGGTTACGC  
AGTTTACTTTGGATAACTACATCGAAAGAGGAAAGGGTCTGCCTGCAGAATAGTGTGACTCAGCCAAG  
AGAATTAGTGCCATTTTCAGTCGCTGAGAGAGTGGCCACAGAAAGGCAGAGTCTTGTGGCAATGGTAAT  
AGTACTGGATACCAGATTCGCTTCAAAGTCGGTTGCCAAGGAAACAAGTTCTATCTTACTGCACAA  
CAGGAATCATTCTCAGTGGCTCCAGTCCGACTCACGTTTGTCCAGTGTTAGTCATATTTGATCTGATGA  
AATTCATGAAAGGAATCTACAGTCGGATGTTTTAATGACTGTTATTAAAGATCTTCTCCATTTTCGATCT  
GATCTCAAAGTAATATTGATGAGTGCAACTTTGAATGCTGAGAAATTTTCAGAATATTTGGTAACTGTC  
CAATGATACATATACCCGGGTTTACTTTCCAGTTGTGGAATATCTTTGGAAGATATCATTGAAAAAT  
AAGATATGTTCCAGACAAAAAGAACATAGATCCAGTTCAAGAGGGGTTTCATGCAGGGTCATGTAAT  
AGACAAGAAAAAGAAAAAGAGGCCATCTATAAGGAACGCTGGCCAGCGTATAAAGGAACTGCGGA  
CAAGATACTCTGCAAGTACCGTAGATGTTTTGCAATGATGGATGATGATAAAGTTGATCTGAATTTGAT  
TGCTGCCCTTATTCGATACATTGTTTTGGAAGAAGAGGATGGTGAATATTGGTCTTTTACCAGGCTGG



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GACAATATCAGTACTTTGCATGATCTCTTGATGTCACAAGTGATGTTTAAATCAGATAAGTTTCTCATT  
TACCTTTACATTCAGTATGCCTACCGTCAACCAGACACAGGTATTTAAAAAACTCCTCCCGGTGTTCC  
GAAAATAGTAATTGCTACCAACATTGCAGAGACTAGCATCACCATAGATGATGTGGTTTATGTAATAGAT  
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CATCAAATGAGGCAGTGGTCTCCATAAAACACCTAATGGAAGTCTGAGTCTTTGGATAAGCAAGAAGA  
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GGAGCTTTGTTCTGCTGCTTAGATCCAGTTCTCACCATTGCTGCCAGTCTCAGCTTTAAAGATCCCTTTG  
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TCACCTGACAGTTGTGAATGCATTTGAGGGCTGGGAAGAAGCCAAACGACGTGGTTTCAGGTATGAAAAG  
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CAGTATATACTTGTACGACTGTACAGAAGTGTACCATACTGCCTCCTGTTCTTTGGAGGAGATATTTCC  
ATCCAGAAAGTAAGGATCAGGAAATATTGCTGTAGATGAGTGGATTGTGTTTCAGTCTCCAGAAAGAA  
TTGCCATCTTGTAAAGGACTAAGAAAGGAACTGGATAGCCTTCTACAAGAGAAGATTGAAAGCCCTCA  
TCCTGTAGACTGGGACGACACTAAGTCAAGAGACTGTGCAGTACTGTGAGTCTTCTAGACTTGTACAAA  
ACTCAAGAAAAGGCTACTCCAAGAACTGCCACCACGGTCACAGGACGGATATTATAGC

ACGCGTACGCGCGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGAT AAGGTTTAA

**Protein Sequence:**

>MR226419 protein sequence  
Red=Cloning site Green=Tags(s)

MSYDYHQSWSRDGGPRGSGQSSGGGGGRGSGGGGGGRGGRGRHPAHLKGREIGLWYAKKQTQKNKEAE  
RQERAVVHMDERREEQIVQLLNSVQAKTDKDEAQISWFAPEDHGYGTEVSSEKKINSEKLDNQEKKLL  
NQEKKTRITDKSYIDRDEYLLQENEPNLSLDQHLEDLQRKKTDPRIEMQFRKRLPSYGMQKELVN  
LINNHQVTVISGETGCGKTTQVTQFILDNYIERGKGSACRIVCTQPRRISAI SVAERVATERAESGNGN  
STGYQIRLQSRLPRKQGSILYCTTGIIQLWQSDSRLSSVSHIVLDEIHERNLQSDVLMTVIKDLLHFRS  
DLKVILMSATLNAEKFSYFGNCPMIHIPGTFPPVVEYLLEDIEKIRYVPDQKEHRSQFKRGMQGHVN  
RQEKEEKEAIYKERWPAYIKELRTRYASTVDVLQMMDDDKVDLNLIAALIRYIVLEEDGAILVFLPGW  
DNISTLHDLLMSQVMFKSDKFLIIPHSLMPTVNQTQVFKKTPPGVRKIVIATNIAETSITIDDVVYVID  
GGKIKETHFDTQNNISTMSAEWVSKANAKQRKGRAGRVPQGHYHLYNGLRASLLDDYQLPEILRTPLEE  
LCLQIKILRLGGIAYFLSRLMDPPSNEAVVLSIKHLMEL SALDKQEEL TPLGVHLARLPVEPHIGMILF  
GALFCCLDPVLTIAASLSFKDPFVIPLGKEKIADARRKELAKETRSDHLTVVNAFEGWEEAKRRGRFYEK  
DYCWEYFLSSNTLQMLHNMKGQFAEHLGAGFVSSRSPKDPKANINSDNEKI IKAVICAGLYPKVAKIRL  
NLGKKRKMVKVHTKSDGLVSIHPKSVNVEQTDHFHYNWLIYHLKMRSSSIYLDCTEVSPYCLLFFGGDIS  
IQKDKDQEIIAVDEWIVFQSPERIAHLVKGLRKELDSSLQEKIESPHVPVDWDDTKSRDCAVL SAILDLIK  
TQEKATPRNLPPRSQDGYYS

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI



RefSeq ORF: 3006 bp

Locus ID: 72162

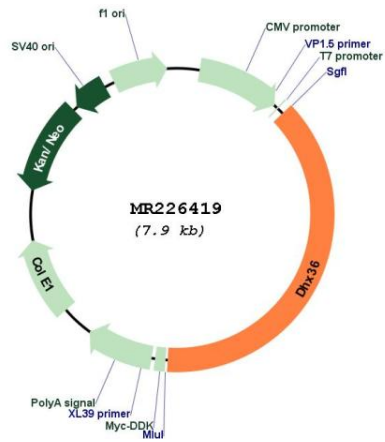
UniProt ID: [Q8VHK9](#)

Cytogenetics: 3 E1

MW: 113.8 kDa

**Gene Summary:** Multifunctional ATP-dependent helicase that unwinds G-quadruplex (G4) structures (PubMed:25611385). Plays a role in many biological processes such as genomic integrity, gene expression regulations and as a sensor to initiate antiviral responses (PubMed:21703541, PubMed:21590736). G4 structures correspond to helical structures containing guanine tetrads (By similarity). Binds with high affinity to and unwinds G4 structures that are formed in nucleic acids (G4-ADN and G4-RNA) (By similarity). Plays a role in genomic integrity (By similarity). Converts the G4-RNA structure present in telomerase RNA template component (TREC) into a double-stranded RNA to promote P1 helix formation that acts as a template boundary ensuring accurate reverse transcription (By similarity). Plays a role in transcriptional regulation. Resolves G4-DNA structures in promoters of genes, such as YY1, KIT/c-kit and ALPL and positively regulates their expression (PubMed:25611385) (By similarity). Plays a role in post-transcriptional regulation (By similarity). Unwinds a G4-RNA structure located in the 3' UTR polyadenylation site of the pre-mRNA TP53 and stimulates TP53 pre-mRNA 3'-end processing in response to ultraviolet (UV)-induced DNA damage (By similarity). Binds to the precursor-microRNA-134 (pre-miR-134) terminal loop and regulates its transport into the synapto-dendritic compartment (By similarity). Involved in the pre-miR-134-dependent inhibition of target gene expression and the control of dendritic spine size (By similarity). Plays a role in the regulation of cytoplasmic mRNA translation and mRNA stability (By similarity). Binds to both G4-RNA structures and alternative non-quadruplex-forming sequence within the 3' UTR of the PITX1 mRNA regulating negatively PITX1 protein expression (By similarity). Binds to both G4-RNA structure in the 5'-UTR and AU-rich elements (AREs) localized in the 3' UTR of NKX2-5 mRNA to either stimulate protein translation or induce mRNA decay in an ELAVL1-dependent manner, respectively (By similarity). Binds also to ARE sequences present in several mRNAs mediating exosome-mediated 3'-5' mRNA degradation (By similarity). Involved in cytoplasmic urokinase-type plasminogen activator (uPA) mRNA decay (By similarity). Component of a multi-helicase-TICAM1 complex that acts as a cytoplasmic sensor of viral double-stranded RNA (dsRNA) and plays a role in the activation of a cascade of antiviral responses including the induction of proinflammatory cytokines via the adapter molecule TICAM1 (PubMed:21703541). Required for the early embryonic development and hematopoiesis (PubMed:22422825). Involved in the regulation of cardioblast differentiation and proliferation during heart development (PubMed:26489465). Involved in spermatogonia differentiation (PubMed:25611385). May play a role in ossification (PubMed:21590736). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226419