

## Product datasheet for **MC224368**

### Dhx9 (NM\_007842) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Dhx9 (NM\_007842) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Dhx9  
**Synonyms:** AI326842; Ddx9; HEL-5; mHEL-5; NDHII; RHA  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224368 representing NM\_007842  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGGTGACATTA AAAATTTTCTGTATGCCTGGTGTGGCAAAGGAAGATGACTCCAGCCTATGAAATTA  
GAGCAGTAGGAAACAAAAACAGACAGAAATTCATGTGTGAGGTTTCGAGTAGAAGGGTTAATTATGCTGG  
TATGGGCAATCCACCAATAAAAAGGATGCACAGAGCAATGCTGCCAGAGACTTTGTTAACTATTTGGTT  
CGAATAAATGAAGTAAAGAGTGAAGAAGTTCAGCTGTTGGGATTGTACCACCCCACTACTTACGGC  
ACACCTCTGATAGCACAGCAAGTCTGCAGAAGGGTTACCAGCACCAATGGGAGGACCACTTCTCCTCA  
TCTGGCTCTCAAAGCAGAAGAAAATAATTCTGGAGTTGAGTCTTCTGGCTATGGCTCTCCTGGACCTACT  
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AGGAGCTTTATTGCAGAAATGACCATTTATCAAGCAGCTTGGCAGAAGGATTTTCGCACGTGAACATG  
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GATTGAGGCTTACTCTGGCTTACAAAGAAGAAAGGAGAGAGAGTGGAGCCTTACAAAAGTTTTCTCTT  
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GAGGGACCCCTTGCTTATGCTTCTACAGAACAAATAAGCATGGACCTTAAAGATGAATTAACATACCAGA  
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TGGAAAAAGCTGTGGTTACAGTGTTCGATTTGAGTCTATACTTCCACGCCCTCATGCCAGTATAATGTTT  
TGACTGTAGGTGTGCTTCTAAGAAAACAGAAGCCGGCATTTCGAGGAATCAGTCATGTTATTGTGGATG



AAATTCATGAAAGAGATATTAATACTGACTTCCTTTTGGTAGTACTGCGTGATGTGGTTTTGGCTTATCC  
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 CCCATCATTGAGGTTTATGGAAGGACTTTCCAGTTCAAGAGTATTTTCTGGAAGACTGCATTAGATGA  
 CTCAATTCATTCTCTCCAAAGGACAAGAAAAAGAGGATAAGGAGGATGATGGTGGTGAAGATGATGA  
 TGCAAATTGCAACCTAATATGTGGTGACGAATATGGGCCAGAAACAAAGTTGAGCATGTCTCAGTTGAAT  
 GAAAAGGAAACTCTTTTGAACCTATTGAGGCGCTTCTAAATACATTGAAACCCTTAATGTTCTGGAG  
 CTGTGTTGGTATTTTTACCTGGCTGGAACCTGATTATACTATGCAAAAGCATTAGAAAATAATTCCGA  
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 GACCAACTATGCTACTGTATGGGCATCAAAAACAACTTGGAGCAGAGGAAAGGGCGAGCTGGCCGTGA  
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 CTTGATGCTTTAGATGCCAATGATGAGTTGACTCCTCTTGACGCAATCCTGGCTAACTCCCCATTGAAC  
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 TGCTACCTGCTTCCAGAACCTTTATCAGCGAAGGAAAACGCCTGGGATACATACACCGGAATTTTGT  
 GGAAACAGATTTTCTGATCACGTGGCTCTTTATCAGTATTCGAAGCCTGGGATGATGCTAGGATGAGTG  
 GAGAAGAAGCAGAAAACGTTTTTGTGAGCAGAAGAGACTCAATATGGCTACACTGAGAATGACTTGGGA  
 GGCCAAAGTACAGCTTAAAGAGATTCTGATTAACCTCTGGATTTCCCGAAGATTGTTTATTGACACAAGTG  
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 AATATTATCAGCCAATTGGACCCTGTAATGAACATATGCTAAACACAATCCGACAGATTCTAGGCCCT  
 CAGCTGCTGGTATCAACCTTATGATTGGAAGTGAAGGTACGGCGATGGTCCACGACCTCCCAAGATGGC  
 CCGATATGATAATGGAAGTGGATATAGAAGGGATATGGTGGGGGAGGATATGGTGGCGGAGGATATGGT  
 GCGGATACGGTAGTGGAGGCTTTGGAGGAGCTTTGGAAGTGGGGGAGGCTTTGGAGGAGGCTTTAACA  
 GCGGTGGGGGAGGCTTTGGTAGTGGTGGGGGAGGCTTTGGCAGTGGTGGAGGTGGATTTGGTGGTGGTGG  
 AGGAGGCTTCAGTGGTGGAGGAGGTGGTGGATTTGGTGGTGGCAGAGGAGGTGGAGGTGGCGGATTTGGG  
 GGTAGTGGGGGCTTTGGAAGTGGTGGGGGAGGATGGTGGTGGAGGTGGTGGCTATGGAGGAGGTGGTGG  
 GTGGTGGCTATGGAGGAGGCAGTGGAGGATATGGAGGTGGGGGAGGGGTTATGGTGGTGGGGAAGGTTA  
 TAGTATAAGCCCCAACTTTACCGTGGGAATTATGGTGGTGGCGGGGAGGGTATAGAGGAGGTTCCCAA  
 GGAGGCTACAGAAACAACCTTTGGTGGAGACTACAGAGGGTCCAGTGGAGACTACCGGGATCCGGTGGGG  
 GCTATAGAGGATCTGGAGGATCCAGCGAAGGGTTATGGAGGTGGTTATTTGGACAAGGAAGAGGAGG  
 AGGGGGTGGTGGTGGCTAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_007842  
**Insert Size:** 4152 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

**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\\_007842.2](#), [NP\\_031868.2](#)

**RefSeq Size:** 4623 bp

**RefSeq ORF:** 4152 bp

**Locus ID:** 13211

**UniProt ID:** [O70133](#)

**Cytogenetics:** 1 65.37 cM

**Gene Summary:**

Multifunctional ATP-dependent nucleic acid helicase that unwinds DNA and RNA in a 3' to 5' direction and that plays important roles in many processes, such as DNA replication, transcriptional activation, post-transcriptional RNA regulation, mRNA translation and RNA-mediated gene silencing. Requires a 3'-single-stranded tail as entry site for acid nuclei unwinding activities as well as the binding and hydrolyzing of any of the four ribo- or deoxyribo-nucleotide triphosphates (NTPs). Unwinds numerous nucleic acid substrates such as double-stranded (ds) DNA and RNA, DNA:RNA hybrids, DNA and RNA forks composed of either partially complementary DNA duplexes or DNA:RNA hybrids, respectively, and also DNA and RNA displacement loops (D- and R-loops), triplex-helical DNA (H-DNA) structure and DNA- and RNA-based G-quadruplexes. Binds dsDNA, single-stranded DNA (ssDNA), dsRNA, ssRNA and poly(A)-containing RNA. Binds also to circular dsDNA or dsRNA of either linear and/or circular forms and stimulates the relaxation of supercoiled DNAs catalyzed by topoisomerase TOP2A. Plays a role in DNA replication at origins of replication and cell cycle progression. Plays a role as a transcriptional coactivator acting as a bridging factor between polymerase II holoenzyme and transcription factors or cofactors, such as BRCA1, CREBBP, RELA and SMN1. Binds to the CDKN2A promoter. Plays several roles in post-transcriptional regulation of gene expression. In cooperation with NUP98, promotes pre-mRNA alternative splicing activities of a subset of genes (By similarity). As component of a large PER complex, is involved in the negative regulation of 3' transcriptional termination of circadian target genes such as PER1 and NR1D1 and the control of the circadian rhythms (PubMed:22767893). Acts also as a nuclear resolvase that is able to bind and neutralize harmful massive secondary double-stranded RNA structures formed by inverted-repeat Alu retrotransposon elements that are inserted and transcribed as parts of genes during the process of gene transposition (PubMed:28355180). Involved in the positive regulation of nuclear export of constitutive transport element (CTE)-containing unspliced mRNA. Component of the coding region determinant (CRD)-mediated complex that promotes cytoplasmic MYC mRNA stability. Plays a role in mRNA translation. Positively regulates translation of selected mRNAs through its binding to post-transcriptional control element (PCE) in the 5'-untranslated region (UTR). Involved with LARP6 in the translation stimulation of type I collagen mRNAs for CO1A1 and CO1A2 through binding of a specific stem-loop structure in their 5'-UTRs. Stimulates LIN28A-dependent mRNA translation probably by facilitating ribonucleoprotein remodeling during the process of translation. Plays also a role as a small interfering (siRNA)-loading factor involved in the RNA-induced silencing complex (RISC) loading complex (RLC) assembly, and hence functions in the RISC-mediated gene silencing process. Binds preferentially to short double-stranded RNA, such as those produced during rotavirus intestinal infection (PubMed:28636595). This interaction may mediate NLRP9 inflammasome activation and trigger inflammatory response, including IL18 release and pyroptosis (PubMed:28636595). Finally, mediates the attachment of heterogeneous nuclear ribonucleoproteins (hnRNPs) to actin filaments in the nucleus (By similarity).[UniProtKB/Swiss-Prot Function]