

Product datasheet for **RN212516**

Dhx36 (NM_001107678) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Dhx36 (NM_001107678) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Dhx36
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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Fully Sequenced ORF:

>RN212516 representing NM_001107678

Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGCATCGCC**

ATGAGCTACGACTATCATCAGAGCTGGAGCCGCGACGGGGGCCACGGGGCTCCGGCCAGGGCTCTGGCG
GCGGCGGTGGAGGAGCCGGGGCTCCGGCGGCGCGAGGGGGCCGCGGGCGGGCCGGCATCCGGC
CCACCTTAAGGGTCGCGAGATAGGCCTATGGTACGCAAAAAAGCAAACGAGAAGAAACAAGGAGGCTGAG
AGACAAGAGAGAGCTGTAGTGCACATGGATGAACGGCGAGAAGAGCAAATTGTGCAGCTGCTAAATTCAG
TCCAAGCAAAGAATGATAAAGATTCAGAAGCACAGATATCCTGGTTTGTCTCTGAGGATCATGGGTATGG
TACTGAAGTTTCTTCAGAGAAAAAATAAACTCAGAGAAGAACTTGACAACCAGGAAAAGAAATTTGCTG
AACCAAGAAAAAAGACATATAGGATCACAGACAAATCATATATTGACCGAGATTCTGAGATTTTATTGC
AACAAAATGAACCAACCTAGGCTTAGACCAACAATTATTGGAAGATTTACAAAAGAAAAAACTGACCC
TCGGTATATAGAGATGCAGCGTTTCAGAAAAAGCTGCCTTCATATGGAATGCAGAAGGAGCTGGTAAAT
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CAATGATACATATACCTGGGTTACTTTCCAGTTGTGGAATATCTTTTGGAAAGATATCTTTGAAAAAT
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AGACAAGAAAAAGAAAAAGAGGCGATCTATAAAGAACGCTGGCCAGCTTATATAAAGGAACTACAGA
CAAGATACTCTGCAAGTACCATAGATGTTTTGAAATGATGGATGATGATAAAGTTGATCTGAATTTGAT
TGCTGCCCTTATTCGATACATTGTTTTGGAAGAAGAGGACGGTGCATATTGGTCTTTCTACCAGGCTGG
GACAATATCAGTACTTTGCATGATCTCTGATGTCACAAGTGATGTTAAATCAGATAGGTTTCTTATTA
TACCTTTACATTCAGTACTGATGCCACTGTAACCAGACACAGGATTTAAAAAACTCCTCCTGGTGTTCG
GAAAATAGTAATTGCTACCAACATTGCAGAGACTAGCATACCATAGATGATGGTCTATGTAATAGAT
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GTAAGCTAATGCCAAACAGAGGAAAGGAGAGCTGGAAGAGTTCAGCCTGGTCATTGTTATCATCTGTA
TAATGGTCTTAGAGCAAGTCTTCTAGATGACTACCAACTACCAGAAATTTTGAGAACTCCTTTGGAAGAA
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CATCAGATGAGGCAGTAGTGCTCTCCATAAAACATCTAATGGAAGTGAAGTCTTTGGATAAGCAAGAAGA
ATTGACACCTCTTGAGTCCATTTAGCCCGACTGCCTGTTGAGCCACATATTGAAAAATGATTCTCTTT
GGAGCTTTGTTCTGTTGCTTAGATCCAGTCCCTACCATTGCTGCCAGTCTCAGCTTTAAGATCCCTTTG
TCATTCATTGGGAAAAGAAAAGATTGCAGATGCAAGAAGAAAGGAACTGGCAAAGGAACTAGAAGTGA
TCATCTGACAGTTGTAATGCGTTTGGGGCTGGGAAGAAGCTAAACGGCGTGGTTTCAGATATGAAAAA
GACTACTGCTGGGAATATTTTCTCTTCAAACACACTACAGATGCTGCATAACATGAAGGGACAGTTTG
CTGAGCATCTTCTGGAGCTGGATTTGTAAAGCAGTAGAAGTCCCAAAGATCCAAAAGCTAATATAAATTC
AGATAATGAGAAGATCATTAAAGCTGTCATCTGTGCTGGTTTATATCCCAAAGTTGCTAAAAATCCGACTA
AATTTGGGTAAAAAAGGAAAAATGGTGAAGTTTACACAAAGTCTGATGGTCTGGTTTCTATTATCCTA
AGTCTGTCAATGTGGAGCAGACAGACTTCCACTACAAGTGGCTTATCTATCACCTGAAGATGAGAACAAG
CAGTATACTTGTACGACTGCACAGAAGTCTCACCATACTGCCTCTTGTCTTTGGAGGAGATATTTCC
ATCCAGAAAAGATAAGGATCAGGAAATATTGCTGTAGACGAATGGATTGTGTTTCAGTCTCCAGAAAAGAA
TTGCTCATCTTGTAAAGGACTAAGAAAGGAACTGGATATCCTTCTACAAGAGAAGATTGAGTGCCTCA
TCCTGTAGATTGGAACGACACCAATCCAGAGACTGTGCAGTACTGTACGGATTCTAGACTTGATCAAA
ACACAAGAAAAGGCTATTTCAAGGAACTTGCCACCACGATCACAGGATGGATATTACAGCTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:	Sgfl-Mlul
ACCN:	NM_001107678
Insert Size:	3003 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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:	<ol style="list-style-type: none">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:	<u>NM_001107678.1, NP_001101148.1</u>
RefSeq Size:	5664 bp
RefSeq ORF:	3003 bp
Locus ID:	310461
UniProt ID:	<u>D4A2Z8</u>
Cytogenetics:	2q31

Gene Summary:

Multifunctional ATP-dependent helicase that unwinds G-quadruplex (G4) structures (By similarity). Plays a role in many biological processes such as genomic integrity, gene expression regulations and as a sensor to initiate antiviral responses (PubMed:23651854). 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. 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 (By similarity). Plays a role in post-transcriptional regulation. 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 (PubMed:23651854). Involved in the pre-miR-134-dependent inhibition of target gene expression and the control of dendritic spine size (PubMed:23651854). Plays a role in the regulation of cytoplasmic mRNA translation and mRNA stability. 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. 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. Binds also to ARE sequences present in several mRNAs mediating exosome-mediated 3'-5' mRNA degradation. 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. Required for the early embryonic development and hematopoiesis. Involved in the regulation of cardioblast differentiation and proliferation during heart development. Involved in spermatogonia differentiation. May play a role in ossification (By similarity).[UniProtKB/Swiss-Prot Function]