OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for TR706230

Dhx36 Rat shRNA Plasmid (Locus ID 310461)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Dhx36 Rat shRNA Plasmid (Locus ID 310461)
Locus ID:	310461
Synonyms:	G4R1
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Dhx36 - Rat, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 310461). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	NM_001107678, NM_001107678.1
UniProt ID:	D4A2Z8

View online »

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]

shRNA Design:

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our custom shRNA service.

Performance Guaranteed:

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).