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 TR505375

Pum1 Mouse shRNA Plasmid (Locus ID 80912)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Pum1 Mouse shRNA Plasmid (Locus ID 80912)
Locus ID:	80912
Synonyms:	AA517475; mKIAA0099; Pumm
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Pum1 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 80912). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	BC048174, BC050747, NM_001159603, NM_001159604, NM_001159605, NM_001159606, NM_030722, NM_001356564, NM_001356565, NM_001356566, NM_001159603.1, NM_030722.1, NM_030722.2, NM_001159604.1, NM_001159605.1, NM_001159606.1, NM_001159605.2, NM_001159604.2, NM_001159606.2, NM_001159603.2
UniProt ID:	Q80U78

View online »

Summary:

Sequence-specific RNA-binding protein that acts as a post-transcriptional repressor by binding the 3' UTR of mRNA targets. Binds to an RNA consensus sequence, the Pumilio Response Element (PRE), 5'-UGUANAUA-3', that is related to the Nanos Response Element (NRE). Mediates post-transcriptional repression of transcripts via different mechanisms: acts via direct recruitment of the CCR4-POP2-NOT deadenylase leading to translational inhibition and mRNA degradation. Also mediates deadenylation-independent repression by promoting accessibility of miRNAs. Following growth factor stimulation, phosphorylated and binds to the 3' UTR of CDKN1B/p27 mRNA, inducing a local conformational change that exposes miRNA-binding sites, promoting association of miR-221 and miR-222, efficient suppression of CDKN1B/p27 expression, and rapid entry to the cell cycle (By similarity). Acts as a post-transcriptional repressor of E2F3 mRNAs by binding to its 3' UTR and facilitating miRNA regulation (By similarity). Represses a program of genes necessary to maintain genomic stability such as key mitotic, DNA repair and DNA replication factors. Its ability to repress those target mRNAs is regulated by the lncRNA NORAD (non-coding RNA activated by DNA damage) which, due to its high abundance and multitude of PUMILIO binding sites, is able to sequester a significant fraction of PUM1 and PUM2 in the cytoplasm (By similarity). Involved in neuronal functions by regulating ATXN1 mRNA levels: acts by binding to the 3' UTR of ATXN1 transcripts, leading to their down-regulation independently of the miRNA machinery (PubMed:25768905). In testis, acts as a post-transcriptional regulator of spermatogenesis by binding to the 3' UTR of mRNAs coding for regulators of p53/TP53 (PubMed:22342750). Involved in embryonic stem cell renewal by facilitating the exit from the ground state: acts by targeting mRNAs coding for naive pluripotency transcription factors and accelerates their down-regulation at the onset of differentiation (PubMed:24412312). Binds specifically to miRNA MIR199A precursor, with PUM2, regulates miRNA MIR199A expression at a postranscriptional level (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).