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Product datasheet for TR703934

Elavl4 Rat shRNA Plasmid (Locus ID 432358)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Elavl4 Rat shRNA Plasmid (Locus ID 432358)
Locus ID:	432358
Synonyms:	HuD
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Elavl4 - Rat, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 432358). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	NM_001077651, NM_001077651.1, NM_001077651.2, BC158558
UniProt ID:	O09032

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Summary:

RNA-binding protein that is involved in the post-transcriptional regulation of mRNAs (PubMed:10982410, PubMed:16508003, PubMed:17577668). Plays a role in the regulation of mRNA stability, alternative splicing and translation (PubMed:10982410, PubMed:16508003, PubMed:17577668). Binds to AU-rich element (ARE) sequences in the 3' untranslated region (UTR) of target mRNAs, including GAP43, VEGF, FOS, CDKN1A and ACHE mRNA (PubMed:10982410). Many of the target mRNAs are coding for RNA-binding proteins, transcription factors and proteins involved in RNA processing and/or neuronal development and function (By similarity). By binding to the mRNA 3' UTR, decreases mRNA deadenylation and thereby contributes to the stabilization of mRNA molecules and their protection from decay (By similarity). Also binds to the polyadenylated (poly(A)) tail in the 3' UTR of mRNA, thereby increasing its affinity for mRNA binding (By similarity). Mainly plays a role in neuron-specific RNA processing by stabilization of mRNAs such as GAP43, ACHE and mRNAs of other neuronal proteins, thereby contributing to the differentiation of neural progenitor cells, nervous system development, learning and memory mechanisms (PubMed:10982410, PubMed:17577668). Involved in the negative regulation of the proliferative activity of neuronal stem cells and in the positive regulation of neuronal differentiation of neural progenitor cells (By similarity). Promotes neuronal differentiation of neural stem/progenitor cells in the adult subventricular zone of the hippocampus by binding to and stabilizing SATB1 mRNA (By similarity). Binds and stabilizes MSI1 mRNA in neural stem cells (By similarity). Exhibits increased binding to ACHE mRNA during neuronal differentiation, thereby stabilizing ACHE mRNA and enhancing its expression (By similarity). Protects CDKN1A mRNA from decay by binding to its 3' UTR (PubMed:16508003). May bind to APP and BACE1 mRNAS and the BACE1AS lncRNA and enhance their stabilization (By similarity). Plays a role in neurite outgrowth and in the establishment and maturation of dendritic arbors, thereby contributing to neocortical and hippocampal circuitry function (By similarity). Stabilizes GAP43 mRNA and protects it from decay during postembryonic development in the brain (PubMed:10982410, PubMed:17234598). By promoting the stabilization of GAP43 mRNA, plays a role in NGF-mediated neurite outgrowth (PubMed:10982410). Binds to BDNF long 3' UTR mRNA, thereby leading to its stabilization and increased dendritic translation after activation of PKC (PubMed:25692578). By increasing translation of BDNF after nerve injury, may contribute to nerve regeneration (By similarity). Acts as a stabilizing factor by binding to the 3' UTR of NOVA1 mRNA, thereby increasing its translation and enhancing its functional activity in neuron-specific splicing (By similarity). Stimulates translation of mRNA in a poly(A)- and cap-dependent manner, possibly by associating with the EIF4F cap-binding complex (By similarity). May also negatively regulate translation by binding to the 5'UTR of Ins2 mRNA, thereby repressing its translation (By similarity). Upon glucose stimulation, Ins2 mRNA is released form ELAVL4 and translational inhibition is abolished (By similarity). Also plays a role in the regulation of alternative splicing (By similarity). May regulate alternative splicing of CALCA pre-mRNA into Calcitonin and calcitonin gene-related peptide 1 (CGRP) by competing with splicing regulator TIAR for binding to U-rich sequences of CALCA pre-mRNA (By similarity). [UniProtKB/Swiss-Prot Function]

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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).

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