10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ELAVL4 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54453

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	P26378
Reactivity	Rat, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42398
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ELAVL4
Epitope Specificity	51-150/380
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Interacts with IGF2BP1.
SIMILARITY	Belongs to the RRM elav family. Contains 3 RRM (RNA recognition motif) domains.
SUBUNIT	Component of a TAU mRNP complex, at least composed of IGF2BP1, ELAVL4 and G3BP (By similarity).
Post-translational modifications	Methylation at Arg-243 by CARM1 weakens protective binding to the 3'-UTR of CDKN1A mRNA and down-regulates CDKN1A protein expression, thereby maintaining cells in a proliferative state. Methylation is inhibited by NGF, which facilitates neurite outgrowth.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Elav-like genes encode for a family of RNA-binding proteins. Elav, a Drosophila protein and the first described member, is expressed immediately after neuroblastic differentiation into neurons and is necessary for neuronal differentiation and maintenance. Several mammalian Elav-like proteins, designated HuC, HuD and Hel-N1, are also expressed in postmitotic neurons. An additional mammalian homolog, HuR, which is also designated HuA, is ubiquitously expressed and is also overexpressed in a wide variety of tumors. Characteristically, these homologs all contain three RNA recognition motifs (RRM) and they specifically bind to AU-rich elements (ARE) in the 3'-untranslated region of mRNAs transcripts. ARE sites target mRNA for rapid degradation and thereby regulate the expression levels of genes involved in cell growth and differentiation. When Elav-like proteins associate with these ARE sites this degradation is inhibited, leading to an increased stability of the corresponding transcript. Elav proteins function within the nucleus, and they are shuttled between the nucleus and cytoplasm by a nuclear export signal, which is a regulatory feature of the Elav-like proteins as it limits their accessibility to ARE sites.

Additional Information

Gene ID	1996
Other Names	ELAV-like protein 4, Hu-antigen D, HuD, Paraneoplastic encephalomyelitis antigen HuD, ELAVL4, HUD, PNEM
Target/Specificity	Brain.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ELAVL4
Synonyms	HUD, PNEM
Function	RNA-binding protein that is involved in the post- transcriptional regulation of mRNAs (PubMed:10710437, PubMed:12034726, PubMed:12468554, PubMed:17035636, PubMed:17234598, PubMed:7898713). Plays a role in the regulation of mRNA stability, alternative splicing and translation (PubMed:10710437, PubMed:12034726, PubMed:12468554, PubMed:17035636, PubMed:17234598, PubMed:7898713). 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:10710437, PubMed:12034726, PubMed:12468554, PubMed:7898713). 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 (PubMed:12034726). Also binds to the polyadenylated (poly(A)) tail in the 3'UTR of mRNA, thereby increasing its affinity for mRNA binding (PubMed:12034726). 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:12034726, PubMed:12468554, PubMed:17234598, PubMed:18218628). 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 (PubMed:12468554, PubMed:17234598). Protects CDKN1A mRNA from decay by binding to its 3'-UTR (By similarity). May bind to APP and BACE1 mRNAS and the BACE1AS lncRNA and enhance their stabilization (PubMed:24857657). 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:12034726). By promoting the stabilization of GAP43 mRNA, plays a role in NGF-mediated neurite outgrowth (By similarity). Binds to BDNF long 3'UTR mRNA, thereby leading to its stabilization and increased dendritic translation after activation of PKC (By similarity). 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 (PubMed:18218628). 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 from ELAVL4 and translational inhibition is abolished (By similarity). Also plays a role in the regulation of alternative splicing (PubMed:17035636). 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 intronic sequences of CALCA pre- mRNA (PubMed:17035636).

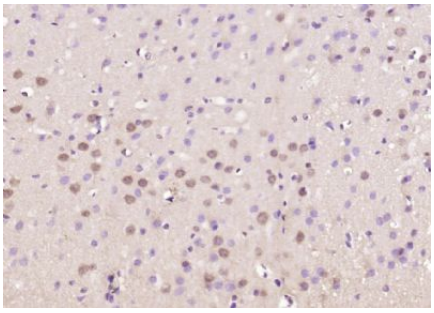
Cellular Location

Cytoplasm. Perikaryon {ECO:0000250|UniProtKB:O09032}. Cell projection, dendrite {ECO:0000250|UniProtKB:O09032}. Cell projection, axon {ECO:0000250|UniProtKB:Q61701}. Cell projection, growth cone {ECO:0000250|UniProtKB:Q61701}. Note=Co-localizes with ribosomal RNA in polysomes. {ECO:0000250|UniProtKB:O09032}

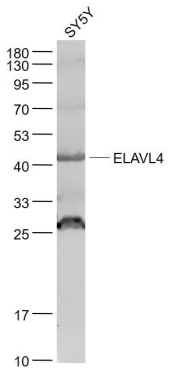
Tissue Location

Expressed in pancreatic beta cells (at protein level) (PubMed:22387028). Expressed in the brain (PubMed:14702039, PubMed:1655278).

Images



Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (ELAVL4) Polyclonal Antibody, Unconjugated (AP54453) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Sample:
SY5Y(Human) Cell Lysate at 30 ug
Primary: Anti- ELAVL4 (AP54453) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 42 kD
Observed band size: 42 kD