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CPEB1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16631b

Product Information

Application	WB, E
Primary Accession	Q9BZB8
Other Accession	P0C279, P70166, Q9YGX5, Q52KN7, Q91572, NP_001073001.1, NP_001073002.1
Reactivity	Human
Predicted	Xenopus, Zebrafish, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36113
Calculated MW	62595
Antigen Region	447-475

Additional Information

Gene ID	64506
Other Names	Cytoplasmic polyadenylation element-binding protein 1, CPE-BP1, CPE-binding protein 1, h-CEBP, hCPEB-1, CPEB1, CPEB
Target/Specificity	This CPEB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 447-475 amino acids from the C-terminal region of human CPEB1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CPEB1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CPEB1
Synonyms	CPEB

Function	Sequence-specific RNA-binding protein that regulates mRNA cytoplasmic polyadenylation and translation initiation during oocyte maturation, early development and at postsynapse sites of neurons. Binds to the cytoplasmic polyadenylation element (CPE), an uridine-rich sequence element (consensus sequence 5'-UUUUUAU-3') within the mRNA 3'- UTR. RNA binding results in a clear conformational change analogous to the Venus fly trap mechanism (PubMed:24990967). In absence of phosphorylation and in association with TACC3 is also involved as a repressor of translation of CPE-containing mRNA; a repression that is relieved by phosphorylation or degradation (By similarity). Involved in the transport of CPE-containing mRNA to dendrites; those mRNAs may be transported to dendrites in a translationally dormant form and translationally activated at synapses (By similarity). Its interaction with APLP1 promotes local CPE-containing mRNA polyadenylation and translation activation (By similarity). Induces the assembly of stress granules in the absence of stress. Required for cell cycle progression, specifically for prophase entry (PubMed:26398195).
Cellular Location	Cytoplasm. Nucleus Cytoplasm, P-body. Cytoplasmic granule. Synapse. Membrane. Postsynaptic density. Cell projection, dendrite Note=Continuously shuttling between nucleus and cytoplasm (PubMed:18923137). Also found in stress granules. Recruited to stress granules (SGs) upon arsenite treatment. In dendrites (By similarity) Localizes in synaptosomes at dendritic synapses of neurons (By similarity). Strongly enriched in postsynaptic density (PSD) fractions (By similarity). Transported into dendrites in a microtubule-dependent fashion and colocalizes in mRNA-containing particles with TACC3, dynein and kinesin (By similarity). Membrane-associated (By similarity) Colocalizes at excitatory synapses with members of the polyadenylation and translation complex factors (CPSF, APLP1, TACC3, AURKA, SYP, etc.) including CPE-containing RNAs (By similarity). {ECO:0000250, ECO:0000269|PubMed:18923137}
Tissue Location	Isoform 1 is expressed in immature oocytes, ovary, brain and heart. Isoform 2 is expressed in brain and heart. Isoform 3 and isoform 4 are expressed in brain. Expressed in breast tumors and several tumor cell lines.

Background

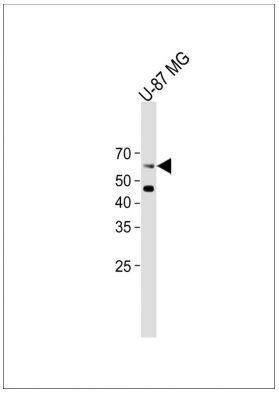
This gene encodes a member of the cytoplasmic polyadenylation element (CPE) binding protein family. This highly conserved protein binds to a specific RNA sequence called the CPE found in the 3' UTR of some mRNAs. Similar proteins in Xenopus and mouse function to induce cytoplasmic polyadenylation of dormant mRNAs with short polyA tails, resulting in their translation. Members of this protein family regulate translation of cyclin B1 during embryonic cell divisions. Multiple transcript variants encoding different isoforms have been found for this gene.

References

Glahder, J.A., et al. Virus Res. 149(2):217-223(2010)
Crowther-Swanepoel, D., et al. Nat. Genet. 42(2):132-136(2010)
Hansen, C.N., et al. APMIS 117(1):53-59(2009)
Ernoult-Lange, M., et al. Mol. Biol. Cell 20(1):176-187(2009)
Burns, D.M., et al. Genes Dev. 22(24):3449-3460(2008)

Images

All lanes: Anti-CPEB1 Antibody (C-term) at1:1000 dilution
+ U-87 MG whole cell lysate Lysates/proteins at 20 µg per



lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 63 KDa Blocking/Dilution buffer: 5% NFDM/TBST.