



Rabbit Anti-CPEB1 antibody

SL6037R

Product Name CPEB1**Chinese Name** 细胞质多聚腺苷酸 Binding protein1 抗体**Alias** CPE-binding protein 1; CPE-BP1; CPEB 1; CPEB; CPEB1; CPEB1 protein; CPEB1_HUMAN; Cytoplasmic polyadenylation binding protein 1; Cytoplasmic polyadenylation element binding protein; Cytoplasmic polyadenylation element binding protein 1; Cytoplasmic polyadenylation element-binding protein 1; h-CEBP; hCPEB-1**Research Area** Cell biology immunology**Immunogen Species** Rabbit**Clonality** Polyclonal**React Species** (predicted: Human, Mouse, Rat, Chicken, Pig, Cow, Horse, Rabbit,)
WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000**Applications** (Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.**Theoretical molecular weight** 63kDa**Cellular localization** cytoplasmic The cell membrane**Form** Liquid**Concentration** 1mg/ml**immunogen** KLH conjugated synthetic peptide derived from human CPEB1: 451-550/566**Lsotype** IgG**Purification** affinity purified by Protein A**Buffer Solution** 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.**Storage** Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.**Attention** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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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. 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.

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. 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.

Product Detail

Subunit:

Interacts with kinesin, dynein, APLP1, APLP2, PAPD4/GLD2 and APP. Both phosphorylated and non phosphorylated forms interact with APLP1.

Subcellular Location:

Cytoplasm, P-body. Cytoplasmic granule. Cell junction, synapse. Membrane. Cell junction, synapse, postsynaptic cell membrane, postsynaptic density. Cell projection, dendrite. Note=Also found in stress granules. Recruited to stress granules (SGs) upon arsenite treatment. In dendrites. Localizes in synaptosomes at dendritic synapses of neurons. Strongly enriched in postsynaptic density (PSD) fractions. Transported into dendrites in a microtubule-dependent fashion and colocalizes in mRNA-containing particles with TACC3, dynein and kinesin. Membrane-associated. Colocalizes at excitatory synapses with members of the polyadenylation and translation complex factors (CPSF, APLP1, TACC3, AURKA, SYP, etc.) including CPE-containing RNAs.

Tissue Specificity:

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.

Post-translational modifications:

Phosphorylated on serine/threonine residues by AURKA within positions 166 and 197. Phosphorylation and dephosphorylation on Thr-172 regulates cytoplasmic polyadenylation and translation of CPE-containing mRNAs. Phosphorylation on Thr-172 by AURKA and CAMK2A activates CPEB1. Phosphorylation on Thr-172 may be promoted by APLP1. Phosphorylation increases binding to RNA (By similarity).

Similarity:

Belongs to the RRM CPEB family.
Contains 2 RRM (RNA recognition motif) domains.

SWISS:
Q9BZB8

Gene ID:
64506

Database links:

[Entrez Gene: 64506](#) Human

[Omim: 607342](#) Human

[SwissProt: Q9BZB8](#) Human

[Unigene: 547988](#) Human