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Goat Anti-CPEB1 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1273a

Specification

Goat Anti-CPEB1 Antibody - Product Information

Application	**WB**
Primary Accession	Q9BZB8
Other Accession	NP_001073003, 64506
Reactivity	**Human**
Predicted	**Cow**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**62595**

Goat Anti-CPEB1 Antibody - 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

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-CPEB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CPEB1 Antibody - 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.

Goat Anti-CPEB1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-CPEB1 Antibody - Images

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AF1273a staining (0.5 µg/ml) of human brain lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Goat Anti-CPEB1 Antibody - 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.

Goat Anti-CPEB1 Antibody - References

The early noncoding region of human papillomavirus type 16 is regulated by cytoplasmic polyadenylation factors. Glahder JA, et al. Virus Res, 2010 May. PMID 20144904.
Common variants at 2q37.3, 8q24.21, 15q21.3 and 16q24.1 influence chronic lymphocytic leukemia risk. Crowther-Swanepoel D, et al. Nat Genet, 2010 Feb. PMID 20062064.
Expression of CPEB, GAPDH and U6snRNA in cervical and ovarian tissue during cancer development. Hansen CN, et al. APMIS, 2009 Jan. PMID 19161537.
CPEB regulation of human cellular senescence, energy metabolism, and p53 mRNA translation. Burns DM, et al. Genes Dev, 2008 Dec 15. PMID 19141477.
Nucleocytoplasmic traffic of CPEB1 and accumulation in Crm1 nucleolar bodies. Ernoult-Lange M, et al. Mol Biol Cell, 2009 Jan. PMID 18923137.