

CPEB3 Rabbit pAb

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Catalog # AP54461

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8NE35
Predicted	Rat, Pig, Dog, Human, Mouse, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	76014
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CPEB3
Epitope Specificity	251-350/698
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The regulated translation of messenger RNA is essential for cell-cycle progression, establishment of the body plan during early development and modulation of key activities in the central nervous system. Cytoplasmic polyadenylation, one mechanism of controlling translation, is driven by cytoplasmic polyadenylation element binding proteins, called CPEBs. CPEB3 (cytoplasmic polyadenylation element binding protein 3) is a 698 amino acid protein that contains two RNA recognition motif (RRM) domains and, like other CPEB proteins, may play a role in the maturation of the central nervous system. CPEB3 exists as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

Additional Information

Gene ID	22849
Other Names	Cytoplasmic polyadenylation element-binding protein 3, CPE-BP3, CPE-binding protein 3, hCPEB-3, CPEB3, KIAA0940
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	CPEB3
Synonyms	KIAA0940
Function	Sequence-specific RNA-binding protein which acts as a translational repressor in the basal unstimulated state but, following neuronal stimulation, acts as a translational activator (By similarity). In contrast to CPEB1, does not bind to the cytoplasmic polyadenylation element (CPE), a uridine-rich sequence element within the mRNA 3'-UTR, but binds to a U-rich loop within a stem-loop structure (By similarity). Required for the consolidation and maintenance of hippocampal-based long term memory (By similarity). In the basal state, binds to the mRNA 3'-UTR of the glutamate receptors GRIA2/GLUR2 mRNA and negatively regulates their translation (By similarity). Also represses the translation of DLG4, GRIN1, GRIN2A and GRIN2B (By similarity). When activated, acts as a translational activator of GRIA1 and GRIA2 (By similarity). In the basal state, suppresses SUMO2 translation but activates it following neuronal stimulation (By similarity). Binds to the 3'-UTR of TRPV1 mRNA and represses TRPV1 translation which is required to maintain normal thermoception (By similarity). Binds actin mRNA, leading to actin translational repression in the basal state and to translational activation following neuronal stimulation (By similarity). Negatively regulates target mRNA levels by binding to TOB1 which recruits CNOT7/CAF1 to a ternary complex and this leads to target mRNA deadenylation and decay (PubMed:21336257). In addition to its role in translation, binds to and inhibits the transcriptional activation activity of STAT5B without affecting its dimerization or DNA-binding activity. This, in turn, represses transcription of the STAT5B target gene EGFR which has been shown to play a role in enhancing learning and memory performance (PubMed:20639532). In contrast to CPEB1, CPEB2 and CPEB4, not required for cell cycle progression (PubMed:26398195).
Cellular Location	Cytoplasm. Nucleus. Synapse {ECO:0000250 UniProtKB:Q7TN99} Cell projection, dendrite {ECO:0000250 UniProtKB:Q7TN99}. Postsynaptic density {ECO:0000250 UniProtKB:Q7TN99}. Note=Predominantly cytoplasmic in unstimulated neurons but translocates to the nucleus following neuronal stimulation (PubMed:20639532, PubMed:22730302). Nuclear import is mediated by importin IPO5 (By similarity) {ECO:0000250 UniProtKB:Q7TN99, ECO:0000269 PubMed:20639532, ECO:0000269 PubMed:22730302}

Background

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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.