abcam

Product datasheet

Recombinant Human CPEB1 protein - BSA and Azide free (denatured) ab180313

1 Image

Description

Product name	Recombinant Human CPEB1 protein - BSA and Azide free (denatured)
Purity	> 85 % SDS-PAGE.
Expression system	Escherichia coli
Accession	Q9BZB8-3
Protein length	Full length protein
Animal free	No
Carrier free	Yes
Nature	Recombinant
Species	Human
Sequence	MGSSHHHHHHSSGLVPRGSHMGSMAFPLEEEAGRIKDC WDNQEAPALSTC SNANIFRRINAILDNSLDFSRVCTTPINRGIHDHLPDFQDSE ETVTSRML FPTSAQESSRGLPDANDLCLGLQSLSLTGWDRPWSTQD SDSSAQSSTHSV LSMLHNPLGNVLGKPPLSFLPLDPLGSDLVDKFPAPSVR GSRLDTRPILD SRSSSPSDSDTSGFSSGSDHLSDLISSLRISPPLPFLSLS GGGPRDPLKM GVGSRMDQEQAALAAVTPSPTSASKRWPGASVWPSWD LLEAPKDPFSIER EARLHRQAAAVNEATCTWSGQLPPRNYKNPIYSCKVFLG GVPWDITEAGL VNTFRVFGSLSVEWPGKDGKHPRCPPKGYVYLVFELEKS VRSLLQACSHD PLSPDGLSEYYFKMSSRRMRCKEVQVIPWVLADSNFVRS PSQRLDPSRTV FVGALHGMLNAEALAAILNDLFGGVVYAGIDTDKHKYPIGS GRVTFNNQR SYLKAVSAAFVEIKTTKFTKKVQIDPYLEDSLCHICSSQPG PFFCRDQVC

FKYFCRSCWHWRHSMEGLRHHSPLMRNQKNRDSS

Predicted molecular weight	65 kDa including tags
Amino acids	1 to 561
Tags	His tag N-Terminus
Additional sequence information	NP_085097
Description	Recombinant Human CPEB1 protein (BSA and azide free)

Specifications

Our **Abpromise guarantee** covers the use of **ab180313** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
Form	Liquid

Preparation and Storage

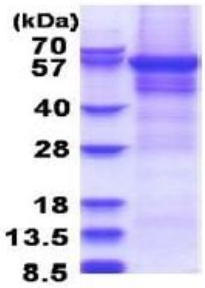
Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. pH: 8.00 Constituents: 0.32% Tris HCl, 2.4% Urea, 10% Glycerol (glycerin, glycerine)

General Info

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.
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.
Sequence similarities	Belongs to the RRM CPEB family. Contains 2 RRM (RNA recognition motif) domains.
Domain	The 2 RRM domains and the C-terminal region mediate interaction with CPE-containing RNA.
Post-translational modifications	Phosphorylated on serine/threonine residues by AURKA/STK6 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/STK6 and CAMK2A activates CPEB1. Phosphorylation on Thr-172 may be promoted by APLP1. Phosphorylation increases binding to RNA.

Cellular localization	Cytoplasm > P-body. Cytoplasmic granule. Cell junction > synapse. Membrane. Cell junction > synapse > postsynaptic cell membrane > postsynaptic density. Cell projection > dendrite. 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/STK6, SYP, etc.) including CPE-containing RNAs.

Images



SDS-PAGE - Recombinant Human CPEB1 protein (BSA and azide free) (denatured) (ab180313)

15% SDS-PAGE analysis of ab180313 (3 µg).

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors