

CPEB2 (N-20): sc-55622

BACKGROUND

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. CPEB2 is highly similar to CPEB, a conserved, sequence-specific RNA-binding protein that binds to the cytoplasmic polyadenylation element, thereby modulating translational repression and mRNA localization. Expressed in a variety of tissues with abundant expression observed in the testis, CPEB2 is thought to regulate mRNA expression of previously inactive spermatids during spermiogenesis. CPEB2 binds to poly (U) mRNA oligomers and contains two RNA recognition motif domains.

REFERENCES

- Hake, L.E., Mendez, R. and Richter, J.D. 1998. Specificity of RNA binding by CPEB: requirement for RNA recognition motifs and a novel zinc finger. *Mol. Cell. Biol.* 18: 685-693.
- Luitjens, C., Gallegos, M., Kraemer, B., Kimble, J. and Wickens, M. 2000. CPEB proteins control two key steps in spermatogenesis in *C. elegans*. *Genes Dev.* 14: 2596-2609.
- Mendez, R. and Richter, J.D. 2001. Translational control by CPEB: a means to the end. *Nat. Rev. Mol. Cell Biol.* 2: 521-529.
- Gebauer, F. and Hentze, M.W. 2001. Fertility facts: male and female germ cell development requires translational control by CPEB. *Mol. Cell.* 8: 247-249.
- Kurihara, Y., Tokuriki, M., Myojin, R., Hori, T., Kuroiwa, A., Matsuda, Y., Sakurai, T., Kimura, M., Hecht, N.B. and Uesugi, S. 2003. CPEB2, a novel putative translational regulator in mouse haploid germ cells. *Biol. Reprod.* 69: 261-268.
- Theis, M., Si, K. and Kandel, E.R. 2003. Two previously undescribed members of the mouse CPEB family of genes and their inducible expression in the principal cell layers of the hippocampus. *Proc. Natl. Acad. Sci. USA* 100: 9602-9607.
- Cao, Q., Huang, Y.S., Kan, M.C. and Richter, J.D. 2005. Amyloid precursor proteins anchor CPEB to membranes and promote polyadenylation-induced translation. *Mol. Cell. Biol.* 25: 10930-10939.
- Richter, J.D. 2007. CPEB: a life in translation. *Trends Biochem. Sci.* 32: 279-285.

CHROMOSOMAL LOCATION

Genetic locus: CPEB2 (human) mapping to 4p15.33.

SOURCE

CPEB2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CPEB2 of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55622 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CPEB2 (N-20) is recommended for detection of CPEB2 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CPEB2 siRNA (h): sc-62154, CPEB2 shRNA Plasmid (h): sc-62154-SH and CPEB2 shRNA (h) Lentiviral Particles: sc-62154-V.

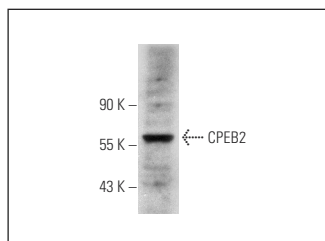
Molecular Weight of CPEB2: 62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or rat ovary extract: sc-2399.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CPEB2 (N-20): sc-55622. Western blot analysis of CPEB2 expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.