

# CPEB (K-16): sc-48983

## 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 protein, CPEB. CPEB is a highly conserved, sequence-specific RNA-binding protein that binds to the cytoplasmic polyadenylation element, thereby modulating translational repression and mRNA localization. Blocking cytoplasmic polyadenylation by interfering with the CPE or CPEB prevents the translational activation and translational repression of mRNAs crucial for oocyte maturation. CPEB is synthesized during oogenesis and stockpiled in the oocyte. CPEB degradation occurs via the proteasome pathway, most likely through ubiquitin-conjugated intermediates.

## REFERENCES

1. Stebbins-Boaz, B., Cao, Q., de Moor, C.H., Mendez, R. and Richter, J.D. 1999. Maskin is a CPEB-associated factor that transiently interacts with eIF-4E. *Mol. Cell* 4:1017-1027.
2. 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.
3. Groisman, I., Huang, Y.S., Mendez, R., Cao, Q., Theurkauf, W. and Richter, J.D. 2000. CPEB, Maskin, and cyclin B1 mRNA at the mitotic apparatus: implications for local translational control of cell division. *Cell* 103: 435-447.
4. Mendez, R. and Richter, J.D. 2001. Translational control by CPEB: a means to the end. *Nat. Rev. Mol. Cell. Biol.* 2: 521-529.

## CHROMOSOMAL LOCATION

Genetic locus: CPEB1 (human) mapping to 15q25.2; Cpeb1 (mouse) mapping to 7 D3.

## SOURCE

CPEB (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CPEB of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-48983 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-48983 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

CPEB (K-16) is recommended for detection of CPEB long and short isoforms of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CPEB (K-16) is also recommended for detection of CPEB long and short isoforms in additional species, including equine, canine, bovine, porcine and avian.

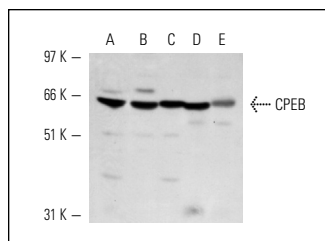
Suitable for use as control antibody for CPEB siRNA (h): sc-37755, CPEB siRNA (m): sc-37756, CPEB shRNA Plasmid (h): sc-37755-SH, CPEB shRNA Plasmid (m): sc-37756-SH, CPEB shRNA (h) Lentiviral Particles: sc-37755-V and CPEB shRNA (m) Lentiviral Particles: sc-37756-V.

CPEB (K-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

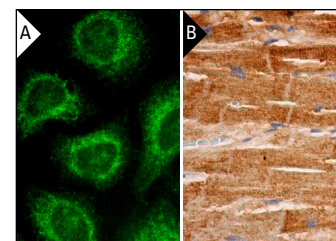
Molecular Weight of CPEB: 63 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or IMR-32 cell lysate: sc-2409.

## DATA



CPEB (K-16): sc-48983. Western blot analysis of CPEB expression in HeLa (A), NIH/3T3 (B) and IMR-32 (C) whole cell lysates and rat ovary (D) and mouse brain (E) tissue extracts.



CPEB (K-16): sc-48983. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A) and immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **CPEB (G-6): sc-514688** or **CPEB (A-9): sc-514683**, our highly recommended monoclonal alternatives to CPEB (K-16).