SANTA CRUZ BIOTECHNOLOGY, INC.

CPEB (h): 293T Lysate: sc-114376

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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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.
5. Reverte, C.G., Ahearn, M.D and Hake, L.E. 2001. CPEB degradation during *Xenopus* oocyte maturation requires a PEST domain and the 26S Proteasome. Dev. Biol. 231: 447-458.
6. Welk, J.F., Charlesworth, A., Smith, G.D. and MacNicol, A.M. 2001. Identification and characterization of the gene encoding human cytoplasmic poly-adenylation element binding protein. Gene 263: 113-120.
7. Thom, G., Minshall, N., Git, A., Argasinska, J. and Standart, N. 2003. Role of Cdc2 kinase phosphorylation and conserved N-terminal proteolysis motifs in cytoplasmic polyadenylation-element-binding protein (CPEB) complex dissociation and degradation. Biochem. J. 370: 91-100.
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STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: CPEB1 (human) mapping to 15q25.2.

PRODUCT

CPEB (h): 293T Lysate represents a lysate of human CPEB transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CPEB (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CPEB antibodies. Recommended use: 10-20 µl per lane.

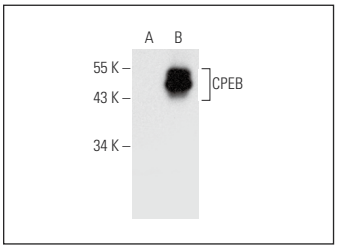
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CPEB (G-6): sc-514688 is recommended as a positive control antibody for Western Blot analysis of enhanced human CPEB expression in CPEB transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

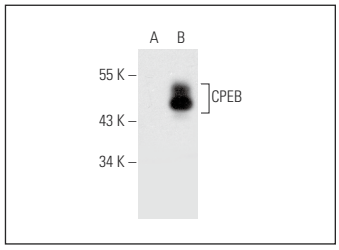
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



CPEB (G-6): sc-514688. Western blot analysis of CPEB expression in non-transfected: sc-117752 (**A**) and human CPEB transfected: sc-114376 (**B**) 293T whole cell lysates.



CPEB (A-9): sc-514683. Western blot analysis of CPEB expression in non-transfected: sc-117752 (**A**) and human CPEB transfected: sc-114376 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.