SANTA CRUZ BIOTECHNOLOGY, INC.

CPEB3 siRNA (m): sc-62157

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. CPEB3 (cytoplasmic polyadenylation element binding protein 3) is a 698 amino acid protein that contains 2 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.

REFERENCES

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2. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
3. Luitjens, C., et al. 2000. CPEB proteins control two key steps in spermatogenesis in *C. elegans*. Genes Dev. 14: 2596-2609.
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. 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.
6. Theis, M., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: Cpeb3 (mouse) mapping to 19 C2.

PRODUCT

CPEB3 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CPEB3 shRNA Plasmid (m): sc-62157-SH and CPEB3 shRNA (m) Lentiviral Particles: sc-62157-V as alternate gene silencing products.

For independent verification of CPEB3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62157A, sc-62157B and sc-62157C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CPEB3 siRNA (m) is recommended for the inhibition of CPEB3 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CPEB3 gene expression knockdown using RT-PCR Primer: CPEB3 (m)-PR: sc-62157-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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