SANTA CRUZ BIOTECHNOLOGY, INC.

CPEB2 siRNA (m): sc-62155

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 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

1. Hake, L.E., et al. 1998. Specificity of RNA binding by CPEB: requirement for RNA recognition motifs and a novel zinc finger. Mol. Cell. Biol. 18: 685-693.
2. Luitjens, C., et al. 2000. CPEB proteins control two key steps in spermatogenesis in *C. elegans*. Genes Dev. 14: 2596-2609.
3. Mendez, R., et al. 2001. Translational control by CPEB: a means to the end. Nat. Rev. Mol. Cell Biol. 2: 521-529.
4. Gebauer, F., et al. 2001. Fertility facts: male and female germ cell development requires translational control by CPEB. Mol. Cell 8: 247-249.
5. Kurihara, Y., et al. 2003. CPEB2, a novel putative translational regulator in mouse haploid germ cells. Biol. Reprod. 69: 261-268.
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.
7. Cao, Q., et al. 2005. Amyloid precursor proteins anchor CPEB to membranes and promote polyadenylation-induced translation. Mol. Cell. Biol. 25: 10930-10939.
8. Richter, J.D. 2007. CPEB: a life in translation. Trends Biochem. Sci. 32: 279-285.

CHROMOSOMAL LOCATION

Genetic locus: Cpeb2 (mouse) mapping to 5 B3.

PRODUCT

CPEB2 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 CPEB2 shRNA Plasmid (m): sc-62155-SH and CPEB2 shRNA (m) Lentiviral Particles: sc-62155-V as alternate gene silencing products.

For independent verification of CPEB2 (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-62155A, sc-62155B and sc-62155C.

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

CPEB2 siRNA (m) is recommended for the inhibition of CPEB2 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 CPEB2 gene expression knockdown using RT-PCR Primer: CPEB2 (m)-PR: sc-62155-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.

PROTOCOLS

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