SANTA CRUZ BIOTECHNOLOGY, INC.

Cux2 siRNA (m): sc-142637

BACKGROUND

Cux2 (cut-like homeobox 2) is a 1,426 amino acid nuclear mouse protein that is expressed exclusively in neural tissues. Belonging to the CUT homeobox family, Cux2 contains three CUT DNA-binding domains and one homeobox DNA-binding domain. While it binds to DNA in a sequence specific manner, Cux2 may be a transcription factor involved in neural specification. The human homolog, known as CDP2, CUTL2 or CUX2, is a 1,486 amino acid nuclear protein. Much like mouse Cux2, human CDP2 may be a transcription factor that acts to regulate neural genes. The genes that encode Cux2 and CDP2 map to mouse chromosome 5 F and human chromosome 12q24.12, respectively. Encoding over 1,100 genes and comprising approximately 4.5% of the human genome, chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Quaggin, S.E., et al. 1996. Primary structure, neural-specific expression, and chromosomal localization of Cux-2, a second murine homeobox gene related to *Drosophila* cut. J. Biol. Chem. 271: 22624-22634.
2. Jacobsen, N.J., et al. 2001. CUX2, a potential regulator of NCAM expression: genomic characterization and analysis as a positional candidate susceptibility gene for bipolar disorder. Am. J. Med. Genet. 105: 295-300.
3. Yokoyama, T., et al. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. Am. J. Ophthalmol. 136: 1186-1188.
4. Gingras, H., et al. 2005. Biochemical characterization of the mammalian Cux2 protein. Gene 344: 273-285.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610648. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: Cux2 (mouse) mapping to 5 F.

PRODUCT

Cux2 siRNA (m) is a pool of 2 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 Cux2 shRNA Plasmid (m): sc-142637-SH and Cux2 shRNA (m) Lentiviral Particles: sc-142637-V as alternate gene silencing products.

For independent verification of Cux2 (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-142637A and sc-142637B.

RESEARCH USE

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

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

Cux2 siRNA (m) is recommended for the inhibition of Cux2 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 Cux2 gene expression knockdown using RT-PCR Primer: Cux2 (m)-PR: sc-142637-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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