SANTA CRUZ BIOTECHNOLOGY, INC.

Capicua siRNA (m): sc-62075

BACKGROUND

Capicua, also referred to as CIC, is the mammalian ortholog of the *Drosophilia* Cic gene and is part of the HMG-box protein superfamily. Expressed primarily in the fetal brain, Capicua functions as a transciptional repressor and is involved in the development of the nervous system through interaction with the ATXN1 protein. When ATXN1 assembles into stable complexes, it directly binds Capicua, thereby mediating both the activity and expression of Capicua. When Capicua is active, it is able to interact with other developmental proteins to restrict the growth of granule cells and regulate normal neuronal development. Disruptions in the the association of Capicua with proteins such as ATXN1 are thought to cause medulloblastoma, the most common form of perdiatric brain tumor arising from irregular growth of granule cells.

REFERENCES

1. Jiménez, G., et al. 2000. Relief of gene repression by torso RTK signaling: role of Capicua in *Drosophila* terminal and dorsoventral patterning. Genes Dev. 14: 224-231.
2. Roch, F., et al. 2002. EGFR signalling inhibits Capicua-dependent repression during specification of *Drosophila* wing veins. Development 129: 993-1002.
3. Lee, C.J., et al. 2002. CIC, a member of a novel subfamily of the HMG-box superfamily, is transiently expressed in developing granule neurons. Brain Res. Mol. Brain Res. 106: 151-156.
4. Lee, C.J., et al. 2005. CIC, a gene involved in cerebellar development and ErbB signaling, is significantly expressed in medulloblastomas. J. Neurooncol. 73: 101-108.
5. Atkey, M.R., et al. 2006. Capicua regulates follicle cell fate in the *Drosophila* ovary through repression of mirror. Development 133: 2115-2123.
6. Kawamura-Saito, M., et al. 2006. Fusion between CIC and DUX4 up-regulates PEA3 family genes in Ewing-like sarcomas with t(4;19)(q35;q13) translocation. Hum. Mol. Genet. 15: 2125-2137.

CHROMOSOMAL LOCATION

Genetic locus: Cic (mouse) mapping to 7 A3.

PRODUCT

Capicua 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 Capicua shRNA Plasmid (m): sc-62075-SH and Capicua shRNA (m) Lentiviral Particles: sc-62075-V as alternate gene silencing products.

For independent verification of Capicua (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-62075A, sc-62075B and sc-62075C.

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

Capicua siRNA (m) is recommended for the inhibition of Capicua 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 Capicua gene expression knockdown using RT-PCR Primer: Capicua (m)-PR: sc-62075-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.