SANTA CRUZ BIOTECHNOLOGY, INC.

Cerebellin 2 siRNA (m): sc-142296

BACKGROUND

Cerebellin (CER), which was originally isolated from rat cerebellum, is a hexadecapeptide derived from a larger precursor called Cerebellin 1, also designated precerebellin 1 or Cbln1. Four propeptides, Cerebellin 1, Cerebellin 2 (Cbln2), Cerebellin 3 (Cbln3) and Cerebellin 4 (Cbln4), comprise the precerebellin subfamily within the C1q protein family. Cerebellin family members act as transneuronal regulators of synapse development and synaptic plasticity in various brain regions. Cerebellin and its metabolite, des-Ser^{1}Cer, are also expressed in several extra-cerebellar tissues, including adrenal gland. Cerebellin 1, 2 and 3 assemble into homomeric and heteromeric complexes, thereby influencing each other's degradation and secretion. Cerebellin 3 is not able to form homomeric complexes, and can only be secreted upon forming a heteromeric complex with Cerebellin 1. Decreased concentrations of Cerebellin have been found in the brain of patients with olivopontocerebellar atrophy (OPCA) and Shy-Drager syndrome, suggesting a role for Cerebellin in the pathology of these diseases.

REFERENCES

1. Mizuno, Y., et al. 1995. Decrease in cerebellin and corticotropin-releasing hormone in the cerebellum of olivopontocerebellar atrophy and Shy-Drager syndrome. Brain Res. 686: 115-118.
2. Pang, Z., et al. 2000. Cbln3, a novel member of the precerebellin family that binds specifically to Cbln1. J. Neurosci. 20: 6333-6339.
3. Rucinski, M., et al. 2005. Cerebellin in the rat adrenal gland: gene expression and effects of CER and [des-Ser1]CER on the secretion and growth of cultured adrenocortical cells. Int. J. Mol. Med. 15: 411-415.
4. Bao, D., et al. 2006. Cbln1 is essential for interaction-dependent secretion of Cbln3. Mol. Cell. Biol. 26: 9327-9337.
5. Iijima, T., et al. 2007. Characterization of a transneuronal cytokine family Cbln—regulation of secretion by heteromeric assembly. Eur. J. Neurosci. 25: 1049-1057.

CHROMOSOMAL LOCATION

Genetic locus: Cbln2 (mouse) mapping to 18 E4.

PRODUCT

Cerebellin 2 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 Cerebellin 2 shRNA Plasmid (m): sc-142296-SH and Cerebellin 2 shRNA (m) Lentiviral Particles: sc-142296-V as alternate gene silencing products.

For independent verification of Cerebellin 2 (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-142296A, sc-142296B and sc-142296C.

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

Cerebellin 2 siRNA (m) is recommended for the inhibition of Cerebellin 2 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 Cerebellin 2 gene expression knockdown using RT-PCR Primer: Cerebellin 2 (m)-PR: sc-142296-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.