SANTA CRUZ BIOTECHNOLOGY, INC.

CHMP2B siRNA (m): sc-72896

BACKGROUND

The charged multivesicular body proteins, commonly designated CHMPs, belong to the vacuolar sorting protein family and function as chromatin-modifying proteins. CHMP1-6 are all components of ESCRT (endosomal sorting complex required for transport) I, II or III complexes. These complexes are crucial for sorting endosomal articles into multivesicular bodies (MVBs), and are also required for the formation of these bodies. CHMP2B, also known as CHMP2.5 or vacuolar protein-sorting-associated protein 2-2, is a 213 amino acid cytosolic protein. Widely expressed in brain, heart, skeletal muscle, small intestine, pancreas, lung, placenta and leukocytes, CHMP2B associates directly with CHMP2A and vps4 for the disassembly of the ESCRT-III complex. Defects in the gene encoding CHMP2B have been shown to cause chromosome 3-linked frontotemporal dementia (FTD3).

REFERENCES

1. Rizzu, P., et al. 2006. CHMP2B mutations are not a cause of dementia in Dutch patients with familial and sporadic frontotemporal dementia. Am. J. Med. Genet. B Neuropsychiatr. Genet. 141B: 944-946.
2. Talbot, K., et al. 2006. Recent advances in the genetics of amyotrophic lateral sclerosis and frontotemporal dementia: common pathways in neurodegenerative disease. Hum. Mol. Genet. 15: R182-R187.
3. Momeni, P., et al. 2006. Genetic variability in CHMP2B and frontotemporal dementia. Neurodegener. Dis. 3: 129-133.
4. Parkinson, N., et al. 2006. ALS phenotypes with mutations in CHMP2B (charged multivesicular body protein 2B). Neurology 67: 1074-1077.
5. Cannon, A., et al. 2006. CHMP2B mutations are not a common cause of frontotemporal lobar degeneration. Neurosci. Lett. 398: 83-84.
6. Momeni, P., et al. 2006. Sequence analysis of all identified open reading frames on the frontal temporal dementia haplotype on chromosome 3 fails to identify unique coding variants except in CHMP2B. Neurosci. Lett. 410: 77-79.

CHROMOSOMAL LOCATION

Genetic locus: Chmp2b (mouse) mapping to 16 C1.3.

PRODUCT

CHMP2B 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 CHMP2B shRNA Plasmid (m): sc-72896-SH and CHMP2B shRNA (m) Lentiviral Particles: sc-72896-V as alternate gene silencing products.

For independent verification of CHMP2B (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-72896A, sc-72896B and sc-72896C.

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

CHMP2B siRNA (m) is recommended for the inhibition of CHMP2B 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 CHMP2B gene expression knockdown using RT-PCR Primer: CHMP2B (m)-PR: sc-72896-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.