

SCFD1 siRNA (m): sc-153251

BACKGROUND

SCFD1 (Sec1 family domain containing 1) is a 642 amino acid protein that belongs to the STXBP/UNC-18/Sec1 family. Phosphorylated upon DNA damage, probably by Atm or ATR, SCFD1 is involved in vesicular transport between the endoplasmic reticulum (ER) and the Golgi. The SCFD1 protein plays a role in SNARE-pin assembly and Golgi to ER retrograde transport via its interaction with COG4. The SCFD1 protein also binds Syntaxin 5. The SCFD1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, mosquito, *Drosophila*, *C. elegans*, *S. pombe*, *S. cerevisiae*, *K. lactis*, *E. gossypii*, *M. grisea*, *N. crassa*, *A. thaliana* and rice, and maps to human chromosome 14q12. Deletion of a region of chromosome 14 that contains BF-1, PKC μ , SCFD1, Cochlin and SG2NA genes, is responsible for a condition resulting in severe mental retardation, epilepsy, microcephaly and Rett-like features.

REFERENCES

1. Allan, B.B., et al. 2000. Rab1 recruitment of p115 into a *cis*-SNARE complex: programming budding COPII vesicles for fusion. *Science* 289: 444-448.
2. Shorter, J., et al. 2002. Sequential tethering of golgins and catalysis of SNAREpin assembly by the vesicle-tethering protein p115. *J. Cell Biol.* 157: 45-62.
3. Dulubova, I., et al. 2003. Convergence and divergence in the mechanism of SNARE binding by Sec1/Munc18-like proteins. *Proc. Natl. Acad. Sci. USA* 100: 32-37.
4. Hirose, H., et al. 2004. Implication of ZW10 in membrane trafficking between the endoplasmic reticulum and Golgi. *EMBO J.* 23: 1267-1278.
5. Williams, A.L., et al. 2004. Rsl1 binding to Syntaxin 5 is required for endoplasmic reticulum-to-Golgi transport but does not promote SNARE motif accessibility. *Mol. Biol. Cell* 15: 162-175.

CHROMOSOMAL LOCATION

Genetic locus: Scfd1 (mouse) mapping to 12 C1.

PRODUCT

SCFD1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SCFD1 shRNA Plasmid (m): sc-153251-SH and SCFD1 shRNA (m) Lentiviral Particles: sc-153251-V as alternate gene silencing products.

For independent verification of SCFD1 (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-153251A, sc-153251B and sc-153251C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SCFD1 siRNA (m) is recommended for the inhibition of SCFD1 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 μ M in 66 μ l. 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 SCFD1 gene expression knockdown using RT-PCR Primer: SCFD1 (m)-PR: sc-153251-PR (20 μ l, 537 bp). 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.