SANTA CRUZ BIOTECHNOLOGY, INC.

FCHO2 siRNA (m): sc-145149

BACKGROUND

FCHO2 (FCH domain only 2) is an 810 amino acid protein that may play a role in membrane remodeling by imposing and stabilizing particular membrane curvatures. Existing as a homodimer, FCHO2 contains one FCH (FER/CIP4-homology) domain, which suggests it may be involved in regulating cytoskeletal rearrangements, vesicular transport and endocytosis. The FCH domain is a short conserved region of around 60 amino acids found at the N-terminus of proteins followed by a coiled-coil region. FCHO2 is encoded by a gene located on human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Dixon, M.J., et al. 1991. The gene for 2. Treacher Collins syndrome maps to the long arm of chromosome 5. Am. J. Hum. Genet. 49: 17-22.
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of human FCHO2 and mouse Fcho2 genes in silico. Int. J. Mol. Med. 14: 327-331.
3. Schmutz, J., et. al. 2004. The DNA sequence and comparative analysis of human chromosome 5. Nature 431: 268-274.
4. South, S.T., et al. 2006. A new genomic mechanism leading to Cri-du-chat syndrome. Am. J. Med. Genet. A 140: 2714-2720.
5. Henne, W.M., et al. 2007. Structure and analysis of FCHO2 F-BAR domain: a dimerizing and membrane recruitment module that effects membrane curvature. Structure 15: 839-852.
6. Chitu, V. and Stanley, E.R. 2007. Pombe Cdc15 homology (PCH) proteins: coordinators of membrane-cytoskeletal interactions. Trends Cell Biol. 17: 145-156.
7. Du, H.Y., et al. 2007. Telomerase reverse transcriptase haploinsufficiency and telomere length in individuals with 5p- syndrome. Aging Cell 6: 689-697.

CHROMOSOMAL LOCATION

Genetic locus: Fcho2 (mouse) mapping to 13 D1.

PRODUCT

FCHO2 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 FCHO2 shRNA Plasmid (m): sc-145149-SH and FCHO2 shRNA (m) Lentiviral Particles: sc-145149-V as alternate gene silencing products.

For independent verification of FCHO2 (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-145149A, sc-145149B and sc-145149C.

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

FCHO2 siRNA (m) is recommended for the inhibition of FCHO2 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 FCHO2 gene expression knockdown using RT-PCR Primer: FCHO2 (m)-PR: sc-145149-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.