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SANTA CRUZ BIOTECHNOLOGY, INC.

MON2 siRNA (m): sc-149499

BACKGROUND

MON2, also known as SF21, is a 1,718 amino acid protein that exists as multiple alternatively spliced isoforms and plays an important role in membrane trafficking. Related to the guanine nucleotide exchange factors (GEFs), MON2 shares significant homology with BIG as well as the GBF (Golgi Brefeldin A resistance factor) subfamilies of proteins. MON2 acts as a scaffold protein when associated with Dopey-1, a large cytoplasmic protein involved in trafficking between the late golgi and early endosomes. MON2 is homologous to the yeast protein and is encoded by a gene located on human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

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3. Avaro, S., et al. 2002. Mutants defective in secretory/vacuolar pathways in the EUROFAN collection of yeast disruptants. Yeast 19: 351-371.
4. Chantalat, S., et al. 2003. A novel Golgi membrane protein is a partner of the ARF exchange factors Gea1p and Gea2p. Mol. Biol. Cell 14: 2357-2371.
5. Zumkeller, W., et al. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. Am. J. Med. Genet. A 129: 261-264.
6. Efe, J.A., et al. 2005. Yeast Mon2p is a highly conserved protein that functions in the cytoplasm-to-vacuole transport pathway and is required for Golgi homeostasis. J. Cell Sci. 118: 4751-4764.
7. Rachidi, M., et al. 2005. C21orf5, a new member of Dopey family involved in morphogenesis, could participate in neurological alterations and mental retardation in Down syndrome. DNA Res. 12: 203-210.
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CHROMOSOMAL LOCATION

Genetic locus: Mon2 (mouse) mapping to 10 D2.

PRODUCT

MON2 siRNA (m) is a target-specific 19-25 nt siRNA 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 MON2 shRNA Plasmid (m): sc-149499-SH and MON2 shRNA (m) Lentiviral Particles: sc-149499-V as alternate gene silencing products.

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

MON2 siRNA (m) is recommended for the inhibition of MON2 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 MON2 gene expression knockdown using RT-PCR Primer: MON2 (m)-PR: sc-149499-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.