

ZNF827 siRNA (h): sc-89141

BACKGROUND

ZNF827 (zinc finger protein 827) is a 1,081 amino acid nuclear protein that contains nine C₂H₂-type zinc fingers and belongs to the Krüppel C₂H₂-type zinc-finger protein family. Existing as three alternatively spliced isoforms, ZNF827 may be involved in transcriptional regulation. The gene that encodes ZNF827 consists of around 181,000 bases and maps to human chromosome 4q31.21. Chromosome 4 represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is encoded by a gene that maps to chromosome 4. FGFR-3 is also encoded by a gene located on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Bonaventure, J., et al. 1996. Common mutations in the fibroblast growth factor receptor 3 (FGFR 3) gene account for achondroplasia, hypochondroplasia, and thanatophoric dwarfism. *Am. J. Med. Genet.* 63: 148-154.
2. Kalchman, M.A., et al. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. *J. Biol. Chem.* 271: 19385-19394.
3. Howard, T.D., et al. 1997. Autosomal dominant postaxial polydactyly, nail dystrophy, and dental abnormalities map to chromosome 4p16, in the region containing the Ellis-van Creveld syndrome locus. *Am. J. Hum. Genet.* 61: 1405-1412.
4. Singhrao, S.K., et al. 1998. Huntingtin protein colocalizes with lesions of neurodegenerative diseases: an investigation in Huntington's, Alzheimer's, and Pick's diseases. *Exp. Neurol.* 150: 213-222.
5. Krakow, D., et al. 2000. Exclusion of the Ellis-van Creveld region on chromosome 4p16 in some families with asphyxiating thoracic dystrophy and short-rib polydactyly syndromes. *Eur. J. Hum. Genet.* 8: 645-648.
6. Sommardahl, C., et al. 2001. Phenotypic variations of orpk mutation and chromosomal localization of modifiers influencing kidney phenotype. *Physiol. Genomics* 7: 127-134.

CHROMOSOMAL LOCATION

Genetic locus: ZNF827 (human) mapping to 4q31.21.

PRODUCT

ZNF827 siRNA (h) 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 ZNF827 shRNA Plasmid (h): sc-89141-SH and ZNF827 shRNA (h) Lentiviral Particles: sc-89141-V as alternate gene silencing products.

For independent verification of ZNF827 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89141A, sc-89141B and sc-89141C.

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

ZNF827 siRNA (h) is recommended for the inhibition of ZNF827 expression in human 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.

GENE EXPRESSION MONITORING

ZNF827 (F-8): sc-514943 is recommended as a control antibody for monitoring of ZNF827 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNF827 gene expression knockdown using RT-PCR Primer: ZNF827 (h)-PR: sc-89141-PR (20 μ l). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.