SANTA CRUZ BIOTECHNOLOGY, INC.

periaxin siRNA (h): sc-97670

BACKGROUND

Periaxin, also known as PRX, is a 1,461 amino acid protein that contains one PDZ (DHR) domain and belongs to the periaxin family. Periaxin encodes two PDZ-domain proteins, L- and S-periaxin, which are required for peripheral nerve myelin sheath maintenance. Periaxin may play a role in axon-glial interactions, possibly by interacting with cytoplasmic domains of integral membrane proteins in periaxonal regions of Schwann cell plasma membranes. Defects in periaxin are linked to Dejerine-Sottas syndrome, which is characterized by motor and sensory neuropathy with very slow nerve conduction velocities, increased cerebrospinal fluid protein concentrations, hypertrophic nerve changes, delayed age of walking and areflexia. Mutations in periaxin are also linked to CMT4F, an autosomal recessive form of Charcot-Marie-Tooth disease. The gene that encodes periaxin maps to human chromosome 19q13.2.

REFERENCES

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2. Gillespie, C.S., et al. 1997. The gene encoding the Schwann cell protein periaxin localizes on mouse chromosome 7 (Prx). Genomics 41: 297-298.
3. Dytrych, L., et al. 1998. Two PDZ domain proteins encoded by the murine periaxin gene are the result of alternative intron retention and are differentially targeted in Schwann cells. J. Biol. Chem. 273: 5794-5800.
4. Gillespie, C.S., et al. 2000. Peripheral demyelination and neuropathic pain behavior in periaxin-deficient mice. Neuron 26: 523-531.
5. Boerkoel, C.F., et al. 2001. Periaxin mutations cause recessive Dejerine-Sottas neuropathy. Am. J. Hum. Genet. 68: 325-333.
6. Guilbot, A., et al. 2001. A mutation in periaxin is responsible for CMT4F, an autosomal recessive form of Charcot-Marie-Tooth disease. Hum. Mol. Genet. 10: 415-421.
7. Takashima, H., et al. 2002. Periaxin mutations cause a broad spectrum of demyelinating neuropathies. Ann. Neurol. 51: 709-715.
8. Kijima, K., et al. 2004. Periaxin mutation causes early-onset but slow-progressive Charcot-Marie-Tooth disease. J. Hum. Genet. 49: 376-379.

CHROMOSOMAL LOCATION

Genetic locus: PRX (human) mapping to 19q13.2.

PRODUCT

periaxin siRNA (h) is a pool of 2 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 periaxin shRNA Plasmid (h): sc-97670-SH and periaxin shRNA (h) Lentiviral Particles: sc-97670-V as alternate gene silencing products.

For independent verification of periaxin (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-97670A and sc-97670B.

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

periaxin siRNA (h) is recommended for the inhibition of periaxin 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 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.

GENE EXPRESSION MONITORING

periaxin (G-5): sc-515672 is recommended as a control antibody for monitoring of periaxin 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 periaxin gene expression knockdown using RT-PCR Primer: periaxin (h)-PR: sc-97670-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.

PROTOCOLS

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