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DRP2 siRNA (m): sc-43493

BACKGROUND

Dystrophin, utrophin and dystrophin-related protein 2 (DRP2) are actin-binding proteins that are involved in anchoring the cytoskeleton to the plasma membrane. Dystrophin is the protein product of the Duchenne/Becker muscular dystrophy gene. Dystrophin is expressed in muscle brain tissues, where it is localized to the inner surface of the plasma membrane. Evidence suggests that the upregulation of utrophin (also known as DRP1) can reduce the dystrophic pathology. DRP2 is principally expressed in the brain and spinal cord. Analysis of DRP2 expression in rat brain on SDS-PAGE reveals a characteristic quartet of bands. DRP2 exhibits a punctate staining pattern of rat neuronal dendrites and in neuropil. DRP2 forms a complex with dystroglycan at the surface of myelin-forming Schwann cells and may play a role in the terminal stages of myelination in the peripheral nervous system. The gene encoding human DRP2 maps to chromosome Xq22.1.

REFERENCES

1. Voit, T., et al. 1991. Dystrophin as a diagnostic marker in Duchenne and Becker muscular dystrophy. Correlation of immuno-fluorescence and western blot. *Neuropediatrics* 22: 152-162.
2. Winder, S.J., et al. 1995. Utrophin actin binding domain: analysis of actin binding and cellular targeting. *J. Cell Sci.* 108: 63-71.
3. Roberts, R.G., et al. 1996. Characterization of DRP2, a novel human dystrophin homologue. *Nat. Genet.* 13: 223-226.
4. Rybakova, I.N., et al. 1996. A new model for the interaction of dystrophin with F-actin. *J. Cell Biol.* 135: 661-672.
5. Tinsley, J.M., et al. 1996. Amelioration of the dystrophic phenotype of mdx mice using a truncated utrophin transgene. *Nature* 384: 349-353.

CHROMOSOMAL LOCATION

Genetic locus: Drp2 (mouse) mapping to X E3.

PRODUCT

DRP2 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 DRP2 shRNA Plasmid (m): sc-43493-SH and DRP2 shRNA (m) Lentiviral Particles: sc-43493-V as alternate gene silencing products.

For independent verification of DRP2 (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-43493A, sc-43493B and sc-43493C.

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.

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

DRP2 siRNA (m) is recommended for the inhibition of DRP2 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 DRP2 gene expression knockdown using RT-PCR Primer: DRP2 (m)-PR: sc-43493-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.