

β2-Syntrophin siRNA (h): sc-43439

BACKGROUND

The Syntrophins are PDZ-domain-containing proteins that facilitate the recruitment of signaling proteins such as NOS1 to the dystrophin-associated protein complex. The Syntrophins are a family of structurally related proteins that contain multiple protein interaction motifs. Syntrophins associate directly with dystrophin, the product of the Duchenne muscular dystrophy locus, and its homologues. α-Syntrophin has an important role in synapse formation and in the organization of utrophin, acetylcholine receptor and acetylcholinesterase at the neuromuscular synapse. Specifically, NOS1 binds to α-Syntrophin at muscle sarcolemma. β2-Syntrophin is a modular adapter and in muscle cells interacts with members of the dystrophin family, which includes utrophin.

REFERENCES

1. Newey, S.E., Benson, M.A., Ponting, C.P., Davies, K.E. and Blake, D.J. 2000. Alternative splicing of dystrobrevin regulates the stoichiometry of Syntrophin binding to the dystrophin protein complex. *Curr. Biol.* 10: 1295-1298.
2. Abdelmoity, A., Padre, R.C., Burzynski, K.E., Stull, J.T. and Lau, K.S. 2000. Neuronal nitric oxide synthase localizes through multiple structural motifs to the sarcolemma in mouse myotubes. *FEBS Lett.* 482: 65-70.
3. Adams, M.E., Kramarcy, N., Krall, S.P., Rossi, S.G., Rotundo, R.L., Sealock, R. and Froehner, S.C. 2000. Absence of α-Syntrophin leads to structurally aberrant neuromuscular synapses deficient in utrophin. *J. Cell Biol.* 150: 1385-1398.
4. Ort, T., Maksimova, E., Dirx, R., Kachinsky, A.M., Berghs, S., Froehner, S.C. and Solimena, M. 2000. The receptor tyrosine phosphatase-like protein ICA512 binds the PDZ domains of β2-syntrophin and nNOS in pancreatic β-cells. *Eur. J. Cell Biol.* 79: 621-630.
5. Rocco, P., Vainzof, M., Froehner, S.C., Peters, M.F., Marie, S.K., Passos-Bueno, M.R. and Zatz, M. 2000. Brazilian family with pure autosomal dominant spastic paraplegia maps to 8q: analysis of muscle β1 Syntrophin. *Am. J. Med. Genet.* 92: 122-127.

CHROMOSOMAL LOCATION

Genetic locus: SNTB2 (human) mapping to 16q22.1.

PRODUCT

β2-Syntrophin 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see β2-Syntrophin shRNA Plasmid (h): sc-43439-SH and β2-Syntrophin shRNA (h) Lentiviral Particles: sc-43439-V as alternate gene silencing products.

For independent verification of β2-Syntrophin (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-43439A, sc-43439B and sc-43439C.

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

β2-Syntrophin siRNA (h) is recommended for the inhibition of β2-Syntrophin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor β2-Syntrophin gene expression knockdown using RT-PCR Primer: β2-Syntrophin (h)-PR: sc-43439-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.