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SANTA CRUZ BIOTECHNOLOGY, INC.

γ2-Syntrophin siRNA (m): sc-43444

BACKGROUND

The syntrophins are structurally related PDZ-domain-containing proteins that facilitate the recruitment of signaling proteins, such as NOS1, to the cell membrane. Syntrophins associate directly with dystrophin, a scaffold protein that is part of a complex which is disrupted in muscular dystrophy, and with dystrophin-related proteins. γ2-Syntrophin, also known as SYN5 or G2SYN, is a 539 amino acid member of the syntrophin family that functions as an adaptor protein to link and organize various proteins, such as dystrophin, within the cell. γ2-Syntrophin, which is localized to the sarcolemma cell membrane, is widely expressed and contains one PH domain and one PDZ domain. γ2-Syntrophin is able to recruit proteins to the membrane through its PDZ domain, which is unavailable when the protein is bound to a substrate. As a result of its interaction with various proteins, γ2-Syntrophin is implicated in inherited muscular dystrophy and in the development of autism.

REFERENCES

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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.
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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: Sntg2 (mouse) mapping to 12 B1.

PRODUCT

γ2-Syntrophin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see γ2-Syntrophin shRNA Plasmid (m): sc-43444-SH and γ2-Syntrophin shRNA (m) Lentiviral Particles: sc-43444-V as alternate gene silencing products.

For independent verification of γ2-Syntrophin (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-43444A, sc-43444B and sc-43444C.

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

γ2-Syntrophin siRNA (m) is recommended for the inhibition of γ2-Syntrophin 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 γ2-Syntrophin gene expression knockdown using RT-PCR Primer: γ2-Syntrophin (m)-PR: sc-43444-PR (20 µl, 440 bp). 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.