SANTA CRUZ BIOTECHNOLOGY, INC.

Triadin siRNA (m): sc-44414

BACKGROUND

Triadin is a junctional terminal cisternae protein found mainly in human skeletal muscle. The gene TRDN which encodes for the protein maps to chromosome 6q22.31. Triadin, a type II membrane protein, is involved in anchoring calsequestrin to the sarcoplasmic reticulum, allowing its coupling with the ryanodine receptor (RyR). Triadin inhibits the calcium channel activity of ryanodine receptor in skeletal muscle. It co-localizes with RyR in the junctional sarcoplasmic reticulum membrane.

REFERENCES

1. Caswell, A.H., et al. 1991. Localization and partial characterization of the oligomeric disulfide-linked molecular weight 95 kDa protein (Triadin) which binds the ryanodine and dihydropyridine receptors in skeletal muscle triadic vesicles. Biochemistry 30: 7507-7513.
2. Flucher, B.E., et al. 1993. Triad formation: organization and function of the sarcoplasmic reticulum calcium release channel and Triadin in normal and dysgenic muscle *in vitro*. J. Cell Biol. 123: 1161-1174.
3. Knudson, C.M., et al. 1993. Biochemical characterization of ultrastructural localization of a major junctional sarcoplasmic reticulum glycoprotein (Triadin). J. Biol. Chem. 268: 12637-12645.
4. Knudson, C.M., et al. 1993. Primary structure and topological analysis of a skeletal muscle-specific junctional sarcoplasmic reticulum glycoprotein (Triadin). J. Biol. Chem. 268: 12646-12654.
5. Brandt, N.R., et al. 1993. Detection and localization of triadin in rat ventricular muscle. J. Membr. Biol. 131: 219-228.
6. Taske, N.L., et al. 1995. Molecular cloning of the cDNA encoding human skeletal muscle Triadin and its localisation to chromosome 6q22-6q23. Eur. J. Biochem. 233: 258-265.
7. Ohkura, M., et al. 1998. Dual regulation of the skeletal muscle ryanodine receptor by Triadin and calsequestrin. Biochemistry 37: 12987-12993.
8. Groh, S., et al. 1999. Functional interaction of the cytoplasmic domain of Triadin with the skeletal ryanodine receptor. J. Biol. Chem. 274: 12278-12283.

CHROMOSOMAL LOCATION

Genetic locus: Trdn (mouse) mapping to 10 A4.

PRODUCT

Triadin 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 Triadin shRNA Plasmid (m): sc-44414-SH and Triadin shRNA (m) Lentiviral Particles: sc-44414-V as alternate gene silencing products.

For independent verification of Triadin (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-44414A, sc-44414B and sc-44414C.

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

Triadin siRNA (m) is recommended for the inhibition of Triadin 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.

GENE EXPRESSION MONITORING

Triadin (IIG12): sc-59724 is recommended as a control antibody for monitoring of Triadin 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 Triadin gene expression knockdown using RT-PCR Primer: Triadin (m)-PR: sc-44414-PR (20 µl, 540 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.