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SANTA CRUZ BIOTECHNOLOGY, INC.

Tropomyosin 4 siRNA (h): sc-270699

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tropomyosins are a group of structural proteins that are present in virtually all eukaryotic cells, both muscle and non-muscle, where they bind Actin filaments and function to modulate Actin-Myosin interaction and stabilize Actin filament structure. Tropomyosin 4 (TPM4), also known as TM30p1 or Tropomyosin α-4 chain, is a 248 amino acid cytoskeletal protein that plays an essential role in regulation of striated muscle contraction. Existing as a heterodimer of α and β chains, Tropomyosin 4 undergoes alternative splicing to produce two alternatively spliced isoforms that are found in cardiac tissue and platelets. Tropomyosin expression is elevated in hypertensive patients with cardiac hypertrophy. A member of the Tropomyosin family, Tropomyosin 4 forms a coiled coil structure of two polypeptide chains and is encoded by a gene that maps to human chromosome 19.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: TPM4 (human) mapping to 19p13.12.

PROTOCOLS

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

PRODUCT

Tropomyosin 4 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 Tropomyosin 4 shRNA Plasmid (h): sc-270699-SH and Tropomyosin 4 shRNA (h) Lentiviral Particles: sc-270699-V as alternate gene silencing products.

For independent verification of Tropomyosin 4 (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-270699A, sc-270699B and sc-270699C.

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

Tropomyosin 4 siRNA (h) is recommended for the inhibition of Tropomyosin 4 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 Tropomyosin 4 gene expression knockdown using RT-PCR Primer: Tropomyosin 4 (h)-PR: sc-270699-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.