SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin IIIb siRNA (h): sc-94621

BACKGROUND

Myosins are highly conserved, ubiquitously expressed proteins that interact with Actin to generate the force for cellular movements. The human genome encodes over 40 different Myosin genes which are divided into distinct classes, the most notable of which are the conventional Myosins (class II) and the unconventional Myosins (classes I and III through XVIII). Myosin IIIb (MYO3B) is a 1,341 amino acid cytoplasmic and cytoskeletal protein that is though to have an Actin-based motor and possesses protein kinase activity. Expressed in testis, retina and kidney, Myosin IIIb exists as seven alternatively spliced isoforms that belong to the STE Ser/Thr protein kinase family and protein kinase superfamily. Myosin IIIb contains one Myosin head-like domain, a protein kinase domain and two IQ domains. The gene encoding Myosin IIIb maps to human chromosome 2q31.1.

REFERENCES

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2. Thompson, R.F. and Langford, G.M. 2002. Myosin superfamily evolutionary history. Anat. Rec. 268: 276-289.
3. Dose, A.C. and Burnside, B. 2002. A class III Myosin expressed in the retina is a potential candidate for Bardet-Biedl syndrome. Genomics 79: 621-624.
4. Greenman, C., et al. 2007. Patterns of somatic mutation in human cancer genomes. Nature 446: 153-158.
5. Bond, L.M., et al. 2011. Myosin motor proteins are involved in the final stages of the secretory pathways. Biochem. Soc. Trans. 39: 1115-1119.
6. Maravillas-Montero, J.L. and Santos-Argumedo, L. 2011. The Myosin family: unconventional roles of Actin-dependent molecular motors in immune cells. J. Leukoc. Biol. 91: 35-46.
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CHROMOSOMAL LOCATION

Genetic locus: MYO3B (human) mapping to 2q31.1.

PRODUCT

Myosin IIIb 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 Myosin IIIb shRNA Plasmid (h): sc-94621-SH and Myosin IIIb shRNA (h) Lentiviral Particles: sc-94621-V as alternate gene silencing products.

For independent verification of Myosin IIIb (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-94621A, sc-94621B and sc-94621C.

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

Myosin IIIb siRNA (h) is recommended for the inhibition of Myosin IIIb 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 Myosin IIIb gene expression knockdown using RT-PCR Primer: Myosin IIIb (h)-PR: sc-94621-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.