SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin XVIIIa siRNA (r): sc-270493

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The Power to Question

BACKGROUND

Myosin XVIIIa, also designated MYO18A, MAJN, MYSPDZ, surfactant protein A receptor (SPR210) or TGFβ1-induced antiapoptotic factor 1, is a TGFβ1-induced antiapoptotic factor known to inhibit the cytotoxic effects of TNFα on mouse fibroblasts. Two isoforms of mouse Myosin XVIIIa, designated MysPDZα and MysPDZβ, have been identified. MysPDZα consists of a KE-rich region, an N-terminal PDZ domain, and a prevalent Myosin homologous head region, neck (with one IQ motif) and coiled-coil tail. The MysPDZβ isoform lacks the KE-rich region and PDZ domain. MysPDZα is present in most tissues and is known to co-localize with the ER-Golgi complex and with membrane ruffles and filopodia. MysPDZβ is expressed specifically in hematopoietic tissues and cell lines and shows dispersed localization in the cytoplasm.

REFERENCES

1. Mori, K., et al. 2003. Genome structure and differential expression of two isoforms of a novel PDZ-containing myosin (MysPDZ) (Myo18A). J. Biochem. 133: 405-413.
2. Cross, M., et al. 2004. A novel 110 kDa form of Myosin XVIIIA (MysPDZ) is tyrosine-phosphorylated after colony-stimulating factor-1 receptor signalling. Biochem. J. 380: 243-253.
3. Yang, C.H., et al. 2005. Identification of the surfactant protein A receptor 210 as the unconventional Myosin XVIIIa. J. Biol. Chem. 280: 34447-34457.
4. Isogawa, Y., et al. 2005. The N-terminal domain of MYO18A has an ATP-insensitive Actin-binding site. Biochemistry 44: 6190-6196.
5. Mori, K., et al. 2005. Subcellular localization and dynamics of MysPDZ (Myo18A) in live mammalian cells. Biochem. Biophys. Res. Commun. 326: 491-498.
6. Walz, C., et al. 2005. The t(8;17)(p11;q23) in the 8p11 myeloproliferative syndrome fuses MYO18A to FGFR1. Leukemia 19: 1005-1009.

CHROMOSOMAL LOCATION

Genetic locus: Myo18a (rat) mapping to 10q25.

PRODUCT

Myosin XVIIIa siRNA (r) 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 XVIIIa shRNA Plasmid (r): sc-270493-SH and Myosin XVIIIa shRNA (r) Lentiviral Particles: sc-270493-V as alternate gene silencing products.

For independent verification of Myosin XVIIIa (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270493A, sc-270493B and sc-270493C.

PROTOCOLS

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

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 XVIIIa siRNA (r) is recommended for the inhibition of Myosin XVIIIa expression in rat 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

Myosin XVIIIa (H-10): sc-365328 is recommended as a control antibody for monitoring of Myosin XVIIIa 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 Myosin XVIIIa gene expression knockdown using RT-PCR Primer: Myosin XVIIIa (r)-PR: sc-270493-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.