SANTA CRUZ BIOTECHNOLOGY, INC.

Desmuslin siRNA (m): sc-60526

BACKGROUND

Cytoskeletal intermediate filaments constitute a diverse group of proteins that are expressed in a highly tissue-specific manner. Intermediate filaments are composed of two-chain, α-helical, coiled-coil molecules arranged on an imperfect helical lattice. They are widely used as markers for distinguishing individual cell types within a tissue and identifying the origins of metastatic tumors. Desmuslin is a type VI intermediate filament which may act as a mechanical support to the muscle fibers by forming a linkage between the extracellular matrix via the Z-disk and the dystrophin-associated protein complex (DAPC). The Desmuslin protein interacts with Desmin as well as α-dystrobrevin and is mainly expressed in heart and skeletal muscle, but can also be detected in brain. Desmuslin contains a conserved rod domain, a short N-terminal domain and a long C-terminal domain.

REFERENCES

1. Mizuno, Y., et al. 2001. Desmuslin, an intermediate filament protein that interacts with α-dystrobrevin and Desmin. Proc. Natl. Acad. Sci. USA 98: 6156-6161.
2. Mizuno, Y., et al. 2002. Genomic organization and single-nucleotide polymorphism map of Desmuslin, a novel intermediate filament protein on chromosome 15q26.3. BMC Genet. 2: 8.
3. Mizuno, Y., et al. 2004. β-synemin localizes to regions of high stress in human skeletal myofibers. Muscle Nerve 30: 337-346.
4. Jing, R., et al. 2005. Intermediate filament protein synemin is present in human reactive and malignant astrocytes and associates with ruffled membranes in astrocytoma cells. Glia 50: 107-120.
5. Robson, R.M., et al. 2005. Muscle intermediate filament proteins. Methods Cell Biol. 78: 519-553.

CHROMOSOMAL LOCATION

Genetic locus: Dmn (mouse) mapping to 7 C.

PRODUCT

Desmuslin 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 Desmuslin shRNA Plasmid (m): sc-60526-SH and Desmuslin shRNA (m) Lentiviral Particles: sc-60526-V as alternate gene silencing products.

For independent verification of Desmuslin (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-60526A, sc-60526B and sc-60526C.

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.

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

Desmuslin siRNA (m) is recommended for the inhibition of Desmuslin 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

Desmuslin (B-8): sc-376944 is recommended as a control antibody for monitoring of Desmuslin 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 Desmuslin gene expression knockdown using RT-PCR Primer: Desmuslin (m)-PR: sc-60526-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.