SANTA CRUZ BIOTECHNOLOGY, INC.

melusin siRNA (h): sc-40736

BACKGROUND

Melusin is a ysteine-rich cytoplasmic protein that is predominantly expressed in striated skeletal and cardiac muscles. Within muscle tissues, Melusin directly associates with the cytoplasmic domains of various subunits of the integrin membrane receptor. Melusin is localized in rows flanking the Z line containing -actinin, which suggests that Melusin, together with the integrin receptors, contributes to the Actin-integrin junctional complex and the integrity of the cytoskeleton. Melusin expression is detected in 15 day embryos and it is also highly expressed during secondary myogenesis, a process in which a distinct myoblast population line up using primary myotubes as scaffold and fuse to each other forming secondary myotubes that will give rise to the muscle fibers of adult tissue. In adult tissues, high expression of Melusin is observed in regenerating adult tibialis anterior muscle, further indicating that Melusin contributes to the maturation and organization of muscle cells.

REFERENCES

1. Pardo, J.V., Siliciano, J.D. and Craig, S.W. 1983. A vinculin-containing cortical lattice in skeletal muscle: transverse lattice elements ("costameres") mark sites of attachment between myofibrils and sarcolemma. Proc. Natl. Acad. Sci. USA 80: 1008-1012.
2. Bozyczko, D., Decker, C., Muschler, J. and Horwitz, A.F. 1989. Integrin on developing and adult skeletal muscle. Exp. Cell Res. 183: 72-91.
3. Belkin, A.M., Zhidkova, N.I., Balzac, F., Altruda, F., Tomatis, D., Maier, A., Tarone, G., Koteliansky, V.E. and Burridge, K. 1996. β 1D integrin displaces the β 1A isoform in striated muscles: localization at junctional structures and signaling potential in nonmuscle cells. J. Cell Biol. 132: 211-226.
4. Brancaccio, M., Cabodi, S., Belkin, A.M., Collo, G., Koteliansky, V.E., Tomatis, D., Altruda, F., Silengo, L. and Tarone, G. 1998. Differential onset of expression of α 7 and β 1D integrins during mouse heart and skeletal muscle development. Cell Adhes. Commun. 5: 193-205.
5. Brancaccio, M., Guazzone, S., Menini, N., Sibona, E., Hirsch, E., De Andrea, M., Rocchi, M., Altruda, F., Tarone, G. and Silengo, L. 1999. Melusin is a new muscle-specific interactor for 1 integrin cytoplasmic domain. J. Biol. Chem. 274: 29282-29288.

CHROMOSOMAL LOCATION

Genetic locus: ITGB1BP2 (human) mapping to Xq13.1.

PRODUCT

melusin 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 melusin shRNA Plasmid (h): sc-40736-SH and melusin shRNA (h) Lentiviral Particles: sc-40736-V as alternate gene silencing products.

For independent verification of melusin (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-40736A, sc-40736B and sc-40736C.

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

melusin siRNA (h) is recommended for the inhibition of melusin 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 melusin gene expression knockdown using RT-PCR Primer: melusin (h)-PR: sc-40736-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.

PROTOCOLS

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