SANTA CRUZ BIOTECHNOLOGY, INC.

Musclin siRNA (m): sc-61107

BACKGROUND

Musclin, also designated osteocrin (Ostn), shows no homology with any known genes, except that it contains two conserved sequence motifs homologous to the natriuretic peptide family. Musclin is highly expressed in cells of osteoblast lineage and in skeletal muscle tissue, where it is tightly regulated by nutritional changes. It is secreted as either a full-length precursor protein or a processed form. A novel skeletal muscle-derived secretory factor, Musclin may play a role in bone formation and be linked to glucose metabolism. Studies indicate that insulin increases Musclin expression, whereas epinephrine, isoproterenol and forskolin reduce its expression. Musclin is expressed in osteoblasts and young osteocytes. In mouse tissues, expression is bone-specific, although minimal Musclin expression is also observed in muscle, kidney, testis and heart tissues.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610280. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Thomas, G., et al. 2003. Osteocrin, a novel bone-specific phenotype. J. Biol. Chem. 278: 50563-50571.
3. Nishizawa, H., et al. 2004. Musclin, a novel skeletal muscle-derived secretory factor. J. Biol. Chem. 279: 19391-19395.
4. Bord, S., et al. 2005. Characterization of osteocrin expression in human bone. J. Histochem. Cytochem. 53: 1181-1187.
5. Staiger, H., et al. 2006. The PPAR γ agonist myotubes. Horm. Metab. Res. 38: 614-616.

CHROMOSOMAL LOCATION

Genetic locus: Ostn (mouse) mapping to 16 B2.

PRODUCT

Musclin 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 Musclin shRNA Plasmid (m): sc-61107-SH and Musclin shRNA (m) Lentiviral Particles: sc-61107-V as alternate gene silencing products.

For independent verification of Musclin (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-61107A, sc-61107B and sc-61107C.

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

Musclin siRNA (m) is recommended for the inhibition of Musclin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Musclin gene expression knockdown using RT-PCR Primer: Musclin (m)-PR: sc-61107-PR (20 µl, 401 bp). 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.