



MUSTN1 siRNA (h): sc-78423

BACKGROUND

MUSTN1 (musculoskeletal embryonic nuclear protein 1), also known as mustang, is a novel 82 amino acid nuclear protein expressed during musculoskeletal development and regeneration. MUSTN1 belongs to the mustang family and is a necessary regulator of chondrocyte function. Highly expressed in embryonic vertebral perichondrium, mesenchymal cells of intervertebral discs and mesenchymal condensations of limbs, MUSTN1 is also found in adult tendon and skeletal muscle. While expression of MUSTN1 is nearly undetectable in intact bone, it is greatly upregulated during bone regeneration and localizes to proliferating chondrocytes, osteoblasts of fracture callus and differentiating periosteal osteogenic cells. The gene encoding MUSTN1 maps to human chromosome 3p21.1, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Maho, A., et al. 1999. Mapping of the CCXCR1, CX3CR1, CCBP2 and CCR9 genes to the CCR cluster within the 3p21.3 region of the human genome. *Cytogenet. Cell Genet.* 87: 265-268.
2. Lakrua, M.E., et al. 2003. Segment duplications in the human genome. *Mol. Biol.* 37: 212-220.
3. Lombardo, F., et al. 2004. Molecular cloning and characterization of mustang, a novel nuclear protein expressed during skeletal development and regeneration. *FASEB J.* 18: 52-61.
4. Liu, C. and Hadjiargyrou, M. 2006. Identification and characterization of the mustang promoter: regulation by AP-1 during myogenic differentiation. *Bone* 39: 815-824.
5. Kostek, M.C., et al. 2007. Gene expression responses over 24 h to lengthening and shortening contractions in human muscle: major changes in CSRP3, MUSTN1, SIX1, and FBXO32. *Physiol. Genomics* 31: 42-52.
6. Tsui, I.F., et al. 2008. Multiple aberrations of chromosome 3p detected in oral premalignant lesions. *Cancer Prev. Res.* 1: 424-429.

CHROMOSOMAL LOCATION

Genetic locus: MUSTN1 (human) mapping to 3p21.1.

PRODUCT

MUSTN1 siRNA (h) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MUSTN1 shRNA Plasmid (h): sc-78423-SH and MUSTN1 shRNA (h) Lentiviral Particles: sc-78423-V as alternate gene silencing products.

For independent verification of MUSTN1 (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-78423A and sc-78423B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MUSTN1 siRNA (h) is recommended for the inhibition of MUSTN1 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 μ M in 66 μ l. 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 MUSTN1 gene expression knockdown using RT-PCR Primer: MUSTN1 (h)-PR: sc-78423-PR (20 μ l). 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.