

amelotin siRNA (h): sc-89200

BACKGROUND

Amelotin, also known as AMTN, is a 209 amino acid secreted protein that is thought to function as a cell adhesion protein that may be involved in the maturation of tooth enamel. Amelotin exists as multiple alternatively spliced isoforms and is subject to post-translational O-glycosylation. The gene encoding amelotin maps to human chromosome 4q13.3. Representing approximately 6% of the human genome, chromosome 4 contains nearly 900 genes, one of which is the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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2. Moffatt, P., et al. 2006. Cloning of rat amelotin and localization of the protein to the basal lamina of maturation stage ameloblasts and junctional epithelium. *Biochem. J.* 399: 37-46.
3. Cowan, C.M. and Raymond, L.A. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75: 25-71.
4. Chandler, R.J., et al. 2007. Metabolic phenotype of methylmalonic acidemia in mice and humans: the role of skeletal muscle. *BMC Med. Genet.* 8: 64.
5. Sire, J.Y., et al. 2007. The origin and evolution of enamel mineralization genes. *Cells Tissues Organs* 186: 25-48.
6. Pemberton, T.J., et al. 2007. Identification of novel genes expressed during mouse tooth development by microarray gene expression analysis. *Dev. Dyn.* 236: 2245-2257.

CHROMOSOMAL LOCATION

Genetic locus: AMTN (human) mapping to 4q13.3.

PRODUCT

amelotin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see amelotin shRNA Plasmid (h): sc-89200-SH and amelotin shRNA (h) Lentiviral Particles: sc-89200-V as alternate gene silencing products.

For independent verification of amelotin (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-89200A, sc-89200B and sc-89200C.

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 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

amelotin siRNA (h) is recommended for the inhibition of amelotin 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 amelotin gene expression knockdown using RT-PCR Primer: amelotin (h)-PR: sc-89200-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.