SANTA CRUZ BIOTECHNOLOGY, INC.

Otoraplin siRNA (h): sc-76013

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The Power to Question

BBACKGROUND

Otoraplin, also known as fibrocyte-derived protein or melanoma inhibitory activity-like protein, is a 128 amino acid secreted protein that is highly and specifically expressed in the cochlea. This highly conserved protein contains an SH3 domain, through which it probably interacts with other proteins. Otoraplin shares significant sequence similarity with MIA (melanoma inhibitory activity), which is a cartilage-specific protein that is frequently expressed in a variety of tumors. Otoraplin may play a role in periotic mesenchyme chondrogenesis, suggesting that defects in the gene encoding Otoraplin could lead to certain forms of deafness that are associated with malformations of the otic capsule. Similarly, a frequent polymorphism in the translation initiation codon of the Otoraplin gene has been linked to types of inner ear dysfunction.

REFERENCES

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3. Cohen-Salmon, M., et al. 2000. Fdp, a new fibrocyte-derived protein related to MIA/CD-RAP, has an *in vitro* effect on the early differentiation of the inner ear mesenchyme. J. Biol. Chem. 275: 40036-40041.
4. Stoll, R., et al. 2001. The extracellular human melanoma inhibitory activity (MIA) protein adopts an SH3 domain-like fold. EMBO J. 20: 340-349.
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6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606067. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Stoll, R., et al. 2003. Backbone dynamics of the human MIA protein studied by (15)N NMR relaxation: implications for extended interactions of SH3 domains. Protein Sci. 12: 510-519.
8. García Berrocal, J.R., et al. 2008. Intervention of spiral ligament fibrocytes in the metabolic regulation of the inner ear. Acta Otorrinolaringol. Esp. 59: 494-499.
9. Stoll, R. and Bosserhoff, A. 2008. Extracellular SH3 domain containing proteins—features of a new protein family. Curr. Protein Pept. Sci. 9: 221-226.

CHROMOSOMAL LOCATION

Genetic locus: OTOR (human) mapping to 20p12.1.

PROTOCOLS

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

PRODUCT

Otoraplin 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 Otoraplin shRNA Plasmid (h): sc-76013-SH and Otoraplin shRNA (h) Lentiviral Particles: sc-76013-V as alternate gene silencing products.

For independent verification of Otoraplin (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-76013A, sc-76013B and sc-76013C.

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

Otoraplin siRNA (h) is recommended for the inhibition of Otoraplin 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 Otoraplin gene expression knockdown using RT-PCR Primer: Otoraplin (h)-PR: sc-76013-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.