

β-tectorin siRNA (m): sc-154175

BACKGROUND

β-tectorin, also known as TECTB, is a 329 amino acid secreted protein that contains one zona pellucida (ZP) domain. While it may form homomeric filaments after self-association, β-tectorin may also form heteromeric filaments when it associates with α-tectorin. The presence of a hydrophobic C-terminus preceded by a potential cleavage site strongly suggests that tectorins are synthesized as glycosylphosphatidylinositol-linked, membrane-bound precursors. Tectorins are targeted to the apical surface of the inner ear epithelia and proteolytically released into the extracellular compartment. β-tectorin is one of the major non-collagenous components of the tectorial membrane. The tectorial membrane is an extracellular matrix of the inner ear that covers the neuroepithelium of the cochlea and contacts the stereocilia bundles of specialized sensory hair cells. Sound induces movement of these hair cells relative to the tectorial membrane, deflects the stereocilia and leads to fluctuations in hair-cell membrane potential, transducing sound into electrical signals.

REFERENCES

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4. Knipper, M., et al. 2001. Thyroid hormone-deficient period prior to the onset of hearing is associated with reduced levels of β-tectorin protein in the tectorial membrane: implication for hearing loss. *J. Biol. Chem.* 276: 39046-39052.
5. Pompeia, C., et al. 2004. Gene expression profile of the mouse organ of Corti at the onset of hearing. *Genomics* 83: 1000-1011.
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CHROMOSOMAL LOCATION

Genetic locus: Tectb (mouse) mapping to 19 D2.

PRODUCT

β-tectorin 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 β-tectorin shRNA Plasmid (m): sc-154175-SH and β-tectorin shRNA (m) Lentiviral Particles: sc-154175-V as alternate gene silencing products.

For independent verification of β-tectorin (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-154175A, sc-154175B and sc-154175C.

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

β-tectorin siRNA (m) is recommended for the inhibition of β-tectorin 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 β-tectorin gene expression knockdown using RT-PCR Primer: β-tectorin (m)-PR: sc-154175-PR (20 μl, 598 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.