SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

OTOP1 siRNA (m): sc-151344

BACKGROUND

Otopetrins are multi-transmembrane domain proteins that share conserved gene and protein structure and are possibly involved in the formation of otoconia and otoliths. Located in the utricle and saccule of the inner ear, otoconia are complex calcium carbonate biominerals that are required for the normal sensation of gravity and linear acceleration. Vertigo and loss of balance may be attributed to degeneration of displacement of otoconia. The otopetrin family consists of three proteins, OTOP1, OTOP2 and OTOP3. These proteins have 12 putative transmembrane domains that are clustered into 3 otopetrin domains (OD-I, II and III). OTOP1 was the first described member of the otopetrin family. Mutations of OTOP1 leads to absence of otoconia or otoliths, though inner ear development is normal. OTOP2 and OTOP3 share significant structural similarity with OTOP1 and may also play a role in the formation of mineralized structures.

REFERENCES

1. Fermin, C.D., Lychakov, D., Campos, A., Hara, H., Sondag, E., Jones, T., Jones, S., Taylor, M., Meza-Ruiz, G. and Martin, D.S. 1998. Otoconia biogenesis, phylogeny, composition and functional attributes. Histol. Histopathol. 13: 1103-1154.
2. Thalmann, R., Ignatova, E., Kachar, B., Ornitz, D.M. and Thalmann, I. 2001. Development and maintenance of otoconia: biochemical considerations. Ann. N.Y. Acad. Sci. 942: 162-178.
3. Hurle, B., Ignatova, E., Massironi, S.M., Mashimo, T., Rios, X., Thalmann, I., Thalmann, R. and Ornitz, D.M. 2003. Non-syndromic vestibular disorder with otoconial agenesis in tilted/mergulhador mice caused by mutations in otopetrin 1. Hum. Mol. Genet. 12: 777-789.
4. Hughes, I., Blasiole, B., Huss, D., Warchol, M.E., Rath, N.P., Hurle, B., Ignatova, E., Dickman, J.D., Thalmann, R., Levenson, R. and Ornitz, D.M. 2004. Otopetrin 1 is required for otolith formation in the zebrafish *Danio rerio*. Dev. Biol. 276: 391-402.
5. Söllner, C., Schwarz, H., Geisler, R. and Nicolson, T. 2004. Mutated otopetrin 1 affects the genesis of otoliths and the localization of Starmaker in zebrafish. Dev. Genes Evol. 214: 582-590.
6. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 607806. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Hughes, I., Thalmann, I., Thalmann, R. and Ornitz, D.M. 2006. Mixing model systems: using zebrafish and mouse inner ear mutants and other organ systems to unravel the mystery of otoconial development. Brain Res. 1091: 58-74.
8. Hughes, I., Saito, M., Schlesinger, P.H. and Ornitz, D.M. 2007. Otopetrin 1 activation by purinergic nucleotides regulates intracellular calcium. Proc. Natl. Acad. Sci. USA 104: 12023-12028.
9. Hughes, I., Binkley, J., Hurle, B., Green, E.D., Sidow, A. and Ornitz, D.M. 2008. Identification of the otopetrin domain, a conserved domain in vertebrate otopetrins and invertebrate otopetrin-like family members. BMC Evol. Biol. 8: 41.

CHROMOSOMAL LOCATION

Genetic locus: Otop1 (mouse) mapping to 5 B3.

PRODUCT

OTOP1 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 OTOP1 shRNA Plasmid (m): sc-151344-SH and OTOP1 shRNA (m) Lentiviral Particles: sc-151344-V as alternate gene silencing products.

For independent verification of OTOP1 (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-151344A, sc-151344B and sc-151344C.

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

OTOP1 siRNA (m) is recommended for the inhibition of OTOP1 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 OTOP1 gene expression knockdown using RT-PCR Primer: OTOP1 (m)-PR: sc-151344-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.