SANTA CRUZ BIOTECHNOLOGY, INC.

STOML3 siRNA (h): sc-76595

BACKGROUND

STOML3 [stomatin (EPB72)-like 3], whose alternative names include stomatin-like protein 3, stomatin-related olfactory protein, SRO, SLP3, Epb7.2l, erythrocyte band 7 integral membrane protein or protein 7.2B, is a 291 amino acid single-pass type III membrane protein belonging to the band 7/mec-2 family. STOML3 is expressed in olfactory sensory neurons, with high expression in apical dendrites. STOML3 is also known to associate with A cyclase III and caveolin-1 in olfactory cilia. STOML3 is essential for regulating odorant signals in olfactory cilia lipid rafts and plays a role in mammalian mechanotransduction. Studies indicate that many ion channels of sensory neurons which depend on mechanical stimuli cannot function in the absence of STOML3. STOML3 contains two N-terminal hydrophobic domains and forms regions rich in β sheets and α helices, which are common to members of the Stomatin family. The gene encoding STOML3 maps to human chromosome 13q13.3.

REFERENCES

1. Stewart, G.W. 1997. Stomatin. Int. J. Biochem. Cell Biol. 29: 271-274.
2. Mannsfeldt, A.G., et al. 1999. Stomatin, a MEC-2 like protein, is expressed by mammalian sensory neurons. Mol. Cell. Neurosci. 13: 391-404.
3. Kobayakawa, K., et al. 2002. Stomatin-related olfactory protein, SRO, specifically expressed in the murine olfactory sensory neurons. J. Neurosci. 22: 5931-5937.
4. Goldstein, B.J., et al. 2003. Cloning and characterization of SLP3: a novel member of the stomatin family expressed by olfactory receptor neurons. J. Assoc. Res. Otolaryngol. 4: 74-82.
5. Wetzel, C., et al. 2007. A stomatin-domain protein essential for touch sensation in the mouse. Nature 445: 206-209.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608327. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Kadurin, I., et al. 2009. A single conserved proline residue determines the membrane topology of stomatin. Biochem. J. 418: 587-594.

CHROMOSOMAL LOCATION

Genetic locus: STOML3 (human) mapping to 13q13.3.

PRODUCT

STOML3 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 STOML3 shRNA Plasmid (h): sc-76595-SH and STOML3 shRNA (h) Lentiviral Particles: sc-76595-V as alternate gene silencing products.

For independent verification of STOML3 (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-76595A, sc-76595B and sc-76595C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

STOML3 siRNA (h) is recommended for the inhibition of STOML3 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 STOML3 gene expression knockdown using RT-PCR Primer: STOML3 (h)-PR: sc-76595-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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