SANTA CRUZ BIOTECHNOLOGY, INC.

USH3A siRNA (m): sc-63192

BACKGROUND

USHSA (Usher syndrome type-3), also known as CLRN1 (clarin-1) or USH3, is a 232 amino acid multi-pass membrane protein that exists as multiple alternatively spliced isoforms and belongs to the clarin family. Expressed in a variety of tissues, including retina, USH3A is thought to be involved in the maintenance of the inner ear and retina, specifically playing a role in excitory ribbon synapse junctions between hair cells and cochlear ganglion cells, as well as in analogous synapses within the retina. Defects in the gene encoding USH3A are the cause of Usher syndrome type 3 (USH3), a genetically heterogeneous condition characterized by postlingual progressive deafness and onset of retinitis pigmentosa in the second decade of life.

REFERENCES

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4. Joensuu, T., et al. 2000. A sequence-ready map of the Usher syndrome type III critical region on chromosome 3q. Genomics 63: 409-416.
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6. Fields, R.R., et al. 2002. Usher syndrome type III: revised genomic structure of the USH3 gene and identification of novel mutations. Am. J. Hum. Genet. 71: 607-617.
7. Adato, A., et al. 2002. USH3A transcripts encode clarin-1, a four-transmembrane-domain protein with a possible role in sensory synapses. Eur. J. Hum. Genet. 10: 339-350.
8. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 606397. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
9. Herrera, W., et al. 2008. Retinal disease in Usher syndrome III caused by mutations in the clarin-1 gene. Invest. Ophthalmol. Vis. Sci. 49: 2651-2660.

CHROMOSOMAL LOCATION

Genetic locus: Clrn1 (mouse) mapping to 3 D.

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.

PRODUCT

USH3A 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 USH3A shRNA Plasmid (m): sc-63192-SH and USH3A shRNA (m) Lentiviral Particles: sc-63192-V as alternate gene silencing products.

For independent verification of USH3A (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-63192A, sc-63192B and sc-63192C.

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

USH3A siRNA (m) is recommended for the inhibition of USH3A 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 USH3A gene expression knockdown using RT-PCR Primer: USH3A (m)-PR: sc-63192-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.