SANTA CRUZ BIOTECHNOLOGY, INC.

Bestrophin-3 siRNA (h): sc-72641

BACKGROUND

Bestrophin-3, also known as BEST3 or VMD2L3 (vitelliform macular dystrophy 20-like protein 3), is a 668 amino acid member of the Bestrophin family of proteins. Members of the Bestrophin family are transmembrane proteins that contain a high percentage of aromatic residues, a conserved RFP (arg-phe-pro) motif and they function as anion channels. Expressed predominantly in skeletal muscle but also found in spinal cord, brain, testis, thymus, retina and bone marrow, Bestrophin-3 forms calcium-sensitive chloride channels. In addition, Bestrophin-3 contains an AI (auto-inhibitory) domain that is capable of regulating the anion channel activity. Due to alternative splicing events, three isoforms exist for Bestrophin-3.

REFERENCES

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2. Stöhr, H., et al. 2002. Three novel human VMD2-like genes are members of the evolutionary highly conserved RFP-TM family. Eur. J. Hum. Genet. 10: 281-284.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607337. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Tsunenari, T., et al. 2003. Structure-function analysis of the Bestrophin family of anion channels. J. Biol. Chem. 278: 41114-41125.
5. Duta, V., et al. 2004. The role of Bestrophin in airway epithelial ion transport. FEBS Lett. 577: 551-554.
6. Chien, L.T., et al. 2006. Single Cl^- channels activated by Ca^{2+} in *Drosophila* S2 cells are mediated by Bestrophins. J. Gen. Physiol. 128: 247-259.

CHROMOSOMAL LOCATION

Genetic locus: BEST3 (human) mapping to 12q15.

PRODUCT

Bestrophin-3 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 Bestrophin-3 shRNA Plasmid (h): sc-72641-SH and Bestrophin-3 shRNA (h) Lentiviral Particles: sc-72641-V as alternate gene silencing products.

For independent verification of Bestrophin-3 (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-72641A, sc-72641B and sc-72641C.

PROTOCOLS

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

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

Bestrophin-3 siRNA (h) is recommended for the inhibition of Bestrophin-3 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 Bestrophin-3 gene expression knockdown using RT-PCR Primer: Bestrophin-3 (h)-PR: sc-72641-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.