SANTA CRUZ BIOTECHNOLOGY, INC.

TTYH3 siRNA (h): sc-89544

BACKGROUND

TTYH3 (Tweety homolog 3 *(Drosophila)),* also known as hTTY3 or KIAA1691, is a 523 amino acid multi-pass membrane protein that belongs to the Tweety family. Members of the Tweety family of proteins function as chloride anion channels. TTYH3 is likely a large-conductance Ca^{2+} activated chloride channel, and may also function in Ca^{2+} signal transduction. TTYH3 is inhibited by the addition of an anion permeability inhibitor, while high cytosolic Ca^{2+} levels are required for TTYH3 activation. Localizing to cell membrane, TTYH3 is expressed in excitable tissues, including brain, heart, skeletal muscle, colon, spleen, and kidney. Existing as three alternatively spliced isoforms, the gene encoding TTYH3 maps to human chromosome 7p22.3. Chromosome 7 is about 158 milllion bases long, encodes over 1,000 genes, and makes up about 5% of the human genome. Chromosome 7 has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

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5. Suzuki, M. and Mizuno, A. 2004. A novel human Cl^- channel family related to *Drosophila* flightless locus. J. Biol. Chem. 279: 22461-22468.
6. Osborne, L.R., et al. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. Methods Mol. Med. 126: 113-128.
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8. He, Y., et al. 2008. N-glycosylation analysis of the human Tweety family of putative chloride ion channels supports a penta-spanning membrane arrangement: impact of N-glycosylation on cellular processing of Tweety homologue 2 (TTYH2). Biochem. J. 412: 45-55.
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CHROMOSOMAL LOCATION

Genetic locus: TTYH3 (human) mapping to 7p22.3.

PROTOCOLS

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

PRODUCT

TTYH3 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 TTYH3 shRNA Plasmid (h): sc-89544-SH and TTYH3 shRNA (h) Lentiviral Particles: sc-89544-V as alternate gene silencing products.

For independent verification of TTYH3 (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-89544A, sc-89544B and sc-89544C.

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

TTYH3 siRNA (h) is recommended for the inhibition of TTYH3 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 TTYH3 gene expression knockdown using RT-PCR Primer: TTYH3 (h)-PR: sc-89544-PR (20 µl, 395 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.