SANTA CRUZ BIOTECHNOLOGY, INC.

HTR3D siRNA (h): sc-78056

BACKGROUND

Serotonin is a monoamine neurotransmitter that is made in serotonergic neurons in the CNS (central nervous system) and is important in the regulation of mood, sleep, vomiting, sexuality and appetite. 5-HT3 (5-hydroxytryptamine-3) receptor is the only ligand-gated ion channel within the family of serotonin receptors. It is composed of five subunits consisting of SR-3A, SR-3B, HTR3C, HTR3D and HTR3E. HTR3D (5-hydroxytryptamine receptor 3D), also known as Serotonin receptor 3D, is a 454 amino acid multi-pass membrane protein that is one components of the pentaheteromeric complex that forms the 5-HT3 receptor. HTR3D must be co-expressed with SR-3A to form a functional 5-HT3 receptor complex on the plasma membrane. Until it is complexed with SR-3A, HTR3D is localized within the endoplasmic reticulum. Expression of HTR3D is restricted to kidney, colon and liver. There are three different isoforms of HTR3D that are expressed as a result of alternative splicing events.

REFERENCES

1. Niesler, B., et al. 2003. Cloning, physical mapping and expression analysis of the human 5-HT3 serotonin receptor-like genes HTR3C, HTR3D and HTR3E. Gene 310: 101-111.
2. Peters, J.A., et al. 2004. The 5-hydroxytryptamine type 3 (5-HT3) receptor reveals a novel determinant of single-channel conductance. Biochem. Soc. Trans. 32: 547-552.
3. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610122. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Niesler, B., et al. 2007. Characterization of the novel human serotonin receptor subunits 5-HT3C,5-HT3D, and 5-HT3E. Mol. Pharmacol. 72: 8-17.
5. Niesler, B., et al. 2008. Serotonin type 3 receptor genes: HTR3A, B, C, D, E. Pharmacogenomics 9: 501-504.
6. Barnes, N.M., et al. 2009. The 5-HT3 receptor—the relationship between structure and function. Neuropharmacology 56: 273-284.
7. Schuhmacher, A., et al. 2009. Influence of 5-HT3 receptor subunit genes HTR3A, HTR3B, HTR3C, HTR3D and HTR3E on treatment response to antipsychotics in schizophrenia. Pharmacogenet. Genomics 19: 843-851.

CHROMOSOMAL LOCATION

Genetic locus: HTR3D (human) mapping to 3q27.1.

PRODUCT

HTR3D siRNA (h) is a pool of 2 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 HTR3D shRNA Plasmid (h): sc-78056-SH and HTR3D shRNA (h) Lentiviral Particles: sc-78056-V as alternate gene silencing products.

For independent verification of HTR3D (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-78056A and sc-78056B.

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

HTR3D siRNA (h) is recommended for the inhibition of HTR3D 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.

GENE EXPRESSION MONITORING

HTR3D (G-5): sc-515279 is recommended as a control antibody for monitoring of HTR3D gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HTR3D gene expression knockdown using RT-PCR Primer: HTR3D (h)-PR: sc-78056-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.

PROTOCOLS

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