SANTA CRUZ BIOTECHNOLOGY, INC.

CTL3 siRNA (m): sc-62166

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CTL3, also called SLC44A3 (solute carrier family 44 member 3), is a 653 amino acid multi-pass membrane protein that belongs to the choline transporter-like protein (CTL) family. Members of the CTL family contain eleven conserved cysteines and ten transmembrane domains. They are solute carriers that transport choline, a compound which is not able to permeate cells, across the cell membrane. Choline is an essential nutrient that is required for the synthesis of both acetylcholine, a neurotransmitter found in cholinergic nerve terminals, and phosphatidylcholine, a key component of cell membranes. Choline deficiencies are associated with defects in cell growth and have been implicated in disorders such as Alzheimer's and Parkinson's disease.

REFERENCES

1. Kato, T. 1989. Choline acetyltransferase activities in single spinal motor neurons from patients with amyotrophic lateral sclerosis. J. Neurochem. 52: 636-640.
2. Zivny, J., et al. 1993. Dengue virus-specific, human CD4+ cytotoxic T lymphocytes generated in short-term culture. Viral Immunol. 6: 143-151.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606105. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Traiffort, E., et al. 2005. Molecular characterization of the family of choline transporter-like proteins and their splice variants. J. Neurochem. 92: 1116-1125.

CHROMOSOMAL LOCATION

Genetic locus: Slc44a3 (mouse) mapping to 3 G1.

PRODUCT

CTL3 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 CTL3 shRNA Plasmid (m): sc-62166-SH and CTL3 shRNA (m) Lentiviral Particles: sc-62166-V as alternate gene silencing products.

For independent verification of CTL3 (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-62166A, sc-62166B and sc-62166C.

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

CTL3 siRNA (m) is recommended for the inhibition of CTL3 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 CTL3 gene expression knockdown using RT-PCR Primer: CTL3 (m)-PR: sc-62166-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zeng, L., et al. 2009. Sustained activation of XBP1 splicing leads to endothelial apoptosis and atherosclerosis development in response to disturbed flow. Proc. Natl. Acad. Sci. USA 106: 8326-8331.
2. Margariti, A., et al. 2009. Splicing of HDAC7 modulates the SRF-myocardin complex during stem-cell differentiation towards smooth muscle cells. J. Cell Sci. 122: 460-470.

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.