SANTA CRUZ BIOTECHNOLOGY, INC.

CTL5 siRNA (h): sc-62169

BACKGROUND

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. The choline transporter-like protein family (CTL) are solute carriers that transport choline, a compound which is not able to permeate cells, across the cell membrane. CTL5, also known as SLC44A5 (solute carrier family 44 member 5), is a 719 amino acid multi-pass membrane protein that is involved in choline transport.

REFERENCES

1. Zufferey, R., Santiago, T.C., Brachet, V. and Ben Mamoun, C. 2004. Reexamining the role of choline transporter-like (Ctlp) proteins in choline transport. Neurochem. Res. 29: 461-467.
2. Traiffort, E., Ruat, M., O'Regan, S. and Meunier, F.M. 2005. Molecular characterization of the family of choline transporter-like proteins and their splice variants. J. Neurochem. 92: 1116-1125.
3. Michel, V., Yuan, Z., Ramsubir, S. and Bakovic, M. 2006. Choline transport for phospholipid synthesis. Exp. Biol. Med. 231: 490-504.
4. Tomi, M., Arai, K., Tachikawa, M. and Hosoya, K. 2007. Na^+-independent choline transport in rat retinal capillary endothelial cells. Neurochem. Res. 32: 1833-1842.
5. Wang, T., Li, J., Chen, F., Zhao, Y., He, X., Wan, D. and Gu, J. 2007. Choline transporters in human lung adenocarcinoma: expression and functional implications. Acta Biochim. Biophys. Sin. 39: 668-674.

CHROMOSOMAL LOCATION

Genetic locus: SLC44A5 (human) mapping to 1p31.1.

PRODUCT

CTL5 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 CTL5 shRNA Plasmid (h): sc-62169-SH and CTL5 shRNA (h) Lentiviral Particles: sc-62169-V as alternate gene silencing products.

For independent verification of CTL5 (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-62169A, sc-62169B and sc-62169C.

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

CTL5 siRNA (h) is recommended for the inhibition of CTL5 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 CTL5 gene expression knockdown using RT-PCR Primer: CTL5 (h)-PR: sc-62169-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.