SANTA CRUZ BIOTECHNOLOGY, INC.

CLCC1 siRNA (m): sc-142373

BACKGROUND

Chloride channels (CLCs) regulate cellular traffic of chloride ions, a critical component of all living cells. CLCs are involved in membrane potential stabilization, signal transduction, cell volume regulation and organic solute transport. CLCC1 (chloride channel CLIC-like protein 1), also known as MCLC (Mid-1-related chloride channel) or KIAA0761, is a 551 amino acid multi-pass membrane protein that belongs to the chloride channel MCLC family. CLCC1 is related to the *Saccharomyces cerevisiae* protein Mid-1 and is believed to function as an intracellular chloride channel that is expressed in lung, brain, muscle, liver and testis. Localizing to intracellular compartments such as the Golgi apparatus, the endoplasmic reticulum (ER) and the nuclear envelope, CLCC1 is expressed as four isoforms due to alternative splicing events, namely hMCLC-1, hMCLC-2, hMCLC-3 and hMCLC-4.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
2. Nagasawa, M., et al. 2001. Identification of a novel chloride channel expressed in the endoplasmic reticulum, Golgi apparatus, and nucleus. J. Biol. Chem. 276: 20413-20418.
3. Li, X., et al. 2002. Chloride channels and hepatocellular function: prospects for molecular identification. Annu. Rev. Physiol. 64: 609-633.
4. Furukawa, T. 2003. Various functions of ClC-type Cl^- channels. Nippon Yakurigaku Zasshi 122: 375-383.
5. Paroutis, P., et al. 2004. The pH of the secretory pathway: measurement, determinants, and regulation. Physiology 19: 207-215.
6. Jentsch, T.J., et al. 2005. Physiological functions of CLC Cl^- channels gleaned from human genetic disease and mouse models. Annu. Rev. Physiol. 67: 779-807.

CHROMOSOMAL LOCATION

Genetic locus: Clcc1 (mouse) mapping to 3 F3.

PRODUCT

CLCC1 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 CLCC1 shRNA Plasmid (m): sc-142373-SH and CLCC1 shRNA (m) Lentiviral Particles: sc-142373-V as alternate gene silencing products.

For independent verification of CLCC1 (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-142373A, sc-142373B and sc-142373C.

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

CLCC1 siRNA (m) is recommended for the inhibition of CLCC1 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 CLCC1 gene expression knockdown using RT-PCR Primer: CLCC1 (m)-PR: sc-142373-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.