SANTA CRUZ BIOTECHNOLOGY, INC.

CLIC3 siRNA (m): sc-62127

BACKGROUND

CLIC3 (chloride intracellular channel protein 3) is a member of the highly conserved family of chloride ion channels (CLICs) that function in both soluble and integral membrane forms. Chloride channels regulate cellular traffic of chloride ions, a critical component of all living cells. They are involved in membrane potential stabilization, signal transduction, cell volume regulation and organic solute transport. CLIC3 is found in a variety of tissues but is highly expressed in placenta, brain and heart. CLIC3 predominantly localizes to the nucleus and stimulates chloride ion channel activity when expressed in cells. In addition, CLIC3 interacts with ERK 7 and may play a role in the regulation of cell proliferation. CLIC3 has a short hydrophobic domain suggesting that it must multimerize or associate with other proteins if it functions in a membrane channel. Another possibility is that CLIC3 acts as a channel regulator.

REFERENCES

1. Qian, Z., et al. 1999. Molecular cloning and characterization of a mitogen-activated protein kinase-associated intracellular chloride channel. J. Biol. Chem. 274: 1621-1627.
2. Berryman, M., et al. 2000. Identification of a novel member of the chloride intracellular channel gene family (CLIC5) that associates with the Actin cytoskeleton of placental microvilli. Mol. Biol. Cell 11: 1509-1521.
3. Rønnov-Jessen, L., et al. 2002. Differential expression of a chloride intracellular channel gene, CLIC.in transforming growth factor-β1-mediated conversion of fibroblasts to myofibroblasts. Am. J. Pathol. 161: 471-480.
4. Schmitz, G., et al. 2002. ABCA2: a candidate regulator of neural transmembrane lipid transport. Cell. Mol. Life Sci. 59: 1285-1295.
5. Medlej-Hashim, M., et al. 2002. Non-syndromic recessive deafness in Jordan: mapping of a new locus to chromosome 9q34.3 and prevalence of DFNB1 mutations. Eur. J. Hum. Genet. 10: 391-394.
6. Yang, Y.H., et al. 2005. Effects of formaldehyde inhalation on lung of rats. Biomed. Environ. Sci. 18: 164-168.

CHROMOSOMAL LOCATION

Genetic locus: Clic3 (mouse) mapping to 2 A3.

PRODUCT

CLIC3 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 CLIC3 shRNA Plasmid (m): sc-62127-SH and CLIC3 shRNA (m) Lentiviral Particles: sc-62127-V as alternate gene silencing products.

For independent verification of CLIC3 (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-62127A, sc-62127B and sc-62127C.

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

CLIC3 siRNA (m) is recommended for the inhibition of CLIC3 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.

GENE EXPRESSION MONITORING

CLIC3 (D-11): sc-390006 is recommended as a control antibody for monitoring of CLIC3 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CLIC3 gene expression knockdown using RT-PCR Primer: CLIC3 (m)-PR: sc-62127-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.