SANTA CRUZ BIOTECHNOLOGY, INC.

CLIC6 siRNA (h): sc-62130

BACKGROUND

Chloride intracellular channel 6, CLIC6, is a probable chloride ion channel belonging to the chloride channel CLIC family. CLIC6 is believed to play a critical role in water-secreting cells, possibly through the regulation of chloride ion transport. Two essential features distinguish CLIC6 from other members of the family. The CLIC6 protein is significantly longer and the CLIC6 gene contains a GC rich segment, which encodes a 10 amino acid motif repeated 14 times in the amino-terminus. The CLIC6 gene is a rare example of large-scale segmental paralogy in which a large (approximately 500 kb) segment on human chromosome (HC) 21 (21q22) is triplicated on HC 1 and HC 6. CLIC6 is also known to interact with dopamine receptors DRD2, DRD3 and DRD4. CLIC6 is primarily expressed in the cytoplasm, however, upon chloride ion efflux from the cell, CLIC6 is translocated to the plasma membrane. CLIC6 has been identified in brain, placenta, pancreas and liver. CLIC6 is a 704 amino acid protein and there are 2 known isoforms, A and B. CLIC6 is also identified as parchorin in rabbit.

REFERENCES

1. Hattori, M., et al. 2000. The DNA sequence of human chromosome 21. Nature 405: 311-319.
2. Debska, G., et al. 2001. Intracellular potassium and chloride channels: an update. Acta Biochim. Pol. 48: 137-144.
3. Strippoli, P., et al. 2002. Segmental paralogy in the human genome: a large-scale triplication on 1p, 6p, and 21q. Mamm. Genome 13: 456-462.
4. Ashley, R.H. 2003. Challenging accepted ion channel biology: p64 and the CLIC family of putative intracellular anion channel proteins (review). Mol. Membr. Biol. 20: 1-11.
5. Griffon, N., et al. 2003. CLIC6, a member of the intracellular chloride channel family, interacts with dopa-mine D_2-like receptors. Brain Res. Mol. Brain Res. 117: 47-57.
6. Friedli, M., et al. 2003. Identification of a novel member of the CLIC family, CLIC6, mapping to 21q22.12. Gene 320: 31-40.

CHROMOSOMAL LOCATION

Genetic locus: CLIC6 (human) mapping to 21q22.12.

PRODUCT

CLIC6 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 CLIC6 shRNA Plasmid (h): sc-62130-SH and CLIC6 shRNA (h) Lentiviral Particles: sc-62130-V as alternate gene silencing products.

For independent verification of CLIC6 (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-62130A, sc-62130B and sc-62130C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CLIC6 siRNA (h) is recommended for the inhibition of CLIC6 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

CLIC4/5/6 (A-11): sc-271863 is recommended as a control antibody for monitoring of CLIC5 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 CLIC6 gene expression knockdown using RT-PCR Primer: CLIC6 (h)-PR: sc-62130-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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