SANTA CRUZ BIOTECHNOLOGY, INC.

CLIC4 siRNA (m): sc-142391

BACKGROUND

CLIC4 (chloride intracellular channel 4), also known as H1, huH1, p64H1, CLIC4L or MTCLIC, is a 253 amino acid single-pass membrane protein that localizes to both the nucleus and the cytoplasm and contains one GST C-terminal domain. Expressed in placenta, heart and skeletal muscle, as well as in epithelial cells from kidney, colon and esophageal tissue, CLIC4 functions as a mon-omer that is able to form selective ion channels in target proteins, thereby facilitating the transport of chloride and other ions. The gene encoding CLIC4 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Edwards, J.C. 1999. A novel p64-related Cl^- channel: subcellular distribution and nephron segment-specific expression. Am. J. Physiol. 276: F398-F408.
2. Fernández-Salas, E., et al. 1999. p53 and tumor necrosis factor α regulate the expression of a mitochondrial chloride channel protein. J. Biol. Chem. 274: 36488-36497.
3. Chuang, J.Z., et al. 1999. A 29 kDa intracellular chloride channel p64H1 is associated with large dense-core vesicles in rat hippocampal neurons. J. Neurosci. 19: 2919-2928.
4. Fernández-Salas, E., et al. 2002. mtCLIC/CLIC4, an organellular chloride channel protein, is increased by DNA damage and participates in the apoptotic response to p53. Mol. Cell. Biol. 22: 3610-3620.
5. Bohman, S., et al. 2005. Proteomic analysis of vascular endothelial growth factor-induced endothelial cell differentiation reveals a role for chloride intracellular channel 4 (CLIC4) in tubular morphogenesis. J. Biol. Chem. 280: 42397-42404.

CHROMOSOMAL LOCATION

Genetic locus: Clic4 (mouse) mapping to 4 D3.

PRODUCT

CLIC4 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 CLIC4 shRNA Plasmid (m): sc-142391-SH and CLIC4 shRNA (m) Lentiviral Particles: sc-142391-V as alternate gene silencing products.

For independent verification of CLIC4 (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-142391A, sc-142391B and sc-142391C.

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

CLIC4 siRNA (m) is recommended for the inhibition of CLIC4 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

CLIC4 (45.42): sc-135739 is recommended as a control antibody for monitoring of CLIC4 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 CLIC4 gene expression knockdown using RT-PCR Primer: CLIC4 (m)-PR: sc-142391-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.