SANTA CRUZ BIOTECHNOLOGY, INC.

CLIC4 (45.42): sc-135739

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 monomer 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.

CHROMOSOMAL LOCATION

Genetic locus: CLIC4 (human) mapping to 1p36.11; Clic4 (mouse) mapping to 4 D3.

SOURCE

CLIC4 (45.42) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 238-250 of CLIC4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CLIC4 (45.42) is available conjugated to agarose (sc-135739 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; and to HRP (sc-135739 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

CLIC4 (45.42) is recommended for detection of CLIC4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CLIC4 siRNA (h): sc-105213, CLIC4 siRNA (m): sc-142391, CLIC4 shRNA Plasmid (h): sc-105213-SH, CLIC4 shRNA Plasmid (m): sc-142391-SH, CLIC4 shRNA (h) Lentiviral Particles: sc-105213-V and CLIC4 shRNA (m) Lentiviral Particles: sc-142391-V.

Molecular Weight of CLIC4: 29 kDa.

Positive Controls: JAR cell lysate: sc-2276, Hep G2 cell lysate: sc-2227 or Sol8 cell lysate: sc-2249.

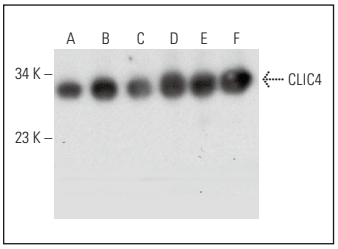
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

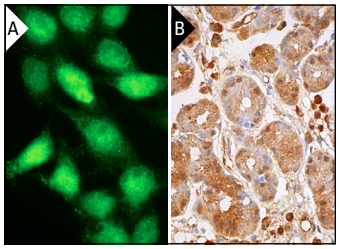
RESEARCH USE

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

DATA



CLIC4 (45.42): sc-135739. Western blot analysis of CLIC4 expression in HeLa (**A**), JAR (**B**), Hep G2 (**C**), Sol8 (**D**), RAW 264.7 (**E**) and Neuro-2A (**F**) whole cell lysates.



CLIC4 (45.42): sc-135739. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Wojciak-Stothard, B., et al. 2014. Aberrant chloride intracellular channel 4 expression contributes to endothelial dysfunction in pulmonary arterial hypertension. Circulation 129: 1770-1780.
2. Ponnalagu, D., et al. 2016. Data supporting characterization of CLIC1, CLIC4, CLIC5 and DmCLIC antibodies and localization of CLICs in endoplasmic reticulum of cardiomyocytes. Data Brief 7: 1038-1044.
3. Jiang, Y.Y., et al. 2017. Chloride channels are involved in the development of atrial fibrillation—a transcriptomic and proteomic study. Sci. Rep. 7: 10215.
4. Hatziioanou, D., et al. 2018. Chloride Intracellular channel 4 overexpression in the proximal tubules of kidneys from the spontaneously hypertensive rat: insight from proteomic analysis. Nephron 138: 60-70.
5. Müller, M., et al. 2019. Chikungunya virus requires cellular chloride channels for efficient genome replication. PLoS Negl. Trop. Dis. 13: e0007703.
6. Li, B., et al. 2020. Role of c-Myc/chloride intracellular channel 4 pathway in lipopolysaccharide-induced neurodegenerative diseases. Toxicology 429: 152312.
7. Peterman, E., et al. 2020. CLIC4 is a cytokinetic cleavage furrow protein that regulates cortical cytoskeleton stability during cell division. J. Cell Sci. 133: jcs241117.
8. Wang, K., et al. 2021. ATPIF1 maintains normal mitochondrial structure which is impaired by CCM3 deficiency in endothelial cells. Cell Biosci. 11: 11.
9. Ghoroghi, S., et al. 2021. Ral GTPases promote breast cancer metastasis by controlling biogenesis and organ targeting of exosomes. Elife 10: e61539.

PROTOCOLS

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