SANTA CRUZ BIOTECHNOLOGY, INC.

CLIC1 (B-5): sc-271051

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chloride intracellular channel 1 (CLIC1), also referred to as NCC27, is a member of the highly conserved family of chloride ion channels that function in both soluble and integral membrane forms. CLIC1 is a monomeric protein that contains a redox-active site similar to glutaredoxin; it functions as a anion-selective channel. CLIC1 forms a dimer when oxidized and is then able to form chloride ion channels in bilayers and vesicles, whereas a reducing environment prevents this from occurring. Insulin concentration also plays a role in CLIC1 regulation, and the hormone may cause a subnuclear relocalization of CLIC1. CLIC1 is associated with macrophage activation; a downregulation of CLIC1 function prevents TNFα release induced by β-Amyloid protein (A-β) stimulation. This suggests a role for CLIC1 in several neurodegenerative processes, such as Alzheimer's disease, a syndrome characterized by an accumulation of β-Amyloid.

REFERENCES

1. Harrop, S.J., et al. 2001. Crystal structure of a soluble form of the intracellular chloride ion channel CLIC1 (NCC27) at 1.4-A resolution. J. Biol. Chem. 276: 44993-45000.
2. Tulk, B.M., et al. 2002. CLIC1 inserts from the aqueous phase into phospholipid membranes, where it functions as an anion channel. Am. J. Physiol., Cell Physiol. 282: C1103-C1112.
3. Warton, K., et al. 2002. Recombinant CLIC1 (NCC27) assembles in lipid bilayers via a pH-dependent two-state process to form chloride ion channels with identical characteristics to those observed in Chinese hamster ovary cells expressing CLIC1. J. Biol. Chem. 277: 26003-26011.
4. Littler, D.R., et al. 2004. The intracellular chloride ion channel protein CLIC1 undergoes a redox-controlled structural transition. J. Biol. Chem. 279: 9298-9305.

CHROMOSOMAL LOCATION

Genetic locus: CLIC1 (human) mapping to 6p21.33; Clic1 (mouse) mapping to 17 B1.

SOURCE

CLIC1 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 52-81 within an internal region of CLIC1 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.

Blocking peptide available for competition studies, sc-271051 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

CLIC1 (B-5) is recommended for detection of CLIC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CLIC1 (B-5) is also recommended for detection of CLIC1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CLIC1 siRNA (h): sc-60400, CLIC1 siRNA (m): sc-60401, CLIC1 shRNA Plasmid (h): sc-60400-SH, CLIC1 shRNA Plasmid (m): sc-60401-SH, CLIC1 shRNA (h) Lentiviral Particles: sc-60400-V and CLIC1 shRNA (m) Lentiviral Particles: sc-60401-V.

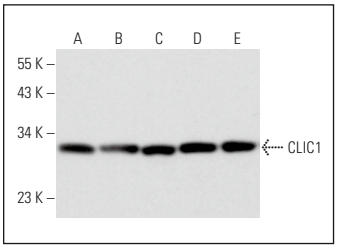
Molecular Weight of CLIC1: 27 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, RAW 264.7 whole cell lysate: sc-2211 or CLIC1 (m): 293T Lysate: sc-119305.

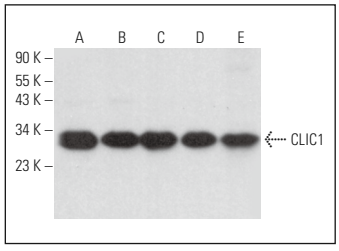
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CLIC1 (B-5): sc-271051. Western blot analysis of CLIC1 expression in HL-60 (**A**), U-937 (**B**), RAW 264.7 (**C**), Raji (**D**) and JAR (**E**) whole cell lysates.



CLIC1 (B-5): sc-271051. Western blot analysis of CLIC1 expression in RAW 264.7 (**A**), NIH/3T3 (**B**), IB4 (**C**) and BYDP (**D**) whole cell lysates and rat spleen tissue extract (**E**).

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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