SANTA CRUZ BIOTECHNOLOGY, INC.

CLC-3 (H-4): sc-390010

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The family of voltage-dependent chloride channels (CLCs) regulate cellular trafficking of chloride ions, a critical component of all living cells. CLCs regulate excitability in muscle and nerve cells, aid in organic solute transport and maintain cellular volume. The genes encoding human CLC-1 through CLC-7 map to chromosomes 7q32, 3q28, 4q32, Xp22.3, Xp11.22, 1p36 and 16p13, respectively. CLC1 is highly expressed in skeletal muscle. Mutations in the gene encoding CLC1 lead to myotonia, an inheritable disorder characterized by muscle stiffness and renal salt wasting. CLC2 is highly expressed in the epithelia of several organs including lung, which suggests CLC2 may be a possible therapeutic target for cystic fibrosis. CLC3 expression is particularly abundant in neuronal tissue, while CLC4 expression is evident in skeletal and cardiac muscle as well as brain. Mutations in the gene encoding CLC5 lead to Dent's disease, a renal disorder characterized by proteinuria and hypercalciuria. CLC6 and CLC7 are broadly expressed in several tissues including testis, kidney, brain and muscle.

REFERENCES

1. Koch, M.C., et al. 1992. The skeletal muscle chloride channel in dominant and recessive human myotonia. Science 257: 797-800.
2. Pook, M.A., et al. 1993. Dent's disease, a renal Fanconi syndrome with nephrocalcinosis and kidney stones, is associated with a microdeletion involving DXS255 and maps to Xp11.22. Hum. Mol. Genet. 2: 2129-2134.
3. van Slegtenhorst, M.A., et al. 1994. A gene from the Xp22.3 region shares homology with voltage-gated chloride channels. Hum. Mol. Genet. 3: 547-552.
4. Brandt, S., et al. 1995. CIC-6 and CIC-7 are two novel broadly expressed members of the CLC chloride channel family. FEBS Lett. 377: 15-20.

CHROMOSOMAL LOCATION

Genetic locus: CLCN3 (human) mapping to 4q33; Clcn3 (mouse) mapping to 8 B3.1.

SOURCE

CLC-3 (H-4) is a mouse monoclonal antibody raised against amino acids 563-762 mapping at the C-terminus of CLC-3 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.

CLC-3 (H-4) is available conjugated to agarose (sc-390010 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390010 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390010 PE), fluorescein (sc-390010 FITC), Alexa Fluor® 488 (sc-390010 AF488), Alexa Fluor® 546 (sc-390010 AF546), Alexa Fluor® 594 (sc-390010 AF594) or Alexa Fluor® 647 (sc-390010 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390010 AF680) or Alexa Fluor® 790 (sc-390010 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CLC-3 (H-4) is recommended for detection of CLC-3 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).

CLC-3 (H-4) is also recommended for detection of CLC-3 in additional species, including equine and canine.

Suitable for use as control antibody for CLC-3 siRNA (h): sc-42381, CLC-3 siRNA (m): sc-42382, CLC-3 shRNA Plasmid (h): sc-42381-SH, CLC-3 shRNA Plasmid (m): sc-42382-SH, CLC-3 shRNA (h) Lentiviral Particles: sc-42381-V and CLC-3 shRNA (m) Lentiviral Particles: sc-42382-V.

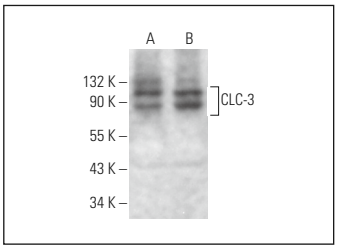
Molecular Weight of CLC-3: 85 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, T84 whole cell lysate: sc-364797 or HT-29 whole cell lystae: sc-364232.

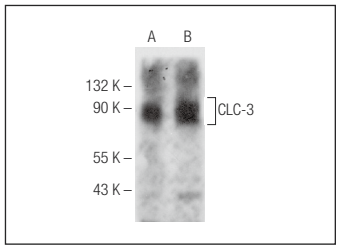
RECOMMENDED SUPPORT REAGENTS

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



CLC-3 (H-4): sc-390010. Western blot analysis of CLC-3 expression in C6 (**A**) and A-10 (**B**) whole cell lysates.



CLC-3 (H-4): sc-390010. Western blot analysis of CLC-3 expression in T84 (**A**) and HT-29 (**B**) whole cell lysates.

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.