SANTA CRUZ BIOTECHNOLOGY, INC.

CLC-2 (P-16): sc-16429

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, 3q27.1, 4q32, Xp22.3, Xp11.23-p11.22, 1p36 and 16p13, respectively. CLC-1 is highly expressed in skeletal muscle. Mutations in the gene encoding CLC-1 lead to myotonia, an inheritable disorder characterized by muscle stiffness and renal salt wasting. CLC-2 is highly expressed in the epithelia of several organs including lung, which suggests CLC-2 may be a possible therapeutic target for cystic fibrosis. CLC-3 expression is particularly abundant in neuronal tissue, while CLC-4 expression is evident in skeletal and cardiac muscle as well as brain. Mutations in the gene encoding CLC-5 lead to Dent's disease, a renal disorder characterized by proteinuria and hypercalciuria. CLC-6 and CLC-7 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. Borsani, G., et al. 1995. Characterization of a human and murine gene (CLCN3) sharing similarities to voltage-gated chloride channels and to a yeast integral membrane protein. Genomics 27: 131-141.
5. Brandt, S. and Jentsch, T.J. 1995. CLC-6 and CLC-7 are two novel broadly expressed members of the CLC chloride channel family. FEBS Lett. 377: 15-20.
6. Cid, L.P., et al. 1995. Cloning of a putative human voltage-gated chloride channel (CLC-2) cDNA widely expressed in human tissues. Hum. Mol. Genet. 4: 407-413.

CHROMOSOMAL LOCATION

Genetic locus: CLCN2 (human) mapping to 3q27.1; Clcn2 (mouse) mapping to 16 B1.

SOURCE

CLC-2 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CLC-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16429 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CLC-2 (P-16) is recommended for detection of CLC-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

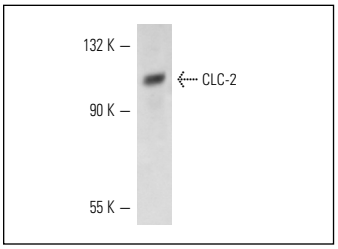
CLC-2 (P-16) is also recommended for detection of CLC-2 in additional species, including canine.

Suitable for use as control antibody for CLC-2 siRNA (h): sc-42379, CLC-2 siRNA (m): sc-42380, CLC-2 siRNA (r): sc-61868, CLC-2 shRNA Plasmid (h): sc-42379-SH, CLC-2 shRNA Plasmid (m): sc-42380-SH, CLC-2 shRNA Plasmid (r): sc-61868-SH, CLC-2 shRNA (h) Lentiviral Particles: sc-42379-V, CLC-2 shRNA (m) Lentiviral Particles: sc-42380-V and CLC-2 shRNA (r) Lentiviral Particles: sc-61868-V.

Molecular Weight of CLC-2: 98 kDa.

Positive Controls: mouse heart extract: sc-2254 or HeLa nuclear extract: sc-2120.

DATA



CLC-2 (P-16): sc-16429. Western blot analysis of CLC-2 expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Peña-Münzenmayer, G., et al. 2005. Basolateral localization of native CLC-2 chloride channels in absorptive intestinal epithelial cells and basolateral sorting encoded by a CBS-2 domain di-leucine motif. J. Cell Sci. 118: 4243-4252.

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.

MONOS Satisfaction Guaranteed

Try **CLC-2 (D-6): sc-377284** or **CLC-2 (YY9): sc-81871**, our highly recommended monoclonal alternatives to CLC-2 (P-16).