SANTA CRUZ BIOTECHNOLOGY, INC.

CLC-2 (H-90): sc-20122

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.

CHROMOSOMAL LOCATION

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

SOURCE

CLC-2 (H-90) is a rabbit polyclonal antibody raised against amino acids 1-90 mapping at 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.

STORAGE

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

APPLICATIONS

CLC-2 (H-90) 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 and 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 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.

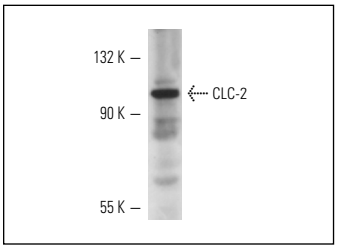
Molecular Weight of CLC-2: 98 kDa.

Positive Controls: mouse heart extract: sc-2254 or human stomach extract: sc-363780.

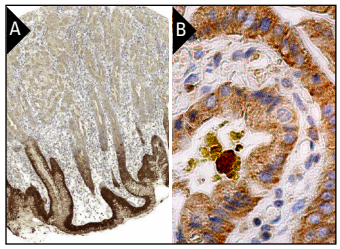
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



CLC-2 (H-90): sc-20122. Western blot analysis of CLC-2 expression in mouse heart tissue extract.



CLC-2 (H-90): sc-20122. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing membrane and cytoplasmic staining of glandular cells at low magnification (**A**). Kindly provided by The Swedish Human Protein Atlas (HPA) program. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hinzpeter, A., et al. 2006. Association between HSP 90 and the CLC-2 chloride channel upregulates channel function. Am. J. Physiol., Cell Physiol. 290: C45-C56.
2. Hinzpeter, A., et al. 2007. Membrane cholesterol content modulates CLC-2 gating and sensitivity to oxidative stress. J. Biol. Chem. 282: 2423-2432.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **CLC-2 (D-6): sc-377284** or **CLC-2 (YY9): sc-81871**, our highly recommended monoclonal alternatives to CLC-2 (H-90).