SANTA CRUZ BIOTECHNOLOGY, INC.

CLC-3 (K-17): sc-17572

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 7, 3q26, 4q33, Xp22, Xp11, 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 testes, kidney, brain and muscle.

CHROMOSOMAL LOCATION

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

SOURCE

CLC-3 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CLC-3 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-17572 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CLC-3 (K-17) is recommended for detection of CLC-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CLC-3 (K-17) is also recommended for detection of CLC-3 in additional species, including equine, canine, bovine, porcine and avian.

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: Jurkat whole cell lysate: sc-2204.

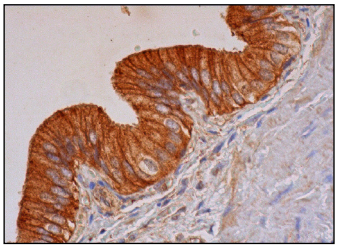
RESEARCH USE

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

STORAGE

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

DATA



CLC-3 (K-17): sc-17572. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jin, N.G., et al. 2003. Fundamental role of CLC-3 in volume-sensitive Cl^- channel function and cell volume regulation in AGS cells. Am. J. Physiol. Gastrointest. Liver Physiol. 285: G938-G948.
2. Meshorer, E., et al. 2005. Chronic cholinergic imbalances promote brain diffusion and transport abnormalities. FASEB J. 19: 910-922.
3. Ubels, J.L., et al. 2006. Gene expression in rat lacrimal gland duct cells collected using laser capture microdissection: evidence for K^+ secretion by duct cells. Invest. Ophthalmol. Vis. Sci. 47: 1876-1885.
4. Cao, L., et al. 2010. Chloride channels and transporters in human corneal epithelium. Exp. Eye Res. 90: 771-779.
5. McMains, E., et al. 2011. Expression and localization of CLC chloride transport proteins in the avian retina. PLoS ONE 6: e17647.
6. Xu, X., et al. 2012. Intermediate-conductance Ca^{2+} -activated potassium and volume-sensitive chloride channels in endothelial progenitor cells from rat bone marrow mononuclear cells. Acta Physio. 205: 302-313.
7. Su, J., et al. 2013. Suppression of chloride channel 3 expression facilitates sensitivity of human glioma U251 cells to cisplatin through concomitant inhibition of Akt and autophagy. Anat. Rec. 296: 595-603.

PROTOCOLS

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