SANTA CRUZ BIOTECHNOLOGY, INC.

# CLCA2 (1D5): sc-517015

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The calcium-activated chloride channel (CLCA) protein family, which includes the human homologs CLCA1 and CLCA2, display distinct tissue distribution patterns. CLCA1 is expressed as a precursor protein that is processed into two cell surface associated subunits and a group of proteins. CLCA1 is upregulated by interleukin-9 and regulates the expression of mucins. CLCA1 may provide a therapeutic target to control mucus overproduction in airway disease patients with cystic fibrosis. CLCA2 expression is downregulated in breast cancer and therefore, is thought to act as a tumor suppressor in normal cells. CLCA3 is a structurally divergent member of the CLCA family that does not function as a channel protein. CLCA4 is a CLCA member that is expressed in human rectal mucosa, CLCA5 shows strong expression in eye and spleen, and CLCA6 is primarily expressed in intestine and stomach.

## REFERENCES


1. Gandhi, R., et al. 1998. Molecular and functional characterization of a calcium-sensitive chloride channel from mouse lung. J. Biol. Chem. 273: 32096-32101.
2. Gruber, A.D., et al. 1998. Genomic cloning, molecular characterization, and functional analysis of human CLCA1, the first human member of the family of $Ca^{2+}$-activated $Cl^-$ channel proteins. Genomics 54: 200-214.
3. Gruber, A.D., et al. 1999. Molecular cloning and transmembrane structure of hCLCA2 from human lung, trachea, and mammary gland. Am. J. Physiol. 276: 1261-1270.
4. Hauber, H.P., et al. 2003. Increased expression of interleukin-9, interleukin-9 receptor, and the calcium-activated chloride channel hCLCA1 in the upper airways of patients with cystic fibrosis. Laryngoscope 113: 1037-1042.
5. Beckley, J.R., et al. 2004. Re-expression of detachment-inducible chloride channel mCLCA5 suppresses growth of metastatic breast cancer cells. J. Biol. Chem. 279: 41634-41641.
6. Hauber, H.P., et al. 2004. Expression of hCLCA1 in cystic fibrosis lungs is associated with mucus overproduction. Eur. Respir. J. 23: 846-850.
7. Li, X., et al. 2004. CLCA2 tumour suppressor gene in 1p31 is epigenetically regulated in breast cancer. Oncogene 23: 1474-1480.


## CHROMOSOMAL LOCATION

Genetic locus: CLCA2 (human) mapping to 1p22.3.

## SOURCE

CLCA2 (1D5) is a mouse monoclonal antibody raised against amino acids 300-400 representing partial length CLCA2 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ kappa light chain 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

CLCA2 (1D5) is recommended for detection of CLCA2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CLCA2 siRNA (h): sc-60394, CLCA2 shRNA Plasmid (h): sc-60394-SH and CLCA2 shRNA (h) Lentiviral Particles: sc-60394-V.

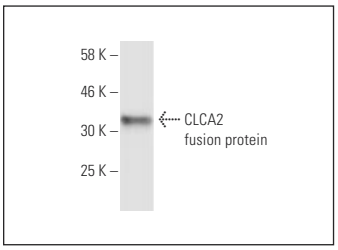
Molecular Weight of mature CLCA2: 120 kDa.

Molecular Weight of CLCA2 cleavage products: 86/34 kDa.

## 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, 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).

## DATA




CLCA2 (1D5): sc-517015. Western blot analysis of human recombinant CLCA2 fusion protein.

## RESEARCH USE

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

## PROTOCOLS

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