

# CLCA2 (C-18): sc-50556

## 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 125 kDa precursor protein that is processed into two cell surface associated subunits of 90 kDa and a group of 37-41 kDa proteins. CLCA1 is upregulated by interleukin-9 and regulates the expression of mucins. It may provide a therapeutic target to control mucus overproduction in airway disease patients with cystic fibrosis. CLCA2 is produced as a 120 kDa precursor protein that is cleaved into two cell surface associated subunits of 86 and 34 kDa. The CLCA2 gene maps to the 1p31 region, which is frequently deleted in sporadic breast cancer. CLCA2 expression is downregulated in breast cancer and, therefore, is thought to act as a tumor suppressor in normal cells.

## REFERENCES

- Gandhi, R., et al. 1998. Molecular and functional characterization of a calcium-sensitive chloride channel from mouse lung. *J. Biol. Chem.* 273: 32096-32101.
- Gruber, A.D., et al. 1999. Genom CLCA1, the first human member of the family of Ca<sup>2+</sup>-activated Cl<sup>-</sup> channel proteins. *Genomics* 54: 200-214.
- 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.
- 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.
- 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.
- Hauber, H.P., et al. 2004. Expression of hCLCA1 in cystic fibrosis lungs is associated with mucus overproduction. *Eur. Respir. J.* 23: 846-850.
- Li, X., Cowell, 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 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CLCA2 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-50556 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

CLCA2 (C-18) 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)], 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).

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 CLCA2 precursor: 120 kDa.

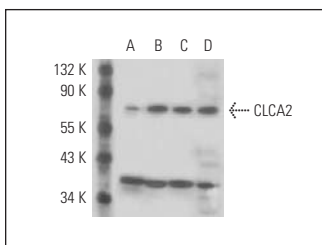
Molecular Weight of CLCA2 subunits: 86/34 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, HUV-EC-C + VEGF cell lysate: sc-24709 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CLCA2 (C-18): sc-50556. Western blot analysis of CLCA2 expression in HeLa (A), HUV-EC-C (B), MCF7 (C) and MDA-MB-231 (D) 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.