SANTA CRUZ BIOTECHNOLOGY, INC.

CLCA1 (E-4): sc-271156

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.

CHROMOSOMAL LOCATION

Genetic locus: CLCA1 (human) mapping to 1p22.3; Clca1 (mouse) mapping to 3 H2.

SOURCE

CLCA1 (E-4) is a mouse monoclonal antibody raised against amino acids 861-914 mapping at the C-terminus of CLCA1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CLCA1 (E-4) is available conjugated to agarose (sc-271156 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271156 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271156 PE), fluorescein (sc-271156 FITC), Alexa Fluor® 488 (sc-271156 AF488), Alexa Fluor® 546 (sc-271156 AF546), Alexa Fluor® 594 (sc-271156 AF594) or Alexa Fluor® 647 (sc-271156 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271156 AF680) or Alexa Fluor® 790 (sc-271156 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CLCA1 (E-4) is recommended for detection of CLCA1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 CLCA1 siRNA (h): sc-60393, Clca1 siRNA (m): sc-142370, CLCA1 shRNA Plasmid (h): sc-60393-SH, Clca1 shRNA Plasmid (m): sc-142370-SH, CLCA1 shRNA (h) Lentiviral Particles: sc-60393-V and Clca1 shRNA (m) Lentiviral Particles: sc-142370-V.

Molecular Weight of CLCA1 precursor: 125 kDa.

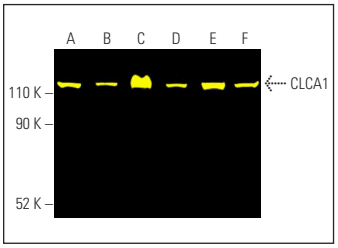
Molecular Weight of CLCA1: 37-41 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HCT-116 whole cell lysate: sc-364175 or Ramos whole cell lysate: sc-2216.

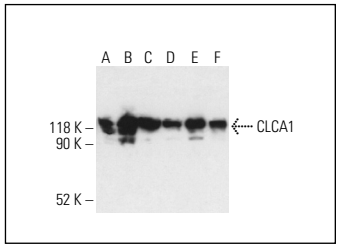
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CLCA1 (E-4) Alexa Fluor® 488: sc-271156 AF488. Direct fluorescent western blot analysis of CLCA1 expression in Ramos (**A**), A-431 (**B**), NAMALWA (**C**), RAW 264.7 (**D**), MEG-01 (**E**) and MM-142 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



CLCA1 (E-4) HRP: sc-271156 HRP. Direct western blot analysis of CLCA1 expression in HCT-116 (**A**), A-431 (**B**), Raji (**C**), Ramos (**D**), MEG-01 (**E**) and 3611-RF (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Pérez, F.J., et al. 2014. Fungal colonization with *Pneumocystis* correlates to increasing chloride channel accessory 1 (hCLCA1) suggesting a pathway for up-regulation of airway mucus responses, in infant lungs. Results Immunol. 4: 58-61.
2. Cabrita, I., et al. 2021. TMEM16A mediated mucus production in human airway epithelial cells. Am. J. Respir. Cell Mol. Biol. 64: 50-58.

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.

PROTOCOLS

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