SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase C1 (G-5): sc-271077

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vacuolar-type H^+-ATPase (V-ATPase) is a multisubunit enzyme responsible for acidification of eukaryotic intracellular organelles. V-ATPases pump protons against an electrochemical gradient, while F-ATPases reverse the process, thereby synthesizing ATP. A peripheral V_1 domain, which is re-sponsible for ATP hydrolysis, and an integral V_0 domain, which is respon-sible for proton translocation, compose V-ATPase. Nine subunits (A-H) make up the V_1 domain and five subunits (a, d, c, c' and c") make up the V_0 domain. Like F-ATPase, V-ATPase most likely operates through a rotary mechanism. V-ATPase C is an auxiliary subunit with ubiquitous expres-sion. The gene encoding human V-ATPase C maps to chromosome 8q22.3. V-ATPase D is another auxiliary subunit.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1C1 (human) mapping to 8q22.3; Atp6v1c1 (mouse) mapping to 15 B3.1.

SOURCE

V-ATPase C1 (G-5) is a mouse monoclonal antibody raised against amino acids 83-382 of V-ATPase C1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

V-ATPase C1 (G-5) is available conjugated to agarose (sc-271077 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271077 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271077 PE), fluorescein (sc-271077 FITC), Alexa Fluor® 488 (sc-271077 AF488), Alexa Fluor® 546 (sc-271077 AF546), Alexa Fluor® 594 (sc-271077 AF594) or Alexa Fluor® 647 (sc-271077 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271077 AF680) or Alexa Fluor® 790 (sc-271077 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

V-ATPase C1 (G-5) is recommended for detection of V-ATPase C1 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), 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 V-ATPase C1 siRNA (h): sc-36789, V-ATPase C1 siRNA (m): sc-36790, V-ATPase C1 shRNA Plasmid (h): sc-36789-SH, V-ATPase C1 shRNA Plasmid (m): sc-36790-SH, V-ATPase C1 shRNA (h) Lentiviral Particles: sc-36789-V and V-ATPase C1 shRNA (m) Lentiviral Particles: sc-36790-V.

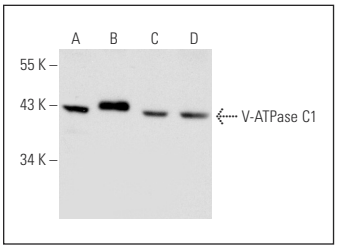
Molecular Weight of V-ATPase C1: 42 kDa.

Positive Controls: V-ATPase C1 (m): 293T Lysate: sc-124518, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

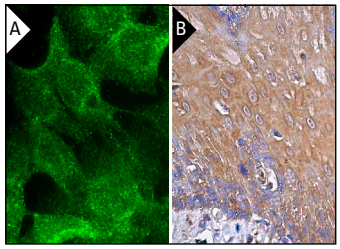
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



V-ATPase C1 (G-5): sc-271077. Western blot analysis of V-ATPase C1 expression in non-transfected 293T: sc-117752 (**A**), mouse V-ATPase C1 transfected 293T: sc-124518 (**B**), HeLa (**C**) and Hep G2 (**D**) whole cell lysates.



V-ATPase C1 (G-5) : sc-271077. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Borth, H., et al. 2016. The IP3R binding protein released with inositol 1,4,5-trisphosphate is expressed in rodent reproductive tissue and spermatozoa. J. Cell. Physiol. 231: 1114-1129.
2. Sentürk, M., et al. 2019. Ubiquilins regulate autophagic flux through mTOR signalling and lysosomal acidification. Nat. Cell Biol. 21: 384-396.
3. Asrani, K., et al. 2019. mTORC1 feedback to Akt modulates lysosomal biogenesis through MiT/TFE regulation. J. Clin. Invest. 129: 5584-5599.
4. Tang, Q., et al. 2021. NDST3 deacetylates α-Tubulin and suppresses V-ATPase assembly and lysosomal acidification. EMBO J. E-published.

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.