SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase C1 (H-5): sc-166848

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 responsible for ATP hydrolysis and an integral V_0 domain, which is responsible 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 expression. The gene encoding human V-ATPase C maps to chromosome 8q22.3. V-ATPase D is another auxiliary subunit.

REFERENCES

1. Nelson, H., et al. 1990. Molecular cloning of cDNA encoding the C subunit of H^+-ATPase from bovine chromaffin granules. J. Biol. Chem. 265: 20390-20393.
2. van Hille, B., et al. 1993. Cloning and tissue distribution of subunits C, D, and E of the human vacuolar H^+-ATPase. Biochem. Biophys. Res. Commun. 197: 15-21.

CHROMOSOMAL LOCATION

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

SOURCE

V-ATPase C1 (H-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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

V-ATPase C1 (H-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.

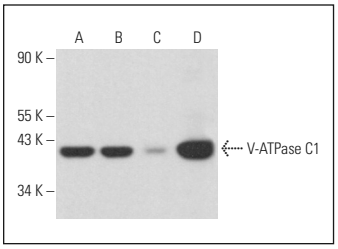
Molecular Weight of V-ATPase C1: 42 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, RAW 264.7 whole cell lysate: sc-2211 or AMJ2-C8 whole cell lysate: sc-364366.

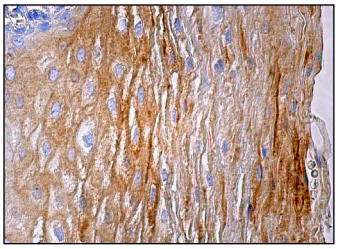
RECOMMENDED SUPPORT REAGENTS

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 (H-5): sc-166848. Western blot analysis of V-ATPase C1 expression in AMJ2-C8 (**A**), RAW 264.7 (**B**) and C6 (**C**) whole cell lysates and human brain tissue extract (**D**).



V-ATPase C1 (H-5): sc-166848. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Vieira, J.S., et al. 2019. Alendronate induces postnatal maxillary bone growth by stimulating intramembranous ossification and preventing premature cartilage mineralization in the midpalatal suture of newborn rats. Int. J. Oral Maxillofac. Surg. 48: 1494-1503.
2. Yang, O.C.Y. and Loh, S.H. 2019. Acidic stress triggers sodium-coupled bicarbonate transport and promotes survival in A375 human melanoma cells. Sci. Rep. 9: 6858.
3. Giovanini, A.F., et al. 2020. Immunolocalization of IP3R and V-ATPase in ameloblastomas. Head Neck Pathol. 14: 392-398.
4. Loh, S.H., et al. 2020. Effects of andrographolide on intracellular pH regulation, cellular migration, and apoptosis in human cervical cancer cells (running tittle: effects of andrographolide on pH regulators and apoptosis in cervical cancer). Cancers 12: 387.
5. Breyer, F., et al. 2021. TPL-2 kinase induces phagosome acidification to promote macrophage killing of bacteria. 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.