SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase H (C-8): sc-166227

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. The H subunit of V-ATPase, also designated SDF is comprised of two polypeptides derived from the same gene. This regulatory subunit plays a critical role in the functional coupling of ATP hydrolysis activity to proton transport in the V-ATPase pump.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1H (human) mapping to 8q11.23; Atp6v1h (mouse) mapping to 1 A1.

SOURCE

V-ATPase H (C-8) is a mouse monoclonal antibody raised against amino acids 184-483 mapping at the C-terminus of V-ATPase H 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.

V-ATPase H (C-8) is available conjugated to agarose (sc-166227 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166227 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166227 PE), fluorescein (sc-166227 FITC), Alexa Fluor® 488 (sc-166227 AF488), Alexa Fluor® 546 (sc-166227 AF546), Alexa Fluor® 594 (sc-166227 AF594) or Alexa Fluor® 647 (sc-166227 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166227 AF680) or Alexa Fluor® 790 (sc-166227 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

V-ATPase H (C-8) is recommended for detection of V-ATPase H 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).

V-ATPase H (C-8) is also recommended for detection of V-ATPase H in additional species, including equine and canine.

Suitable for use as control antibody for V-ATPase H siRNA (h): sc-36801, V-ATPase H siRNA (m): sc-36802, V-ATPase H shRNA Plasmid (h): sc-36801-SH, V-ATPase H shRNA Plasmid (m): sc-36802-SH, V-ATPase H shRNA (h) Lentiviral Particles: sc-36801-V and V-ATPase H shRNA (m) Lentiviral Particles: sc-36802-V.

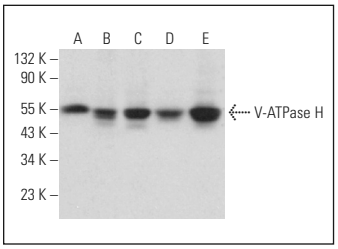
Molecular Weight of V-ATPase H: 50/57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or F9 cell lysate: sc-2245.

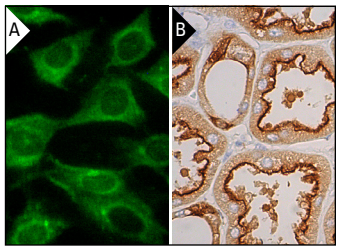
RECOMMENDED SUPPORT REAGENTS

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 H (C-8): sc-166227. Western blot analysis of V-ATPase H expression in HeLa (**A**), HEK293T (**B**), Neuro-2A (**C**), C6 (**D**) and F9 (**E**) whole cell lysates.



V-ATPase H (C-8): sc-166227. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Jung, J.Y. and Robinson, C.M. 2014. IL-12 and IL-27 regulate the phagolysosomal pathway in mycobacteria-infected human macrophages. Cell Commun. Signal. 12: 16.
2. Jung, J.Y., et al. 2015. The presence of interleukin-27 during monocyte-derived dendritic cell differentiation promotes improved antigen processing and stimulation of T cells. Immunology 144: 649-660.
3. Sentürk, M., et al. 2019. Ubiquilins regulate autophagic flux through mTOR signalling and lysosomal acidification. Nat. Cell Biol. 21: 384-396.
4. López-González, Z., et al. 2020. Metabolic acidosis and hyperkalemia differentially regulate cation HCN3 channel in the rat nephron. J. Mol. Histol. 51: 701-716.
5. Liu, J., et al. 2021. CREG1 promotes lysosomal biogenesis and function. Autophagy. 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.