SANTA CRUZ BIOTECHNOLOGY, INC.

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



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 V₁ domain, which is responsible for ATP hydrolysis and an integral V₀ domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A-H) make up the V₁ domain and five subunits (a, d, c, c' and c'') make up the V₀ 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 IgG1 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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

- 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.
- Jung, J.Y., et al. 2015. The presence of interleukin-27 during monocytederived dendritic cell differentiation promotes improved antigen processing and stimulation of T cells. Immunology 144: 649-660.
- Sentürk, M., et al. 2019. Ubiquilins regulate autophagic flux through mTOR signalling and lysosomal acidification. Nat. Cell Biol. 21: 384-396.
- 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.
- Liu, J., et al. 2021. CREG1 promotes lysosomal biogenesis and function. Autophagy 17: 4249-4265.
- Saffi, G.T., et al. 2022. Inhibition of lipid kinase PIKfyve reveals a role for phosphatase Inpp4b in the regulation of PI(3)P-mediated lysosome dynamics through VPS34 activity. J. Biol. Chem. 294: 7025-7036.
- Yang, Y.L., et al. 2022. Endocytosis triggers V-ATPase-SYK-mediated priming of cGAS activation and innate immune response. Proc. Natl. Acad. Sci. USA 119: e2207280119.
- Ahumada-Marchant, C., et al. 2024. Deletion of VPS50 protein in mouse brain impairs synaptic function and behavior. BMC Biol. 22: 142.

RESEARCH USE

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

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

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