SANTA CRUZ BIOTECHNOLOGY, INC.

ATP6E (G-3): sc-514143

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ATP6E, also known as V-ATPase E, is a vacuolar-type H^+-ATPase (V-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. ATP6E controls acidification of the vacuolar system and provides the main proton-motive force.

REFERENCES

1. Baud, V., et al. 1994. The E subunit of vacuolar H^+-ATPase localizes close to the centromere on human chromosome 22. Hum. Mol. Genet. 3: 335-339.
2. Oka, T., et al. 1997. Three vha genes encode proteolipids of *Caenorhabditis elegans* vacuolar-type ATPase. Gene structures and preferential expression in an H-shaped excretory cell and rectal cells. J. Biol. Chem. 272: 24387-24392.
3. Ludwig, J., et al. 1998. Identification and characterization of a novel 9.2-kDa membrane sector-associated protein of vacuolar proton-ATPase from chromaffin granules. J. Biol. Chem. 273: 10939-10947.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1E1 (human) mapping to 22q11.21; Atp6v1e1 (mouse) mapping to 6 F1.

SOURCE

ATP6E (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 158-184 within an internal region of ATP6E of human origin.

PRODUCT

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

ATP6E (G-3) is available conjugated to agarose (sc-514143 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514143 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514143 PE), fluorescein (sc-514143 FITC), Alexa Fluor® 488 (sc-514143 AF488), Alexa Fluor® 546 (sc-514143 AF546), Alexa Fluor® 594 (sc-514143 AF594) or Alexa Fluor® 647 (sc-514143 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514143 AF680) or Alexa Fluor® 790 (sc-514143 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514143 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

ATP6E (G-3) is recommended for detection of ATP6E 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 ATP6E siRNA (h): sc-36793, ATP6E siRNA (m): sc-36794, ATP6E shRNA Plasmid (h): sc-36793-SH, ATP6E shRNA Plasmid (m): sc-36794-SH, ATP6E shRNA (h) Lentiviral Particles: sc-36793-V and ATP6E shRNA (m) Lentiviral Particles: sc-36794-V.

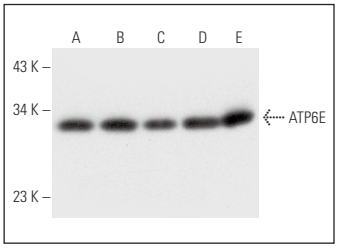
Molecular Weight of ATP6E: 33 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, human spleen extract: sc-363779 or K-562 whole cell lysate: sc-2203.

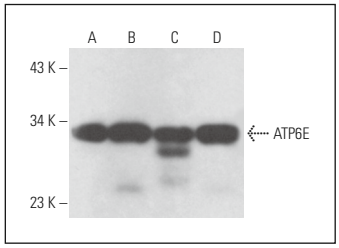
RECOMMENDED SUPPORT REAGENTS

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



ATP6E (G-3): sc-514143. Western blot analysis of ATP6E expression in MOLT-4 (**A**), K-562 (**B**), HEK293 (**C**) and MCF7 (**D**) whole cell lysates and human spleen tissue extract (**E**).



ATP6E (G-3): sc-514143. Western blot analysis of ATP6E expression in MOLT-4 (**A**), HeLa (**B**), ZR-75-1 (**C**) and NIH/3T3 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Portilla, Y., et al. 2022. The surface coating of iron oxide nanoparticles drives their intracellular trafficking and degradation in endolysosomes differently depending on the cell type. Biomaterials 281: 121365.

STORAGE

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

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