SANTA CRUZ BIOTECHNOLOGY, INC.

ATP6AP1 (E-10): sc-515607

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, 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 the 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. ATP6AP1 (ATPase, H^+ transporting, lysosomal accessory protein 1), also known as 16A, CF2, Ac45, XAP3, ATP6S1, VATPS1 (vacuolar ATP synthase S1 accessory protein) or ATP6IP1, is a type I transmembrane, V-ATPase accessory protein that is predominantly expressed in endocrine and neuronal cells. ATP6AP1 is responsible for targeting the V-ATPase enzyme to specialized complex vacuolar systems. Via its cytoplasmic tail, ATP6AP1 interacts with subunits of the V_0 domain. The disruption of this interaction in osteoclasts results in impaired bone resorption, suggesting an important role for ATP6AP1 in proper osteoclastic bone resorption.

REFERENCES

1. Supek, F., et al. 1994. A novel accessory subunit for vacuolar H^+-ATPase from chromaffin granules. J. Biol. Chem. 269: 24102-24106.
2. Getlawi, F., et al. 1996. Chromaffin granule membrane glycoprotein IV is identical with Ac45, a membrane-integral subunit of the granule's H^+-ATPase. Neurosci. Lett. 219: 13-16.
3. Jansen, E.J., et al. 1998. Intracellular trafficking of the vacuolar H^+-ATPase accessory subunit Ac45. J. Cell Sci. 111: 2999-3006.

CHROMOSOMAL LOCATION

Genetic locus: ATP6AP1 (human) mapping to Xq28; Atp6ap1 (mouse) mapping to X A7.3.

SOURCE

ATP6AP1 (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 51-68 near the N-terminus of ATP6AP1 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.

ATP6AP1 (E-10) is available conjugated to agarose (sc-515607 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515607 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515607 PE), fluorescein (sc-515607 FITC), Alexa Fluor® 488 (sc-515607 AF488), Alexa Fluor® 546 (sc-515607 AF546), Alexa Fluor® 594 (sc-515607 AF594) or Alexa Fluor® 647 (sc-515607 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515607 AF680) or Alexa Fluor® 790 (sc-515607 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515607 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ATP6AP1 (E-10) is recommended for detection of ATP6AP1 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 ATP6AP1 siRNA (h): sc-91265, ATP6AP1 siRNA (m): sc-141357, ATP6AP1 shRNA Plasmid (h): sc-91265-SH, ATP6AP1 shRNA Plasmid (m): sc-141357-SH, ATP6AP1 shRNA (h) Lentiviral Particles: sc-91265-V and ATP6AP1 shRNA (m) Lentiviral Particles: sc-141357-V.

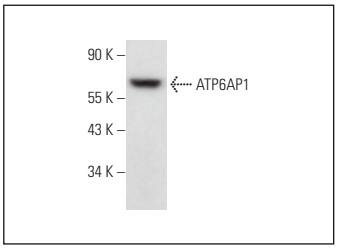
Molecular Weight of ATP6AP1: 45 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or PC-12 cell lysate: sc-2250.

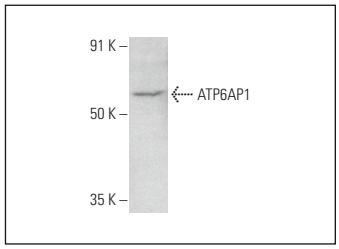
RECOMMENDED SUPPORT REAGENTS

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



ATP6AP1 (E-10): sc-515607. Western blot analysis of ATP6AP1 expression in PC-12 whole cell lysate.



ATP6AP1 (E-10): sc-515607. Western blot analysis of ATP6AP1 expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, M., et al. 2022. Ageing related thyroid deficiency increases brain-targeted transport of liver-derived ApoE4-laden exosomes leading to cognitive impairment. Cell Death Dis. 13: 406.

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.