SANTA CRUZ BIOTECHNOLOGY, INC.

ATP6AP1 (85.1): sc-81886

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.

CHROMOSOMAL LOCATION

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

SOURCE

ATP6AP1 (85.1) is a mouse monoclonal antibody raised against recombinant ATP6AP1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ATP6AP1 (85.1) is recommended for detection of ATP6AP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] 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.

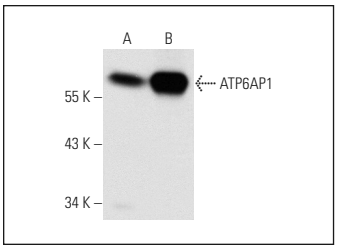
Molecular Weight of ATP6AP1: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or ATP6AP1 (h4): 293T Lysate: sc-175196.

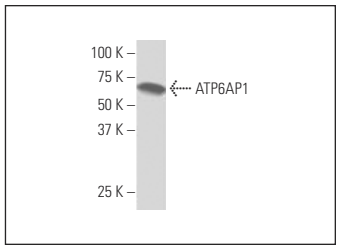
RECOMMENDED SUPPORT REAGENTS

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).

DATA



ATP6AP1 (85.1): sc-81886. Western blot analysis of ATP6AP1 expression in non-transfected: sc-117752 (**A**) and human ATP6AP1 transfected: sc-175196 (**B**) 293T whole cell lysates.



ATP6AP1 (85.1): sc-81886. Western blot analysis of ATP6AP1 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Anderson, K.S., et al. 2011. Protein microarray signature of autoantibody biomarkers for the early detection of breast cancer. J. Proteome Res. 10: 85-96.
2. Pareja, F., et al. 2018. Loss-of-function mutations in ATP6AP1 and ATP6AP2 in granular cell tumors. Nat. Commun. 9: 3533.
3. Fassl, A., et al. 2020. Increased lysosomal biomass is responsible for the resistance of triple-negative breast cancers to CDK4/6 inhibition. Sci. Adv. 6: eabb2210.
4. Perez-Canamas, A., et al. 2021. Fronto-temporal dementia risk gene TMEM106B has opposing effects in different lysosomal storage disorders. Brain Commun. 3: fcaa200.
5. Sun, X., et al. 2022. SARS-CoV-2 non-structural protein 6 triggers NLRP3-dependent pyroptosis by targeting ATP6AP1. Cell Death Differ. 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.