SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase A2 (N-14): sc-69094

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vacuolar-type H^+-ATPase (V-ATPase) is a multisubunit enzyme responsible for the 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, comprise the V-ATPase complex. Nine subunits (A-H) make up the V1 domain and five subunits (A, D, C, C' and C") make up the V0 domain. As part of the V0 domain, V-ATPase A2 (ATPase, H^+ transporting, lysosomal V0 subunit α2), consists of 856 amino acids and is also known as ATP6V0A2, V-type proton ATPase subunit a isoform 2, vacuolar proton translocating ATPase subunit a isoform 2, lysosomal H^+-transporting ATPase V0 subunit α2 or TJ6. V-ATPase A2 is a multi-pass membrane protein with localization in the cell membrane, endosome membrane and the subapical vesicles of the kidney's proximal tubules. V-ATPase A2 plays an important role in Golgi function by regulating pH. Wrinkly skin syndrome (WSS) and cutis laxa type II (ARCL type II) are caused as a result of V-ATPase A2 defects.

REFERENCES

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2. Tulin, E.E., et al. 2002. Inhibition of human endothelial cell proliferation by ShIF, a vacuolar H^+-ATPase-like protein. Oncogene 21: 844-848.
3. Morava, E., et al. 2005. Defective protein glycosylation in patients with cutis laxa syndrome. Eur. J. Hum. Genet. 13: 414-421.
4. Nakajima, H., et al. 2006. Immune suppressor factor confers stromal cell line with enhanced supporting activity for hematopoietic stem cells. Biochem. Biophys. Res. Commun. 340: 35-42.
5. Pietrement, C., et al. 2006. Distinct expression patterns of different subunit isoforms of the V-ATPase in the rat epididymis. Biol. Reprod. 74: 185-194.
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7. Hucthagowder, V., et al. 2009. Loss-of-function mutations in ATP6V0A2 impair vesicular trafficking, tropoelastin secretion and cell survival. Hum. Mol. Genet. 18: 2149-2165.
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CHROMOSOMAL LOCATION

Genetic locus: ATP6V0A2 (human) mapping to 12q24.31; Atp6v0a2 (mouse) mapping to 5 F.

STORAGE

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

SOURCE

V-ATPase A2 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of V-ATPase A2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

V-ATPase A2 (N-14) is recommended for detection of V-ATPase A2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

V-ATPase A2 (N-14) is also recommended for detection of V-ATPase A2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase A2 siRNA (h): sc-63201, V-ATPase A2 siRNA (m): sc-63202, V-ATPase A2 shRNA Plasmid (h): sc-63201-SH, V-ATPase A2 shRNA Plasmid (m): sc-63202-SH, V-ATPase A2 shRNA (h) Lentiviral Particles: sc-63201-V and V-ATPase A2 shRNA (m) Lentiviral Particles: sc-63202-V.

Molecular Weight of V-ATPase A2: 70 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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