

V-ATPase A2 (D-18): sc-69092

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 α 2), 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 α 2 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

1. Tulin, E.E., et al. 2001. A novel secreted form of immune suppressor factor with high homology to vacuolar ATPases identified by a forward genetic approach of functional screening based on cell proliferation. *J. Biol. Chem.* 276: 27519-27526.
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.

CHROMOSOMAL LOCATION

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

SOURCE

V-ATPase A2 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of V-ATPase A2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-69092 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

V-ATPase A2 (D-18) 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), 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 A2 (D-18) is also recommended for detection of V-ATPase A2 in additional species, including equine, canine, bovine, porcine and avian.

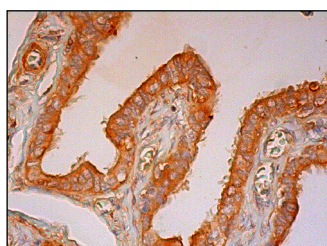
Suitable for use as control antibody for V-ATPase A2 siRNA (h): sc-63201, V-ATPase A2 siRNA (m): sc-63202, V-ATPase A2 shRNA Plasmid (h): sc-63201-SH, V-ATPase A2 shRNA Plasmid (m): sc-63202-SH, V-ATPase A2 shRNA (h) Lentiviral Particles: sc-63201-V and V-ATPase A2 shRNA (m) Lentiviral Particles: sc-63202-V.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



V-ATPase A2 (D-18): sc-69092. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing membrane and cytoplasmic staining of glandular cells.

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.