SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase F (FL-119): sc-20947

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, while F-ATPases reverse the process, thereby synthesizing ATP. A peripheral V_1 domain, which is responsible for ATP hydrolysis, and a 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. V-ATPase E controls acidification of the vacuolar system and provides the main proton-motive force. The gene encoding human V-ATPase E maps to chromosome 22q11.2. The human gene encoding the ubiquitous V-ATPase F subunit maps to chromosome 1p32.3. The human gene encoding the human V-ATPase H subunit maps to chromosome 5q35.3.

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 *C. 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.
4. Nishi, T. et al. 2002. The vacuolar H+-ATPases—nature's most versatile proton pumps. Nat. Rev. Mol. Cell. Biol. 3: 94-103.
5. LocusLink Report (LocusID: 8992). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1F (human) mapping to 7q32; Atp6v1f (mouse) mapping to 6 A3.

SOURCE

V-ATPase F (FL-119) is a rabbit polyclonal antibody raised against amino acids 1-119 representing full length V-ATPase F 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.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

V-ATPase F (FL-119) is recommended for detection of V-ATPase F 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)], immunofluorescence and 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 F (FL-119) is also recommended for detection of V-ATPase F in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase F siRNA (h): sc-36795 and V-ATPase F siRNA (m): sc-36796.

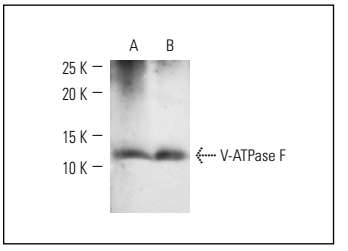
Molecular Weight of V-ATPase F: 14 kDa.

Positive Controls: mouse brain extract: sc-2253, rat kidney extract: sc-2394 or KNRK whole cell lysate: sc-2214.

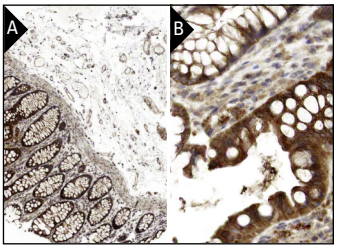
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



V-ATPase F (FL-119): sc-20947. Western blot analysis of V-ATPase F expression in mouse brain (**A**) and rat kidney (**B**) tissue extracts.



V-ATPase F (FL-119): sc-20947. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue showing cytoplasmic and membrane staining of glandular cells (low and high magnification). Kindly provided by The Swedish Human Protein Atlas (HPA) program.

RESEARCH USE

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