

# V-ATPase F (C-18): sc-21220

## BACKGROUND

Vacuolar-type H<sup>+</sup>-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<sub>1</sub> domain, which is responsible for ATP hydrolysis, and an integral V<sub>0</sub> domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A-H) make up the V<sub>1</sub> domain and five subunits (a, d, c, c' and c'') make up the V<sub>0</sub> 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 protonmotive 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 7p32.1. 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<sup>+</sup>-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 *Caenorhabditis 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<sup>+</sup>-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 7q32.1; Atp6v1f (mouse) mapping to 6 A3.3.

## SOURCE

V-ATPase F (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of 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.

Blocking peptide available for competition studies, sc-21220 P, (100 µg 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 F (C-18) 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 (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 (C-18) is also recommended for detection of V-ATPase F in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase F siRNA (h): sc-36795, V-ATPase F siRNA (m): sc-36796, V-ATPase F shRNA Plasmid (h): sc-36795-SH, V-ATPase F shRNA Plasmid (m): sc-36796-SH, V-ATPase F shRNA (h) Lentiviral Particles: sc-36795-V and V-ATPase F shRNA (m) Lentiviral Particles: sc-36796-V.

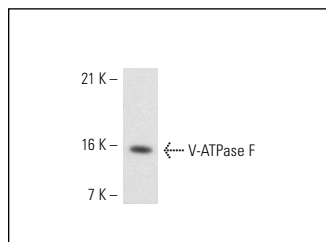
Molecular Weight of V-ATPase F: 14 kDa.

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 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



V-ATPase F (C-18): sc-21220. Western blot analysis of V-ATPase F expression in KNRK whole cell lysate.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.