SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase D (FL-247): sc-20945

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 an 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 C is an auxiliary subunit with ubiquitous expression.

REFERENCES

1. Nelson, H., et al. 1990. Molecular cloning of cDNA encoding the C subunit of H^+-ATPase from bovine chromaffin granules. J. Biol. Chem. 265: 20390-20393.
2. van Hille, B., et al. 1993. Cloning and tissue distribution of subunits C, D, and E of the human vacuolar H^+-ATPase. Biochem. Biophys. Res. Commun. 197: 15-21.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1D (human) mapping to 14q23.3; Atp6v1d (mouse) mapping to 12 C3.

SOURCE

V-ATPase D (FL-247) is a rabbit polyclonal antibody raised against amino acids 1-243 representing full length V-ATPase D 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.

APPLICATIONS

V-ATPase D (FL-247) is recommended for detection of V-ATPase D 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 D (FL-247) is also recommended for detection of V-ATPase D in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for V-ATPase D siRNA (h): sc-36791, V-ATPase D siRNA (m): sc-36792, V-ATPase D shRNA Plasmid (h): sc-36791-SH, V-ATPase D shRNA Plasmid (m): sc-36792-SH, V-ATPase D shRNA (h) Lentiviral Particles: sc-36791-V and V-ATPase D shRNA (m) Lentiviral Particles: sc-36792-V.

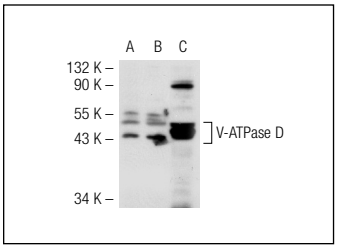
Molecular Weight of V-ATPase D: 38 kDa.

Positive Controls: V-ATPase D (m): 293T Lysate: sc-124521, mouse brain extract: sc-2253 or SK-N-SH cell lysate: sc-2410.

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.

DATA



V-ATPase D (FL-247): sc-20945. Western blot analysis of V-ATPase D expression in non-transfected: sc-117752 (**A**) and mouse V-ATPase D transfected: sc-124521 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Supino, R., et al. 2008. Antimetastatic effect of a small-molecule vacuolar H^+-ATPase inhibitor in *in vitro* and *in vivo* preclinical studies. J. Pharmacol. Exp. Ther. 324: 15-22.
2. Zuco, V., et al. 2010. Efficacy of ST1968 (namitecan) on a topotecan-resistant squamous cell carcinoma. Biochem. Pharmacol. 79: 535-541.

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 or our catalog for detailed protocols and support products.