SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase D2 (S-20): sc-69111

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 D2 is a 350 amino acid protein that is expressed in kidney, lung and osteoclast. V-ATPase D2 has been implicated as a regulator of urine acidification, osteoclast fusion and bone formation. Furthermore, V-ATPase D2 has been identified as a dendritic cell marker.

REFERENCES

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2. Sun-Wada, G.H., Yoshimizu, T., Imai-Senga, Y., Wada, Y. and Futai, M. 2003. Diversity of mouse proton-translocating ATPase: presence of multiple isoforms of the C, d and G subunits. Gene 302: 147-153.
3. Smith, A.N., Jouret, F., Bord, S., Borthwick, K.J., Al-Lamki, R.S., Wagner, C.A., Ireland, D.C., Cormier-Daire, V., Frattini, A., Villa, A., Kornak, U., Devuyst, O. and Karet, F.E. 2005. Vacuolar H^+-ATPase δ2 subunit: molecular characterization, developmental regulation, and localization to specialized proton pumps in kidney and bone. J. Am. Soc. Nephrol. 16: 1245-1256.
4. Pietrement, C., Sun-Wada, G.H., Silva, N.D., McKee, M., Marshansky, V., Brown, D., Futai, M. and Breton, S. 2006. Distinct expression patterns of different subunit isoforms of the V-ATPase in the rat epididymis. Biol. Reprod. 74: 185-194.
5. Sato, K., Shikano, S., Xia, G., Takao, J., Chung, J.S., Cruz, P.D., Xie, X.S. and Ariizumi, K. 2006. Selective expression of vacuolar H^+-ATPase subunit δ2 by particular subsets of dendritic cells among leukocytes. Mol. Immunol. 43: 1443-1453.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V0D2 (human) mapping to 8q21.3; Atp6v0d2 (mouse) mapping to 4 A3.

SOURCE

V-ATPase D2 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of V-ATPase D2 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-69111 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

V-ATPase D2 (S-20) is recommended for detection of V-ATPase D2 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).

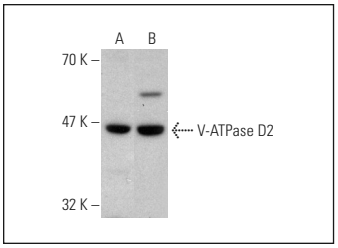
V-ATPase D2 (S-20) is also recommended for detection of V-ATPase D2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase D2 siRNA (h): sc-76885, V-ATPase D2 siRNA (m): sc-76886, V-ATPase D2 shRNA Plasmid (h): sc-76885-SH, V-ATPase D2 shRNA Plasmid (m): sc-76886-SH, V-ATPase D2 shRNA (h) Lentiviral Particles: sc-76885-V and V-ATPase D2 shRNA (m) Lentiviral Particles: sc-76886-V.

Molecular Weight of V-ATPase D2: 40 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or Caki-1 cell lysate: sc-2224.

DATA



V-ATPase D2 (S-20): sc-69111. Western blot analysis of V-ATPase D2 expression in KNRK (**A**) and Caki-1 (**B**) whole cell lysates.

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.