

V-ATPase D (E-20): sc-31467

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 V₁ domain, which is responsible for ATP hydrolysis, and an integral V₀ domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A-H) make up the V₁ domain and five subunits (a, d, c, c' and c'') make up the V₀ 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., Mandiyan, S., Noumi, T., Moriyama, Y., Miedel, M.C. and Nelson, N. 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., Vanek, M., Richener, H., Green, J.R. and Bilbe, G. 1993. Cloning and tissue distribution of subunits C, D, and E of the human vacuolar H⁺-ATPase. *Biochem. Biophys. Res. Commun.* 197: 15-21.
3. Hu, R.M., Han, Z.G., Song, H.D., Peng, Y.D., Huang, Q.H., Ren, S.X., Gu, Y.J., Huang, C.H., Li, Y.B., Jiang, C.L., Fu, G., Zhang, Q.H., Gu, B.W., Dai, M., Mao, Y.F., et al. 2000. Gene expression profiling in the human hypothalamus-pituitary-adrenal axis and full-length cDNA cloning. *Proc. Natl. Acad. Sci. USA* 97: 9543-9548.
4. Nishi, T. and Forgacs, M. 2002. The vacuolar H⁺-ATPases—nature's most versatile proton pumps. *Nat. Rev. Mol. Cell. Biol.* 3: 94-103.
5. LocusLink Report (LocusID: 528). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

V-ATPase D (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 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.

Blocking peptide available for competition studies, sc-31467 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.

RESEARCH USE

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

APPLICATIONS

V-ATPase D (E-20) 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), 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 (E-20) 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: Mouse brain extract: sc-2253, rat brain extract: sc-2392 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 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.

PROTOCOLS

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



Try **V-ATPase D (E-12): sc-390384** or **V-ATPase D (D-4): sc-166218**, our highly recommended monoclonal alternatives to V-ATPase D (E-20).