

V-ATPase D (E-12): sc-390384

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., 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.
3. Hu, R.M., 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.

CHROMOSOMAL LOCATION

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

SOURCE

V-ATPase D (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 211-249 near the C-terminus of V-ATPase D of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

V-ATPase D (E-12) is available conjugated to agarose (sc-390384 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390384 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390384 PE), fluorescein (sc-390384 FITC), Alexa Fluor[®] 488 (sc-390384 AF488), Alexa Fluor[®] 546 (sc-390384 AF546), Alexa Fluor[®] 594 (sc-390384 AF594) or Alexa Fluor[®] 647 (sc-390384 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390384 AF680) or Alexa Fluor[®] 790 (sc-390384 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390384 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

V-ATPase D (E-12) is recommended for detection of V-ATPase D of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

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.

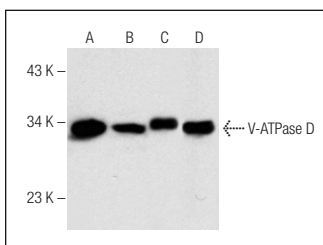
Molecular Weight of V-ATPase D: 38 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or SK-N-SH cell lysate: sc-2410.

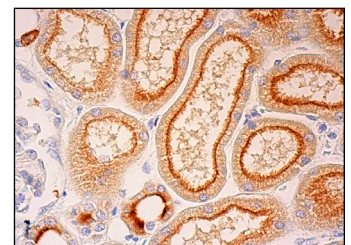
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



V-ATPase D (E-12): sc-390384. Western blot analysis of V-ATPase D expression in rat brain (A), mouse brain (B) and human hippocampus (C) tissue extracts and SK-N-SH whole cell lysate (D).



V-ATPase D (E-12): sc-390384. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Sentürk, M., et al. 2019. Ubiquilins regulate autophagic flux through mTOR signalling and lysosomal acidification. *Nat. Cell Biol.* 21: 384-396.

STORAGE

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