

V-ATPase C1 (C-2): sc-376227

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. The gene encoding human V-ATPase C maps to chromosome 8q22.3. V-ATPase D is another auxiliary subunit.

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 hypothalamic-pituitary-adrenal axis and full-length cDNA cloning. *Proc. Natl. Acad. Sci. USA* 97: 9543-9548.
4. Nishi, T., et al. 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: ATP6V1C1 (human) mapping to 8q22.3; Atp6v1c1 (mouse) mapping to 15 B3.1.

SOURCE

V-ATPase C1 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 131-169 within an internal region of V-ATPase C1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376227 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 C1 (C-2) is recommended for detection of V-ATPase C1 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).

V-ATPase C1 (C-2) is also recommended for detection of V-ATPase C1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for V-ATPase C1 siRNA (h): sc-36789, V-ATPase C1 siRNA (m): sc-36790, V-ATPase C1 shRNA Plasmid (h): sc-36789-SH, V-ATPase C1 shRNA Plasmid (m): sc-36790-SH, V-ATPase C1 shRNA (h) Lentiviral Particles: sc-36789-V and V-ATPase C1 shRNA (m) Lentiviral Particles: sc-36790-V.

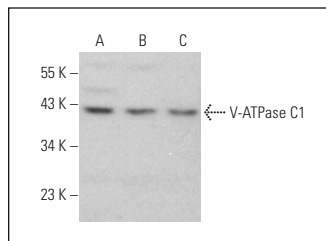
Molecular Weight of V-ATPase C1: 42 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Neuro-2A whole cell lysate: sc-364185 or EOC 20 whole cell lysate: sc-364187.

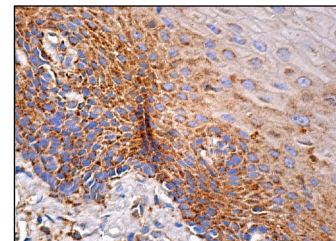
RECOMMENDED SUPPORT REAGENTS

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 C1 (C-2): sc-376227. Western blot analysis of V-ATPase C1 expression in NIH/3T3 (A), Neuro-2A (B) and EOC 20 (C) whole cell lysates.



V-ATPase C1 (C-2): sc-376227. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

PROTOCOLS

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