

V-ATPase C2 (N-15): sc-69102

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. The V-ATPase is comprised of a peripheral V₁ domain, which is responsible for ATP hydrolysis, and an integral V₀ domain, which is responsible for proton translocation. 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, coupling ATP hydrolysis by the V₁ domain to proton translocation by the V₀ domain. V-ATPase C2, also known as ATP6V1C2, ATP6C2 or VMA5, is a member of the V-ATPase C subunit family and is specifically expressed in lung and kidney. The V-ATPase C subunit is required for the proper assembly of the catalytic portion of the V-ATPase enzyme and it may have a specific catalytic function.

REFERENCES

1. Smith, A.N., Borthwick, K.J. and Karet, F.E. 2002. Molecular cloning and characterization of novel tissue-specific isoforms of the human vacuolar H⁺-ATPase C, G and δ subunits, and their evaluation in autosomal recessive distal renal tubular acidosis. *Gene* 297: 169-177.
2. Sun-Wada, G.H., Murata, Y., Namba, M., Yamamoto, A., Wada, Y. and Futai, M. 2003. Mouse proton pump ATPase C subunit isoforms (C2- α and C2- β) specifically expressed in kidney and lung. *J. Biol. Chem.* 278: 44843-44851.
3. 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, δ and G subunits. *Gene* 302: 147-153.
4. Feng, N.H., Lin, H.I., Wang, J.S., Chou, S.T., Ma, H.K., Rooney, S.A. and Lu, J.F. 2005. Differential expression of a V-type ATPase C subunit gene, ATP6V1C2, during culture of rat lung type II pneumocytes. *J. Biomed. Sci.* 12: 899-911.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1C2 (human) mapping to 2p25.1; Atp6v1c2 (mouse) mapping to 12 A1.1.

SOURCE

V-ATPase C2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of V-ATPase C2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69102 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

V-ATPase C2 (N-15) is recommended for detection of V-ATPase C2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for V-ATPase C2 siRNA (h): sc-63205, V-ATPase C2 siRNA (m): sc-63206, V-ATPase C2 shRNA Plasmid (h): sc-63205-SH, V-ATPase C2 shRNA Plasmid (m): sc-63206-SH, V-ATPase C2 shRNA (h) Lentiviral Particles: sc-63205-V and V-ATPase C2 shRNA (m) Lentiviral Particles: sc-63206-V.

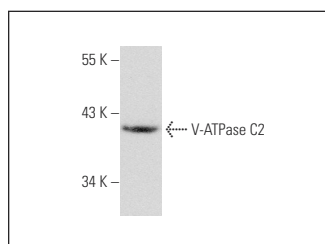
Molecular Weight of V-ATPase C2: 42 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



V-ATPase C2 (N-15): sc-69102. Western blot analysis of V-ATPase C2 expression in MOLT-4 whole cell lysate.

STORAGE

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

PROTOCOLS

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