SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase C2 (S-10): sc-81888

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vacuolar-type H^+-ATPase (V-ATPase) is a multi-subunit 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 V_1 domain, which is responsible for ATP hydrolysis, and an integral V_0 domain, which is responsible for proton translocation. 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, coupling ATP hydrolysis by the V_1 domain to proton translocation by the V_0 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., et al. 2002. Molecular cloning and characterization of novel tissue-specific isoforms of the human vacuolar H^+-ATPase C, G and d subunits, and their evaluation in autosomal recessive distal renal tubular acidosis. Gene 297: 169-177.
2. Sun-Wada, G.H., et al. 2003. Mouse proton pump ATPase C subunit isoforms (C2-a and C2-b) specifically expressed in kidney and lung. J. Biol. Chem. 278: 44843-44851.
3. Sun-Wada, G.H., et al. 2003. Diversity of mouse proton-translocating ATPase: presence of multiple isoforms of the C, d and G subunits. Gene 302: 147-153.
4. Feng, N.H., et al. 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.
5. Jouret, F., et al. 2005. Ubiquitous and kidney-specific subunits of vacuolar H^+-ATPase are differentially expressed during nephrogenesis. J. Am. Soc. Nephrol. 16: 3235-3246.
6. Pietrement, C., et al. 2006. Distinct expression patterns of different subunit isoforms of the V-ATPase in the rat epididymis. Biol. Reprod. 74: 185-194.
7. Hassan, M.J., et al. 2006. A novel autosomal recessive non-syndromic hearing impairment locus (DFNB47) maps to chromosome 2p25.1-p24.3. Hum. Genet. 118: 605-610.
8. Xu, J., et al. 2007. Structure and function of V-ATPases in osteoclasts: potential therapeutic targets for the treatment of osteolysis. Histol. Histopathol. 22: 443-454.

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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1C2 (human) mapping to 2p25.1.

SOURCE

V-ATPase C2 (S-10) is a mouse monoclonal antibody raised against recombinant V-ATPase C2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

V-ATPase C2 (S-10) is recommended for detection of V-ATPase C2 of 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)] 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 shRNA Plasmid (h): sc-63205-SH and V-ATPase C2 shRNA (h) Lentiviral Particles: sc-63205-V.

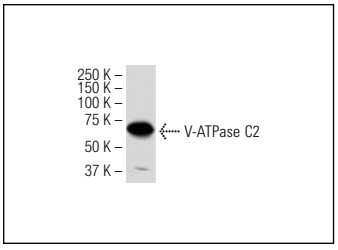
Molecular Weight of V-ATPase C2: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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, 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 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.

DATA



V-ATPase C2 (S-10): sc-81888. Western blot analysis of V-ATPase C2 expression in HeLa whole cell lysate.

RESEARCH USE

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