SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase B2 (N-20): sc-21210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 V_1 domain, which is responsible for ATP hydrolysis, and a integral V_0 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 V_0 domain. Like F-ATPase, V-ATPase most likely operates through a rotary mechanism. The V-ATPase V_1 B subunit exists as two isoforms. In the inner ear, the V-ATPase B1 isoform functions in proton secretion and is required to maintain proper endolymph pH and normal auditory function. The gene encoding the human V-ATPase B1 isoform maps to chromosome 2q13.3. Mutations in this gene cause distal renal tubular acidosis associated with sensorineural deafness. The V-ATPase B2 isoform is expressed in kidney and is the only B isoform expressed in osteoclasts. The gene encoding the human V-ATPase B2 isoform maps to chromosome 8p21.3.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1B2 (human) mapping to 8p21.3; Atp6v1b2 (mouse) mapping to 8 B3.3.

SOURCE

V-ATPase B2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of V-ATPase B2 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-21210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

V-ATPase B2 (N-20) is recommended for detection of V-ATPase B2 of mouse, rat and 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)], 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 B2 (N-20) is also recommended for detection of V-ATPase B2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase B2 siRNA (h): sc-43517, V-ATPase B2 siRNA (m): sc-43518, V-ATPase B2 shRNA Plasmid (h): sc-43517-SH, V-ATPase B2 shRNA Plasmid (m): sc-43518-SH, V-ATPase B2 shRNA (h) Lentiviral Particles: sc-43517-V and V-ATPase B2 shRNA (m) Lentiviral Particles: sc-43518-V.

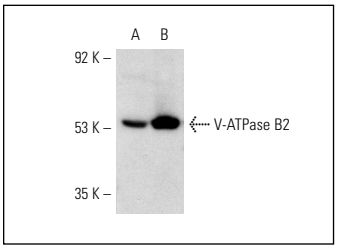
Molecular Weight of V-ATPase B2: 56-58 kDa.

Positive Controls: rat brain extract: sc-2392 or c4 whole cell lysate: sc-364186.

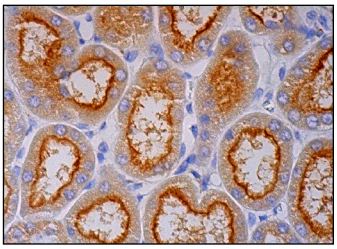
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



V-ATPase B2 (N-20): sc-21210. Western blot analysis of V-ATPase B2 expression in c4 whole cell lysate (**A**) and rat brain tissue extract (**B**).



V-ATPase B2 (N-20): sc-21210. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Li, L., et al. 2011. Proteins linked to extinction in contextual fear conditioning in the C57BL/6J mouse. Proteomics 11: 3706-3724.
2. Szewczyk, K.A., et al. 2013. Distinctive subdomains in the resorbing surface of osteoclasts. PLoS ONE 8: e60285.

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.

PROTOCOLS

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