SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase D1 (34-Z): sc-81887

BACKGROUND

Vacuolar-type H^+-ATPase (V-ATPase) is a multisubunit enzyme responsible for the 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 an integral V_0 domain, which is responsible for proton translocation, comprise the V-ATPase complex. 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. V-ATPase D1 (ATPase, H^+ transporting, lysosomal, V_0 subunit D1), also known as ATP6V0D1, P39, VATX, VMA6, ATP6D or VPATPD, is the D subunit of the V_0 domain. Expressed ubiquitously, V-ATPase D1 acts in concert with other V_0 subunits to catalytically acidify a variety of intracellular compartments, thereby synthesizing ATP to be used for vacuolar transport.

REFERENCES

1. 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.
2. Finbow, M.E. and Harrison, M.A. 1997. The vacuolar H^+-ATPase: a universal proton pump of eukaryotes. Biochem. J. 324: 697-712.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V0D1 (human) mapping to 16q22.1.

SOURCE

V-ATPase D1 (34-Z) is a mouse monoclonal antibody raised against recombinant V-ATPase D1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

V-ATPase D1 (34-Z) is recommended for detection of V-ATPase D1 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)], 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 D1 siRNA (h): sc-63207, V-ATPase D1 shRNA Plasmid (h): sc-63207-SH and V-ATPase D1 shRNA (h) Lentiviral Particles: sc-63207-V.

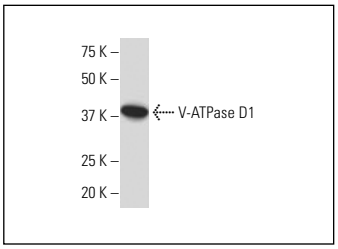
Molecular Weight of V-ATPase D1: 40 kDa.

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, 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 D1 (34-Z): sc-81887. Western blot analysis of V-ATPase D1 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Hendrix, A., et al. 2013. Vacuolar H^+ ATPase expression and activity is required for Rab27B-dependent invasive growth and metastasis of breast cancer. Int. J. Cancer 133: 843-854.
2. De Luca, M., et al. 2014. RILP regulates vacuolar ATPase through interaction with the V1G1 subunit. J. Cell Sci. 127: 2697-2708.
3. Müller, K.H., et al. 2014. Inhibition by cellular vacuolar ATPase impairs human papillomavirus uncoating and infection. Antimicrob. Agents Chemother. 58: 2905-2911.
4. De Luca, M., et al. 2015. RILP regulates vacuolar ATPase through interaction with the V1G1 subunit. J. Cell Sci. 128: 2565.
5. Ziegler, C.M., et al. 2018. A proteomic survey of Junín virus interactions with human proteins reveals host factors required for arenavirus replication. J. Virol. 92: e01565-17.
6. De Luca, M., et al. 2021. Role of the V1G1 subunit of V-ATPase in breast cancer cell migration. Sci. Rep. 11: 4615.
7. Ng, P.Y., et al. 2023. Sugar transporter Slc37a2 regulates bone metabolism in mice via a tubular lysosomal network in osteoclasts. Nat. Commun. 14: 906.

RESEARCH USE

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