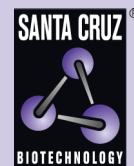


VDUP1 (D-2): sc-271237



The Power to Question

BACKGROUND

The gene encoding vitamin D₃ upregulated protein 1 (VDUP1) is upregulated by 1,25(OH)₂D₃ in response to various stresses, including ROS, UV and heat shock. The transcription factor HSF may be involved in this regulation. VDUP1 also functions as a natural antagonist of TRX and displays tumor-suppressive activity by inducing cell cycle arrest at the G₀/G₁ phase. The presence of VDUP1 is required for CD122 expression and natural killer (NK) cell maturation, but its effect is minimal during the development of T and B cells. The gene encoding human VDUP1 maps to chromosome 1q21.1, and its protein product shows ubiquitous expression in various tissues and localizes to the cytoplasm. VDUP1 may also be a useful therapeutic target for melanoma.

CHROMOSOMAL LOCATION

Genetic locus: TXNIP (human) mapping to 1q21.1; Txnip (mouse) mapping to 3 F2.1.

SOURCE

VDUP1 (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 342-370 at the C-terminus of VDUP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VDUP1 (D-2) is available conjugated to agarose (sc-271237 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271237 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271237 PE), fluorescein (sc-271237 FITC), Alexa Fluor® 488 (sc-271237 AF488), Alexa Fluor® 546 (sc-271237 AF546), Alexa Fluor® 594 (sc-271237 AF594) or Alexa Fluor® 647 (sc-271237 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271237 AF680) or Alexa Fluor® 790 (sc-271237 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271237 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

VDUP1 (D-2) is recommended for detection of VDUP1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VDUP1 siRNA (h): sc-44943, VDUP1 siRNA (m): sc-44944, VDUP1 siRNA (r): sc-270490, VDUP1 shRNA Plasmid (h): sc-44943-SH, VDUP1 shRNA Plasmid (m): sc-44944-SH, VDUP1 shRNA Plasmid (r): sc-270490-SH, VDUP1 shRNA (h) Lentiviral Particles: sc-44943-V, VDUP1 shRNA (m) Lentiviral Particles: sc-44944-V and VDUP1 shRNA (r) Lentiviral Particles: sc-270490-V.

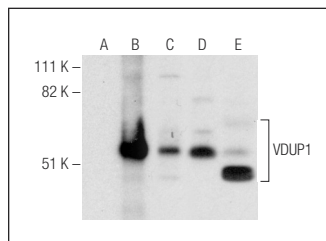
Molecular Weight of VDUP1: 46 kDa.

Positive Controls: VDUP1 (m): 293T Lysate: sc-124549.

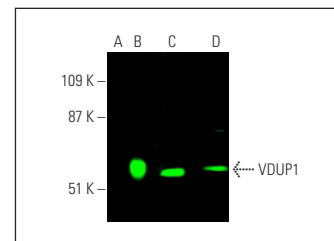
STORAGE

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

DATA



VDUP1 (D-2): sc-271237. Western blot analysis of VDUP1 expression in non-transfected 293T: sc-117752 (A), mouse VDUP1 transfected 293T: sc-124549 (B), HL-60 (C) and M1 (D) whole cell lysates and human kidney tissue extract (E).



VDUP1 (D-2): sc-271237. Near-infrared western blot analysis of VDUP1 expression in non-transfected 293T: sc-117752 (A), mouse VDUP1 transfected 293T: sc-124550 (B), RAW 264.7 (C) and K-562 (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Wree, A., et al. 2012. Adipokine expression in brown and white adipocytes in response to hypoxia. *J. Endocrinol. Invest.* 35: 522-527.
2. Kim, S., et al. 2014. Endoplasmic reticulum stress is sufficient for the induction of IL-1β production via activation of the NfκB and inflammasome pathways. *Innate Immun.* 20: 799-815.
3. Yang, C.S., et al. 2015. Small heterodimer partner interacts with NLRP3 and negatively regulates activation of the NLRP3 inflammasome. *Nat. Commun.* 6: 6115.
4. Haas, B., et al. 2018. Thioredoxin confers intrinsic resistance to cytostatic drugs in human glioma cells. *Int. J. Mol. Sci.* 19: 2874.
5. López-Grueso, M.J., et al. 2019. Thioredoxin downregulation enhances Sorafenib effects in hepatocarcinoma cells. *Antioxidants* 8: 501.
6. Kim, J.S., et al. 2020. *Toxoplasma gondii* GRA9 regulates the activation of NLRP3 inflammasome to exert anti-septic effects in mice. *Int. J. Mol. Sci.* 21: 8437.
7. Sönmez Aydın, F., et al. 2021. Coaction of hepatic thioredoxin and glutathione systems in iron overload-induced oxidative stress. *J. Biochem. Mol. Toxicol.* 35: e22704.
8. Hong, J., et al. 2021. Exercise training mitigates ER stress and UCP2 deficiency-associated coronary vascular dysfunction in atherosclerosis. *Sci. Rep.* 11: 15449.
9. Yao, Y., et al. 2022. Ginsenoside Rd attenuates cerebral ischemia/reperfusion injury by exerting an anti-pyrototic effect via the miR-139-5p/FoxO1/Keap1/Nrf2 axis. *Int. Immunopharmacol.* 105: 108582.

RESEARCH USE

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

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