

VDUP1 (B-2): sc-166234



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 (B-2) is a mouse monoclonal antibody raised against amino acids 1-115 mapping at the N-terminus of VDUP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VDUP1 (B-2) is available conjugated to agarose (sc-166234 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166234 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166234 PE), fluorescein (sc-166234 FITC), Alexa Fluor® 488 (sc-166234 AF488), Alexa Fluor® 546 (sc-166234 AF546), Alexa Fluor® 594 (sc-166234 AF594) or Alexa Fluor® 647 (sc-166234 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166234 AF680) or Alexa Fluor® 790 (sc-166234 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

VDUP1 (B-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.

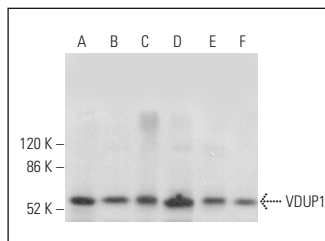
Molecular Weight of VDUP1: 46 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, VDUP1 (m): 293T Lysate: sc-124549 or M1 whole cell lysate: sc-364782.

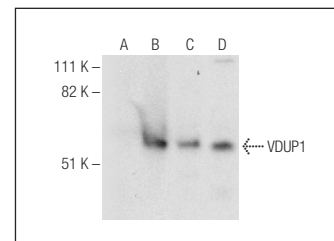
STORAGE

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

DATA



VDUP1 (B-2): sc-166234. Western blot analysis of VDUP1 expression in NIH/3T3 (A), K-562 (B), HEL 92.1.7 (C), THP-1 (D), NCI-H292 (E) and P19 (F) whole cell lysates.



VDUP1 (B-2): sc-166234. 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.

SELECT PRODUCT CITATIONS

- Cadenas, C., et al. 2010. Role of thioredoxin reductase 1 and thioredoxin interacting protein in prognosis of breast cancer. *Breast Cancer Res.* 12: R44.
- Wu, N., et al. 2013. AMPK-dependent degradation of TXNIP upon energy stress leads to enhanced glucose uptake via Glut1. *Mol. Cell* 49: 1167-1175.
- Yalon, M., et al. 2016. Overcoming resistance of cancer cells to PARP-1 inhibitors with three different drug combinations. *PLoS ONE* 11: e0155711.
- Rahim, I., et al. 2017. Melatonin administration to wild-type mice and nontreated NLRP3 mutant mice share similar inhibition of the inflammatory response during sepsis. *J. Pineal Res.* 14: 64.
- Kim, Y.S., et al. 2018. α -lipoic acid reduces retinal cell death in diabetic mice. *Biochem. Biophys. Res. Commun.* 503: 1307-1314.
- Kim, Y., et al. 2019. Thioredoxin-interacting protein (TXNIP) mediates thioredoxin-dependent antioxidant mechanism in endometrial cancer cells treated with 1 α ,25-dihydroxyvitamin D₃. *Anticancer Res.* 39: 4795-4803.
- Huang, P.P., et al. 2020. Honokiol antagonizes doxorubicin-induced cardiomyocyte senescence by inhibiting TXNIP-mediated NLRP3 inflammatory activation. *Int. J. Mol. Med.* 45: 186-194.
- Cao, W., et al. 2020. Gemcitabine inhibits cisplatin resistance in cisplatin-resistant A549 cells by upregulating trx-interacting protein and inducing cell cycle arrest. *Biochem. Biophys. Res. Commun.* 524: 549-554.
- An, X., et al. 2020. Punicagin protects diabetic nephropathy by inhibiting pyroptosis based on TXNIP/NLRP3 pathway. *Nutrients* 12: E1516.

RESEARCH USE

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