

VDUP1 (D-15)-R: sc-33098-R

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.

REFERENCES

- Chen, K.S., et al. 1994. Isolation and characterization of a novel cDNA from HL-60 cells treated with 1,25-dihydroxyvitamin D-3. *Biochim. Biophys. Acta* 1219: 26-32.
- Nishiyama, A., et al. 1999. Identification of thioredoxin-binding protein-2/vitamin D₃ up-regulated protein 1 as a negative regulator of thioredoxin function and expression. *J. Biol. Chem.* 274: 21645-21650.
- Junn, E., et al. 2000. Vitamin D₃ up-regulated protein 1 mediates oxidative stress via suppressing the thioredoxin function. *J. Immunol.* 164: 6287-6295.
- Ludwig, D.L., et al. 2001. Cloning, genetic characterization, and chromosomal mapping of the mouse VDUP1 gene. *Gene* 269: 103-112.
- Han, S.H., et al. 2003. VDUP1 upregulated by TGFβ1 and 1,25-dihydroxyvitamin D₃ inhibits tumor cell growth by blocking cell-cycle progression. *Oncogene* 22: 4035-4046.

CHROMOSOMAL LOCATION

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

SOURCE

VDUP1 (D-15)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of VDUP1 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-33098 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

VDUP1 (D-15)-R is recommended for detection of VDUP1 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).

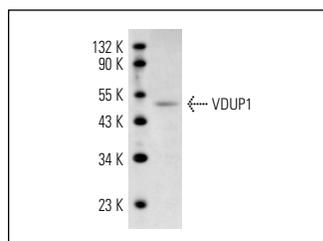
VDUP1 (D-15)-R is also recommended for detection of VDUP1 in additional species, including canine and porcine.

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

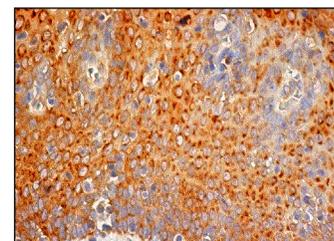
Molecular Weight of VDUP1: 46 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, M1 whole cell lysate: sc-364782 or NK-92 whole cell lysate: sc-364788.

DATA



VDUP1 (D-15): sc-33098. Western blot analysis of VDUP1 expression in HL-60 whole cell lysate.



VDUP1 (D-15)-R: sc-33098-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Ngo, D.T., et al. 2008. Vitamin D₂ supplementation induces the development of aortic stenosis in rabbits: interactions with endothelial function and thioredoxin-interacting protein. *Eur. J. Pharmacol.* 590: 290-296.
- Levendusky, M.C., et al. 2009. Expression and regulation of vitamin D₃ upregulated protein 1 (VDUP1) is conserved in mammalian and insect brain. *J. Comp. Neurol.* 517: 581-600.
- Myers, J.M., et al. 2011. The intracellular redox stress caused by hexavalent chromium is selective for proteins that have key roles in cell survival and thiol redox control. *Toxicology* 281: 37-47.



Try **VDUP1 (D-2): sc-271237** or **VDUP1 (H-12): sc-271238**, our highly recommended monoclonal alternatives to VDUP1 (D-15). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **VDUP1 (D-2): sc-271237**.