SANTA CRUZ BIOTECHNOLOGY, INC.

VDR (H-81): sc-9164

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The active metabolite of vitamin D modulates the expression of a wide variety of genes in a developmentally specific manner. This secosteroid hormone can up- or downregulate the expression of genes involved in a diverse array of responses such as proliferation, differentiation and calcium homeostasis. 1,25-$(OH)_2$-vitamin D_3 exerts its effects through interaction with the vitamin D receptor (VDR), a member of the superfamily of hormone-activated nuclear receptors. In its ligand-bound state, the VDR forms heterodimers with the 9-*cis* retinoic acid receptor, RXR, and affects gene expression by binding specific DNA sequences known as hormone response elements, or HREs. In addition to regulating the above mentioned cellular responses, 1,25-$(OH)_2$-vitamin D_3 exhibits antiproliferative properties in osteosarcoma, melanoma, colon carcinoma and breast carcinoma cells.

CHROMOSOMAL LOCATION

Genetic locus: VDR (human) mapping to 12q13.11; Vdr (mouse) mapping to 15 F1.

SOURCE

VDR (H-81) is a rabbit polyclonal antibody raised against amino acids 344-424 of VDR 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-9164 X, 200 µg/0.1 ml.

APPLICATIONS

VDR (H-81) is recommended for detection of VDR 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VDR (H-81) is also recommended for detection of VDR in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for VDR siRNA (h): sc-106692, VDR siRNA (m): sc-36811, VDR shRNA Plasmid (h): sc-106692-SH, VDR shRNA Plasmid (m): sc-36811-SH, VDR shRNA (h) Lentiviral Particles: sc-106692-V and VDR shRNA (m) Lentiviral Particles: sc-36811-V.

VDR (H-81) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of VDR isoforms: 48/53 kDa.

Molecular Weight (observed) of VDR isoforms: 48-60 kDa.

Positive Controls: VDR (m): 293T Lysate: sc-124548, KNRK whole cell lysate: sc-2214 or T-47D cell lysate: sc-2293.

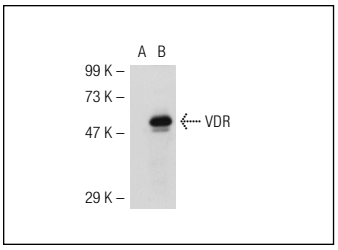
RESEARCH USE

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

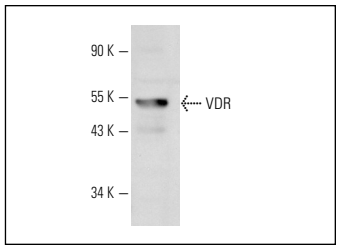
STORAGE

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

DATA



VDR (H-81): sc-9164. Western blot analysis of VDR expression in non-transfected: sc-117752 (**A**) and mouse VDR transfected: sc-124548 (**B**) 293T whole cell lysates.



VDR (H-81): sc-9164. Western blot analysis of VDR expression in SK-BR-3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Roy, D., et al. 2003. Role of vitamin D receptor gene in radiation-induced neoplastic transformation of human breast epithelial cell. Steroids 68: 621-627.
2. Yamamoto, H., et al. 2003. 2-Methylene-19-nor-(20S)-1,25-dihydroxyvitamin D_3 potently stimulates gene-specific DNA binding of the vitamin D receptor in osteoblasts. J. Biol. Chem. 278: 31756.
3. Xu, H., et al. 2010. Apc(MIN) modulation of vitamin D secosteroid growth control. Carcinogenesis 31: 1434-1441.
4. Luderer, H.F., et al. 2011. Lymphoid enhancer-binding factor-1 (LEF1) interacts with the DNA-binding domain of the vitamin D receptor. J. Biol. Chem. 286: 18444-18451.
5. Gambhir, V., et al. 2011. Influence of 1,25-dihydroxy vitamin D_3 on TLR4-induced activation of antigen presenting cells is dependent on the order of receptor engagement. Immunobiology 216: 988-996.
6. Brozyna, A.A., et al. 2011. Expression of vitamin D receptor decreases during progression of pigmented skin lesions. Hum. Pathol. 42: 618-631.
7. Mukawa, C. and Taniguchi, T. 2012. Effects of propofol with hyperthermia in a rat model of endotoxemic shock. Acta Anaesthesiol. Scand. 56: 866-871.
8. Blomberg Jensen, M., et al. 2012. Expression of the vitamin D metabolizing enzyme CYP24A1 at the annulus of human spermatozoa may serve as a novel marker of semen quality. Int. J. Androl. 35: 499-510.