SANTA CRUZ BIOTECHNOLOGY, INC.

VDR (C-20): sc-1008

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 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of VDR of rat 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-1008 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-1008 X, 200 µg/0.1 ml.

APPLICATIONS

VDR (C-20) 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 (C-20) 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 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

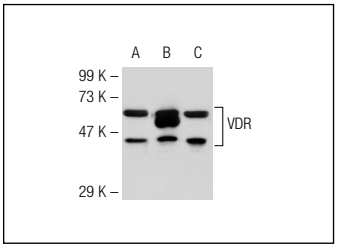
Molecular Weight (observed) of VDR isoforms: 48/60 kDa.

Positive Controls: VDR (m): 293T Lysate: sc-124548.

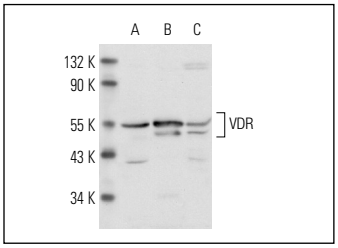
STORAGE

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

DATA



VDR (C-20): sc-1008. Western blot analysis of VDR expression in non-transfected: sc-117752 (**A**) and mouse VDR transfected: sc-124548 (**B**) 293T whole cell lysates and HeLa nuclear extract (**C**).



VDR (C-20): sc-1008. Western blot analysis of VDR expression in HL-60 whole cell lysate (**A**) and NIH/3T3 (**B**) and MCF7 (**C**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Maurer, U., et al. 2001. The Wilms' tumor gene product (WT1) modulates the response to 1,25-dihydroxyvitamin D_3 by induction of the vitamin D receptor. J. Biol. Chem. 276: 3727-3732.
2. Malinen, M., et al. 2011. Cyclical regulation of the Insulin-like growth factor binding protein 3 gene in response to 1α,25-dihydroxyvitamin D_3. Nucleic Acids Res. 39: 502-512.
3. Mi, Y., et al. 2011. Mechanism of JmjC-containing protein Hairless in the regulation of vitamin D receptor function. Biochim. Biophys. Acta 1812: 1675-1680.
4. Zanatta, L., et al. 2011. Effect of 1α,25-dihydroxyvitamin D_3 in plasma membrane targets in immature rat testis: ionic channels and γ-glutamyl transpeptidase activity. Arch. Biochem. Biophys. 515: 46-53.
5. 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.
6. Gynther, P., et al. 2011. Mechanism of 1α,25-dihydroxyvitamin D_3-dependent repression of interleukin-12B. Biochim. Biophys. Acta 1813: 810-818.

RESEARCH USE

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