SANTA CRUZ BIOTECHNOLOGY, INC.

VDR (h2): 293T Lysate: sc-178119

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.

REFERENCES

1. Lowe, K.E., et al. 1992. Vitamin D-mediated gene expression. Crit. Rev. Eukaryot. Gene Expr. 2: 65-109.
2. Studzinski, G.P., et al. 1993. Signaling pathways for vitamin D-induced differentiation: implications for therapy of proliferative and neoplastic diseases. Crit. Rev. Eukaryot. Gene Expr. 3: 279-312.
3. Buras, R.R., et al. 1994. Vitamin D receptors in breast cancer cells. Breast Cancer Res. Treat. 31: 191-202.
4. Bikle, D.D. 1994. Role of vitamin D, its metabolites, and analogs in the management of osteoporosis. Rheum. Dis. Clin. North Am. 20: 759-775.
5. Mangelsdorf, D.J., et al. 1994. The retinoid receptors. In Sporn, M.B., et al, eds. The Retinoids: Biology, Chemistry, and Medicine. New York: Raven Press, Ltd., 319-349.
6. Whitfield, G.K., et al. 1995. Genomic actions of 1,25-dihydroxyvitamin D_3. J. Nutr. 125: 1690S-1694S.
7. Feldman, D., et al. 1995. Vitamin D and prostate cancer. Adv. Exp. Med. Biol. 375: 53-63.

CHROMOSOMAL LOCATION

Genetic locus: VDR (human) mapping to 12q13.11.

PRODUCT

VDR (h2): 293T Lysate represents a lysate of human VDR transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

VDR (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive VDR antibodies. Recommended use: 10-20 µl per lane.

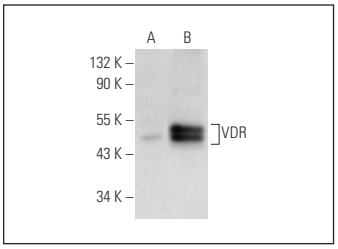
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

VDR (D-6): sc-13133 is recommended as a positive control antibody for Western Blot analysis of enhanced human VDR expression in VDR transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



VDR (D-6): sc-13133. Western blot analysis of VDR expression in non-transfected: sc-117752 (**A**) and human VDR transfected: sc-178119 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.