VDR monoclonal antibody

Catalog: MB66866 Host: Mouse Reactivity: Human

BackGround:

Although originally identified based on their roles in calcium and bone homeostasis, the vitamin D3 receptor (VDR/NR1I1) and its ligand 1-α, 25-dihydroxycholecalciferol [1α, 25(OH)2D3] are now recognized to exert biological effects in almost every tissue of the human body. Targets for vitamin D signaling include the central nervous system, skin, immune system, endocrine glands, kidney, and colon. At the cellular level, vitamin D signaling affects proliferation, differentiation, and apoptosis of both normal and transformed cells. Within the steroid receptor gene family, VDR belongs to the NR1I subfamily that also includes NR1I2/PXR and NR1I3/CAR. The human VDR gene is composed of 11 exons that encode six domains (A-F) of the full length VDR protein, which includes an N-terminal dual zinc finger DNA binding domain, a C-terminal ligand-binding activity domain, and an extensive unstructured region that links the two functional domains together . Upon 1α, 25(OH)2D3 binding to the hormone ligand-binding domain, VDR is stabilized by the phosphorylation of Ser51 in the DNA-binding domain by PKC , and Ser208 in the hinge region by casein kinase II . VDR associates with the retinoic acid receptor (RXR) through dimerization domains. The 1α, 25(OH)2D3-VDR-RXR complex binds to the vitamin D response elements (VDREs) in the promoters of target genes through the DNA-binding domain. Ligand-induced conformation changes in VDR results in the dissociation of the co-repressor, silencing-mediator for retinoid and thyroid hormone receptors (SMRT), and allows interaction of the VDR activation function (AF2) transactivation domain with transcriptional coactivators .

Studies have shown that variable VDR expression is associated with different forms or stages of cancer and likely results from tissue-type variation in 1α, 25(OH)2D3 signaling. In the case of colon cancer, research indicates that VDR expression is relatively higher in hyperplastic colon polyps and during early tumorigenesis but diminishes in later stage, poorly differentiated tumors. Multiple studies suggest that 1α, 25(OH)2D3 may be an attractive target for development as a therapeutic anticancer agent .

Product:

Mouse IgA. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 60 kDa

Swiss-Prot:

P11473

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000)

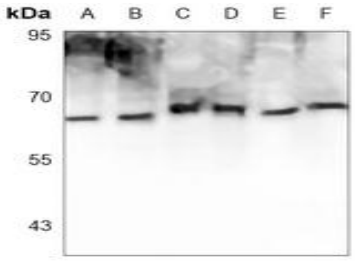
Storage&Stability:

Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of VDR protein.

DATA:



Western blot analysis of VDR expression in 293 (A), Hela (B), HepG2 (C), MCF7 (D), MDAMB453 (E), T47D (F) whole cell lysates.

Note:

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

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