

# Human VDR / NR1I1 Protein (His Tag)

Catalog Number: 12025-H08B



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

NR1I1; PPP1R163

### Protein Construction:

A DNA sequence encoding the human VDR (P11473) (Met 1-Ser 427) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 88 % as determined by SDS-PAGE

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met 1

### Molecular Mass:

The recombinant human VDR consists of 437 amino acids and migrates as an approximately 50 KDa band in SDS-PAGE in SDS-PAGE under reducing conditions as predicted.

### Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

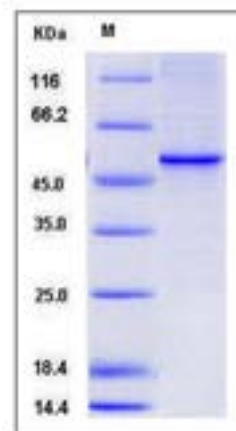
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

VDR (vitamin D(1,25- dihydroxyvitamin D3)receptor), also known as NR1I1, belongs to the NR1I family, NR1 subfamily. It is composed of three domains: a modulating N-terminal domain, a DNA-binding domain and a C-terminal ligand-binding domain. Vitamin D receptors (VDRs) are members of the NR1I family, which also includes pregnane X (PXR) and constitutive androstane (CAR) receptors, that form heterodimers with members of the retinoid X receptor family. VDRs repress expression of 1α-hydroxylase (the proximal activator of 1,25(OH)2D3) and induce expression of the 1,25(OH)2D3 inactivating enzyme CYP24. Also, it has recently been identified as an additional bile acid receptor alongside FXR and may function to protect gut against the toxic and carcinogenic effects of these endobiotics. VDR is expressed in the intestine, thyroid and kidney and has a vital role in calcium homeostasis. It is the nuclear hormone receptor, also called transcription factor that mediates the action of vitamin D3. Inherited mutations in the VDR gene leads to rickets.

## References

1. Moore DD, *et al.* (2006) The NR1H and NR1I receptors: constitutive androstane receptor, pregnane X receptor, farnesoid X receptor alpha, farnesoid X receptor beta, liver X receptor alpha, liver X receptor beta, and vitamin D receptor. *Pharmacol Rev.* 58(4):742-59.
2. Szpirer J, *et al.* (1991) The Sp1 transcription factor gene (SP1) and the 1,25-dihydroxyvitamin D3 receptor gene (VDR) are colocalized on human chromosome arm 12q and rat chromosome 7. *Genomics.* 11(1):168-73.
3. Germain P, *et al.* (2006) Overview of nomenclature of nuclear receptors. *Pharmacol Rev.* 58(4): 685-704.

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