



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human VDR Protein
Catalog Number: hTF-0451
Manufacturer: LD Biopharma, Inc.

Introduction

Human vitamin D3 receptor (VDR) gene encodes the nuclear hormone receptor for vitamin D3. This receptor also functions as a receptor for the secondary bile acid lithocholic acid. The receptor belongs to the family of trans-acting transcriptional regulatory factors and shows sequence similarity to the steroid and thyroid hormone receptors. Downstream targets of this nuclear hormone receptor are principally involved in mineral metabolism though the receptor regulates a variety of other metabolic pathways, such as those involved in the immune response and cancer. Mutations in this gene are associated with type II vitamin D-resistant rickets.

Full-length human VDR cDNA (426aa, derived from BC060832) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in E.coli as inclusion bodies, and refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: VDR (NR1L1)
Accession Number: NP_000367
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

Key References

Chow EC, et al., *Vitamin D receptor activation down-regulates the small heterodimer partner and increases CYP7A1 to lower cholesterol.* Gastroenterology 146 (4), 1048-1059



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Joshi,S., et al. *1,25-dihydroxyvitamin D(3) ameliorates Th17 autoimmunity via transcriptional modulation of interleukin-17A*. Mol. Cell. Biol. 31 (17), 3653-3669 (2011)

Jurutka,P.W., et al. *Human vitamin D receptor phosphorylation by casein kinase II at Ser-208 potentiates transcriptional activation*. Proc. Natl. Acad. Sci. U.S.A. 93 (8), 3519-3524 (1996)

Applications

1. May be used for in vitro VDR mediated gene transcription regulation in normal or cancer cell metabolic pathway regulations study by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for EMSA based DNA/protein binding assay.
4. As immunogen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNYLFQGGFEFEMAASTSLPDPGDFDRNVPRICGVCGDRATGFHF
NAMTCEGCKGFFRRSMKRKALFTCPFNDCRITKDNRRHCQACRLKRCVDIGMMKEFILTDEEV
QRKREMILKRKEEEALKDSLRLPKLSEEQQRI IAILLDAHHKTYDPTYSDFCQFRPPVRVNDGGG
SHPSRPNRHTPSFSGDSSSSCSDHCITSSDMMSSSFNLDLSEEDSDDPSVTLELSQLSMLP
HLADLVSYSIQKVIGFAKMI PGFRDLTSEDQIVLLKSSAIEVIMLRSNESFTMDDMSWT CGNQD
YKYRVSDVTKAGHSLELIEPLIKFQVGLKKNLHEEEHVLLMAICIVSPDRPGVQDAALIEAIQ
DRLSNTLQTYIRCRHPPPGSHLLYAKMIQKLADLRSLNEEHKQYRCLSFQPECSMKLTPLVLE
VFGNEIS