Data Sheet (Cat.No.TMPY-02987)

TargetMol

Vitamin D Receptor/VDR Protein, Mouse, Recombinant (His)

General Information

Synonyms:	vitamin D (1,25- dihydroxyvitamin D3) receptor;Nr1i1
Protein Construction:	A DNA sequence encoding the mouse VDR (P48281) (Met1-Ser422) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	P48281
Molecular Weight:	49.28 kDa (predicted); 55 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0, 10% glycerol. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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 1alpha-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.

Reference

Moore DD,et al.(2006) The NR1H and NR1I receptors: constitutive androstane receptor, pregnene 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.

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.

Germain P,et al.(2006) Overview of nomenclature of nuclear receptors. Pharmacol Rev. 58(4): 685-704.

Adorini L,et al.(2006) Vitamin D receptor agonists, cancer and the immune system: an intricate relationship. Curr Top Med Chem. 6(12):1297-301.

Luderer HF,et al.(2010) The vitamin D receptor, the skin and stem cells. J Steroid Biochem Mol Biol. 121(1-2):314-6.

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