Product Data Sheet

Product Name: Human Vitamin D Receptor Reporter Assay System
Cat. No.: GC52504

Chemical Properties

Cas. No.		
Formula	M.Wt	0
Solubility	Storage	-80°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.	
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.	
Structure		

Background

INDIGO's Human Vitamin D Receptor Assay utilizes proprietary Human cells engineered to provide high-level expression of Human VDR (also known as NR1I1). Reporter Cells also incorporate a luciferase reporter gene. Quantifying expressed luciferase activity at the assay endpoint provides a sensitive surrogate measure of changes in VDR activity in treated cells. The principle application of this reporter assay system is in the screening of test samples to quantify functional activity, either agonist or antagonist, that may exert against the Human VDR.

The calcitriol receptor, also known as the vitamin D receptor (VDR) is a member of the nuclear receptor family of transcription factors. Upon activation by vitamin D, the VDR forms a heterodimer with the retinoid-X receptor and binds to hormone response elements on DNA resulting in expression or transrepression of specific gene products. Glucocorticoids are known to decrease expression of VDR which is expressed in most tissues of the body and regulate intestinal transport of calcium. This 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 similarity of sequence to the steroid and thyroid hormone receptors. Downstream targets of this nuclear hormone receptor

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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. A single nucleotide polymorphism in the initiation codon results in an alternate translation start site three codons downstream. Alternative splicing results in multiple transcript variants encoding the same protein.

VDR Reporter Cells are prepared using INDIGO's proprietary CryoMite™ process. This cryo-preservation method yields high cell viability post-thaw, and provides the convenience of immediately dispensing healthy, division-competent reporter cells into assay plates. There is no need for intermediate spin-and-wash steps, viability determinations, or cell titer adjustments.[INDIGO Catalog Nos. IB00701-32, IB00701, IB00702]