

# PRODUCT INFORMATION



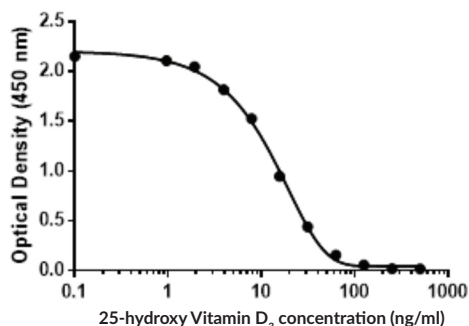
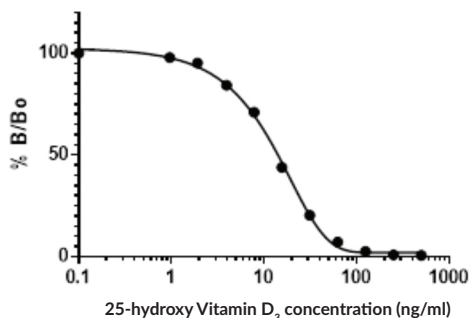
## 25-hydroxy Vitamin D<sub>3</sub> Rabbit Monoclonal Antibody (Clone RM3)

Item No. 32179

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Calcidiol, Calcifediol, 25(OH)D <sub>3</sub> , 25-OH Vitamin D <sub>3</sub>
<b>Immunogen:</b>	25-hydroxy Vitamin D <sub>3</sub> -BSA conjugate
<b>Cross Reactivity:</b>	(+) 25-hydroxy Vitamin D <sub>3</sub> , 1α,25-hydroxy vitamin D <sub>3</sub> ; (-) Vitamin D <sub>3</sub> , vitamin D <sub>2</sub> , 25-hydroxy vitamin D <sub>2</sub> , 1α,25-hydroxy vitamin D <sub>2</sub>
<b>Species Reactivity:</b>	Species independent
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Concentration:</b>	0.1 mg/ml
<b>Clone:</b>	RM3
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA; the recommended starting concentration for ELISA is 0.5-1.5 ng/well. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Competitive ELISA data using 25-hydroxy Vitamin D<sub>3</sub> Rabbit Monoclonal Antibody (Clone RM3)

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/17/2024

**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

# PRODUCT INFORMATION



## Description

---

25-hydroxy Vitamin D<sub>3</sub> is an intermediate in the biosynthesis of 1 $\alpha$ ,25-dihydroxy vitamin D<sub>3</sub> (calcitriol; Item No. 71820), a vitamin D receptor (VDR) agonist that has multiple functions, including stimulation of calcium absorption, insulin secretion, and cell proliferation and differentiation.<sup>1-3</sup> It is produced from vitamin D<sub>3</sub> (Item No. 11792) by 25-hydroxylase/CYP2R1 and bound to vitamin D binding protein (DBP) and albumin in the liver, then secreted into the bloodstream where it is the major circulating form of vitamin D.<sup>1</sup> 25-hydroxy Vitamin D<sub>3</sub> is transported to the kidney where it is hydroxylated by 1 $\alpha$ -hydroxylase/CYP27B1 or 24-hydroxylase/CYP24A1 to produce 1 $\alpha$ ,25-dihydroxy vitamin D<sub>3</sub> or 24,25-dihydroxy vitamin D<sub>3</sub>, respectively. Conversion of 25-hydroxy vitamin D<sub>3</sub> to 1 $\alpha$ ,25-dihydroxy vitamin D<sub>3</sub> is stimulated by parathyroid hormone (PTH) and inhibited by calcium, phosphorus, or FGF23. Serum 25-hydroxy vitamin D<sub>3</sub> levels have been widely used as a marker of vitamin D status.<sup>2</sup> Increased serum 25-hydroxy vitamin D<sub>3</sub> levels are associated with increased bone density in patients with osteoarthritis, as well as reduced risk of colorectal, breast, and prostate cancer, whereas decreased serum 25-hydroxy vitamin D<sub>3</sub> levels have been found in children with nutritional rickets, a condition caused by vitamin D deficiency and characterized by reduced bone density.<sup>2,4,5</sup> Cayman's 25-hydroxy Vitamin D<sub>3</sub> Rabbit Monoclonal Antibody (Clone RM3) can be used for ELISA.

## References

---

1. Bikle, D. Vitamin D: Production, metabolism, and mechanisms of action. *Endotext*. Feingold, K.R., Anawalt, B., Boyce, A., et al., editors, *MDText.com, Inc.* (2000).
2. Brandi, M.L. and Minisola, S. Calcidiol [25(OH)D<sub>3</sub>]: From diagnostic marker to therapeutic agent. *Curr. Med. Res. Opin.* **29(11)**, 1565-1572 (2013).
3. Lips, P. Vitamin D physiology. *Prog. Biophys. Mol. Biol.* **92(1)**, 4-8 (2006).
4. Bischoff-Ferrari, H.A., Zhang, Y., Kiel, D.P., et al. Positive association between serum 25-hydroxyvitamin D level and bone density in osteoarthritis. *Arthritis Rheum.* **53(6)**, 821-826 (2005).
5. Dogan, M., Erol, M., Cesur, Y., et al. The effect of 25-hydroxyvitamin D<sub>3</sub> on the immune system. *J. Pediatr. Endocrinol. Metab.* **22(10)**, 929-935 (2009).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM