

PRODUCT INFORMATION

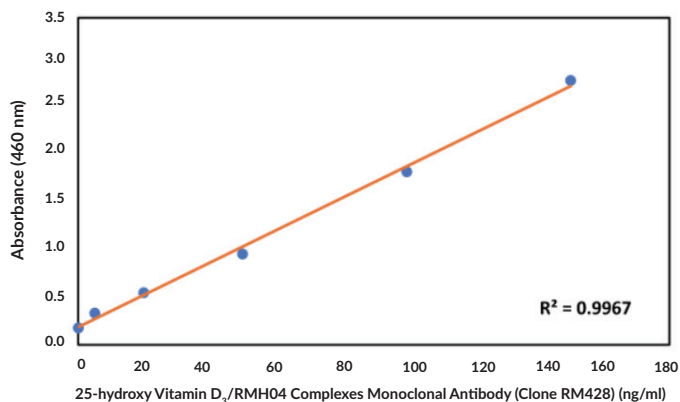
25-hydroxy Vitamin D₃/RMH04 Complexes Monoclonal Antibody (Clone RM428)

Item No. 42797

Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	25-hydroxy Cholecalciferol/RMH04 Complexes
Immunogen:	A peptide corresponding to HA-tag
Cross Reactivity:	(+) 25-hydroxy Vitamin D ₃ /RMH04 monoclonal antibody complexes; (-) Vitamin D ₃ , Vitamin D ₂ , 25-hydroxy Vitamin D ₂ , free 25-hydroxy Vitamin D ₃ , free RMH04 Monoclonal Antibody
Species Reactivity:	Species Independent
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1.0 mg/ml
Clone:	RM428
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA (sandwich) paired with 25-Hydroxy Vitamin D ₃ Chimeric Rabbit-Human Monoclonal Antibody (Clone RMH04); the recommended starting concentration is 0.5-2 µg/ml. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



ELISA using 25-hydroxy Vitamin D₃/RMH04 Complexes Monoclonal Antibody (Clone RM428). The plate was coated with 100 ng of capture antibody RMH04 at a concentration of 1 µg/ml. A serial dilution of 25-hydroxy Vitamin D₃/RMH04 Complexes Monoclonal Antibody (Clone RM428) was used as the primary antibody and Biotin-labeled 25(OH) Vitamin D antibody (RM428) was used as the secondary antibody.

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.

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Description

25-hydroxy Vitamin D₃ is an intermediate in the biosynthesis of 1 α ,25-dihydroxy vitamin D₃ (calcitriol; Item No. 71820), a vitamin D receptor (VDR) agonist.¹⁻³ It is produced from vitamin D₃ (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.¹ 25-hydroxy Vitamin D₃ is transported to the kidney where it is hydroxylated by 1 α -hydroxylase/CYP27B1 or 24-hydroxylase/CYP24A1 to produce 1 α ,25-dihydroxy vitamin D₃ or 24,25-dihydroxy vitamin D₃, respectively. Conversion of 25-hydroxy vitamin D₃ to 1 α ,25-dihydroxy vitamin D₃ is stimulated by parathyroid hormone (PTH) and inhibited by calcium, phosphorus, or FGF23. Serum 25-hydroxy vitamin D₃ levels have been widely used as a marker of vitamin D status.² Increased serum 25-hydroxy vitamin D₃ 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 D₃ levels have been found in children with nutritional rickets, a condition caused by vitamin D deficiency and characterized by reduced bone density.^{2,4,5} Cayman's 25-Hydroxy Vitamin D₃/RMH04 Complexes Monoclonal Antibody (Clone RM428) can be used as a detection antibody paired with the capture antibody 25-Hydroxy Vitamin D₃ Chimeric Rabbit-Human Monoclonal Antibody (Clone RMH04) (Item No. 42798) in sandwich ELISAs.

References

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2. Brandi, M.L., and Minisola, S. Calcidiol [25(OH)D₃]: From diagnostic marker to therapeutical 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 D₃ on the immune system. *J. Pediatr. Endocrinol. Metab.* **22(10)**, 929-935 (2009).

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