



Assay Notes

Cascadion SM 25-Hydroxy Vitamin D Assay

Up to 90% of the global population, depending on location and season, suffers from Vitamin D deficiency or insufficiency, making supplementation necessary. Vitamin D assays are subject to interference from many sources, from Vitamin D metabolites to common dietary supplements complicating the demand for testing.

The interference in testing may mask insufficiency and delay necessary treatment

The Centers for Disease Control and Prevention (CDC) has established the liquid chromatography – tandem mass spectroscopy (LC-MS/MS) method as the reference method for Vitamin D testing. This method eliminates the interferences and measures only the relevant fractions ergocalciferol (D₂) and cholecalciferol (D₃).

The Thermo Scientific™ Cascadion™ SM 25-Hydroxy Vitamin D assay is the first LC-MS/MS 25-Hydroxy Vitamin D assay to be run on an easy to use fully automated clinical analyzer. The assay maximizes accuracy by measuring 100% of both the 25-Hydroxy Vitamin D₂ and D₃ fractions, with the individual results available to the operator, and by excluding both C3 epimers.

Cascadion SM Clinical Analyzer provides superior accuracy and precision with its 25-Hydroxy Vitamin D assay

	Vitamin D ₂	Vitamin D ₃	Total Vitamin D
Lower limit of analytical measuring range	3.4 ng/ml	3.4 ng/ml	3.4 ng/ml
Analytical measuring range	3.4 ng/ml – 132 ng/ml	3.4 ng/ml – 132 ng/ml	3.4 ng/ml – 264 ng/ml
Day-to-Day precision (CV)	3.2 - 6.1 %	2.9 - 7.6 %	2.3 - 7.6 %
Accuracy of CDC-certified reference samples (n=115)	N/A	N/A	1.04 x CDC - 1.582 ng/ml R=0.9966

Non-interfering compounds

Non-interfering Endogenous and Exogenous Compounds	Non-interfering Metabolites and Compounds with Similar Chemical Structures
Bilirubin	1,25-(OH) ₂ Vitamin D ₂
Cholesterol	1,25-(OH) ₂ Vitamin D ₃
Triglycerides	Vitamin D ₂ (Ergocalciferol)
β-D-Glucose	Vitamin D ₃ (Cholecalciferol)
Hemoglobin	25(OH) Vitamin D ₂
Rheumatoid Factor	25(OH) Vitamin D ₃
Biotin	24,25 (OH) ₂ Vitamin D ₃
Ascorbic Acid	24,25 (OH) ₂ Vitamin D ₂
Acetaminophen	3-Epi-1,25-(OH) ₂ Vitamin D ₂
Pantoprazole	3-Epi-1,25-(OH) ₂ Vitamin D ₃
Loratadine	3-Epi-25-(OH) Vitamin D ₂
Human γ Globulin, Human Albumin	3-Epi-25-(OH) Vitamin D ₃
Cholic Acid	25,26-(OH) ₂ Vitamin D ₃
Sitagliptin	Mesoridazine

Tested substances showing a <10% bias were designated as non-interfering.

Using gold-standard LC-MS/MS technology without requiring manual sample preparations the Cascadion SM Clinical Analyzer delivers accurate and reproducible sample concentrations.

- Direct sampling of serum from the primary tube
- Maximizing accuracy by measuring 100% of both the 25-OH Vitamin D₂ and D₃ fractions
- Excluding C3 Epimers
- NIST-traceable Calibrators and Controls
- Calibration stable for up to 30 days
- Reporting Total 25-OH-Vitamin D together with components

Ready to use Internal Standard, Calibrators, and Controls



Ordering information

Product	Size	Cat. No.
Cascadion SM 25-Hydroxy Vitamin D Assay		
Cascadion SM 25-Hydroxy Vitamin D Calibrator Set	6 x 5 mL	10026927
Cascadion SM 25-Hydroxy Vitamin D Control 1	6 x 10 mL	10026928
Cascadion SM 25-Hydroxy Vitamin D Control 2	6 x 10 mL	10026929
Cascadion SM 25-Hydroxy Vitamin D Control 3	6 x 10 mL	10026930
Cascadion SM 25-Hydroxy Vitamin D Internal Standard	8 x 29 mL	10026958

Thermo Fisher Scientific Oy:

Ratastie 2, FI-01620 Vantaa, FINLAND
Tel. +358 10 329 200

Find out more at thermofisher.com/cascadion

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