

1,25(OH)₂
VITAMIN D ELISA

by *iDIA Source*

RELIABLE TEST RESULTS

The only ELISA measuring D2 and D3 forms accurately

1,25(OH)₂ VITAMIN D ELISA

Assays characteristics	1,25(OH) ₂ VITAMIN D ELISA
Article code	KAP1921
Format	Breakable wells
Size	96 Tests
Sample Type	Serum
Sample volume	500 µL
Total incubation time	20 h
LoD	0.8 pg/mL
CV intra-assay	5.1 – 14.2 %
CV inter-assay	13.2 – 17.5 %
Cross-reactivity with the D2 form	108 %

> GOLDEN STANDARD EXTRACTION METHODOLOGY

Samples and controls are extracted with a mixture of solvents and applied on cartridges to separate 1,25(OH)₂ Vitamin D from the other Vitamin D metabolites. Extraction with organic solvents is considered as the Golden Standard for steroids immunoassays.

⊗ Extraction with organic solvent suppresses the potential interference from sample matrix, heterophilic antibodies and abnormal concentrations of Vitamin D binding proteins.

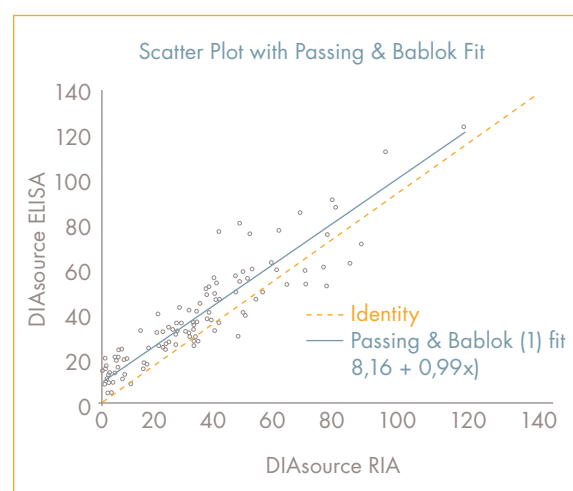
⊗ Separation on solid phase cartridges suppresses the interference from other Vitamin D metabolites:
25OH Vitamin D - 24,25(OH)₂ Vitamin D
- 25,26(OH)₂ Vitamin D.

Substance	1,25(OH) ₂ Vitamin D Mean % variation
Hemoglobin	5.0 %
Bilirubin conjugated	-12.3 %
Bilirubin unconjugated	-0.4 %
Triglyceride	-1.0 %
Vitamin C	4.9 %

Compound	Cross-reactivity
1,25(OH) ₂ Vitamin D3	114 %
1,25(OH) ₂ Vitamin D2	108 %
250(OH) Vitamin D3	0.004 %
250(OH) Vitamin D2	0.0003 %
24,25(OH) ₂ Vitamin D3	0.03 %
25,26(OH) ₂ Vitamin D3	0.02 %

> CALIBRATED ON THE WELL ESTABLISHED DIASOURCE 1,25(OH)₂ VITAMIN D RIA

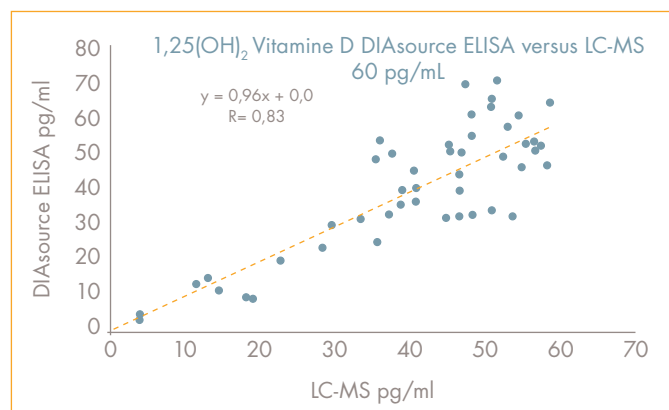
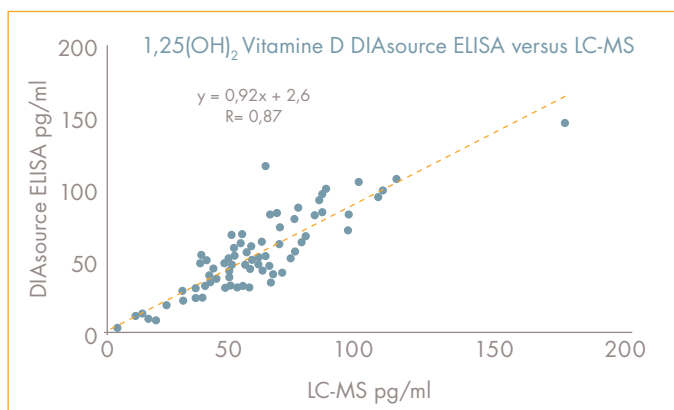
A correlation was performed with 110 serum samples comparing the DIAsource 1,25(OH)₂ Vitamin D ELISA to the DIAsource 1,25(OH)₂ Vitamin D RIA.



> CORRELATIONS

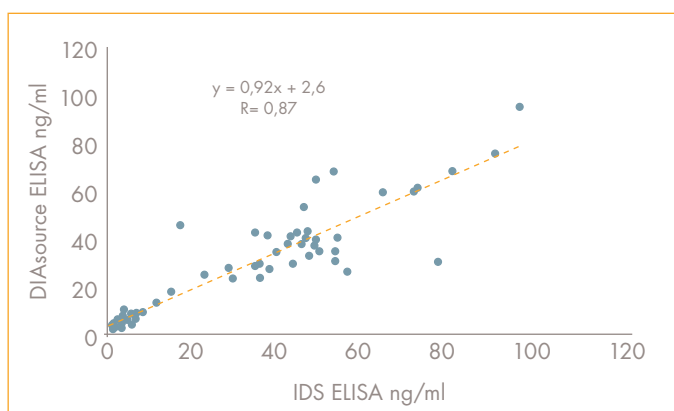
⊗ Correlation to LC-MS/MS

A correlation was performed by a reference clinical laboratory with 80 serum samples comparing the DAsource 1,25(OH)₂ Vitamin D ELISA to a sensitive LC-MS/MS method.



⊗ Correlation to the IDS ELISA

A correlation was performed with 75 serum samples comparing the DAsource 1,25(OH)₂ Vitamin D ELISA to the IDS 1,25(OH)₂ Vitamin D ELISA.



> ELISA METHOD COMPARISON

	DAsource ELISA	ELISA A	ELISA B
Microplate	Breakable wells	Non-breakable wells	Non-breakable wells
Sample volume	500 µL	500 µL	1000 µL
Calibrators	6	7	7
Controls	2	2	2
Range	0-320 pg/mL	0-150 pg/mL	ND
Number of steps (separation + ELISA)	12 + 16	24 + 19	13 + 22
Sensitivity	0.8 pg/mL	2.5 pg/mL	4.8 pg/mL
Intra-assay CV	5.1 – 14.2 %	9.3 – 10.7 %	6.7 %
Inter-assay CV	13.2 – 17.5 %	17.1 – 19.7 %	9.0 %
CR 1,25(OH) ₂ Vit D2	108 %	39 %	41 %
CR 1,25(OH) ₂ Vit D2	0.03 %	0.006 %	< 0.1 %
CR 25OH Vit D3	0.004 %	0.009 %	< 0.01 %

CLINICAL BACKGROUND

1,25(OH)₂ Vitamin D is the active form of Vitamin D with regard to the known functions whereas 25OH Vitamin D and Vitamin D itself can be excluded as being physiologically functional. Furthermore since 1,25(OH)₂ Vitamin D is produced in the kidney and has some of its functions in the bone and intestine, it must be considered as a hormone. This hormone stimulates the intestinal absorption of both calcium and phosphorus. It also stimulates bone resorption and mineralization thereby preventing the development of rickets and osteomalacia. The levels of 1,25(OH)₂ Vitamin D in plasma or serum is 100 to 1000 less than that of 25OH Vitamin D. Due to its low concentrations and the presence of many similar metabolites, the measurement of 1,25(OH)₂ Vitamin D requires extraction and separation either by HPLC or by column chromatography preferable with the use of organic solvent. This extraction method is still recognized as the Golden Standard for 1,25(OH)₂ Vitamin D.

Measurement of 1,25(OH)₂ Vitamin D levels is indicated in:

- Assessment of Kidney functions: Chronic kidney failure and Haemodialysis (after kidney transplants)
- Hyper and hypo-parathyroidism
- Rickets disease
- Tumor-associated hypercalcemia
- Osteomalacia as a results of various types of Vit D metabolism disturbances

Ordering information	Description	Article code	Format	Size
	1,25(OH) ₂ Vitamin D ELISA	KAP1921	ELISA	96 tests
	Accessories for this product			
	1,25(OH) ₂ Vitamin D separation cartridges	1102496	-	42 cartridges
	1,25(OH) ₂ Vitamin D extraction kit (solvents)	3019700	-	2 x 42 extractions
	Shaker 1200 rpm	4300604	-	-
	Tube rack for shaker 1200 rpm	4300606	-	-
	Other DIAsource bone metabolism ELISA assays			
	25OH Vitamin D Total ELISA 90'	KAP1971/F1	ELISA	96 tests
		KAP1971/F2	ELISA	192 tests
	25OH Vitamin D Total ELISA	KAP1971	ELISA	96 tests
	Free 25OH Vitamin D ELISA	KARF1991	ELISA	96 tests
	Intact PTH ELISA	KAP1481	ELISA	96 tests
	Osteocalcin ELISA	KAP1381	ELISA	96 tests
	Aggrecan (PG – Proteoglycan) ELISA	KAP1461	ELISA	96 tests

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