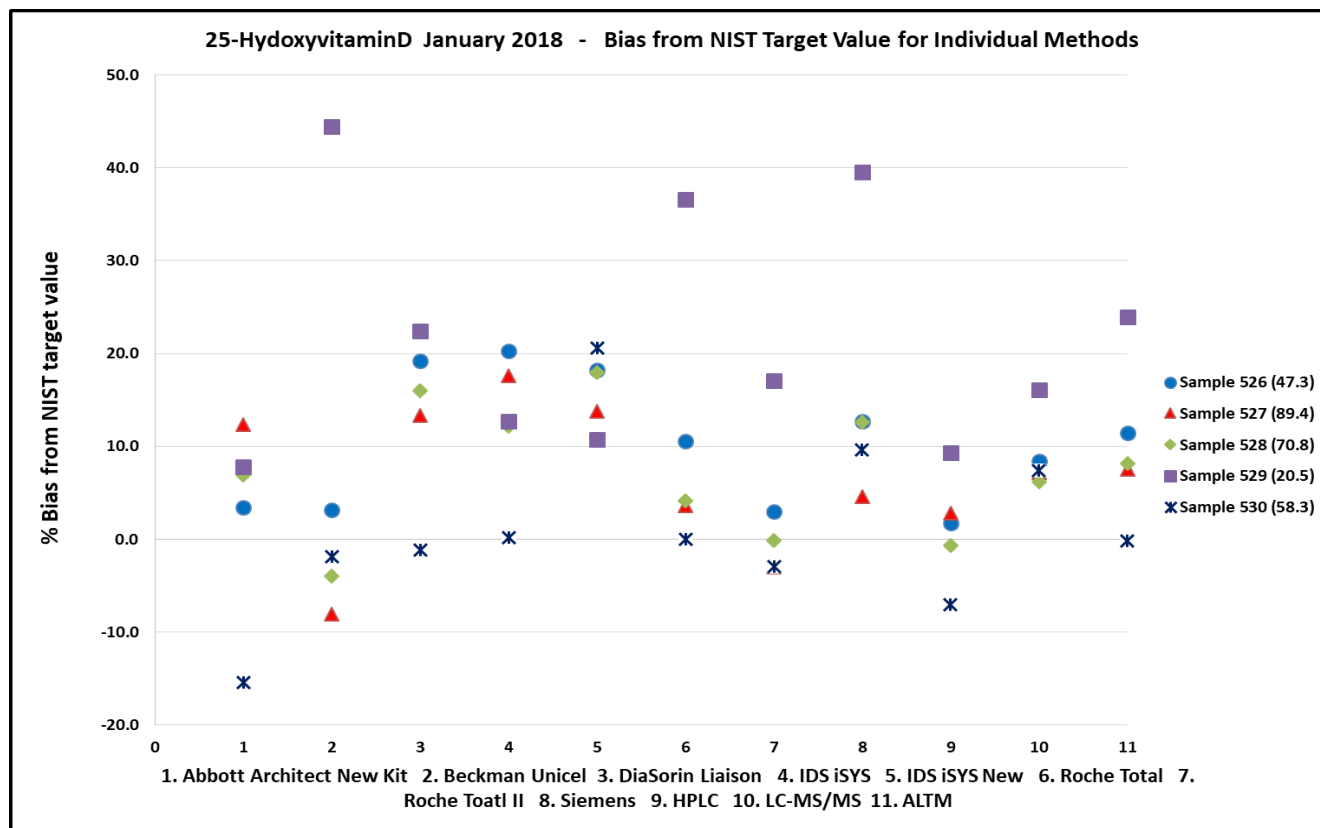


NOTES TO ACCOMPANY THE JANUARY 2018 25-HYDROXYVITAMIN D REPORT

Chart showing between-sample variability of % bias from the target value



Legend; Sample numbers (target values nmol/L)

Sample 530

Sample 530 contained endogenous 25OHD2, 36.9% of the total 25OHD (NIST Target value 58.3 nmol/L). The respective levels of 25OHD2 and 25OHD3 in this sample, for participants using HPLC or LC-MS/MS assays, are given below.

These results have been calculated using only the data from participants who have returned numeric results for both metabolites; 25OHD2 and 25OHD3. Not all HPLC and LC-MS/MS users returned results for the individual metabolites. A few participants only measure 25OHD3 and these values have been entered as total 25OHD in the main table of results. As a result, the total 25OHD values recorded below may differ from those in the method mean data for this sample in the final report, particularly for the HPLC method group where a higher proportion of labs have only reported a result for 25OHD3.

The results have been subjected to the usual trimming process. The results were ranked in order of concentration and 5% of results removed from the top and bottom before calculating the mean, SD and CV%.

	HPLC (n=8*)			LC-MS/MS (n=124*)		
	25OHD2	25OHD3	Total 25OHD	25OHD2	25OHD3	Total 25OHD
Mean	25.6	41.6	65.1	23.3	40.8	63.8
SD	4.31	4.96	5.44	2.54	3.08	4.94
CV	16.8%	11.9%	8.4%	10.9%	7.6%	7.7%
Target Value	21.5	36.8	58.3	21.5	36.8	58.3
Bias from TV	19.1%	13.0%	11.7%	8.4%	10.9%	9.4%

* Number of results remaining after trimming

3-epi-25-hydroxyvitamin D3 results for samples 526 - 530

DEQAS Lab No.	Method	Sample 526 3-epi-25OH-D3 nmol/L	Sample 527 3-epi-25OH-D3 nmol/L	Sample 528 3-epi-25OH-D3 nmol/L	Sample 529 3-epi-25OH-D3 nmol/L	Sample 530 3-epi-25OH-D3 nmol/L
188	LC-MS/MS	<2.5	4.3	<2.5	<2.5	3.3
189	LC-MS/MS		3.2	2.6		
255	LC-MS/MS	4.8	6.6	4.4	1.2	2.6
528	LC-MS/MS	<3.75	4.3	4.3	<3.75	<3.75
708	LC-MS/MS	<2.4	<2.4	<2.4	<2.4	<2.4
804	LC-MS/MS		5.6	4.7		
1479	LC-MS/MS	3.3	3.8	3.8	<1.35	<1.35
1864	LC-MS/MS	<5	<5	<5	<5	<5
1919	LC-MS/MS	<6.25	<6.25	<6.25	<6.25	<6.25
1970	LC-MS/MS	3.1	5.4	4.5	<2.1	<2.1
2017	LC-MS/MS		5.5	2.5		1.4
2123	LC-MS/MS	2.6	4.6	3.8	1.0	1.8
2204	LC-MS/MS	1.6	0.6	0.3		
2211	LC-MS/MS	2.8	4.8	4.1		2.4
2258	LC-MS/MS	3.6	6.7	6.3	2.5	3.6
Median		3.1	4.7	4.1	1.2	2.5
Mean		3.1	4.6	3.8	1.6	2.5
SD		1.0	1.6	1.5	0.8	0.8
CV%		31.5	35.6	40.9	52.0	33.6
n		7	12	11	3	6

Comment:

The statistics were calculated on the numeric results only and on untrimmed data. Clearly, with such a small number of results the summary statistics are very unreliable.

This data is for information purposes only.

24,25-dihydroxyvitamin D results for samples 526 - 530

DEQAS Lab No.	Method	Sample 526 24,25(OH)2-D3 nmol/L	Sample 527 24,25(OH)2-D3 nmol/L	Sample 528 24,25(OH)2-D3 nmol/L	Sample 529 24,25(OH)2-D3 nmol/L	Sample 530 24,25(OH)2-D3 nmol/L	Sample 530 24,25(OH)2-D2 nmol/L
52	LC-MS/MS	2.7	6.5	4.5	0.9	1.7	
528	LC-MS/MS	3.4	9.6	6.0	1.0	1.9	
708	LC-MS/MS	<2.4	<2.4	<2.4	<2.4	<2.4	
1455	LC-MS/MS	3.8	9.5	6.4	1.4	2.4	1.5
1479	LC-MS/MS	4.2	12.0	5.2	<1.15	3.8	
1864	LC-MS/MS	3.6	7.3	6.6	1.6	3.0	
2004	LC-MS/MS	3.4	7.4	5.5	0.7	1.7	
2123	LC-MS/MS	3.9	9.1	6.4	0.9	2.3	
2211	LC-MS/MS	3.2	8.4	5.1		2.5	
2258	LC-MS/MS	5.5	15.6	8.6	1.3	3.3	
Median		3.6	9.1	6.0	1.0	2.4	
Mean		3.7	9.5	6.0	1.1	2.5	
SD		0.8	2.8	1.2	0.3	0.7	
CV%		21.0	29.6	19.8	29.0	29.1	
n		9	9	9	7	9	

Comment:

The statistics were calculated on the numeric results only and on untrimmed data. Clearly, with such a small number of results the summary statistics are very unreliable. This data is for information purposes only.

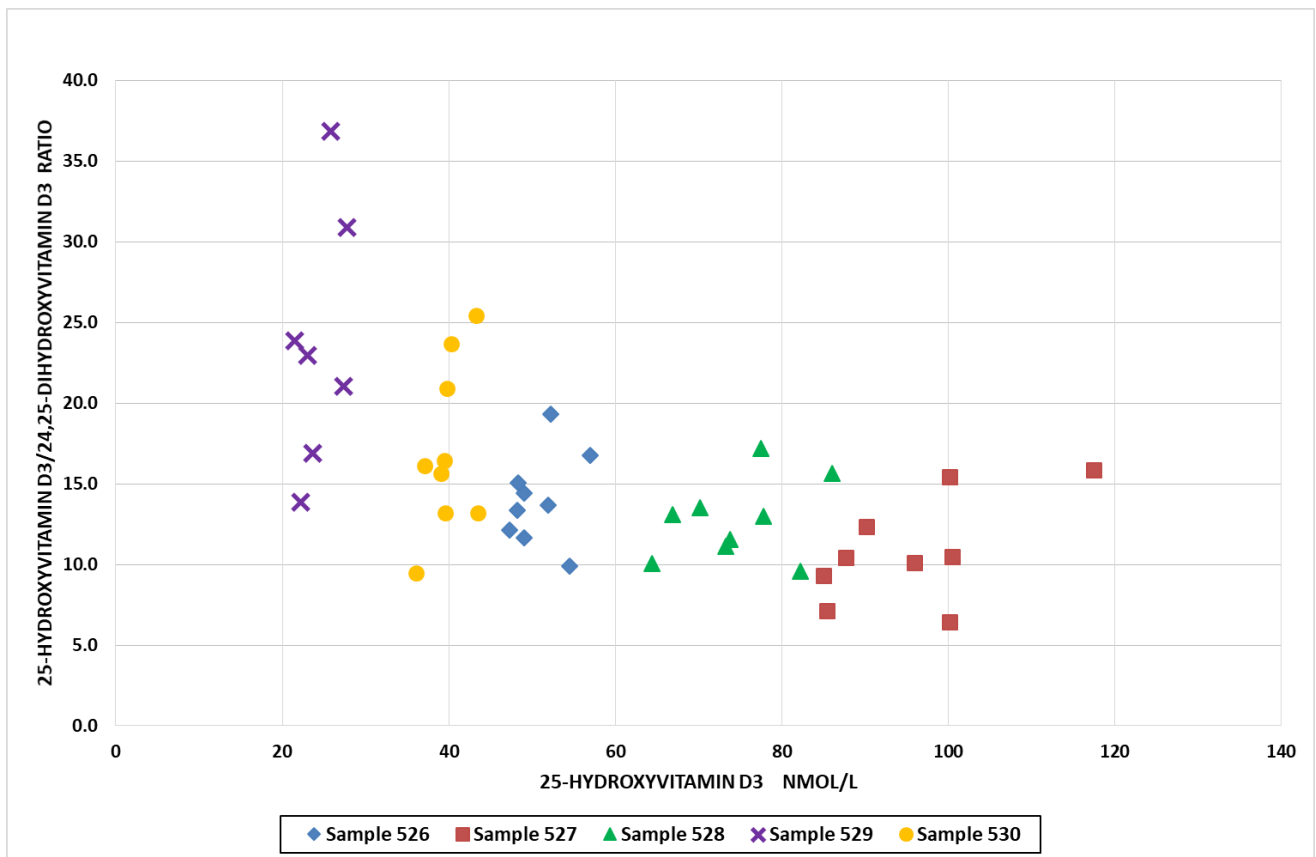
Lab Code	526	526	526	527	527	527	528	528	528	529	529	529	530	530	530
	25OH-D3	24,25-D3	Ratio	25OH-D3	24,25-D3	Ratio	25OH-D3	24,25-D3	Ratio	25OH-D3	24,25-D3	Ratio	25OH-D3	24,25-D3	Ratio
52	52.2	2.7	19.3	100.2	6.5	15.4	77.5	4.5	17.2	27.8	0.9	30.9	43.3	1.7	25.5
528	49	3.4	14.4	100.5	9.6	10.5	77.8	6.0	13.0	23.0	1.0	23.0	39.8	1.9	20.9
708	55.8	<2.4		93.8	<2.4		82.0	<2.4		21.8	<2.4		42.5	<2.4	
1455	51.9	3.8	13.7	95.9	9.5	10.1	73.8	6.4	11.5	23.7	1.4	16.9	39.5	2.4	16.5
1479	49	4.2	11.7	85.4	12.0	7.1	70.2	5.2	13.5	21.1	<1.15		36.1	3.8	9.5
1864	48.2	3.6	13.4	90.2	7.3	12.4	73.3	6.6	11.1	22.2	1.6	13.9	39.6	3.0	13.2
2004	57	3.4	16.8	117.5	7.4	15.9	86.0	5.5	15.6	25.8	0.7	36.9	40.3	1.7	23.7
2123	47.3	3.9	12.1	85.0	9.1	9.3	64.4	6.4	10.1	21.5	0.9	23.9	37.1	2.3	16.1
2211	48.3	3.2	15.1	87.7	8.4	10.4	66.9	5.1	13.1	21.7			39.1	2.5	15.6
2258	54.5	5.5	9.9	100.1	15.6	6.4	82.2	8.6	9.6	27.4	1.3	21.1	43.5	3.3	13.2
Median	50.5	3.6	13.7	94.9	9.1	10.4	75.7	6.0	13.0	22.6	1.0	23.0	39.7	2.4	16.1
Mean	51.3	3.7	14.0	95.6	9.5	10.8	75.4	6.0	12.7	23.6	1.1	23.8	40.1	2.5	17.1
SD	3.5	0.8	2.8	9.8	2.8	3.3	7.0	1.2	2.5	2.5	0.3	7.9	2.5	0.7	5.2
CV%	6.8	21.0	20.1	10.2	29.6	30.1	9.3	19.8	19.7	10.6	29.0	33.2	6.1	29.1	30.6
n	10	9	9	10	9	9	10	9	9	10	7	7	10	9	9

Comment:

The statistics were calculated on numeric results only and on untrimmed data. Clearly, with such a small number of results the summary statistics may not be reliable.

This data is for information purposes only

Relationship between the ratio of 25OH-D3:24,25-D3 and 25OH-D3 for the results reported for each sample



Comment:

The data appears to show the predicted inverse relationship between the ratio 25OH-D3:24,25(OH)2D3 and 25OH-D3 concentration.

Free 25-hydroxyvitamin D results for samples 526 - 530 in pmol/L

DEQAS Lab No.	Method	Sample 526	Sample 527	Sample 528	Sample 529	Sample 530
368	DIAsource ELISA	13.9	32.9	22.8	22.5	15.5
2215	In-house ELISA	13.0	25.3	19.8	14.5	13.3
2262	DIAsource ELISA	13.7	26.8	20.6	16.8	13.1

Comment:

This data is for information purposes only.