

Survey: **HM2/23**
month: **April 2023**
Participant-No: **9900012**
date of issue: **22.04.23**



Referenzinstitut für Bioanalytik

LLC, Vistamedi
Medical Service Center
14 Shrosha st.
0159 TBILISI
GEORGIA



Survey directors

Prof. Dr. C. Knabbe
Prof. Dr. Dr. K.P. Kohse
Prof. Dr. M. Neumaier

Head of RfB

Dr. A. Kessler

Bonn, 19. May 2023

Certificate

We confirm that you have participated in the survey for hormone determinations in serum.

You have met the requirements of the survey for the following analytes:

Aldosterone	(11)	Testosterone	(11)	T4, free	(11)
TSH	(11)	17-OH-progesterone	(2)	Ferritin	(11)

This certificate is according to the current version of the RiliBÄK valid until the end of October 2023.

The number in parentheses characterizes the analytical method used.

The assignment of the number to the respective method and/or the respective instrument is to be taken from the total evaluation.

http://www.rfb.bio/cg/certificate?n=9900012&rv_id=HM232&version=0&uid=445EDDD5F49047F9B01BF7610A938284

Survey: HM2/23
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Bonn, 19. May 2023

Participation certificate

We confirm that you have participated in the survey for hormone determinations in serum.

The analytes determined by you are as follows:

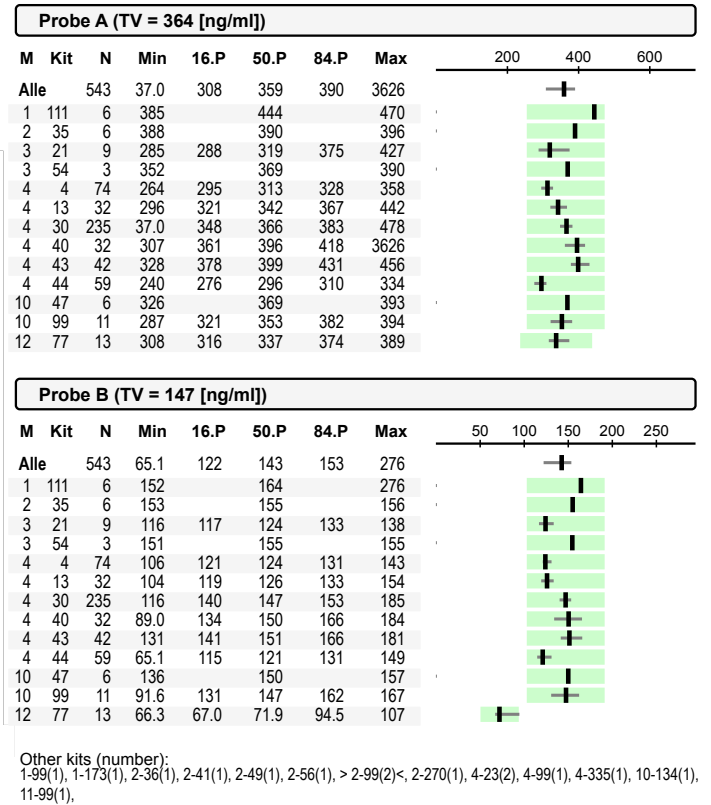
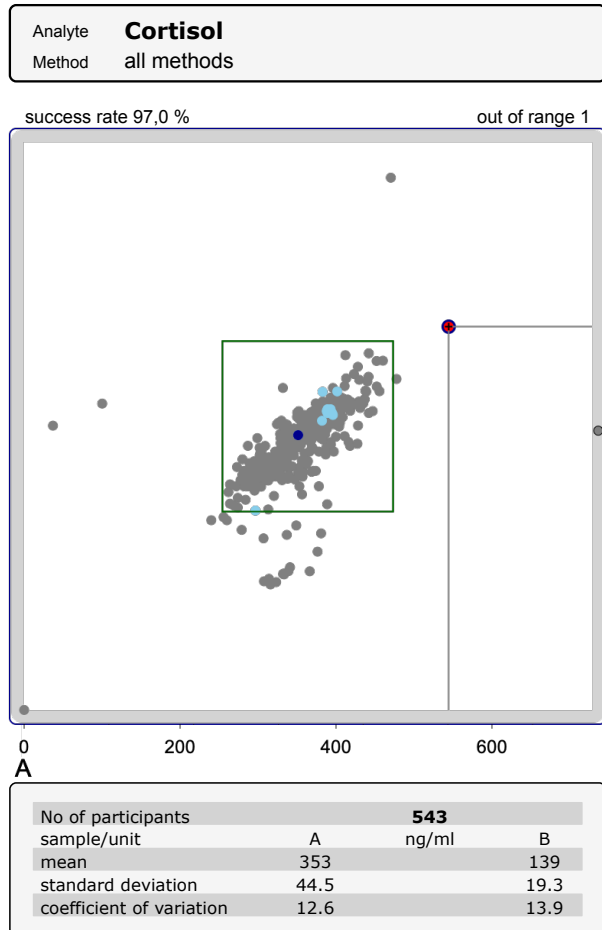
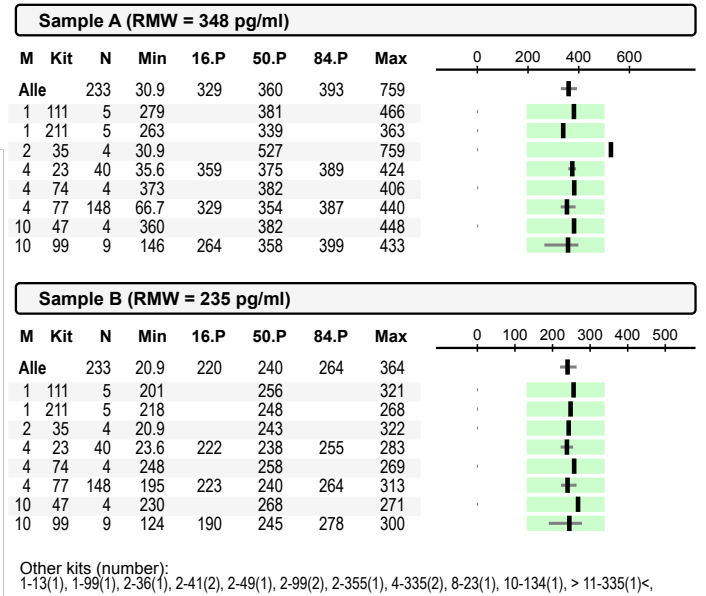
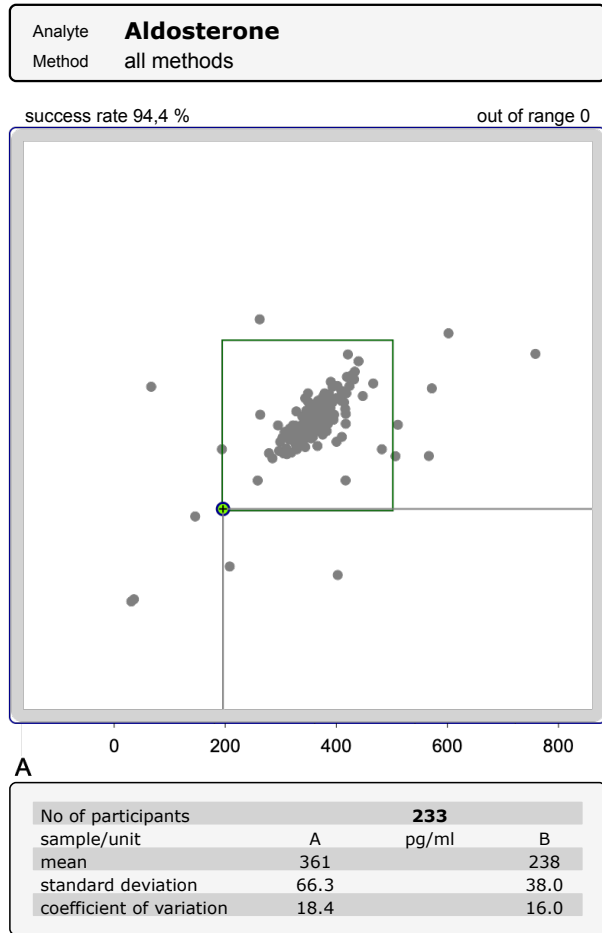
Aldosterone	(11)	Cortisol	(2)	Progesterone	(2)
Testosterone	(11)	T3, free	(4)	T4, free	(11)
TSH	(11)	DHEA-S	(2)	17-OH-progesterone	(2)
Ferritin	(11)				

W. P. Kohse *A. Kessler*

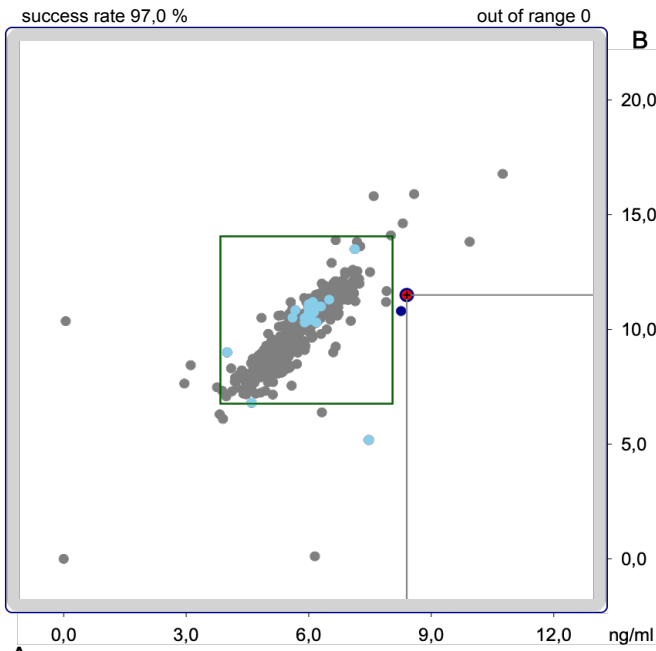
The number in parentheses characterizes the analytical method used.
The assignment of the number to the respective method and/or the respective instrument
is to be taken from the total evaluation.

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für Bioanalytik

	C	M	R	D/Dmax	T	LL	UL							
Aldosterone	+	11	A	196	-0.99	348	194	502						
[pg/ml]			B	133	-0.98	235	131	339						
Cortisol	-	2	A	545	1.65	364	254	474						
[ng/ml]			B	199	1.16	147	102	192						
Progesterone	-	2	A	8.40	1.16	5.94	3.83	8.06						
[ng/ml]			B	11.5	0.29	10.4	6.76	14.1						
Testosterone	+	11	A	0.380	-0.97	0.576	0.374	0.779						
[ng/ml]			B	1.36	-0.57	1.70	1.10	2.30						
T3, free	±	4	A	30.2	1.51	23.1	18.4	27.8						
[pg/ml]			B	3.06	0.01	3.05	2.44	3.67						
T4, free	+	11	A	34.1	0	34.1	27.2	41.0						
[pg/ml]			B	11.6	0	11.6	9.30	14.0						
TSH	+	11	A	1.73	0.17	1.66	1.26	2.06						
[µU/ml]			B	22.9	0.51	20.4	15.5	25.3						
DHEA-S	±	2	A	8.99	3.89	3.78	2.45	5.12						
[µg/ml]			B	7.36	2.42	3.95	2.56	5.36						
17-OH-progesterone	+	2	A	1.70	-0.89	3.63	1.45	5.81						
[ng/ml]			B	3.10	-0.74	5.61	2.24	8.98						
Ferritin	+	11	A	482	0.53	425	318	532						
[ng/ml]			B	257	0.01	256	192	320						



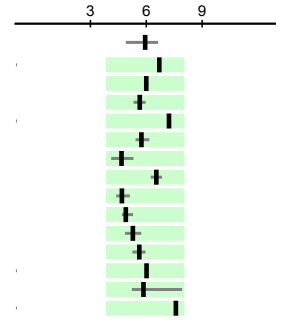
Analyte **Progesterone**
Method all methods



No of participants	580		
sample/unit	A	ng/ml	B
mean	5.85		10.1
standard deviation	0.899		1.58
coefficient of variation	15.4		15.7

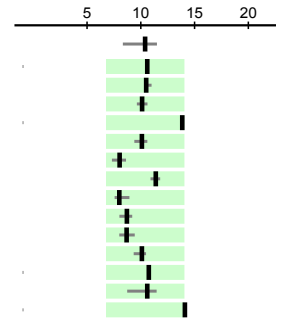
Probe A (TV = 5.94 [ng/ml])

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	580		0.050	4.90	5.94	6.64	10.8
1	111	3	6.44		6.70		7.07
2	35	35	4.00	5.90	6.00	6.10	6.50
3	21	17	5.01	5.31	5.65	5.97	6.53
3	54	4	6.66		7.22		8.58
4	4	73	4.84	5.42	5.74	6.17	6.72
4	13	41	3.11	4.11	4.67	5.31	6.50
4	30	212	0.050	6.24	6.54	6.85	7.91
4	40	31	3.90	4.38	4.69	5.12	5.58
4	43	51	4.37	4.69	4.90	5.29	6.55
4	44	67	4.47	4.86	5.28	5.73	7.50
4	77	12	2.96	5.25	5.63	5.96	6.48
10	47	6	5.60		6.02		6.35
10	99	11	4.82	5.22	5.85	7.93	8.30
11	99	3	6.47		7.59		8.01



Probe B (TV = 10.4 [ng/ml])

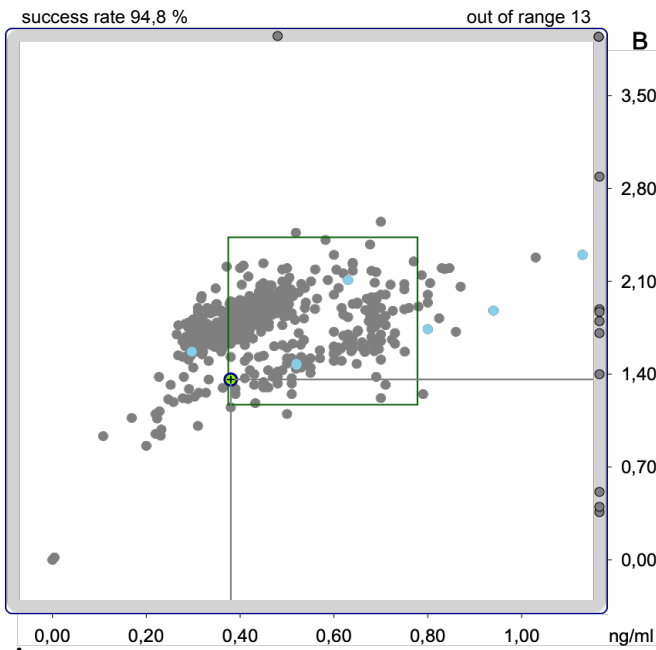
M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	580		0.111	8.33	10.4	11.5	16.8
1	111	3	10.0		10.6		11.4
2	35	35	6.80	10.3	10.5	11.0	11.3
3	21	17	9.52	9.63	10.1	10.6	10.7
3	54	4	13.6		13.9		15.9
4	4	73	8.80	9.40	10.1	10.6	11.0
4	13	41	6.30	7.31	8.03	8.62	11.6
4	30	212	0.111	10.9	11.4	11.8	12.9
4	40	31	6.10	7.56	8.00	8.94	11.3
4	43	51	7.95	8.01	8.71	9.20	11.3
4	44	67	7.17	8.00	8.68	9.44	12.5
4	77	12	7.64	9.34	10.1	10.5	10.7
10	47	6	10.3		10.7		11.1
10	99	11	6.38	8.73	10.6	11.5	14.6
11	99	3	10.8		14.1		15.8



Other kits (number):

1-173(1), 2-25(1), 2-36(1), 2-56(1), > 2-99(2)<, 2-270(1), 3-99(2), 4-228(1), 4-335(1), 6-30(1), 8-30(1), 10-134(1),

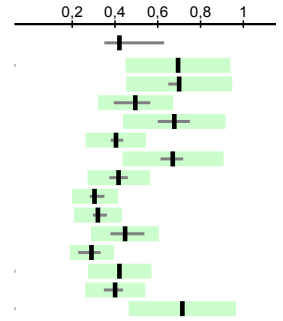
Analyte **Testosterone**
Method all methods



No of participants	758		
sample/unit	A	ng/ml	B
mean	0.455		1.77
standard deviation	0.133		0.225
coefficient of variation	29.3		12.7

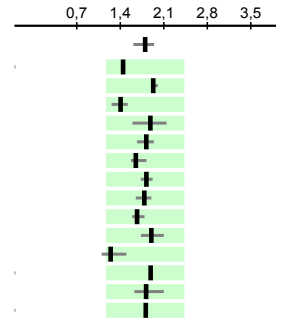
Sample A [ng/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	758		0.004	0.350	0.421	0.630	32.8
1	111	4	0.616		0.695		0.710
2	35	36	0.600	0.649	0.700	0.701	0.830
3	21	38	0.200	0.395	0.495	0.565	4.50
3	54	19	0.530	0.600	0.677	0.750	0.836
4	4	99	0.278	0.380	0.405	0.439	1.85
4	13	58	0.500	0.613	0.670	0.719	0.870
4	30	268	0.004	0.373	0.417	0.460	4.80
4	40	37	0.220	0.282	0.304	0.351	3.22
4	43	51	0.223	0.296	0.320	0.362	32.8
4	44	76	0.280	0.378	0.447	0.537	1.88
4	77	18	0.220	0.228	0.290	0.333	2.06
10	47	7	0.368		0.421		0.460
10	99	16	0.318	0.348	0.400	0.437	0.519
11	99	6	0.520		0.715		1.13



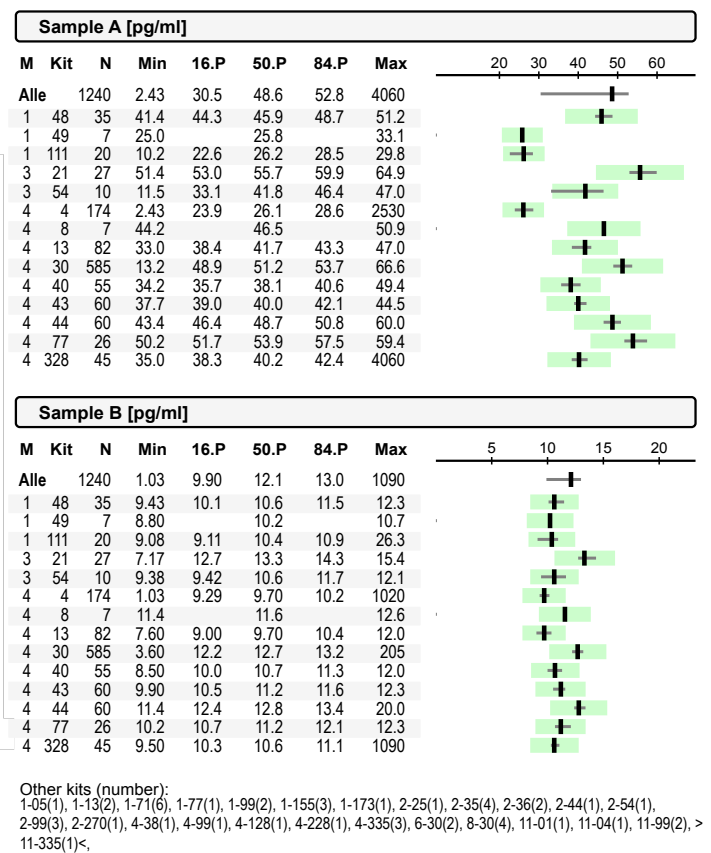
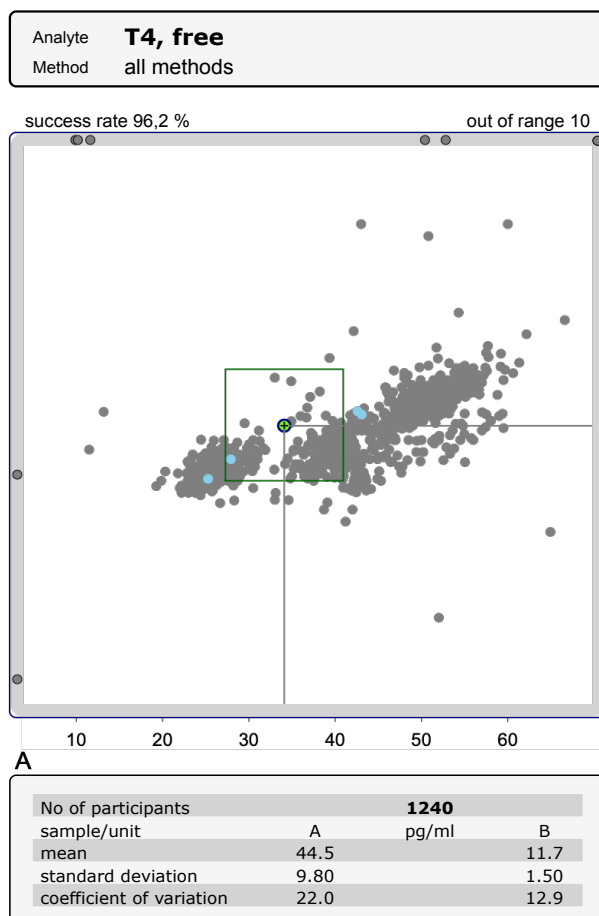
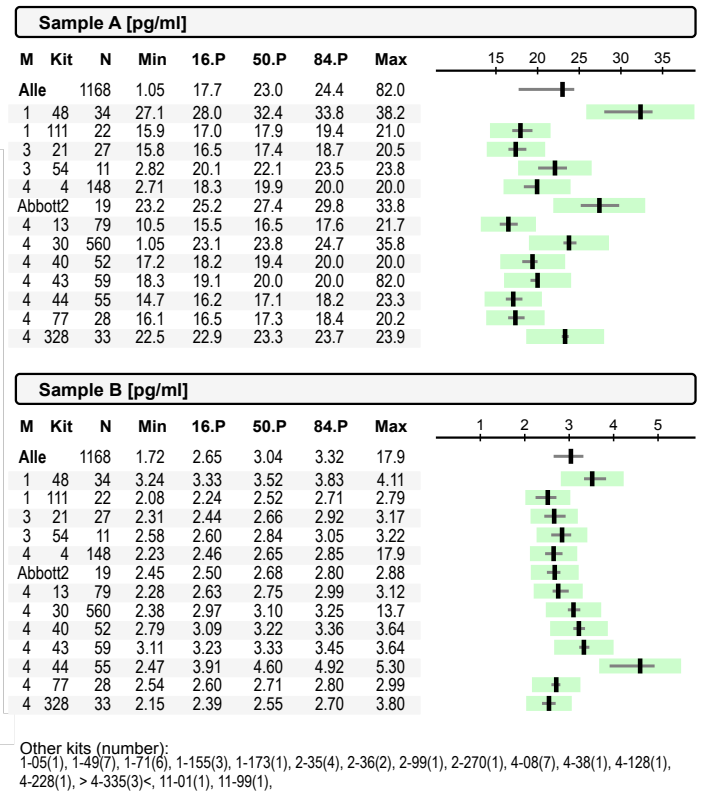
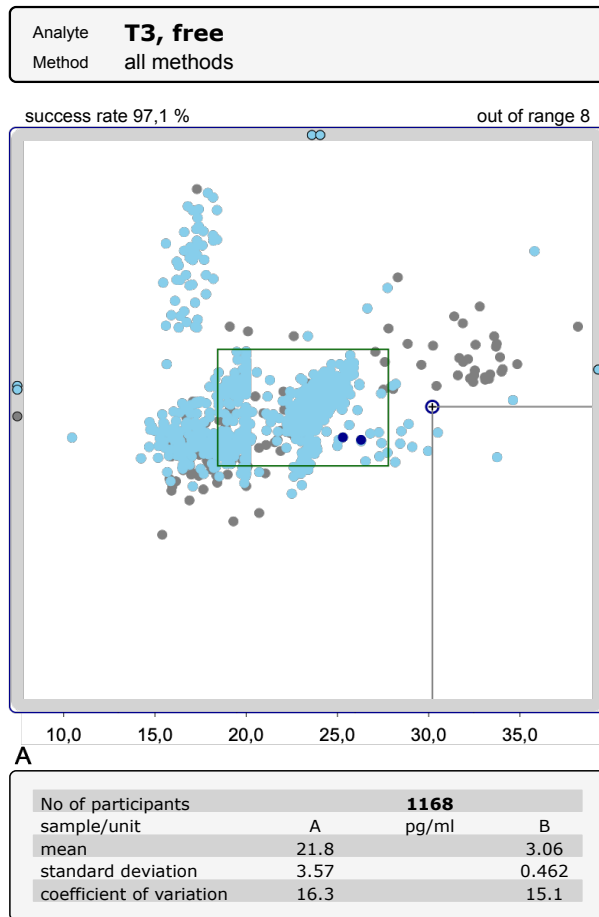
Sample B [ng/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	758		0.018	1.61	1.80	1.94	171
1	111	4	1.32		1.45		1.90
2	35	36	1.77	1.90	1.93	2.00	2.20
3	21	38	0.860	1.26	1.41	1.52	1.69
3	54	19	1.22	1.60	1.88	2.14	2.25
4	4	99	0.360	1.67	1.82	1.94	2.41
4	13	58	1.48	1.57	1.65	1.82	2.24
4	30	268	0.018	1.73	1.82	1.92	5.24
4	40	37	0.950	1.65	1.79	1.90	2.21
4	43	51	1.07	1.59	1.67	1.79	171
4	44	76	0.513	1.73	1.90	2.10	2.55
4	77	18	0.937	1.10	1.25	1.50	7.51
10	47	7	1.71		1.89		2.07
10	99	16	1.18	1.63	1.82	2.10	2.47
11	99	6	1.47		1.81		2.30



Other kits (number):

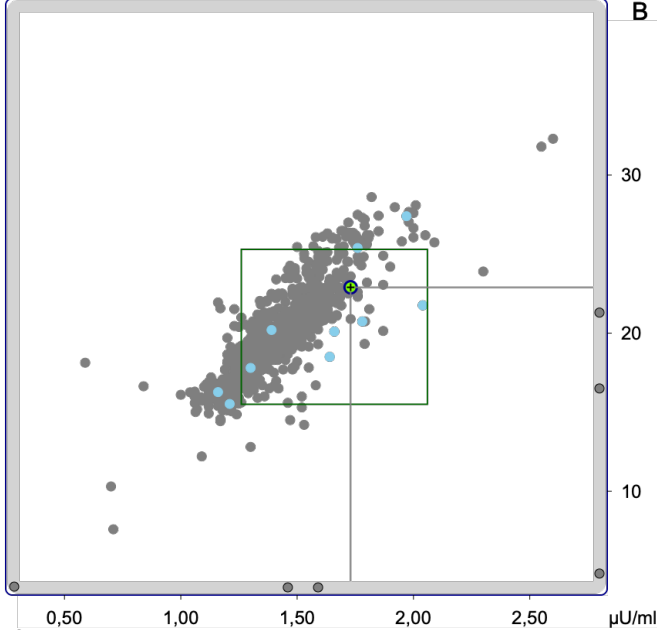
1-99(2), 1-173(1), 2-36(1), 2-41(1), 2-49(1), 2-54(1), 2-56(1), 2-99(1), 2-270(1), 3-99(1), 4-08(1), 4-10(1), 4-23(2), 4-38(1), 4-74(1), 4-335(1), 8-30(2), 8-99(1), 10-134(2), 11-44(1), > 11-335(1)<.



Analyte **TSH**
Method all methods

success rate 98,1 %

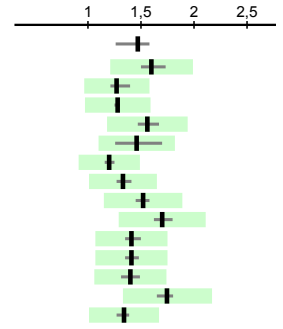
out of range 7



No of participants	1444		
sample/unit	A	µU/ml	B
mean	1.44		20.1
standard deviation	0.170		2.43
coefficient of variation	11.8		12.1

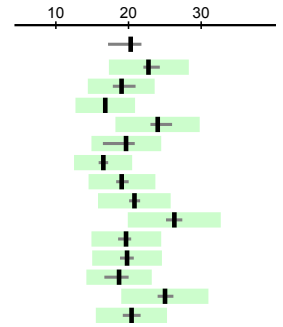
Sample A [µU/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	1444	0.589	1.26	1.47	1.58	117	
1	48	36	1.47	1.50	1.60	1.73	1.98
1	111	18	1.13	1.21	1.27	1.40	1.79
2	35	21	1.22	1.25	1.28	1.30	1.31
3	21	37	1.42	1.47	1.56	1.67	2.01
3	54	13	1.18	1.26	1.46	1.70	1.79
4	4	204	0.700	1.16	1.20	1.25	117
4	13	95	0.589	1.27	1.33	1.41	1.51
4	30	671	1.17	1.45	1.52	1.58	38.5
4	40	19	1.57	1.62	1.70	1.80	2.00
Siem2	43	0.840	1.35	1.41	1.50	1.56	
4	43	63	1.30	1.35	1.41	1.48	1.60
4	44	71	1.20	1.31	1.40	1.49	1.67
4	77	26	1.61	1.65	1.75	1.80	1.98
4	328	56	1.16	1.27	1.34	1.39	1.61



Sample B [µU/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle	1444		1.16	17.2	20.3	21.8	32.3
1	48	36	21.4	22.0	22.8	24.3	27.0
1	111	18	16.9	17.8	19.0	21.0	24.0
2	35	21	15.4	16.5	16.8	17.0	17.1
3	21	37	22.0	23.0	24.0	26.0	28.6
3	54	13	15.6	16.5	19.7	20.9	21.4
4	4	204	1.16	15.9	16.5	17.2	21.5
4	13	95	16.1	18.3	19.1	20.0	21.6
4	30	671	1.25	20.1	20.8	21.6	23.6
4	40	19	21.9	25.2	26.3	27.4	27.6
Siem2	43	12.2	18.6	19.7	20.4	22.5	22.8
4	43	63	18.2	18.8	19.8	20.7	22.8
4	44	71	15.2	16.7	18.7	20.0	22.7
4	77	26	21.1	24.0	25.0	26.2	27.7
4	328	56	18.3	19.2	20.4	21.7	22.5



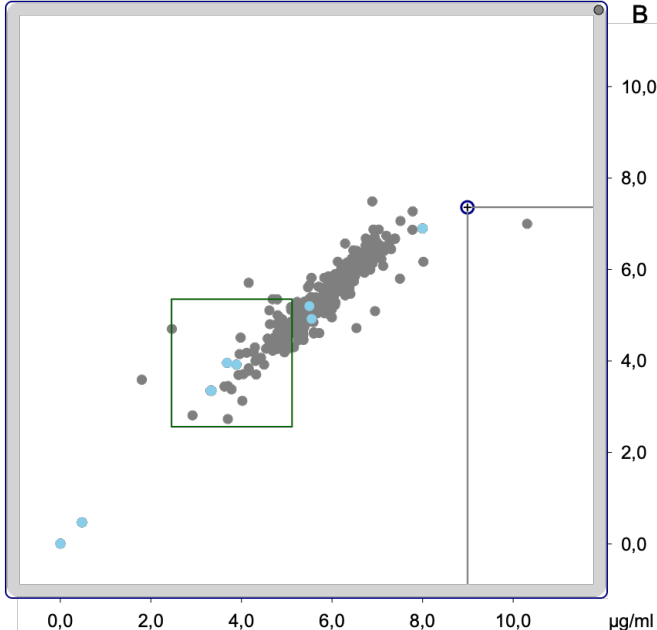
Other kits (number):

1-13(1), 1-21(1), 1-49(8), 1-53(1), 1-71(8), 1-155(3), 1-173(1), 2-25(3), 2-36(2), 2-44(1), 2-54(1), 2-99(4), 2-270(1), 3-99(1), 3-145(1), 4-08(7), 4-21(1), 4-38(1), 4-74(1), 4-128(1), 4-228(2), 4-335(3), 6-30(2), 8-30(4), 8-128(1), 11-04(1), 11-33(1), 11-99(8), > 11-335(1)<.

Analyte **DHEA-S**
Method all methods

success rate 97,2 %

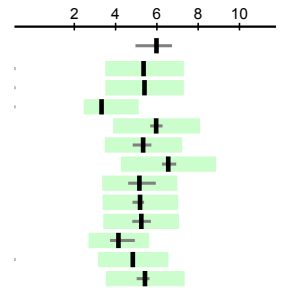
out of range 1



No of participants	439		
sample/unit	A	µg/ml	B
mean	5.83		5.42
standard deviation	0.996		0.871
coefficient of variation	17.1		16.1

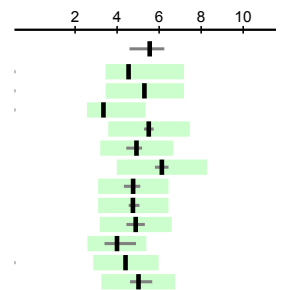
Sample A [µg/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle		439	0.003	4.96	5.98	6.73	749
1	111	3	1.80		5.36		5.47
1	211	3	4.91		5.40		6.13
2	35	3	0.003		3.32		3.68
4	4	58	5.43	5.68	5.97	6.27	6.73
4	13	29	2.46	4.83	5.33	5.73	6.17
4	30	188	5.56	6.25	6.55	6.94	749
4	40	18	3.70	4.61	5.15	5.95	6.08
4	43	30	4.63	4.82	5.18	5.38	5.79
4	44	58	4.16	4.81	5.25	5.71	7.50
4	77	20	2.92	3.73	4.14	4.93	5.10
10	47	6	4.27		4.83		5.29
10	99	10	4.95	5.02	5.42	5.64	5.70



Sample B [µg/ml]

M	Kit	N	Min	16.P	50.P	84.P	Max
Alle		439	0.003	4.59	5.55	6.25	685
1	111	3	3.59		4.55		5.61
1	211	3	4.89		5.30		6.17
2	35	3	0.003		3.35		3.96
4	4	58	4.95	5.28	5.51	5.74	6.09
4	13	29	4.05	4.44	4.92	5.19	5.66
4	30	188	4.72	5.80	6.13	6.45	685
4	40	18	2.73	4.32	4.76	5.10	5.28
4	43	30	4.23	4.55	4.75	5.06	5.28
4	44	58	4.19	4.44	4.89	5.32	5.92
4	77	20	2.81	3.40	4.00	4.90	5.35
10	47	6	4.07		4.40		4.82
10	99	10	4.38	4.61	5.02	5.67	5.82



Other kits (number):

1-173(1), 2-36(2), 2-41(1), 2-56(1), > 2-99(1)<, 2-187(1), 2-270(1), 3-54(1), 4-38(1), 4-335(1), 10-75(1), 11-99(1),

