

HUMAN ASSAYED MULTI-SERA - LEVEL 2 (HUM ASY CONTROL 2)

CAT. NO. HN1530	LOT NO. 1106UN
GTIN: 05055273203783	
CAT. NO. HS2611	
GTIN: 05055273203813	
SIZE: 20 x 5ml / 5 x 5ml	EXPIRY: 2020-02-28

INTENDED USE

This product is intended for *in vitro* diagnostic use, in the quality control of diagnostic assays. The Human Assayed Multi-sera is for the control of accuracy.

DEVICE DESCRIPTION

The Human Assayed Multi-sera is supplied at 2 levels, level 2 and 3. Target values and ranges are supplied for the analytes listed in the values section at both levels.

SAFETY PRECAUTIONS AND WARNINGS

For *in vitro* diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests.

However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

OPENED: Store refrigerated (+2°C to +8°C). Reconstituted serum is stable for 8 hours at +15°C to +25°C or 7 days at +2°C to +8°C, and 28 days when frozen once at -18°C to -24°C. (See Limitations)

UNOPENED: Store refrigerated (+2°C to +8°C). Stable to expiration date printed on individual vials.

LIMITATIONS

For Total & Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25µl - 30µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation Total and Prostatic Acid Phosphatase is stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at -18°C to -24°C.

Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.

NEFA is stable for 1 day at +2°C to +8°C.

Total PSA is stable for 4 days at +2°C to +8°C, or 28 days in aliquots frozen at -18°C to -24°C.

Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components.

Different lot numbers of this control should not be interchanged, as the values assigned to the controls vary from lot to lot.

The control should not be used as a calibration material.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

- Carefully reconstitute each vial of lyophilised serum with exactly 5ml of distilled water at +15°C to +25°C. Close the bottle and allow to stand for 30 minutes before use. Ensure contents are completely dissolved by swirling gently. Avoid formation of foam. Do not shake.
- Refer to the Control section of the individual analyser application.
- Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

Human Assayed Multi-sera - Level 2 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

Each batch of assayed human serum is submitted to reference laboratories for assignment against international Reference Standards. Where international Reference Standards are unavailable, Reference Methods are used. Values are also collected from approx. 3000 laboratories worldwide and using a unique statistical analysis, a value is assigned.

With each batch, a control range is provided for individual parameters and each parameter method. The control range is equivalent to the assigned mean $\pm 2S.D.$ This results in an assayed serum with extremely accurate values, which may be confidently used by laboratories to ensure the accuracy of their methods.

If an instrument specific value is not available, refer to the Mean of all Instruments section. If necessary, contact Randox Laboratories - Technical Services, Northern Ireland, tel: +44 (0) 28 9445 1070 or email Technical.Services@randox.com.

NOTES

® All trademarks recognised.

- (1) Applies only in Germany. Ranges established according to the Guidelines of the Federal Chamber of Physicians in Germany.
- (2) Values established by reference laboratories officially recognised by the Federal Chamber of Physicians in Germany.
- (3) DGKC: German Society for Clinical Chemistry.
- (4) IFCC: International Federation of Clinical Chemistry.
- (5) SCE: Scandinavian Committee on Enzymes.

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ABBOTT AEROSET®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
Cholesterol	mmol/l	4.26	3.71	4.81	0.28	0.55	Cholesterol Oxidase
	mg/dl	164	143	185	10.50	21.00	
Creatinine	µmol/l	119	95.5	143	11.75	23.50	Alkaline picrate no deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
Glucose	mmol/l	6.33	5.38	7.28	0.48	0.95	Hexokinase
	mg/dl	114	96.9	131	8.55	17.10	
Protein Total	g/l	57.8	46.2	69.4	5.80	11.60	Biuret reaction end point
	g/dl	5.78	4.62	6.94	0.58	1.16	
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.9	109	7.45	14.90	
Urea	mmol/l	6.95	5.91	7.99	0.52	1.04	Urease kinetic
	mg/dl	41.8	35.5	48.1	3.15	6.30	
	mmol/l	6.95	5.91	7.99	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	5.11	6.65	0.39	0.77	

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Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.9	36.4	49.4	3.25	6.50	Bromocresol Green
	g/dl	4.29	3.64	4.94	0.33	0.65	
	g/l	43.0	36.6	49.4	3.20	6.40	Bromocresol Purple
	g/dl	4.30	3.66	4.94	0.32	0.64	
Alkaline Phosphatase	U/l	157	134	180	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	155	132	178	11.50	23.00	AMP non-optimised 37°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	64	55	73	4.50	9.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	96	82	110	7.00	14.00	Randox liquid stable pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	101	86	116	7.50	15.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.3	11.3	17.3	1.50	3.00	Enzymatic
Bile Acids	µmol/l	27.9	22.3	33.5	2.80	5.60	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	µmol/l	17.5	13.8	21.2	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.02	0.807	1.23	0.11	0.21	
Bilirubin Total	µmol/l	24.8	19.6	30.0	2.60	5.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.48	1.17	1.79	0.16	0.31	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	μmol/l	24.0	19.0	29.0	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.40	1.11	1.69	0.15	0.29	
	μmol/l	24.7	19.5	29.9	2.60	5.20	Diazonium ion
	mg/dl	1.44	1.14	1.74	0.15	0.30	
Calcium	mmol/l	2.34	2.10	2.58	0.12	0.24	Arsenazo III
	mg/dl	9.38	8.42	10.3	0.48	0.96	
Chloride	mmol/l	98.7	90.8	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.29	3.73	4.85	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
Cholinesterase	U/l	6629	5303	7955	663.00	1326.00	Colorimetric Butyrylthiocholine 37°C
	U/l	6659	5327	7991	666.00	1332.00	Agappe - DGKC/Butyrylthiocholine 37°C
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	127	101	153	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	μmol/l	124	98.8	149	12.60	25.20	Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	μmol/l	123	98.0	148	12.50	25.00	Creatinine PAP method
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
Free T4	pmol/l	17.2	12.9	21.5	2.15	4.30	Abbott Architect
	ng/dl	1.34	1.01	1.67	0.17	0.33	
	pg/ml	13.4	10.1	16.7	1.65	3.30	Abbott Architect

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		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	49	42	56	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	49	42	56	3.50	7.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.05	5.14	6.96	0.46	0.91	Hexokinase
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	6.14	5.22	7.06	0.46	0.92	Glucose oxidase
	mg/dl	111	94.1	128	8.45	16.90	
HDL - Cholesterol	mmol/l	1.43	1.21	1.65	0.11	0.22	Direct HDL PPD
	mg/dl	55.2	46.7	63.7	4.25	8.50	
	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct Clearance Method
	mg/dl	53.7	45.5	61.9	4.10	8.20	
	mmol/l	1.43	1.21	1.65	0.11	0.22	HDL - Ultra
	mg/dl	55.2	46.7	63.7	4.25	8.50	
Iron	µmol/l	18.1	14.9	21.3	1.60	3.20	Colorimetric with ppt.
	µg/dl	101	83.3	119	8.85	17.70	
	µmol/l	17.8	14.6	21.0	1.60	3.20	Colorimetric without ppt.
	µg/dl	99.5	81.6	117	8.95	17.90	
Lactate	mmol/l	1.50	1.23	1.77	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.5	11.1	15.9	1.20	2.40	
LD (LDH)	U/l	203	172	234	15.50	31.00	L->P 37°C
	U/l	208	177	239	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	36	29	43	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.05	0.93	1.17	0.06	0.12	Spectrophotometric
	mg/dl	0.729	0.644	0.814	0.04	0.09	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.86	0.76	0.97	0.05	0.10	Arsenazo III
	mg/dl	2.09	1.84	2.34	0.13	0.25	
	mmol/l	0.86	0.76	0.97	0.05	0.10	Enzymatic
	mg/dl	2.09	1.84	2.34	0.13	0.25	
Osmolality	mOsm/kg	301	241	361	30.00	60.00	Calculated
Phosphate Inorganic	mmol/l	1.37	1.17	1.57	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.25	3.63	4.87	0.31	0.62	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	4.06	3.74	4.38	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.1	47.3	70.9	5.90	11.80	Biuret reaction end point
	g/dl	5.91	4.73	7.09	0.59	1.18	
	g/l	59.1	47.3	70.9	5.90	11.80	Biuret reaction kinetic
	g/dl	5.91	4.73	7.09	0.59	1.18	
PSA Total	ng/ml =	14.7	11.1	18.3	1.80	3.60	Abbott Architect
Sodium	mmol/l	145	137	153	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.15	0.92	1.38	0.11	0.23	Abbott Architect
TIBC	µmol/l	47.9	37.9	57.9	5.00	10.00	FE+UIBC(saturation with iron)
	µg/dl	268	212	324	28.00	56.00	
Triglycerides	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.9	77.8	108	7.55	15.10	
	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	92.9	77.7	108	7.60	15.20	
	mmol/l	1.06	0.89	1.23	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	93.8	78.6	109	7.60	15.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

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Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	93.8	78.8	109	7.50	15.00	
Urea	mmol/l	7.10	6.04	8.16	0.53	1.06	Urease end point
	mg/dl	42.7	36.3	49.1	3.20	6.40	
	mmol/l	7.06	6.00	8.12	0.53	1.06	Urease kinetic
	mg/dl	42.4	36.1	48.7	3.15	6.30	
	mmol/l	7.06	6.00	8.12	0.53	1.06	BUN
	mg/dl	19.8	16.8	22.8	1.50	3.00	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	5.01	6.51	0.38	0.75	

ABX Pentra 400®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
Alkaline Phosphatase	U/l	158	134	182	12.00	24.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	23.4	18.5	28.3	2.45	4.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.37	1.08	1.66	0.15	0.29	
Calcium	mmol/l	2.33	2.10	2.56	0.12	0.23	Arsenazo III
	mg/dl	9.34	8.42	10.3	0.46	0.92	
Chloride	mmol/l	97.8	90.0	106	3.90	7.80	ISE direct
Cholesterol	mmol/l	4.35	3.79	4.91	0.28	0.56	Cholesterol Oxidase
	mg/dl	168	146	190	11.00	22.00	
CK Total	U/l	201	165	237	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Glucose oxidase
	mg/dl	112	94.8	129	8.60	17.20	
Iron	µmol/l	17.6	14.5	20.7	1.55	3.10	Colorimetric without ppt.
	µg/dl	98.4	81.1	116	8.65	17.30	
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.74	4.03	5.45	0.36	0.71	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Potassium	mmol/l	3.96	3.64	4.28	0.16	0.32	ISE method - direct
Protein Total	g/l	60.3	48.2	72.4	6.05	12.10	Biuret reaction end point
	g/dl	6.03	4.82	7.24	0.61	1.21	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.5	115	7.80	15.60	
Urea	mmol/l	7.02	5.97	8.07	0.53	1.05	Urease kinetic
	mg/dl	42.2	35.9	48.5	3.15	6.30	
	mmol/l	7.02	5.97	8.07	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Direct	μmol/l	16.7	13.2	20.2	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.977	0.772	1.18	0.10	0.21	
Calcium	mmol/l	2.31	2.08	2.54	0.12	0.23	Arsenazo III
	mg/dl	9.26	8.34	10.2	0.46	0.92	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase
	mg/dl	157	137	177	10.00	20.00	
	mmol/l	4.21	3.67	4.75	0.27	0.54	Agappe - CHOD-PAP
	mg/dl	163	142	184	10.50	21.00	
Creatinine	μmol/l	121	97.0	145	12.00	24.00	Alkaline picrate no deproteinization
	mg/dl	1.37	1.10	1.64	0.14	0.27	
Glucose	mmol/l	6.26	5.32	7.20	0.47	0.94	Hexokinase
	mg/dl	113	95.9	130	8.55	17.10	
Protein Total	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction end point
	g/dl	5.88	4.70	7.06	0.59	1.18	
	g/l	58.6	46.9	70.3	5.85	11.70	Biuret reaction kinetic
	g/dl	5.86	4.69	7.03	0.59	1.17	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.4	115	7.85	15.70	

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.18	6.11	8.25	0.54	1.07	Urease kinetic
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.18	6.10	8.26	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	5.01	6.51	0.38	0.75	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-HBDH	U/l	222	175	269	23.50	47.00	Oxobutyrate < 10 mmol/l 37°C
Albumin	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Green
	g/dl	4.20	3.57	4.83	0.32	0.63	
	g/l	47.3	40.2	54.4	3.55	7.10	Bromocresol Purple
	g/dl	4.73	4.02	5.44	0.36	0.71	
Alkaline Phosphatase	U/l	256	218	294	19.00	38.00	Diethanolamine buffer DEA 37°C
	U/l	186	158	214	14.00	28.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	64	55	73	4.50	9.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	82	70	94	6.00	12.00	pNP Maltotriose substrates 37°C
	U/l	80	68	92	6.00	12.00	Biotrol - blocked pNPG7 37°C
	U/l	81	69	93	6.00	12.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	88	75	101	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	18.3	14.5	22.1	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.07	0.848	1.29	0.11	0.22	
	µmol/l	17.8	14.1	21.5	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.04	0.825	1.26	0.11	0.22	
Bilirubin Total	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.29	1.99	0.18	0.35	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	μmol/l	28.1	22.2	34.0	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	1.30	1.98	0.17	0.34	
	μmol/l	27.9	22.1	33.7	2.90	5.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	μmol/l	28.4	22.4	34.4	3.00	6.00	DPD (Beckman AU)
	mg/dl	1.66	1.31	2.01	0.18	0.35	
Calcium	mmol/l	2.37	2.14	2.60	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.50	8.58	10.4	0.46	0.92	
	mmol/l	2.39	2.15	2.63	0.12	0.24	Arsenazo III
	mg/dl	9.58	8.62	10.5	0.48	0.96	
Chloride	mmol/l	96.7	89.0	104	3.85	7.70	ISE indirect
Cholesterol	mmol/l	4.33	3.77	4.89	0.28	0.56	Cholesterol Oxidase
	mg/dl	167	146	188	10.50	21.00	
Cholinesterase	U/l	5133	4106	6160	513.50	1027.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
Copper	μmol/l	16.3	13.1	19.5	1.60	3.20	Colorimetric
	μg/dl	104	83.3	125	10.35	20.70	
Creatinine	μmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	μmol/l	125	100	150	12.50	25.00	Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	125	99.9	150	12.55	25.10	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	128	103	153	12.50	25.00	Jaffe rate blanked
	mg/dl	1.45	1.16	1.74	0.15	0.29	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	119	95.4	143	11.80	23.60	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	μmol/l	121	96.6	145	12.20	24.40	IDMS traceable
	mg/dl	1.37	1.09	1.65	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	52	45	59	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	44	38	50	3.00	6.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	18	14	22	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Hexokinase
	mg/dl	112	95.1	129	8.45	16.90	
	mmol/l	6.25	5.31	7.19	0.47	0.94	Glucose oxidase
	mg/dl	113	95.7	130	8.65	17.30	
HDL - Cholesterol	mmol/l	1.44	1.23	1.65	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	55.6	47.5	63.7	4.05	8.10	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Direct Clearance Method
	mg/dl	57.1	48.6	65.6	4.25	8.50	
	mmol/l	1.45	1.23	1.67	0.11	0.22	HDL - Ultra
	mg/dl	56.0	47.5	64.5	4.25	8.50	
Iron	μmol/l	18.9	15.5	22.3	1.70	3.40	Colorimetric with ppt.
	μg/dl	106	86.6	125	9.70	19.40	
	μmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric without ppt.
	μg/dl	103	85.0	121	9.00	18.00	
Lactate	mmol/l	1.44	1.18	1.70	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.0	10.6	15.4	1.20	2.40	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	205	174	236	15.50	31.00	L->P 37°C
	U/l	447	380	514	33.50	67.00	P->L Scandinavian & Dutch 37°C
	U/l	208	177	239	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	35	28	42	3.50	7.00	Other Colorimetric 37°C
	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
	mg/dl	0.708	0.626	0.790	0.04	0.08	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.43	3.78	5.08	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.04	3.72	4.36	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.4	48.3	72.5	6.05	12.10	Biuret reaction end point
	g/dl	6.04	4.83	7.25	0.61	1.21	
	g/l	59.7	47.7	71.7	6.00	12.00	Biuret reaction kinetic
	g/dl	5.97	4.77	7.17	0.60	1.20	
Sodium	mmol/l	144	136	152	4.00	8.00	ISE method - indirect
TIBC	µmol/l	50.0	39.5	60.5	5.25	10.50	FE+UIBC(saturation with iron)
	µg/dl	280	221	339	29.50	59.00	
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.9	116	8.05	16.10	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.02	5.97	8.07	0.53	1.05	Urease end point
	mg/dl	42.2	35.9	48.5	3.15	6.30	
	mmol/l	7.14	6.07	8.21	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.5	49.3	3.20	6.40	
	mmol/l	7.14	6.07	8.21	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.01	5.22	6.80	0.40	0.79	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
Zinc	µmol/l	30.2	24.2	36.2	3.00	6.00	Colorimetric with deproteinisation
	µg/dl	197	158	236	19.50	39.00	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
	g/l	46.1	39.2	53.0	3.45	6.90	Bromocresol Purple
	g/dl	4.61	3.92	5.30	0.35	0.69	
Alkaline Phosphatase	U/l	174	148	200	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	171	145	197	13.00	26.00	AMP non-optimised 37°C
ALT (GPT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37°C
	U/l	35	28	42	3.50	7.00	Tris buffer SCE 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	90	77	103	6.50	13.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	38	31	45	3.50	7.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	15.0	11.9	18.1	1.55	3.10	Differential rate pH change
	mmol/l	14.8	11.8	17.8	1.50	3.00	Ion selective electrode
Bilirubin Direct	µmol/l	12.1	9.58	14.6	1.26	2.52	Diazo with Sulphanilic Acid
	mg/dl	0.708	0.560	0.856	0.07	0.15	
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.28	1.94	0.17	0.33	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Ion selective electrode
	mg/dl	9.18	8.26	10.1	0.46	0.92	
	mmol/l	2.30	2.07	2.53	0.12	0.23	Arsenazo III
	mg/dl	9.22	8.30	10.1	0.46	0.92	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	97.8	90.0	106	3.90	7.80	ISE indirect
Cholesterol	mmol/l	4.25	3.69	4.81	0.28	0.56	Cholesterol Oxidase
	mg/dl	164	142	186	11.00	22.00	
Cholinesterase	U/l	5344	4275	6413	534.50	1069.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	214	176	252	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	214	176	252	19.00	38.00	Monothioglycerol 37°C
Creatinine	μmol/l	121	96.7	145	12.15	24.30	Alkaline picrate no deproteinization
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	μmol/l	122	97.4	147	12.30	24.60	Enzymatic UV method
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	μmol/l	122	97.9	146	12.05	24.10	Jaffe rate blanked
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	μmol/l	120	95.8	144	12.10	24.20	IDMS traceable
	mg/dl	1.36	1.08	1.64	0.14	0.28	
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.99	5.10	6.88	0.45	0.89	Hexokinase
	mg/dl	108	91.9	124	8.05	16.10	
	mmol/l	5.92	5.03	6.81	0.45	0.89	Glucose oxidase
	mg/dl	107	90.6	123	8.20	16.40	
HDL - Cholesterol	mmol/l	1.56	1.33	1.79	0.12	0.23	Direct HDL PPD
	mg/dl	60.2	51.3	69.1	4.45	8.90	
	mmol/l	1.49	1.27	1.71	0.11	0.22	HDL - Ultra
	mg/dl	57.5	49.0	66.0	4.25	8.50	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	17.8	14.6	21.0	1.60	3.20	Colorimetric without ppt.
	µg/dl	99.5	81.6	117	8.95	17.90	
Lactate	mmol/l	1.45	1.19	1.71	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.1	10.7	15.5	1.20	2.40	
LD (LDH)	U/l	178	151	205	13.50	27.00	L->P 37°C
	U/l	520	442	598	39.00	78.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.626	0.804	0.04	0.09	
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Calmagite
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	3.97	3.66	4.28	0.16	0.31	ISE method - indirect
Protein Total	g/l	60.4	48.3	72.5	6.05	12.10	Biuret reaction CX4/5/7
	g/dl	6.04	4.83	7.25	0.61	1.21	
	g/l	61.0	48.8	73.2	6.10	12.20	Biuret reaction end point
	g/dl	6.10	4.88	7.32	0.61	1.22	
	g/l	59.6	47.7	71.5	5.95	11.90	Biuret reaction kinetic
	g/dl	5.96	4.77	7.15	0.60	1.19	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	46.7	36.9	56.5	4.90	9.80	Removal of excess free iron
	µg/dl	261	206	316	27.50	55.00	
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.7	118	8.15	16.30	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	84.9	117	8.05	16.10	
Urea	mmol/l	7.57	6.43	8.71	0.57	1.14	Urease end point
	mg/dl	45.5	38.6	52.4	3.45	6.90	
	mmol/l	7.45	6.33	8.57	0.56	1.12	Urease kinetic
	mg/dl	44.8	38.0	51.6	3.40	6.80	
	mmol/l	7.45	6.33	8.57	0.56	1.12	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.58	4.86	6.30	0.36	0.72	

BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.0	34.8	47.2	3.10	6.20	Bromocresol Green
	g/dl	4.10	3.48	4.72	0.31	0.62	
Alkaline Phosphatase	U/l	151	129	173	11.00	22.00	AMP optimised to IFCC 37°C
	U/l	118	100	136	9.00	18.00	AMP optimised to IFCC 30°C
	U/l	96	82	110	7.00	14.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	41	32	50	4.50	9.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	15	25	2.50	5.00	Tris buffer without P5P 25°C
Cholesterol	mmol/l	4.26	3.71	4.81	0.28	0.55	Cholesterol Oxidase
	mg/dl	164	143	185	10.50	21.00	
Creatinine	µmol/l	120	96.0	144	12.00	24.00	Alkaline picrate no deproteinization
	mg/dl	1.36	1.08	1.64	0.14	0.28	
Glucose	mmol/l	6.35	5.39	7.31	0.48	0.96	Glucose oxidase
	mg/dl	114	97.1	131	8.45	16.90	
Protein Total	g/l	59.4	47.5	71.3	5.95	11.90	Biuret reaction end point
	g/dl	5.94	4.75	7.13	0.60	1.19	
Triglycerides	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.9	110	7.40	14.80	

BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Urease kinetic
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	

BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
Alkaline Phosphatase	U/l	157	134	180	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	122	104	140	9.00	18.00	AMP optimised to IFCC 30°C
	U/l	100	86	114	7.00	14.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	42	33	51	4.50	9.00	Tris buffer without P5P 37°C
	U/l	31	24	38	3.50	7.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	45	36	54	4.50	9.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	29.8	23.6	36.0	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.74	1.38	2.10	0.18	0.36	
Calcium	mmol/l	2.35	2.11	2.59	0.12	0.24	Arsenazo III
	mg/dl	9.42	8.46	10.4	0.48	0.96	
Cholesterol	mmol/l	4.35	3.78	4.92	0.29	0.57	Cholesterol Oxidase
	mg/dl	168	146	190	11.00	22.00	
CK Total	U/l	223	183	263	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	140	115	165	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	95	78	112	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	118	94.1	142	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.33	1.06	1.60	0.14	0.27	

BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Glucose oxidase
	mg/dl	112	95.1	129	8.45	16.90	
HDL - Cholesterol	mmol/l	1.51	1.28	1.74	0.12	0.23	HDL - Ultra
	mg/dl	58.3	49.4	67.2	4.45	8.90	
LD (LDH)	U/l	452	384	520	34.00	68.00	P->L Scandinavian & Dutch 37°C
	U/l	326	277	375	24.50	49.00	P->L Scandinavian & Dutch 30°C
	U/l	229	195	263	17.00	34.00	P->L Scandinavian & Dutch 25°C
	U/l	433	368	498	32.50	65.00	P->L German methods 37°C
	U/l	313	266	360	23.50	47.00	P->L German methods 30°C
	U/l	220	187	253	16.50	33.00	P->L German methods 25°C
Protein Total	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction end point
	g/dl	5.84	4.67	7.01	0.59	1.17	
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
Urea	mmol/l	6.65	5.65	7.65	0.50	1.00	Urease kinetic
	mg/dl	40.0	34.0	46.0	3.00	6.00	
	mmol/l	6.65	5.65	7.65	0.50	1.00	BUN
	mg/dl	18.7	15.9	21.5	1.40	2.80	
Uric Acid (Urate)	mmol/l	0.37	0.32	0.41	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.15	5.36	6.94	0.40	0.79	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	

Biotechnica/Weiner BT and CB Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.4	34.3	46.5	3.05	6.10	Bromocresol Green
	g/dl	4.04	3.43	4.65	0.31	0.61	
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	15.4	12.2	18.6	1.60	3.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.901	0.714	1.09	0.09	0.19	
Calcium	mmol/l	2.43	2.19	2.67	0.12	0.24	Arsenazo III
	mg/dl	9.74	8.78	10.7	0.48	0.96	
Cholesterol	mmol/l	4.25	3.70	4.80	0.28	0.55	Cholesterol Oxidase
	mg/dl	164	143	185	10.50	21.00	
Creatinine	µmol/l	118	94.1	142	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.33	1.06	1.60	0.14	0.27	
	µmol/l	124	99.0	149	12.50	25.00	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

Biotechnica/Weiner BT and CB Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.12	5.20	7.04	0.46	0.92	Glucose oxidase
	mg/dl	110	93.7	126	8.15	16.30	
LD (LDH)	U/l	415	352	478	31.50	63.00	P->L SFBC 37°C
	U/l	300	254	346	23.00	46.00	P->L SFBC 30°C
	U/l	210	178	242	16.00	32.00	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Protein Total	g/l	57.8	46.2	69.4	5.80	11.60	Biuret reaction end point
	g/dl	5.78	4.62	6.94	0.58	1.16	
Triglycerides	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.8	109	7.50	15.00	
Urea	mmol/l	6.80	5.78	7.82	0.51	1.02	Urease kinetic
	mg/dl	40.9	34.7	47.1	3.10	6.20	
	mmol/l	6.80	5.78	7.82	0.51	1.02	BUN
	mg/dl	19.1	16.2	22.0	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.73	4.99	6.47	0.37	0.74	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.6	37.9	51.3	3.35	6.70	Bromocresol Green
	g/dl	4.46	3.79	5.13	0.34	0.67	
	g/l	40.4	34.3	46.5	3.05	6.10	Turbidimetric Assays
	g/dl	4.04	3.43	4.65	0.31	0.61	
Alkaline Phosphatase	U/l	133	113	153	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	104	88	120	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	85	72	98	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	64	54	74	5.00	10.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.4	11.4	17.4	1.50	3.00	Colorimetric
	mmol/l	14.7	11.7	17.7	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	16.7	13.2	20.2	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.977	0.772	1.18	0.10	0.21	
	µmol/l	16.6	13.1	20.1	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.971	0.766	1.18	0.10	0.21	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	16.6	13.2	20.0	1.70	3.40	Diazo with Dichloroaniline (DCA)
	mg/dl	0.971	0.772	1.17	0.10	0.20	
Bilirubin Total	µmol/l	25.7	20.3	31.1	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	µmol/l	24.7	19.5	29.9	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	24.8	19.6	30.0	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	24.9	19.7	30.1	2.60	5.20	Diazonium ion
	mg/dl	1.46	1.15	1.77	0.16	0.31	
Calcium	mmol/l	2.32	2.09	2.55	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.33	2.10	2.56	0.12	0.23	NM-BAPTA
	mg/dl	9.34	8.42	10.3	0.46	0.92	
Chloride	mmol/l	98.0	90.2	106	3.90	7.80	ISE indirect
Cholesterol	mmol/l	4.36	3.80	4.92	0.28	0.56	Cholesterol Oxidase
	mg/dl	168	147	189	10.50	21.00	
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	132	108	156	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	118	94.1	142	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.33	1.06	1.60	0.14	0.27	
	µmol/l	124	98.9	149	12.55	25.10	Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	124	99.4	149	12.30	24.60	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	μmol/l	122	97.9	146	12.05	24.10	Roche Creatinine Plus
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	μmol/l	119	95.4	143	11.80	23.60	Jaffe rate blanked
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	μmol/l	118	94.7	141	11.65	23.30	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	μmol/l	118	94.0	142	12.00	24.00	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.33	1.06	1.60	0.14	0.27	
	U/l	45	38	52	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	23	33	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	44	58	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	35	45	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
Glucose	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	6.17	5.24	7.10	0.47	0.93	Hexokinase
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	6.32	5.37	7.27	0.48	0.95	Glucose oxidase
HDL - Cholesterol	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	1.63	1.39	1.87	0.12	0.24	Direct HDL PEGME
	mg/dl	62.9	53.7	72.1	4.60	9.20	
	mmol/l	1.68	1.42	1.94	0.13	0.26	Direct HDL Roche 3rd generation
Iron	mg/dl	64.8	54.8	74.8	5.00	10.00	
	μmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric with ppt.
	μg/dl	109	89.4	129	9.80	19.60	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	μmol/l	18.9	15.5	22.3	1.70	3.40	Colorimetric without ppt.
	μg/dl	106	86.6	125	9.70	19.40	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	395	336	454	29.50	59.00	P->L German methods 37°C
	U/l	285	243	327	21.00	42.00	P->L German methods 30°C
	U/l	200	170	230	15.00	30.00	P->L German methods 25°C
	U/l	217	185	249	16.00	32.00	L->P IFCC 37°C
	U/l	157	134	180	11.50	23.00	L->P IFCC 30°C
	U/l	110	94	126	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	34	27	41	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Ion selective electrode
	mg/dl	0.715	0.627	0.803	0.04	0.09	
Magnesium	mmol/l	0.88	0.78	0.99	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.15	1.89	2.41	0.13	0.26	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.53	3.84	5.22	0.35	0.69	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	ISE method - indirect
Protein Total	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction end point
	g/dl	5.84	4.67	7.01	0.59	1.17	
	g/l	58.9	47.1	70.7	5.90	11.80	Biuret reaction kinetic
	g/dl	5.89	4.71	7.07	0.59	1.18	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	μmol/l	47.9	37.8	58.0	5.05	10.10	FE+UIBC(saturation with iron)
	μg/dl	268	211	325	28.50	57.00	
	μmol/l	48.7	38.5	58.9	5.10	10.20	Direct Colorimetric
	μg/dl	272	215	329	28.50	57.00	
Triglycerides	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.8	110	7.45	14.90	
	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	79.3	110	7.70	15.40	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.1	114	8.05	16.10	
	mmol/l	1.07	0.90	1.25	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	79.2	110	7.75	15.50	
Urea	mmol/l	6.66	5.66	7.66	0.50	1.00	Urease kinetic
	mg/dl	40.0	34.0	46.0	3.00	6.00	
	mmol/l	6.66	5.66	7.66	0.50	1.00	BUN
	mg/dl	18.7	15.9	21.5	1.40	2.80	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.09	6.63	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
Alkaline Phosphatase	U/l	257	218	296	19.50	39.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	26.2	20.7	31.7	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.53	1.21	1.85	0.16	0.32	
Calcium	mmol/l	2.35	2.11	2.59	0.12	0.24	Arsenazo III
	mg/dl	9.42	8.46	10.4	0.48	0.96	
Cholesterol	mmol/l	4.27	3.71	4.83	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	143	187	11.00	22.00	
CK Total	U/l	224	183	265	20.50	41.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	116	92.9	139	11.55	23.10	Alkaline picrate no deproteinization
	mg/dl	1.31	1.05	1.57	0.13	0.26	
	µmol/l	120	96.0	144	12.00	24.00	Jaffe rate blanked
	mg/dl	1.36	1.08	1.64	0.14	0.28	
Glucose	mmol/l	6.22	5.29	7.15	0.47	0.93	Glucose oxidase
	mg/dl	112	95.3	129	8.35	16.70	
LD (LDH)	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	61.2	49.0	73.4	6.10	12.20	Biuret reaction end point
	g/dl	6.12	4.90	7.34	0.61	1.22	
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.3	116	7.85	15.70	
Urea	mmol/l	6.99	5.94	8.04	0.53	1.05	Urease kinetic
	mg/dl	42.0	35.7	48.3	3.15	6.30	
	mmol/l	6.99	5.94	8.04	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.14	6.66	0.38	0.76	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
alpha-HBDH	U/l	246	194	298	26.00	52.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	186	146	226	20.00	40.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	139	110	168	14.50	29.00	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	2.90	1.94	3.86	0.48	0.96	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	3.69	2.47	4.91	0.61	1.22	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	10.5	7.04	14.0	1.73	3.46	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	10.1	6.77	13.4	1.67	3.33	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	13.4	8.98	17.8	2.21	4.42	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	13.8	9.25	18.4	2.28	4.55	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
	g/l	43.6	37.1	50.1	3.25	6.50	Bromocresol Purple
	g/dl	4.36	3.71	5.01	0.33	0.65	
Alkaline Phosphatase	U/l	122	104	140	9.00	18.00	Roche Integra AMP buffer 37°C
	U/l	95	81	109	7.00	14.00	Roche Integra AMP buffer 30°C
	U/l	78	66	90	6.00	12.00	Roche Integra AMP buffer 25°C
	U/l	184	156	212	14.00	28.00	AMP optimised to IFCC 37°C
	U/l	143	122	164	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	118	100	136	9.00	18.00	AMP optimised to IFCC 25°C
	U/l	171	145	197	13.00	26.00	Randox AMP 37°C
	U/l	133	113	153	10.00	20.00	Randox AMP 30°C
	U/l	109	93	125	8.00	16.00	Randox AMP 25°C

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Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	63	54	72	4.50	9.00	Roche liquid stable pNPG7 37°C
	U/l	72	61	83	5.50	11.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	83	71	95	6.00	12.00	Roche liquid stable pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Enzymatic
Bile Acids	µmol/l	25.1	20.1	30.1	2.50	5.00	5th Generation Colorimetric
Bilirubin Direct	µmol/l	16.7	13.2	20.2	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.977	0.772	1.18	0.10	0.21	
	µmol/l	16.7	13.2	20.2	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.977	0.772	1.18	0.10	0.21	
Bilirubin Total	µmol/l	24.6	19.4	29.8	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.13	1.75	0.16	0.31	
	µmol/l	24.3	19.2	29.4	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.1	19.1	29.1	2.50	5.00	Diazonium ion
	mg/dl	1.41	1.12	1.70	0.15	0.29	
Calcium	mmol/l	2.35	2.11	2.59	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.42	8.46	10.4	0.48	0.96	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.32	2.08	2.56	0.12	0.24	Arsenazo III
	mg/dl	9.30	8.34	10.3	0.48	0.96	
	mmol/l	2.35	2.12	2.58	0.12	0.23	NM-BAPTA
	mg/dl	9.42	8.50	10.3	0.46	0.92	
Chloride	mmol/l	93.9	86.4	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	4.28	3.73	4.83	0.28	0.55	Cholesterol Oxidase
	mg/dl	165	144	186	10.50	21.00	
Cholinesterase	U/l	5403	4322	6484	540.50	1081.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	196	161	231	17.50	35.00	CK-NAC substrate start (DGKC) 37°C
	U/l	123	101	145	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	198	162	234	18.00	36.00	CK-NAC (IFCC) 37°C
	U/l	124	101	147	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	84	69	99	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Creatinine PAP method
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	124	99.5	149	12.25	24.50	Roche Creatinine Plus
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
D-3-Hydroxybutyrate	mmol/l	0.26	0.22	0.30	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	44	37	51	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	29	41	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	48	41	55	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	32	44	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	25	35	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	55	47	63	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	37	49	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	34	29	39	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	22	17	27	2.50	5.00	Triethanolamine buffer 50 mmol 37°C
	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 30°C
	U/l	14	11	17	1.50	3.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.12	5.20	7.04	0.46	0.92	Hexokinase
	mg/dl	110	93.7	126	8.15	16.30	
	mmol/l	6.17	5.25	7.09	0.46	0.92	Glucose oxidase
	mg/dl	111	94.6	127	8.20	16.40	
HDL - Cholesterol	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL PEGME
	mg/dl	62.5	53.3	71.7	4.60	9.20	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL Roche 3rd generation
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	µmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.3	121	9.35	18.70	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	411	349	473	31.00	62.00	P->L German methods 37°C
	U/l	297	252	342	22.50	45.00	P->L German methods 30°C
	U/l	208	177	239	15.50	31.00	P->L German methods 25°C
	U/l	203	172	234	15.50	31.00	L->P IFCC 37°C
	U/l	147	124	170	11.50	23.00	L->P IFCC 30°C
	U/l	103	87	119	8.00	16.00	L->P IFCC 25°C

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Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.09	0.96	1.22	0.06	0.13	Spectrophotometric
	mg/dl	0.757	0.667	0.847	0.05	0.09	
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.12	3.79	4.45	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.2	48.2	72.2	6.00	12.00	Biuret reaction end point
	g/dl	6.02	4.82	7.22	0.60	1.20	
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
TIBC	µmol/l	47.5	37.5	57.5	5.00	10.00	FE+UIBC(saturation with iron)
	µg/dl	266	210	322	28.00	56.00	
Triglycerides	mmol/l	1.05	0.89	1.22	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.9	78.3	108	7.30	14.60	
Urea	mmol/l	7.29	6.20	8.38	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.3	50.3	3.25	6.50	
	mmol/l	7.29	6.20	8.38	0.55	1.09	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	

ILab 600®/650®/Aries/Taurus

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
ALT (GPT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	81	69	93	6.00	12.00	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.58	1.25	1.91	0.17	0.33	
Calcium	mmol/l	2.33	2.10	2.56	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.34	8.42	10.3	0.46	0.92	
Chloride	mmol/l	96.3	88.6	104	3.85	7.70	ISE indirect
Cholesterol	mmol/l	4.23	3.68	4.78	0.28	0.55	Cholesterol Oxidase
	mg/dl	163	142	184	10.50	21.00	
CK Total	U/l	189	155	223	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	118	97	139	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	80	66	94	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	

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Analyte	unit	Target	low	high	1SD	2SD	methods
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.22	5.29	7.15	0.47	0.93	Hexokinase
	mg/dl	112	95.3	129	8.35	16.70	
	mmol/l	6.01	5.11	6.91	0.45	0.90	Glucose oxidase
	mg/dl	108	92.1	124	7.95	15.90	
HDL - Cholesterol	mmol/l	1.29	1.10	1.48	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	49.8	42.5	57.1	3.65	7.30	
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Enzymatic
	mg/dl	2.13	1.87	2.39	0.13	0.26	
Phosphate Inorganic	mmol/l	1.39	1.19	1.59	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.31	3.69	4.93	0.31	0.62	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.50	3.81	5.19	0.35	0.69	
Potassium	mmol/l	4.17	3.84	4.50	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.7	48.6	72.8	6.05	12.10	Biuret reaction end point
	g/dl	6.07	4.86	7.28	0.61	1.21	
Sodium	mmol/l	147	139	155	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.5	114	7.85	15.70	

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Triglycerides	mmol/l	1.09	0.91	1.27	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	96.5	80.8	112	7.85	15.70	
Urea	mmol/l	7.30	6.21	8.39	0.55	1.09	Urease end point
	mg/dl	43.9	37.3	50.5	3.30	6.60	
	mmol/l	7.30	6.21	8.39	0.55	1.09	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	

JOHNSON AND JOHNSON VITROS®

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Albumin	g/l	40.6	34.5	46.7	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.06	3.45	4.67	0.31	0.61	
Alkaline Phosphatase	U/l	141	120	162	10.50	21.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	47	37	57	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	64	54	74	5.00	10.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	55	44	66	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	16.8	13.3	20.3	1.75	3.50	Ortho Vitros Microslide Systems
Bilirubin Direct	µmol/l	10.4	8.21	12.6	1.10	2.19	Vitros conjugated from BUBC
	mg/dl	0.608	0.480	0.736	0.06	0.13	
Bilirubin Total	µmol/l	24.5	19.3	29.7	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	23.9	18.9	28.9	2.50	5.00	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.40	1.11	1.69	0.15	0.29	
Calcium	mmol/l	2.39	2.16	2.62	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	9.58	8.66	10.5	0.46	0.92	
Chloride	mmol/l	98.0	90.2	106	3.90	7.80	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	4.14	3.60	4.68	0.27	0.54	Ortho Vitros Microslide Systems
	mg/dl	160	139	181	10.50	21.00	
Cholinesterase	U/l	5383	4306	6460	538.50	1077.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	183	150	216	16.50	33.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	123	98.3	148	12.35	24.70	Vitros IDMS Traceable
	mg/dl	1.39	1.11	1.67	0.14	0.28	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	38.1	28.6	47.6	4.75	9.50	Vitros ECI
	ng/dl	2.97	2.23	3.71	0.37	0.74	
	pg/ml	29.7	22.3	37.1	3.70	7.40	Vitros ECI
gamma-GT	U/l	63	53	73	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	5.93	5.04	6.82	0.45	0.89	Ortho Vitros Microslide Systems
	mg/dl	107	90.8	123	8.10	16.20	
HDL - Cholesterol	mmol/l	1.63	1.39	1.87	0.12	0.24	Vitros Magnetic HDL
	mg/dl	62.9	53.7	72.1	4.60	9.20	
	mmol/l	1.60	1.36	1.84	0.12	0.24	Vitros 5.1 FS microtip assay
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Ortho Vitros Microslide Systems
	µg/dl	110	90.0	130	10.00	20.00	
Lactate	mmol/l	1.38	1.13	1.63	0.13	0.25	Ortho Vitros Microslide Systems
	mg/dl	12.4	10.2	14.6	1.10	2.20	
LD (LDH)	U/l	609	518	700	45.50	91.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	245	196	294	24.50	49.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.25	1.10	1.40	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.868	0.764	0.972	0.05	0.10	
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.11	1.86	2.36	0.13	0.25	
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.62	3.91	5.33	0.36	0.71	

JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.11	3.78	4.44	0.17	0.33	Ortho Vitros Microslide Systems
Protein Total	g/l	60.6	48.5	72.7	6.05	12.10	Ortho Vitros Microslide Systems
	g/dl	6.06	4.85	7.27	0.61	1.21	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.34	1.07	1.61	0.14	0.27	Vitros ECI
TIBC	µmol/l	52.7	41.6	63.8	5.55	11.10	Ortho Vitros Microslide Systems
	µg/dl	295	233	357	31.00	62.00	
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	106	89.4	123	8.30	16.60	
Urea	mmol/l	6.63	5.64	7.62	0.50	0.99	Ortho Vitros Microslide Systems
	mg/dl	39.8	33.9	45.7	2.95	5.90	
	mmol/l	6.63	5.64	7.62	0.50	0.99	BUN
	mg/dl	18.6	15.8	21.4	1.40	2.80	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.63	4.89	6.37	0.37	0.74	

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.5	34.4	46.6	3.05	6.10	Bromocresol Green
	g/dl	4.05	3.44	4.66	0.31	0.61	
Alkaline Phosphatase	U/l	270	230	310	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	210	179	241	15.50	31.00	Diethanolamine buffer DEA 30°C
	U/l	173	147	199	13.00	26.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	14.6	11.5	17.7	1.55	3.10	Diazo with Sulphanilic Acid
	mg/dl	0.854	0.673	1.04	0.09	0.18	
Bilirubin Total	µmol/l	21.3	16.9	25.7	2.20	4.40	Nitrobenzenediazonium salt
	mg/dl	1.25	0.989	1.51	0.13	0.26	
Calcium	mmol/l	2.38	2.14	2.62	0.12	0.24	Arsenazo III
	mg/dl	9.54	8.58	10.5	0.48	0.96	
Chloride	mmol/l	101	93.4	109	3.80	7.60	ISE direct
Cholesterol	mmol/l	4.21	3.66	4.76	0.28	0.55	Cholesterol Oxidase
	mg/dl	163	141	185	11.00	22.00	
CK Total	U/l	209	171	247	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	131	107	155	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	124	99.4	149	12.30	24.60	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	119	95.3	143	11.85	23.70	Enzymatic UV method
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	124	98.9	149	12.55	25.10	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	121	96.6	145	12.20	24.40	Jaffe rate blanked
	mg/dl	1.37	1.09	1.65	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.34	5.39	7.29	0.48	0.95	Hexokinase
	mg/dl	114	97.1	131	8.45	16.90	
	mmol/l	6.26	5.32	7.20	0.47	0.94	Glucose oxidase
	mg/dl	113	95.9	130	8.55	17.10	
HDL - Cholesterol	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL PEGME
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	91.7	132	10.15	20.30	
LD (LDH)	U/l	204	173	235	15.50	31.00	L->P IFCC 37°C
	U/l	147	125	169	11.00	22.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.85	0.75	0.95	0.05	0.10	Calmagite
	mg/dl	2.06	1.81	2.31	0.13	0.25	
	mmol/l	0.84	0.74	0.94	0.05	0.10	Xylidyl Blue
	mg/dl	2.03	1.79	2.27	0.12	0.24	
Phosphate Inorganic	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.56	3.88	5.24	0.34	0.68	
Potassium	mmol/l	3.96	3.65	4.27	0.16	0.31	ISE method - direct
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction end point
	g/dl	5.97	4.78	7.16	0.60	1.19	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.9	109	7.45	14.90	
Urea	mmol/l	6.99	5.94	8.04	0.53	1.05	Urease kinetic
	mg/dl	42.0	35.7	48.3	3.15	6.30	
	mmol/l	6.99	5.94	8.04	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.11	6.65	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.05	5.26	6.84	0.40	0.79	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-HBDH	U/l	246	194	298	26.00	52.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	186	146	226	20.00	40.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	139	110	168	14.50	29.00	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	3.69	2.47	4.91	0.61	1.22	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	2.90	1.94	3.86	0.48	0.96	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	10.1	6.77	13.4	1.67	3.33	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	10.5	7.04	14.0	1.73	3.46	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	13.8	9.25	18.4	2.28	4.55	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	13.4	9.01	17.8	2.20	4.39	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
	g/l	45.0	38.3	51.7	3.35	6.70	Bromocresol Purple
	g/dl	4.50	3.83	5.17	0.34	0.67	
	g/l	40.6	34.5	46.7	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.06	3.45	4.67	0.31	0.61	
	g/l	41.1	34.9	47.3	3.10	6.20	Turbidimetric Assays
	g/dl	4.11	3.49	4.73	0.31	0.62	
Alkaline Phosphatase	U/l	141	120	162	10.50	21.00	Ortho Vitros Microslide Systems 37°C
	U/l	262	223	301	19.50	39.00	Diethanolamine buffer DEA 37°C
	U/l	204	174	234	15.00	30.00	Diethanolamine buffer DEA 30°C
	U/l	167	142	192	12.50	25.00	Diethanolamine buffer DEA 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Alkaline Phosphatase	U/I	169	144	194	12.50	25.00	AMP optimised to IFCC 37°C
	U/I	132	112	152	10.00	20.00	AMP optimised to IFCC 30°C
	U/I	108	92	124	8.00	16.00	AMP optimised to IFCC 25°C
	U/I	164	139	189	12.50	25.00	AMP optimised to NVKC/SFBC 37°C
	U/I	128	108	148	10.00	20.00	AMP optimised to NVKC/SFBC 30°C
	U/I	105	89	121	8.00	16.00	AMP optimised to NVKC/SFBC 25°C
	U/I	160	136	184	12.00	24.00	AMP non-optimised 37°C
	U/I	125	106	144	9.50	19.00	AMP non-optimised 30°C
	U/I	102	87	117	7.50	15.00	AMP non-optimised 25°C
ALT (GPT)	U/I	47	37	57	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/I	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/I	32	25	39	3.50	7.00	Tris buffer with P5P 30°C
	U/I	24	19	29	2.50	5.00	Tris buffer with P5P 25°C
	U/I	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/I	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/I	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
	U/I	35	28	42	3.50	7.00	Tris buffer SCE 37°C
	U/I	26	21	31	2.50	5.00	Tris buffer SCE 30°C
Amylase Pancreatic	U/I	65	55	75	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/I	63	54	72	4.50	9.00	Roche liquid stable pNPG7 37°C
	U/I	72	61	83	5.50	11.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/I	82	70	94	6.00	12.00	pNP Maltotriose substrates 37°C
	U/I	87	74	100	6.50	13.00	Siemens - blocked pNPG7 37°C
	U/I	80	68	92	6.00	12.00	Biotrol - blocked pNPG7 37°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	72	61	83	5.50	11.00	Randox - Ethylidene pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Randox liquid stable pNPG7 37°C
	U/l	85	73	97	6.00	12.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	94	80	108	7.00	14.00	Siemens - maltopenta/hexaoside 37°C
	U/l	92	78	106	7.00	14.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	64	54	74	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	84	72	96	6.00	12.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	85	72	98	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	93	79	107	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
	U/l	83	71	95	6.00	12.00	bioMerieux 2-chloro-pNPG3 37°C
	U/l	88	75	101	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Beckman Synchron AMY7 37°C
	U/l	94	80	108	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	102	87	117	7.50	15.00	Abbott Architect IFCC Cal. 37°C
Apolipoprotein A-1	g/l	1.09	0.89	1.29	0.10	0.20	Immunoturbidimetric
	mg/dl	109	89.4	129	9.80	19.60	
Apolipoprotein B	g/l	0.58	0.47	0.68	0.05	0.10	Immunoturbidimetric
	mg/dl	57.7	47.3	68.1	5.20	10.40	
AST (GOT)	U/l	55	44	66	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
	U/l	52	42	62	5.00	10.00	Tris buffer with P5P 37°C
	U/l	35	28	42	3.50	7.00	Tris buffer with P5P 30°C
	U/l	25	20	30	2.50	5.00	Tris buffer with P5P 25°C
	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
AST (GOT)	U/l	38	31	45	3.50	7.00	Tris buffer SCE 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer SCE 30°C
	U/l	18	15	21	1.50	3.00	Tris buffer SCE 25°C
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Colorimetric
	mmol/l	16.8	13.3	20.3	1.75	3.50	Ortho Vitros Microslide Systems
	mmol/l	15.0	11.9	18.1	1.55	3.10	Differential rate pH change
	mmol/l	15.2	12.1	18.3	1.55	3.10	Enzymatic
	mmol/l	15.4	12.2	18.6	1.60	3.20	Ion selective electrode
Bile Acids	µmol/l	27.4	21.9	32.9	2.75	5.50	4th Generation Colorimetric
	µmol/l	25.1	20.1	30.1	2.50	5.00	5th Generation Colorimetric
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	0.807	1.23	0.11	0.21	
	µmol/l	10.4	8.21	12.6	1.10	2.19	Vitros conjugated from BUBC
	mg/dl	0.608	0.480	0.736	0.06	0.13	
	µmol/l	18.4	14.5	22.3	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	16.9	13.4	20.4	1.75	3.50	Roche JG factored
	mg/dl	0.989	0.784	1.19	0.10	0.21	
	µmol/l	17.4	13.7	21.1	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.02	0.801	1.24	0.11	0.22	
	µmol/l	18.2	14.4	22.0	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.06	0.842	1.28	0.11	0.22	
	µmol/l	13.9	11.0	16.8	1.45	2.90	Modified Jendrassik
	mg/dl	0.813	0.644	0.982	0.08	0.17	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	μmol/l	24.5	19.3	29.7	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	μmol/l	23.9	18.9	28.9	2.50	5.00	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.40	1.11	1.69	0.15	0.29	
	μmol/l	32.3	25.5	39.1	3.40	6.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.89	1.49	2.29	0.20	0.40	
	μmol/l	27.1	21.4	32.8	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	μmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	μmol/l	21.6	17.1	26.1	2.25	4.50	Nitrobenzenediazonium salt
	mg/dl	1.26	1.00	1.52	0.13	0.26	
	μmol/l	24.5	19.3	29.7	2.60	5.20	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	μmol/l	27.9	22.0	33.8	2.95	5.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	μmol/l	32.0	25.3	38.7	3.35	6.70	Modified Jendrassik
	mg/dl	1.87	1.48	2.26	0.20	0.39	
	mmol/l	2.31	2.08	2.54	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.26	8.34	10.2	0.46	0.92	
	mmol/l	2.39	2.16	2.62	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	9.58	8.66	10.5	0.46	0.92	
	mmol/l	2.29	2.06	2.52	0.12	0.23	Ion selective electrode
	mg/dl	9.18	8.26	10.1	0.46	0.92	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.40	2.16	2.64	0.12	0.24	Methylthymol blue
	mg/dl	9.62	8.66	10.6	0.48	0.96	
	mmol/l	2.37	2.13	2.61	0.12	0.24	Arsenazo III
	mg/dl	9.50	8.54	10.5	0.48	0.96	
	mmol/l	2.36	2.12	2.60	0.12	0.24	NM-BAPTA
	mg/dl	9.46	8.50	10.4	0.48	0.96	
Chloride	mmol/l	100	92.0	108	4.00	8.00	Colorimetric
	mmol/l	98.0	90.2	106	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	96.1	88.4	104	3.85	7.70	ISE indirect
	mmol/l	99.0	91.1	107	3.95	7.90	ISE direct
Cholesterol	mmol/l	4.14	3.60	4.68	0.27	0.54	Ortho Vitros Microslide Systems
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.30	3.74	4.86	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
Cholinesterase	U/l	5404	4323	6485	540.50	1081.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	183	150	216	16.50	33.00	Ortho Vitros Microslide Systems 37°C
	U/l	210	172	248	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC serum start (DGKC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	U/l	204	167	241	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	209	171	247	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	131	107	155	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	214	176	252	19.00	38.00	Monothioglycerol 37°C
	U/l	134	110	158	12.00	24.00	Monothioglycerol 30°C
	U/l	91	75	107	8.00	16.00	Monothioglycerol 25°C
	U/l	197	162	232	17.50	35.00	Dithioerythritol 37°C
	U/l	123	101	145	11.00	22.00	Dithioerythritol 30°C
	U/l	84	69	99	7.50	15.00	Dithioerythritol 25°C
	U/l	194	159	229	17.50	35.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	121	100	142	10.50	21.00	Dithioerythritol (DTE) IFCC correlated 30°C
Copper	U/l	82	68	96	7.00	14.00	Dithioerythritol (DTE) IFCC correlated 25°C
	µmol/l	17.5	14.0	21.0	1.75	3.50	Atomic absorption
	µg/dl	111	89.0	133	11.00	22.00	
	µmol/l	16.6	13.3	19.9	1.65	3.30	Colorimetric
Cortisol	µg/dl	106	84.6	127	10.70	21.40	
	nmol/l	487	365	609	61.00	122.00	Roche Cobas E411
Creatinine	µg/dl	17.5	13.1	21.9	2.20	4.40	
	µmol/l	120	96.3	144	11.85	23.70	Alkaline picrate with deproteinization
	mg/dl	1.36	1.09	1.63	0.14	0.27	
	µmol/l	123	98.5	148	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	123	98.3	148	12.35	24.70	Enzymatic UV method
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	124	99.5	149	12.25	24.50	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.42	1.14	1.70	0.14	0.28	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	119	95.5	143	11.75	23.50	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	123	98.3	148	12.35	24.70	Vitros IDMS Traceable
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	122	97.2	147	12.40	24.80	IDMS traceable
	mg/dl	1.38	1.10	1.66	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.91	1.53	2.29	0.19	0.38	Immunoturbidimetric
	ng/ml	1.49	1.19	1.79	0.15	0.30	
Folate	nmol/l	34.9	26.5	43.3	4.20	8.40	Roche Cobas E411
	ng/ml	15.4	11.7	19.1	1.85	3.70	
Free T4	pmol/l	17.5	13.1	21.9	2.20	4.40	Abbott Architect
	ng/dl	1.37	1.02	1.72	0.18	0.35	
	pg/ml	13.7	10.2	17.2	1.75	3.50	Abbott Architect
	pmol/l	18.4	13.8	23.0	2.30	4.60	Siemens Centaur XP/XPT/Classic
	ng/dl	1.44	1.08	1.80	0.18	0.36	
	pg/ml	14.4	10.8	18.0	1.80	3.60	Siemens Centaur XP/XPT/Classic
	pmol/l	18.5	13.8	23.2	2.35	4.70	Beckman Dxl800
	ng/dl	1.44	1.08	1.80	0.18	0.36	
	pg/ml	14.4	10.8	18.0	1.80	3.60	Beckman Dxl800
	pmol/l	21.6	16.2	27.0	2.70	5.40	Siemens Immulite 1000
	ng/dl	1.68	1.26	2.10	0.21	0.42	
	pg/ml	16.8	12.6	21.0	2.10	4.20	Siemens Immulite 1000

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Free T4	pmol/l	38.1	28.6	47.6	4.75	9.50	Vitros ECI
	ng/dl	2.97	2.23	3.71	0.37	0.74	
	pg/ml	29.7	22.3	37.1	3.70	7.40	Vitros ECI
	pmol/l	23.7	17.8	29.6	2.95	5.90	Roche Elecsys
	ng/dl	1.85	1.39	2.31	0.23	0.46	
	pg/ml	18.5	13.9	23.1	2.30	4.60	Roche Elecsys
	pmol/l	22.8	17.1	28.5	2.85	5.70	Roche Modular E170
	ng/dl	1.78	1.33	2.23	0.23	0.45	
	pg/ml	17.8	13.3	22.3	2.25	4.50	Roche Modular E170
	pmol/l	22.7	17.0	28.4	2.85	5.70	Roche Cobas E411
	ng/dl	1.77	1.33	2.21	0.22	0.44	
	pg/ml	17.7	13.3	22.1	2.20	4.40	Roche Cobas E411
	pmol/l	22.6	16.9	28.3	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
	pmol/l	21.3	16.0	26.6	2.65	5.30	Biomerieux Vidas FT4N Kit
	ng/dl	1.66	1.25	2.07	0.21	0.41	
	pg/ml	16.6	12.5	20.7	2.05	4.10	Biomerieux Vidas FT4N Kit
Gentamicin	μmol/l	8.22	6.58	9.86	0.82	1.64	Immunoturbidimetric
	μg/ml	3.93	3.15	4.71	0.39	0.78	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	63	53	73	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	43	36	50	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	34	28	40	3.00	6.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	27	22	32	2.50	5.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	55	47	63	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	37	49	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	34	29	39	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	5.93	5.04	6.82	0.45	0.89	Ortho Vitros Microslide Systems
	mg/dl	107	90.8	123	8.10	16.20	
	mmol/l	6.20	5.27	7.13	0.47	0.93	Glucose dehydrogenase
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	6.14	5.21	7.07	0.47	0.93	Hexokinase
	mg/dl	111	93.9	128	8.55	17.10	
HDL - Cholesterol	mmol/l	6.19	5.26	7.12	0.47	0.93	Glucose oxidase
	mg/dl	112	94.8	129	8.60	17.20	
	mmol/l	1.52	1.29	1.75	0.12	0.23	Direct HDL PPD
	mg/dl	58.7	49.8	67.6	4.45	8.90	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	54.8	46.7	62.9	4.05	8.10	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.63	1.39	1.87	0.12	0.24	Vitros Magnetic HDL
	mg/dl	62.9	53.7	72.1	4.60	9.20	
	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct HDL PEGME
	mg/dl	63.7	54.0	73.4	4.85	9.70	
	mmol/l	1.30	1.11	1.49	0.10	0.19	Direct Clearance Method
	mg/dl	50.2	42.8	57.6	3.70	7.40	
	mmol/l	1.60	1.36	1.84	0.12	0.24	Vitros 5.1 FS microtip assay
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	62.5	53.3	71.7	4.60	9.20	
	mmol/l	1.63	1.39	1.87	0.12	0.24	Direct HDL Roche 3rd generation
	mg/dl	62.9	53.7	72.1	4.60	9.20	
	mmol/l	1.44	1.22	1.66	0.11	0.22	HDL - Ultra
	mg/dl	55.6	47.1	64.1	4.25	8.50	
Immunoglobulin A	g/l	1.44	1.08	1.80	0.18	0.36	Immunoturbidimetric
	mg/dl	144	108	180	18.00	36.00	
Immunoglobulin G	g/l	6.56	5.38	7.74	0.59	1.18	Immunoturbidimetric
	mg/dl	656	538	774	59.00	118.00	
Immunoglobulin M	g/l	0.75	0.60	0.90	0.07	0.15	Immunoturbidimetric
	mg/dl	74.6	59.7	89.5	7.45	14.90	
Iron	μmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric with ppt.
	μg/dl	103	85.0	121	9.00	18.00	
	μmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric without ppt.
	μg/dl	103	84.4	122	9.30	18.60	
	μmol/l	19.6	16.1	23.1	1.75	3.50	Ortho Vitros Microslide Systems
	μg/dl	110	90.0	130	10.00	20.00	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	1.47	1.21	1.73	0.13	0.26	Ion selective electrode
	mg/dl	13.2	10.9	15.5	1.15	2.30	
	mmol/l	1.47	1.21	1.73	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.9	15.5	1.15	2.30	
	mmol/l	1.38	1.13	1.63	0.13	0.25	Ortho Vitros Microslide Systems
	mg/dl	12.4	10.2	14.6	1.10	2.20	
	mmol/l	1.55	1.27	1.83	0.14	0.28	Enzymatic Electrode
	mg/dl	14.0	11.4	16.6	1.30	2.60	
	mmol/l	1.41	1.15	1.67	0.13	0.26	UV LDH
	mg/dl	12.7	10.4	15.0	1.15	2.30	
LAP	U/l	16	14	18	1.00	2.00	NAGEL 37°C
LD (LDH)	U/l	609	518	700	45.50	91.00	Ortho Vitros Microslide Systems 37°C
	U/l	190	161	219	14.50	29.00	L->P 37°C
	U/l	137	116	158	10.50	21.00	L->P 30°C
	U/l	96	82	110	7.00	14.00	L->P 25°C
	U/l	447	380	514	33.50	67.00	P->L Scandinavian & Dutch 37°C
	U/l	323	274	372	24.50	49.00	P->L Scandinavian & Dutch 30°C
	U/l	227	193	261	17.00	34.00	P->L Scandinavian & Dutch 25°C
	U/l	408	347	469	30.50	61.00	P->L German methods 37°C
	U/l	295	251	339	22.00	44.00	P->L German methods 30°C
	U/l	207	176	238	15.50	31.00	P->L German methods 25°C
	U/l	417	354	480	31.50	63.00	P->L SFBC 37°C
	U/l	301	256	346	22.50	45.00	P->L SFBC 30°C
	U/l	211	179	243	16.00	32.00	P->L SFBC 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
	U/l	149	127	171	11.00	22.00	L->P IFCC 30°C
	U/l	105	89	121	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	36	29	43	3.50	7.00	Other Colorimetric 37°C
	U/l	245	196	294	24.50	49.00	Ortho Vitros Microslide Systems 37°C
	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
	U/l	195	156	234	19.50	39.00	Randox Turbidimetric with colipase 37°C
Lithium	mmol/l	1.25	1.10	1.40	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.868	0.764	0.972	0.05	0.10	
	mmol/l	1.04	0.92	1.16	0.06	0.12	Ion selective electrode
	mg/dl	0.722	0.638	0.806	0.04	0.08	
	mmol/l	1.05	0.93	1.17	0.06	0.12	Spectrophotometric
	mg/dl	0.729	0.643	0.815	0.04	0.09	
	mmol/l	1.10	0.97	1.23	0.07	0.13	Randox Colorimetric
	mg/dl	0.764	0.672	0.856	0.05	0.09	
Magnesium	mmol/l	0.87	0.77	0.97	0.05	0.10	Arsenazo III
	mg/dl	2.11	1.86	2.36	0.13	0.25	
	mmol/l	0.87	0.76	0.97	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.11	1.86	2.36	0.13	0.25	
	mmol/l	0.89	0.78	1.00	0.05	0.11	Calmagite
	mg/dl	2.16	1.90	2.42	0.13	0.26	
	mmol/l	0.90	0.80	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.20	1.93	2.47	0.14	0.27	
	mmol/l	0.87	0.77	0.98	0.05	0.11	Methylthymol blue
	mg/dl	2.12	1.86	2.38	0.13	0.26	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.86	0.76	0.97	0.05	0.10	Enzymatic
	mg/dl	2.10	1.84	2.36	0.13	0.26	
NEFA	mmol/l	3.35	2.85	3.85	0.25	0.50	Colorimetric
Osmolality	mOsm/kg	296	237	355	29.50	59.00	Calculated
	mOsm/kg	307	246	368	30.50	61.00	Freezing point depression
Paracetamol	mmol/l	0.08	0.06	0.10	0.01	0.02	Colorimetric
	mg/l	12.2	9.68	14.7	1.26	2.52	
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.62	3.91	5.33	0.36	0.71	
	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.43	3.78	5.08	0.33	0.65	
	mmol/l	1.43	1.21	1.65	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.43	3.75	5.11	0.34	0.68	
Potassium	mmol/l	4.11	3.78	4.44	0.17	0.33	Ortho Vitros Microslide Systems
	mmol/l	4.11	3.78	4.44	0.17	0.33	Enzymatic
	mmol/l	4.00	3.68	4.32	0.16	0.32	Flame photometry
	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - direct
	mmol/l	4.06	3.74	4.38	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.6	48.5	72.7	6.05	12.10	Ortho Vitros Microslide Systems
	g/dl	6.06	4.85	7.27	0.61	1.21	
	g/l	60.1	48.1	72.1	6.00	12.00	Biuret reaction end point
	g/dl	6.01	4.81	7.21	0.60	1.20	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction kinetic
	g/dl	5.97	4.78	7.16	0.60	1.19	
PSA Total	ng/ml =	16.4	12.3	20.5	2.05	4.10	Roche Elecsys Modular E170
	ng/ml =	15.3	11.5	19.1	1.90	3.80	Beckman Access standardised to Hybritech
	ng/ml =	15.2	11.4	19.0	1.90	3.80	bioMerieux VIDAS TPSA
	ng/ml =	12.1	9.06	15.1	1.52	3.04	Siemens Centaur XP/XPT/Classic
	ng/ml =	14.3	10.7	17.9	1.80	3.60	Abbott Architect
	ng/ml =	17.0	12.8	21.2	2.10	4.20	Cobas E411
	ng/ml =	16.5	12.4	20.6	2.05	4.10	Roche Cobas 6000/8000
Salicylate	mmol/l	0.40	0.32	0.48	0.04	0.08	Enzymatic
	mg/dl	5.49	4.39	6.59	0.55	1.10	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	146	139	153	3.50	7.00	Enzymatic
	mmol/l	140	133	147	3.50	7.00	Flame photometry
	mmol/l	143	136	150	3.50	7.00	ISE method - direct
	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
Theophylline	µmol/l	25.3	20.2	30.4	2.55	5.10	Immunoturbidimetric
	µg/ml	4.56	3.64	5.48	0.46	0.92	
Thyroid Stimulating Hormone	µU/ml =	1.17	0.94	1.40	0.12	0.23	Abbott Architect
	µU/ml =	1.56	1.25	1.87	0.16	0.31	bioMerieux VIDAS TSH
	µU/ml =	1.53	1.22	1.84	0.16	0.31	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.44	1.15	1.73	0.15	0.29	Siemens Immulite 1000
	µU/ml =	1.34	1.07	1.61	0.14	0.27	Vitros ECI
	µU/ml =	1.49	1.19	1.79	0.15	0.30	Roche Elecsys
	µU/ml =	1.50	1.20	1.80	0.15	0.30	Roche Modular E170

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Thyroid Stimulating Hormone	µU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Cobas E411
	µU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Cobas 6000/8000
	µU/ml =	1.31	1.05	1.57	0.13	0.26	Beckman Dxl800 Hyper TSH
	µU/ml =	1.31	1.05	1.57	0.13	0.26	Siemens Centaur XP/XPT/Classic TSH3-Ultra
TIBC	µmol/l	52.7	41.6	63.8	5.55	11.10	Ortho Vitros Microslide Systems
	µg/dl	295	233	357	31.00	62.00	
	µmol/l	45.9	36.3	55.5	4.80	9.60	Removal of excess free iron
	µg/dl	257	203	311	27.00	54.00	
	µmol/l	47.7	37.7	57.7	5.00	10.00	FE+UIBC(saturation with iron)
	µg/dl	267	211	323	28.00	56.00	
	µmol/l	50.2	39.7	60.7	5.25	10.50	Direct Colorimetric
	µg/dl	281	222	340	29.50	59.00	
	µmol/l	44.9	35.5	54.3	4.70	9.40	Calculated from Transferrin
	µg/dl	251	198	304	26.50	53.00	
Tobramycin	µmol/l	5.60	4.48	6.72	0.56	1.12	Immunoturbidimetric
	µg/ml	2.62	2.10	3.14	0.26	0.52	
Total T3	nmol/l	2.72	2.04	3.40	0.34	0.68	Abbott Architect
	ng/ml	1.77	1.33	2.21	0.22	0.44	
	ng/dl	177	133	221	22.00	44.00	Abbott Architect
	nmol/l	3.20	2.40	4.00	0.40	0.80	Siemens Centaur XP/XPT/Classic
	ng/ml	2.08	1.56	2.60	0.26	0.52	
	ng/dl	208	156	260	26.00	52.00	Siemens Centaur XP/XPT/Classic
	nmol/l	2.76	2.07	3.45	0.35	0.69	BioMerieux Vidas
	ng/ml	1.80	1.35	2.25	0.23	0.45	
	ng/dl	180	135	225	22.50	45.00	BioMerieux Vidas

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T3	nmol/l	3.01	2.26	3.76	0.38	0.75	Roche Modular E170
	ng/ml	1.96	1.47	2.45	0.25	0.49	
	ng/dl	196	147	245	24.50	49.00	Roche Modular E170
	nmol/l	2.98	2.24	3.72	0.37	0.74	Roche Cobas E411
	ng/ml	1.94	1.46	2.42	0.24	0.48	
	ng/dl	194	146	242	24.00	48.00	Roche Cobas E411
	nmol/l	3.05	2.29	3.81	0.38	0.76	Roche Cobas 6000/8000
	ng/ml	1.99	1.49	2.49	0.25	0.50	
	ng/dl	199	149	249	25.00	50.00	Roche Cobas 6000/8000
Total T4	nmol/l	91.8	68.8	115	11.50	23.00	Abbott Architect
	µg/dl	7.16	5.37	8.95	0.90	1.79	
	ng/ml	71.6	53.7	89.5	8.95	17.90	Abbott Architect
	nmol/l	84.6	63.5	106	10.55	21.10	Siemens Centaur XP/XPT/Classic
	µg/dl	6.60	4.95	8.25	0.83	1.65	
	ng/ml	66.0	49.5	82.5	8.25	16.50	Siemens Centaur XP/XPT/Classic
	nmol/l	84.5	63.4	106	10.55	21.10	BioMerieux Vidas
	µg/dl	6.59	4.95	8.23	0.82	1.64	
	ng/ml	65.9	49.5	82.3	8.20	16.40	BioMerieux Vidas
	nmol/l	90.5	67.9	113	11.30	22.60	Siemens Immulite 2000/2500
	µg/dl	7.06	5.30	8.82	0.88	1.76	
	ng/ml	70.6	53.0	88.2	8.80	17.60	Siemens Immulite 2000/2500
	nmol/l	80.1	60.1	100	10.00	20.00	Vitros ECI
	µg/dl	6.25	4.69	7.81	0.78	1.56	
	ng/ml	62.5	46.9	78.1	7.80	15.60	Vitros ECI

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	88.3	66.2	110	11.05	22.10	Roche Modular E170
	µg/dl	6.89	5.16	8.62	0.87	1.73	
	ng/ml	68.9	51.6	86.2	8.65	17.30	Roche Modular E170
	nmol/l	91.0	68.2	114	11.40	22.80	Roche Cobas E411
	µg/dl	7.10	5.32	8.88	0.89	1.78	
	ng/ml	71.0	53.2	88.8	8.90	17.80	Roche Cobas E411
	nmol/l	94.0	70.5	118	11.75	23.50	Roche Cobas 6000/8000
	µg/dl	7.33	5.50	9.16	0.92	1.83	
Transferrin	ng/ml	73.3	55.0	91.6	9.15	18.30	Roche Cobas 6000/8000
	g/l	1.82	1.46	2.18	0.18	0.36	Immunoturbidimetric
Triglycerides	mg/dl	182	146	218	18.00	36.00	
	mmol/l	1.09	0.91	1.27	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	96.5	80.8	112	7.85	15.70	
	mmol/l	1.07	0.90	1.25	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	79.2	110	7.75	15.50	
	mmol/l	1.10	0.92	1.28	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	97.4	81.4	113	8.00	16.00	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/Glycerol Dehydrogenase
UIBC	mg/dl	92.9	77.9	108	7.50	15.00	
	mmol/l	1.20	1.01	1.39	0.10	0.19	Ortho Vitros Microslide Systems
UIBC	mg/dl	106	89.4	123	8.30	16.60	
	µmol/l	31.8	26.1	37.5	2.85	5.70	TIBC - FE
UIBC	µg/dl	178	146	210	16.00	32.00	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	6.63	5.64	7.62	0.50	0.99	Ortho Vitros Microslide Systems
	mg/dl	39.8	33.9	45.7	2.95	5.90	
	mmol/l	7.20	6.12	8.28	0.54	1.08	Urease end point
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.08	6.01	8.15	0.54	1.07	Urease kinetic
	mg/dl	42.6	36.1	49.1	3.25	6.50	
	mmol/l	6.85	5.82	7.88	0.52	1.03	Urease hypochlorite
	mg/dl	41.2	35.0	47.4	3.10	6.20	
	mmol/l	6.69	5.69	7.69	0.50	1.00	Urease Berthelot
	mg/dl	40.2	34.2	46.2	3.00	6.00	
	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.85	5.09	6.61	0.38	0.76	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.86	5.09	6.63	0.39	0.77	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Vitamin B12	pmol/l	490	392	588	49.00	98.00	Roche Cobas E411
	pg/ml	664	531	797	66.50	133.00	
Zinc	μmol/l	32.0	25.6	38.4	3.20	6.40	Colorimetric with deproteinisation
	μg/dl	209	167	251	21.00	42.00	

**MEAN OF ALL INSTRUMENTS (Elec.)**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin (electrophoresis)		67.7	61.0	74.4	3.35	6.70	% of total Protein (Beckman Capillary)
alpha-1-globulin		6.2	4.7	7.7	0.75	1.49	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.1	4.6	7.6	0.73	1.46	% of total Protein (Beckman Capillary)
beta-globulin		10.0	7.6	12.4	1.20	2.40	% of total Protein (Beckman Capillary)
gamma-globulin		10.0	7.6	12.4	1.20	2.40	% of total Protein (Beckman Capillary)

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Green
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	179	152	206	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	139	118	160	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	114	97	131	8.50	17.00	AMP optimised to IFCC 25°C
	U/l	252	214	290	19.00	38.00	Agappe - DGKC-SCE 37°C
	U/l	196	167	225	14.50	29.00	Agappe - DGKC-SCE 30°C
	U/l	161	137	185	12.00	24.00	Agappe - DGKC-SCE 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
	U/l	39	31	47	4.00	8.00	Agappee - IFCC 37°C
	U/l	29	23	35	3.00	6.00	Agappee - IFCC 30°C
	U/l	22	17	27	2.50	5.00	Agappee - IFCC 25°C
Amylase Total	U/l	83	71	95	6.00	12.00	pNP Maltotriose substrates 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	16.6	13.1	20.1	1.75	3.50	Oxidation to Biliverdin/Vanadate
	mg/dl	0.971	0.766	1.18	0.10	0.21	
Bilirubin Total	µmol/l	25.9	20.4	31.4	2.75	5.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.52	1.19	1.85	0.17	0.33	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.25	2.02	2.48	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.02	8.10	9.94	0.46	0.92	
	mmol/l	2.42	2.18	2.66	0.12	0.24	Arsenazo III
	mg/dl	9.70	8.74	10.7	0.48	0.96	
Cholesterol	mmol/l	4.28	3.72	4.84	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	144	186	10.50	21.00	
Cholinesterase	U/l	5493	4394	6592	549.50	1099.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	215	177	253	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	135	111	159	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	91	75	107	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	119	95.3	143	11.85	23.70	Alkaline picrate with deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	μmol/l	124	99.0	149	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	μmol/l	119	95.1	143	11.95	23.90	Enzymatic UV method
	mg/dl	1.34	1.07	1.61	0.14	0.27	
	μmol/l	118	94.6	141	11.70	23.40	Jaffe rate blanked
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.12	5.20	7.04	0.46	0.92	Hexokinase
	mg/dl	110	93.7	126	8.15	16.30	
	mmol/l	6.27	5.33	7.21	0.47	0.94	Glucose oxidase
	mg/dl	113	96.0	130	8.50	17.00	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL PPD
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.25	1.07	1.43	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	48.3	41.3	55.3	3.50	7.00	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Direct Clearance Method
	mg/dl	54.4	46.3	62.5	4.05	8.10	
Iron	μmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric without ppt.
	μg/dl	101	82.7	119	9.15	18.30	
LD (LDH)	U/l	412	350	474	31.00	62.00	P->L German methods 37°C
	U/l	297	253	341	22.00	44.00	P->L German methods 30°C
	U/l	209	177	241	16.00	32.00	P->L German methods 25°C
	U/l	204	174	234	15.00	30.00	L->P IFCC 37°C
	U/l	147	126	168	10.50	21.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.62	3.91	5.33	0.36	0.71	
Protein Total	g/l	60.6	48.5	72.7	6.05	12.10	Biuret reaction end point
	g/dl	6.06	4.85	7.27	0.61	1.21	
Triglycerides	mmol/l	1.09	0.91	1.27	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	96.5	80.8	112	7.85	15.70	
Urea	mmol/l	7.20	6.12	8.28	0.54	1.08	Urease end point
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.22	6.14	8.30	0.54	1.08	Urease kinetic
	mg/dl	43.4	36.9	49.9	3.25	6.50	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.06	6.00	8.12	0.53	1.06	Urease hypochlorite
	mg/dl	42.4	36.1	48.7	3.15	6.30	
	mmol/l	7.22	6.14	8.30	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.16	6.66	0.38	0.75	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.71	4.97	6.45	0.37	0.74	

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.8	38.1	51.5	3.35	6.70	Bromocresol Green
	g/dl	4.48	3.81	5.15	0.34	0.67	
Alkaline Phosphatase	U/l	231	196	266	17.50	35.00	Diethanolamine buffer DEA 37°C
	U/l	180	153	207	13.50	27.00	Diethanolamine buffer DEA 30°C
	U/l	148	125	171	11.50	23.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	16.9	13.3	20.5	1.80	3.60	Diazo with Dichloroaniline (DCA)
	mg/dl	0.989	0.778	1.20	0.11	0.21	
Bilirubin Total	µmol/l	22.2	17.6	26.8	2.30	4.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.30	1.03	1.57	0.14	0.27	
Cholesterol	mmol/l	4.42	3.85	4.99	0.29	0.57	Cholesterol Oxidase
	mg/dl	171	149	193	11.00	22.00	
CK Total	U/l	216	177	255	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	135	111	159	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	92	75	109	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	122	97.3	147	12.35	24.70	Alkaline picrate no deproteinization
	mg/dl	1.38	1.10	1.66	0.14	0.28	

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
Glucose	mmol/l	6.30	5.35	7.25	0.48	0.95	Glucose oxidase
	mg/dl	114	96.4	132	8.80	17.60	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.5	111	7.55	15.10	
Urea	mmol/l	7.13	6.06	8.20	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.4	49.4	3.25	6.50	
	mmol/l	7.13	6.06	8.20	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.2	37.6	50.8	3.30	6.60	Bromocresol Green
	g/dl	4.42	3.76	5.08	0.33	0.66	
	g/l	44.7	38.0	51.4	3.35	6.70	Bromocresol Purple
	g/dl	4.47	3.80	5.14	0.34	0.67	
	g/l	41.7	35.4	48.0	3.15	6.30	Turbidimetric Assays
	g/dl	4.17	3.54	4.80	0.32	0.63	
Alkaline Phosphatase	U/l	132	112	152	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	103	87	119	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	84	72	96	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	62	53	71	4.50	9.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	84	71	97	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	85	72	98	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	85	72	98	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	84	72	96	6.00	12.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.1	11.9	18.3	1.60	3.20	Colorimetric

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	14.9	11.9	17.9	1.50	3.00	Enzymatic
Bile Acids	μmol/l	26.5	21.2	31.8	2.65	5.30	Enzymatic Colorimetric
Bilirubin Direct	μmol/l	17.1	13.5	20.7	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	μmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	μmol/l	16.6	13.1	20.1	1.75	3.50	Roche JG factored
	mg/dl	0.971	0.766	1.18	0.10	0.21	
	μmol/l	16.8	13.2	20.4	1.80	3.60	Diazo with Dichloroaniline (DCA)
	mg/dl	0.983	0.772	1.19	0.11	0.21	
Bilirubin Total	μmol/l	24.4	19.3	29.5	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	μmol/l	24.6	19.4	29.8	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.44	1.13	1.75	0.16	0.31	
	μmol/l	24.4	19.3	29.5	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	mmol/l	2.35	2.12	2.58	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.42	8.50	10.3	0.46	0.92	
	mmol/l	2.36	2.12	2.60	0.12	0.24	NM-BAPTA
	mg/dl	9.46	8.50	10.4	0.48	0.96	
Chloride	mmol/l	92.3	84.9	99.7	3.70	7.40	ISE indirect
Cholesterol	mmol/l	4.33	3.76	4.90	0.29	0.57	Cholesterol Oxidase
	mg/dl	167	145	189	11.00	22.00	
Cholinesterase	U/l	5173	4138	6208	517.50	1035.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC substrate start (DGKC) 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	127	101	153	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	μmol/l	126	101	151	12.50	25.00	Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	μmol/l	126	101	151	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	μmol/l	123	98.4	148	12.30	24.60	Jaffe rate blanked
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	125	99.8	150	12.60	25.20	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	22.6	16.9	28.3	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.09	5.18	7.00	0.46	0.91	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
	mmol/l	5.98	5.09	6.87	0.45	0.89	Glucose oxidase
	mg/dl	108	91.7	124	8.15	16.30	
HDL - Cholesterol	mmol/l	1.41	1.20	1.62	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	54.4	46.3	62.5	4.05	8.10	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL PEGME
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	mmol/l	1.63	1.38	1.88	0.13	0.25	Direct HDL Roche 3rd generation
	mg/dl	62.9	53.3	72.5	4.80	9.60	
	µmol/l	18.1	14.9	21.3	1.60	3.20	Colorimetric with ppt.
	µg/dl	101	83.3	119	8.85	17.70	
Lactate	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	85.0	121	9.00	18.00	
	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	198	168	228	15.00	30.00	L->P 37°C
	U/l	143	121	165	11.00	22.00	L->P 30°C
	U/l	100	85	115	7.50	15.00	L->P 25°C
	U/l	404	343	465	30.50	61.00	P->L German methods 37°C
	U/l	292	248	336	22.00	44.00	P->L German methods 30°C
	U/l	205	174	236	15.50	31.00	P->L German methods 25°C
	U/l	205	174	236	15.50	31.00	L->P IFCC 37°C
	U/l	148	126	170	11.00	22.00	L->P IFCC 30°C
	U/l	104	88	120	8.00	16.00	L->P IFCC 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
	U/l	32	25	39	3.50	7.00	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.06	0.94	1.18	0.06	0.12	Spectrophotometric
	mg/dl	0.736	0.650	0.822	0.04	0.09	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.18	1.92	2.44	0.13	0.26	
	mmol/l	0.90	0.79	1.00	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Osmolality	mOsm/kg	289	231	347	29.00	58.00	Calculated
Phosphate Inorganic	mmol/l	1.42	1.20	1.64	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.40	3.72	5.08	0.34	0.68	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.12	3.79	4.45	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.5	48.4	72.6	6.05	12.10	Biuret reaction CX4/5/7
	g/dl	6.05	4.84	7.26	0.61	1.21	
	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction end point
	g/dl	6.00	4.80	7.20	0.60	1.20	
	g/l	60.4	48.3	72.5	6.05	12.10	Biuret reaction kinetic
	g/dl	6.04	4.83	7.25	0.61	1.21	
PSA Total	ng/ml =	16.5	12.4	20.6	2.05	4.10	Roche Cobas 6000/8000
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Cobas 6000/8000

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
TIBC	μmol/l	45.6	36.0	55.2	4.80	9.60	FE+UIBC(saturation with iron)
	μg/dl	255	201	309	27.00	54.00	
	μmol/l	45.2	35.7	54.7	4.75	9.50	Calculated from Transferrin
	μg/dl	253	200	306	26.50	53.00	
Total T3	nmol/l	3.05	2.29	3.81	0.38	0.76	Roche Cobas 6000/8000
	ng/ml	1.99	1.49	2.49	0.25	0.50	
	ng/dl	199	149	249	25.00	50.00	Roche Cobas 6000/8000
Total T4	nmol/l	94.0	70.5	118	11.75	23.50	Roche Cobas 6000/8000
	μg/dl	7.33	5.50	9.16	0.92	1.83	
	ng/ml	73.3	55.0	91.6	9.15	18.30	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.08	0.90	1.26	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	95.6	79.9	111	7.85	15.70	
	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	93.8	78.6	109	7.60	15.20	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.3	110	7.70	15.40	
	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	77.2	107	7.40	14.80	
Urea	mmol/l	6.99	5.95	8.03	0.52	1.04	Urease kinetic
	mg/dl	42.0	35.8	48.2	3.10	6.20	
	mmol/l	6.99	5.94	8.04	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.96	6.46	0.38	0.75	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	4.94	6.42	0.37	0.74	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
Alkaline Phosphatase	U/l	128	109	147	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	100	85	115	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	82	70	94	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	16.5	13.0	20.0	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.965	0.761	1.17	0.10	0.20	
	µmol/l	17.0	13.4	20.6	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	0.995	0.784	1.21	0.11	0.21	
Bilirubin Total	µmol/l	25.0	19.7	30.3	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.46	1.15	1.77	0.16	0.31	
	µmol/l	23.8	18.8	28.8	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.39	1.10	1.68	0.15	0.29	
	µmol/l	26.1	20.6	31.6	2.75	5.50	Diazonium ion
	mg/dl	1.53	1.21	1.85	0.16	0.32	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.36	2.12	2.60	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.46	8.50	10.4	0.48	0.96	
	mmol/l	2.32	2.09	2.55	0.12	0.23	NM-BAPTA
	mg/dl	9.30	8.38	10.2	0.46	0.92	
Chloride	mmol/l	95.3	87.6	103	3.85	7.70	ISE indirect
Cholesterol	mmol/l	4.40	3.83	4.97	0.29	0.57	Cholesterol Oxidase
	mg/dl	170	148	192	11.00	22.00	
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	123	98.7	147	12.15	24.30	Alkaline picrate with deproteinization
	mg/dl	1.39	1.12	1.66	0.14	0.27	
	µmol/l	119	95.5	143	11.75	23.50	Alkaline picrate no deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	124	99.2	149	12.40	24.80	Roche Creatinine Plus
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	113	90.2	136	11.40	22.80	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.28	1.02	1.54	0.13	0.26	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.23	5.30	7.16	0.47	0.93	Hexokinase
	mg/dl	112	95.5	129	8.25	16.50	
	mmol/l	6.16	5.24	7.08	0.46	0.92	Glucose oxidase
	mg/dl	111	94.4	128	8.30	16.60	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL Roche 3rd generation
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	µmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	84.4	122	9.30	18.60	
LD (LDH)	U/l	219	186	252	16.50	33.00	L->P IFCC 37°C
	U/l	158	134	182	12.00	24.00	L->P IFCC 30°C
	U/l	111	94	128	8.50	17.00	L->P IFCC 25°C
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
	mmol/l	0.87	0.76	0.97	0.05	0.10	Chlorphosphonazo III
	mg/dl	2.11	1.85	2.37	0.13	0.26	
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.43	3.78	5.08	0.33	0.65	
Potassium	mmol/l	4.04	3.72	4.36	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.9	47.9	71.9	6.00	12.00	Biuret reaction end point
	g/dl	5.99	4.79	7.19	0.60	1.20	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	80.4	111	7.60	15.20	
Urea	mmol/l	6.82	5.80	7.84	0.51	1.02	Urease kinetic
	mg/dl	41.0	34.9	47.1	3.05	6.10	
	mmol/l	7.07	6.01	8.13	0.53	1.06	Urease hypochlorite
	mg/dl	42.5	36.1	48.9	3.20	6.40	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	6.82	5.80	7.84	0.51	1.02	BUN
	mg/dl	19.1	16.2	22.0	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.73	4.99	6.47	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Green
	g/dl	4.40	3.74	5.06	0.33	0.66	
	g/l	45.0	38.2	51.8	3.40	6.80	Bromocresol Purple
	g/dl	4.50	3.82	5.18	0.34	0.68	
Alkaline Phosphatase	U/l	130	111	149	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	101	86	116	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	83	71	95	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	0.807	1.23	0.11	0.21	
	µmol/l	18.0	14.2	21.8	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	17.9	14.1	21.7	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.05	0.825	1.28	0.11	0.23	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	μmol/l	24.4	19.3	29.5	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	μmol/l	24.6	19.4	29.8	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.44	1.13	1.75	0.16	0.31	
	μmol/l	25.3	20.0	30.6	2.65	5.30	Diazonium ion
	mg/dl	1.48	1.17	1.79	0.16	0.31	
Calcium	mmol/l	2.37	2.13	2.61	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.50	8.54	10.5	0.48	0.96	
	mmol/l	2.35	2.11	2.59	0.12	0.24	Arsenazo III
	mg/dl	9.42	8.46	10.4	0.48	0.96	
	mmol/l	2.37	2.14	2.60	0.12	0.23	NM-BAPTA
	mg/dl	9.50	8.58	10.4	0.46	0.92	
Chloride	mmol/l	92.7	85.3	100	3.70	7.40	ISE indirect
Cholesterol	mmol/l	4.33	3.76	4.90	0.29	0.57	Cholesterol Oxidase
	mg/dl	167	145	189	11.00	22.00	
Cholinesterase	U/l	5245	4196	6294	524.50	1049.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	217	178	256	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	136	111	161	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	92	76	108	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	125	99.6	150	12.70	25.40	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	126	100	152	13.00	26.00	Enzymatic UV method
	mg/dl	1.42	1.13	1.71	0.15	0.29	
	μmol/l	127	102	152	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.44	1.15	1.73	0.15	0.29	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
	mmol/l	5.99	5.09	6.89	0.45	0.90	Glucose oxidase
	mg/dl	108	91.7	124	8.15	16.30	
HDL - Cholesterol	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct HDL Roche 3rd generation
	mg/dl	63.7	54.0	73.4	4.85	9.70	
Iron	μmol/l	18.7	15.3	22.1	1.70	3.40	Colorimetric without ppt.
	μg/dl	105	85.5	125	9.75	19.50	
Lactate	mmol/l	1.48	1.21	1.75	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.3	10.9	15.7	1.20	2.40	
LD (LDH)	U/l	406	345	467	30.50	61.00	P->L German methods 37°C
	U/l	293	249	337	22.00	44.00	P->L German methods 30°C
	U/l	206	175	237	15.50	31.00	P->L German methods 25°C
	U/l	204	174	234	15.00	30.00	L->P IFCC 37°C
	U/l	147	126	168	10.50	21.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	32	25	39	3.50	7.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.92	2.46	0.14	0.27	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	4.12	3.79	4.45	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction end point
	g/dl	6.00	4.80	7.20	0.60	1.20	
	g/l	58.9	47.1	70.7	5.90	11.80	Biuret reaction kinetic
	g/dl	5.89	4.71	7.07	0.59	1.18	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.6	110	7.55	15.10	
	mmol/l	1.08	0.91	1.25	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	95.6	80.5	111	7.55	15.10	
Urea	mmol/l	7.17	6.09	8.25	0.54	1.08	Urease kinetic
	mg/dl	43.1	36.6	49.6	3.25	6.50	
	mmol/l	7.17	6.09	8.25	0.54	1.08	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.78	5.04	6.52	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.78	5.04	6.52	0.37	0.74	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Green
	g/dl	4.40	3.74	5.06	0.33	0.66	
Alkaline Phosphatase	U/l	122	103	141	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	95	80	110	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	78	66	90	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	63	54	72	4.50	9.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	85	72	98	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.8	12.5	19.1	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	17.1	13.5	20.7	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.00	0.790	1.21	0.11	0.21	
Bilirubin Total	µmol/l	23.8	18.8	28.8	2.50	5.00	Diazo with Sulphanilic Acid
	mg/dl	1.39	1.10	1.68	0.15	0.29	
	µmol/l	23.5	18.6	28.4	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	23.9	18.9	28.9	2.50	5.00	Diazonium ion
	mg/dl	1.40	1.11	1.69	0.15	0.29	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.30	2.07	2.53	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.22	8.30	10.1	0.46	0.92	
	mmol/l	2.36	2.12	2.60	0.12	0.24	NM-BAPTA
	mg/dl	9.46	8.50	10.4	0.48	0.96	
Chloride	mmol/l	93.5	86.0	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	4.30	3.74	4.86	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
CK Total	U/l	196	161	231	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	123	101	145	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	130	104	156	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	μmol/l	127	101	153	13.00	26.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
gamma-GT	U/l	43	37	49	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	29	39	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
HDL - Cholesterol	mmol/l	1.56	1.32	1.80	0.12	0.24	Direct HDL Roche 3rd generation
	mg/dl	60.2	51.0	69.4	4.60	9.20	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	μmol/l	18.0	14.7	21.3	1.65	3.30	Colorimetric without ppt.
	μg/dl	101	82.2	120	9.40	18.80	
Lactate	mmol/l	1.48	1.21	1.75	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.3	10.9	15.7	1.20	2.40	
LD (LDH)	U/l	204	173	235	15.50	31.00	L->P IFCC 37°C
	U/l	147	125	169	11.00	22.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	31	25	37	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.08	0.95	1.21	0.06	0.13	Spectrophotometric
	mg/dl	0.750	0.662	0.838	0.04	0.09	
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.15	1.90	2.40	0.13	0.25	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.31	3.66	4.96	0.33	0.65	
Potassium	mmol/l	4.15	3.82	4.48	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.5	48.4	72.6	6.05	12.10	Biuret reaction end point
	g/dl	6.05	4.84	7.26	0.61	1.21	
Sodium	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
TIBC	μmol/l	45.5	35.9	55.1	4.80	9.60	FE+UIBC(saturation with iron)
	μg/dl	254	201	307	26.50	53.00	
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	79.0	109	7.40	14.80	
Urea	mmol/l	6.89	5.86	7.92	0.52	1.03	Urease kinetic
	mg/dl	41.4	35.2	47.6	3.10	6.20	
	mmol/l	6.89	5.86	7.92	0.52	1.03	BUN
	mg/dl	19.3	16.4	22.2	1.45	2.90	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.59	4.87	6.31	0.36	0.72	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.9	36.4	49.4	3.25	6.50	Bromocresol Green
	g/dl	4.29	3.64	4.94	0.33	0.65	
Alkaline Phosphatase	U/l	280	238	322	21.00	42.00	Diethanolamine buffer DEA 37°C
	U/l	171	145	197	13.00	26.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	72	61	83	5.50	11.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	96	81	111	7.50	15.00	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.1	12.8	19.4	1.65	3.30	Enzymatic
Bile Acids	µmol/l	27.9	22.3	33.5	2.80	5.60	5th Generation Colorimetric
Bilirubin Direct	µmol/l	19.0	15.0	23.0	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.11	0.878	1.34	0.12	0.23	
	µmol/l	17.3	13.7	20.9	1.80	3.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.01	0.801	1.22	0.10	0.21	
Bilirubin Total	µmol/l	30.3	23.9	36.7	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.77	1.40	2.14	0.19	0.37	
	µmol/l	26.9	21.3	32.5	2.80	5.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.57	1.25	1.89	0.16	0.32	
Calcium	mmol/l	2.44	2.20	2.68	0.12	0.24	Arsenazo III
	mg/dl	9.78	8.82	10.7	0.48	0.96	
Chloride	mmol/l	97.5	89.7	105	3.90	7.80	ISE direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.41	3.84	4.98	0.29	0.57	Cholesterol Oxidase
	mg/dl	170	148	192	11.00	22.00	
CK Total	U/l	218	179	257	19.50	39.00	CK-NAC substrate start (DGKC) 37°C
	U/l	240	197	283	21.50	43.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	121	96.8	145	12.10	24.20	Enzymatic UV method
	mg/dl	1.37	1.09	1.65	0.14	0.28	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.43	5.47	7.39	0.48	0.96	Hexokinase
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	6.31	5.37	7.25	0.47	0.94	Glucose oxidase
	mg/dl	114	96.8	131	8.60	17.20	
Iron	μmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	μg/dl	111	90.6	131	10.20	20.40	
Lactate	mmol/l	1.39	1.14	1.64	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.5	10.3	14.7	1.10	2.20	
LD (LDH)	U/l	420	357	483	31.50	63.00	P->L German methods 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Colorimetric
	mg/dl	0.708	0.624	0.792	0.04	0.08	
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Phosphate Inorganic	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.50	3.81	5.19	0.35	0.69	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.26	3.92	4.60	0.17	0.34	Enzymatic
	mmol/l	4.08	3.76	4.40	0.16	0.32	ISE method - direct
Protein Total	g/l	61.5	49.2	73.8	6.15	12.30	Biuret reaction end point
	g/dl	6.15	4.92	7.38	0.62	1.23	
Sodium	mmol/l	147	140	154	3.50	7.00	Enzymatic
	mmol/l	144	137	151	3.50	7.00	ISE method - direct
TIBC	μmol/l	55.2	43.6	66.8	5.80	11.60	Direct Colorimetric
	μg/dl	309	244	374	32.50	65.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Urease kinetic
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.49	4.77	6.21	0.36	0.72	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.95	5.17	6.73	0.39	0.78	

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
	g/l	44.9	38.2	51.6	3.35	6.70	Bromocresol Purple
	g/dl	4.49	3.82	5.16	0.34	0.67	
Alkaline Phosphatase	U/l	257	219	295	19.00	38.00	Diethanolamine buffer DEA 37°C
	U/l	148	126	170	11.00	22.00	AMP optimised to IFCC 37°C
	U/l	158	134	182	12.00	24.00	AMP non-optimised 37°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	87	74	100	6.50	13.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.2	13.6	20.8	1.80	3.60	Enzymatic
Bile Acids	µmol/l	28.3	22.6	34.0	2.85	5.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	18.3	14.5	22.1	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.07	0.848	1.29	0.11	0.22	
Bilirubin Total	µmol/l	27.7	21.9	33.5	2.90	5.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.62	1.28	1.96	0.17	0.34	
Calcium	mmol/l	2.32	2.09	2.55	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.37	2.13	2.61	0.12	0.24	Arsenazo III
	mg/dl	9.50	8.54	10.5	0.48	0.96	

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	97.9	90.1	106	3.90	7.80	ISE indirect
Cholesterol	mmol/l	4.29	3.73	4.85	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
Cholinesterase	U/l	5529	4424	6634	552.50	1105.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	204	168	240	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	133	107	159	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	μmol/l	121	96.9	145	12.05	24.10	Enzymatic UV method
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	μmol/l	122	97.8	146	12.10	24.20	Jaffe rate blanked
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.04	5.14	6.94	0.45	0.90	Hexokinase
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	6.09	5.18	7.00	0.46	0.91	Glucose oxidase
	mg/dl	110	93.3	127	8.35	16.70	
HDL - Cholesterol	mmol/l	1.14	0.97	1.31	0.09	0.17	Direct Clearance Method
	mg/dl	44.0	37.4	50.6	3.30	6.60	
Iron	μmol/l	18.8	15.4	22.2	1.70	3.40	Colorimetric without ppt.
	μg/dl	105	86.1	124	9.45	18.90	
Lactate	mmol/l	1.31	1.07	1.55	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	11.8	9.64	14.0	1.08	2.16	
LD (LDH)	U/l	203	173	233	15.00	30.00	L->P 37°C

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	406	345	467	30.50	61.00	P->L German methods 37°C
	U/l	213	181	245	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	42	33	51	4.50	9.00	Other Colorimetric 37°C
Lithium	mmol/l	1.04	0.92	1.17	0.06	0.13	Spectrophotometric
	mg/dl	0.722	0.635	0.809	0.04	0.09	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
Phosphate Inorganic	mmol/l	1.43	1.21	1.65	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.43	3.75	5.11	0.34	0.68	
Potassium	mmol/l	4.10	3.77	4.43	0.17	0.33	ISE method - indirect
Protein Total	g/l	61.3	49.0	73.6	6.15	12.30	Biuret reaction end point
	g/dl	6.13	4.90	7.36	0.62	1.23	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
TIBC	µmol/l	52.4	41.4	63.4	5.50	11.00	Direct Colorimetric
	µg/dl	293	231	355	31.00	62.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.2	114	8.00	16.00	
Urea	mmol/l	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.33	6.23	8.43	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	45.2	38.4	52.0	3.40	6.80	Bromocresol Purple
	g/dl	4.52	3.84	5.20	0.34	0.68	
Alkaline Phosphatase	U/l	148	126	170	11.00	22.00	Siemens Dimension AMP buffer 37°C
	U/l	150	127	173	11.50	23.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/l	44	35	53	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	94	80	108	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	52	41	63	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.6	13.2	20.0	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	11.3	8.93	13.7	1.19	2.37	Diazo with Sulphanilic Acid
	mg/dl	0.661	0.522	0.800	0.07	0.14	
Bilirubin Total	µmol/l	26.5	20.9	32.1	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.55	1.22	1.88	0.17	0.33	
Calcium	mmol/l	2.24	2.01	2.47	0.12	0.23	Cresolphthalein complexone
	mg/dl	8.98	8.06	9.90	0.46	0.92	
Chloride	mmol/l	97.2	89.5	105	3.85	7.70	ISE indirect
Cholesterol	mmol/l	3.86	3.36	4.36	0.25	0.50	Dimension-Siemens reagents
	mg/dl	149	130	168	9.50	19.00	
CK Total	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	191	157	225	17.00	34.00	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	μmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	119	95.0	143	12.00	24.00	Enzymatic UV method
	mg/dl	1.34	1.07	1.61	0.14	0.27	
	μmol/l	130	104	156	13.00	26.00	IDMS traceable
	mg/dl	1.47	1.18	1.76	0.15	0.29	
gamma-GT	U/l	57	48	66	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	66	56	76	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.17	5.24	7.10	0.47	0.93	Hexokinase
	mg/dl	111	94.4	128	8.30	16.60	
HDL - Cholesterol	mmol/l	1.70	1.44	1.96	0.13	0.26	Direct HDL PPD
	mg/dl	65.6	55.6	75.6	5.00	10.00	
	mmol/l	1.73	1.47	1.99	0.13	0.26	Direct HDL PEGME
	mg/dl	66.8	56.7	76.9	5.05	10.10	
Iron	μmol/l	17.5	14.4	20.6	1.55	3.10	Colorimetric without ppt.
	μg/dl	97.8	80.5	115	8.65	17.30	
Lactate	mmol/l	1.48	1.22	1.74	0.13	0.26	UV LDH
	mg/dl	13.3	11.0	15.6	1.15	2.30	
LD (LDH)	U/l	203	173	233	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	201	170	232	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	146	117	175	14.50	29.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.86	0.76	0.97	0.05	0.10	Methylthymol blue
	mg/dl	2.10	1.84	2.36	0.13	0.26	
Phosphate Inorganic	mmol/l	1.49	1.27	1.71	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.62	3.94	5.30	0.34	0.68	

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - indirect
Protein Total	g/l	61.8	49.4	74.2	6.20	12.40	Biuret reaction end point
	g/dl	6.18	4.94	7.42	0.62	1.24	
Sodium	mmol/l	145	137	153	4.00	8.00	ISE method - indirect
TIBC	μmol/l	46.1	36.4	55.8	4.85	9.70	Removal of excess free iron
	μg/dl	258	203	313	27.50	55.00	
Triglycerides	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	90.3	76.0	105	7.15	14.30	
	mmol/l	1.01	0.85	1.17	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	89.4	75.0	104	7.20	14.40	
	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	77.3	107	7.35	14.70	
Urea	mmol/l	7.02	5.97	8.07	0.53	1.05	Urease kinetic
	mg/dl	42.2	35.9	48.5	3.15	6.30	
	mmol/l	7.11	6.05	8.17	0.53	1.06	Agappe - Urease GLDH
	mg/dl	42.7	36.4	49.0	3.15	6.30	
	mmol/l	7.02	5.97	8.07	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.71	4.97	6.45	0.37	0.74	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.2	37.5	50.9	3.35	6.70	Bromocresol Green
	g/dl	4.42	3.75	5.09	0.34	0.67	
	g/l	45.5	38.6	52.4	3.45	6.90	Bromocresol Purple
	g/dl	4.55	3.86	5.24	0.35	0.69	
Alkaline Phosphatase	U/l	147	125	169	11.00	22.00	Siemens Dimension AMP buffer 37°C
	U/l	151	128	174	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	165	140	190	12.50	25.00	Randox AMP 37°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/l	43	34	52	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	95	80	110	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	92	78	106	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	52	41	63	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.9	13.4	20.4	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	11.4	9.01	13.8	1.20	2.39	Diazo with Sulphanilic Acid
	mg/dl	0.667	0.527	0.807	0.07	0.14	
Bilirubin Total	µmol/l	26.7	21.1	32.3	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Chloride	mmol/l	97.3	89.5	105	3.90	7.80	ISE indirect

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	3.89	3.38	4.40	0.26	0.51	Dimension-Siemens reagents
	mg/dl	150	130	170	10.00	20.00	
CK Total	U/l	195	160	230	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	199	163	235	18.00	36.00	Dithioerythritol 37°C
Creatinine	μmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	122	97.2	147	12.40	24.80	Enzymatic UV method
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	μmol/l	126	101	151	12.50	25.00	Creatinine PAP method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	57	48	66	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	64	54	74	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.18	5.25	7.11	0.47	0.93	Hexokinase
	mg/dl	111	94.6	127	8.20	16.40	
	mmol/l	6.22	5.29	7.15	0.47	0.93	Glucose oxidase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.72	1.46	1.98	0.13	0.26	Direct HDL PPD
	mg/dl	66.4	56.4	76.4	5.00	10.00	
	mmol/l	1.69	1.43	1.95	0.13	0.26	Direct HDL PEGME
	mg/dl	65.2	55.2	75.2	5.00	10.00	
Iron	μmol/l	17.5	14.4	20.6	1.55	3.10	Colorimetric without ppt.
	μg/dl	97.8	80.5	115	8.65	17.30	
LD (LDH)	U/l	198	169	227	14.50	29.00	Siemens Dimension L-P Non IFCC 37°C

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	202	172	232	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	144	116	172	14.00	28.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.11	Methylthymol blue
	mg/dl	2.11	1.86	2.36	0.13	0.25	
Phosphate Inorganic	mmol/l	1.44	1.22	1.66	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.46	3.78	5.14	0.34	0.68	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	62.4	49.9	74.9	6.25	12.50	Biuret reaction end point
	g/dl	6.24	4.99	7.49	0.63	1.25	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	µmol/l	45.1	35.6	54.6	4.75	9.50	Removal of excess free iron
	µg/dl	252	199	305	26.50	53.00	
Triglycerides	mmol/l	1.03	0.87	1.19	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	91.2	76.6	106	7.30	14.60	
	mmol/l	1.03	0.87	1.19	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	91.2	76.8	106	7.20	14.40	
	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	77.3	107	7.35	14.70	
Urea	mmol/l	7.15	6.08	8.22	0.54	1.07	Urease end point
	mg/dl	43.0	36.5	49.5	3.25	6.50	
	mmol/l	7.15	6.08	8.22	0.54	1.07	Urease kinetic
	mg/dl	43.0	36.5	49.5	3.25	6.50	
	mmol/l	7.15	6.08	8.22	0.54	1.07	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.66	4.94	6.38	0.36	0.72	

Siemens Dimension Vista

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	44.8	38.1	51.5	3.35	6.70	Bromocresol Purple
	g/dl	4.48	3.81	5.15	0.34	0.67	
Alkaline Phosphatase	U/l	143	122	164	10.50	21.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer with P5P 37°C
Amylase Total	U/l	91	78	104	6.50	13.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	48	39	57	4.50	9.00	Tris buffer with P5P 37°C
Bicarbonate	mmol/l	15.8	12.5	19.1	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	12.0	9.48	14.5	1.26	2.52	Diazo with Sulphanilic Acid
	mg/dl	0.702	0.555	0.849	0.07	0.15	
Bilirubin Total	µmol/l	26.0	20.6	31.4	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.21	1.83	0.16	0.31	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Chloride	mmol/l	98.4	90.5	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.90	3.39	4.41	0.26	0.51	Dimension-Siemens reagents
	mg/dl	151	131	171	10.00	20.00	
CK Total	U/l	197	161	233	18.00	36.00	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	128	102	154	13.00	26.00	IDMS traceable
	mg/dl	1.45	1.15	1.75	0.15	0.30	
gamma-GT	U/l	60	51	69	4.50	9.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.00	5.10	6.90	0.45	0.90	Hexokinase
	mg/dl	108	91.9	124	8.05	16.10	

Siemens Dimension Vista

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.72	1.46	1.98	0.13	0.26	Direct HDL PEGME
	mg/dl	66.4	56.4	76.4	5.00	10.00	
Lactate	mmol/l	1.51	1.24	1.78	0.14	0.27	UV LDH
	mg/dl	13.6	11.2	16.0	1.20	2.40	
LD (LDH)	U/l	198	168	228	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	154	123	185	15.50	31.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Methylthymol blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.36	1.15	1.57	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.22	3.57	4.87	0.33	0.65	
Potassium	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - indirect
Protein Total	g/l	61.6	49.3	73.9	6.15	12.30	Biuret reaction end point
	g/dl	6.16	4.93	7.39	0.62	1.23	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.17	0.98	1.36	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	86.6	121	8.70	17.40	
Urea	mmol/l	7.23	6.15	8.31	0.54	1.08	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.23	6.15	8.31	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.66	4.92	6.40	0.37	0.74	

VITALAB FLEXOR®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1106UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2020-02-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Green
	g/dl	4.32	3.67	4.97	0.33	0.65	
Alkaline Phosphatase	U/l	257	219	295	19.00	38.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	28.4	22.4	34.4	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.31	2.01	0.18	0.35	
Cholesterol	mmol/l	4.30	3.74	4.86	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
CK Total	U/l	214	175	253	19.50	39.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	117	93.5	141	11.75	23.50	Alkaline picrate no deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
Glucose	mmol/l	6.36	5.41	7.31	0.48	0.95	Glucose oxidase
	mg/dl	115	97.5	133	8.75	17.50	
Protein Total	g/l	60.5	48.4	72.6	6.05	12.10	Biuret reaction end point
	g/dl	6.05	4.84	7.26	0.61	1.21	
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.0	116	8.00	16.00	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	