

HUMAN ASSAYED MULTI-SERA - LEVEL 3 (HUM ASY CONTROL 3)

CAT. NO. HE1532	GTIN: 05055273203608	SIZE: 20 x 5ml
CAT. NO. HS2611	GTIN: 05055273203813	SIZE: 5 x 5ml
LOT NO. 939UE	EXPIRY: 2021-05-28	

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 2 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 2 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.

1. 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.
2. Refer to the Control section of the individual analyser application.
3. Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

Human Assayed Multi-sera - Level 3 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

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- (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.

Rev. 18 Dec '17 ne

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	27.9	23.7	32.1	2.10	4.20	Bromocresol Green
	g/dl	2.79	2.37	3.21	0.21	0.42	
	g/l	25.8	21.9	29.7	1.95	3.90	Bromocresol Purple
	g/dl	2.58	2.19	2.97	0.20	0.39	
Alkaline Phosphatase	U/l	307	261	353	23.00	46.00	AMP optimised to IFCC 37°C
	U/l	304	259	349	22.50	45.00	AMP non-optimised 37°C
	U/l	291	248	334	21.50	43.00	Colorimetric 37°C
ALT (GPT)	U/l	133	106	160	13.50	27.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	251	214	288	18.50	37.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	306	260	352	23.00	46.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	339	289	389	25.00	50.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.9	12.6	19.2	1.65	3.30	Enzymatic
Bile Acids	µmol/l	43.2	34.5	51.9	4.35	8.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.0	22.9	35.1	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.34	2.06	0.18	0.36	
	µmol/l	28.8	22.7	34.9	3.05	6.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin Total	µmol/l	78.6	62.1	95.1	8.25	16.50	Diazo with Dichloroaniline (DCA)
	mg/dl	4.60	3.63	5.57	0.49	0.97	
	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.62	3.65	5.59	0.49	0.97	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	77.3	61.1	93.5	8.10	16.20	Diazonium ion
	mg/dl	4.52	3.57	5.47	0.48	0.95	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	115	105	125	5.00	10.00	ISE indirect
Cholesterol	mmol/l	7.58	6.60	8.56	0.49	0.98	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
Cholinesterase	U/l	5873	4699	7047	587.00	1174.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	551	452	650	49.50	99.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	395	316	474	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.46	3.57	5.35	0.45	0.89	
	µmol/l	384	307	461	38.50	77.00	Enzymatic UV method
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	µmol/l	386	309	463	38.50	77.00	Creatinine PAP method
	mg/dl	4.36	3.49	5.23	0.44	0.87	
	µmol/l	392	314	470	39.00	78.00	Jaffe rate blanked
	mg/dl	4.43	3.55	5.31	0.44	0.88	
µmol/l	396	317	475	39.50	79.00	IDMS traceable	
mg/dl	4.47	3.58	5.36	0.45	0.89		
gamma-GT	U/l	175	149	201	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	170	145	195	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	

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Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
HDL - Cholesterol	mmol/l	2.64	2.24	3.04	0.20	0.40	Direct HDL PPD	
	mg/dl	102	86.5	118	7.75	15.50		
	mmol/l	2.63	2.23	3.03	0.20	0.40	Direct Clearance Method	
	mg/dl	102	86.1	118	7.95	15.90		
Iron	mmol/l	2.60	2.21	2.99	0.20	0.39	HDL - Ultra	
	mg/dl	100	85.3	115	7.35	14.70		
	Iron	µmol/l	37.6	30.9	44.3	3.35	6.70	Colorimetric with ppt.
		µg/dl	210	173	247	18.50	37.00	Colorimetric without ppt.
µmol/l		36.8	30.2	43.4	3.30	6.60		
Lactate	µg/dl	206	169	243	18.50	37.00	Colorimetric Lactate Oxidase	
	mmol/l	5.70	4.67	6.73	0.52	1.03		
LD (LDH)	mg/dl	51.4	42.1	60.7	4.65	9.30	L->P 37°C	
	U/l	362	308	416	27.00	54.00		
Lipase	U/l	359	305	413	27.00	54.00	L->P IFCC 37°C	
	U/l	57	46	68	5.50	11.00	Other Colorimetric 37°C	
Lithium	mmol/l	2.03	1.79	2.27	0.12	0.24	Spectrophotometric	
	mg/dl	1.41	1.24	1.58	0.09	0.17		
Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Arsenazo III	
	mg/dl	4.11	3.62	4.60	0.25	0.49		
	mmol/l	1.72	1.51	1.93	0.11	0.21	Enzymatic	
	mg/dl	4.18	3.67	4.69	0.26	0.51		
Osmolality	mOsm/kg	354	283	425	35.50	71.00	Calculated	
Phosphate Inorganic	mmol/l	2.17	1.84	2.50	0.17	0.33	Phosphomolybdate enzymatic	
	mg/dl	6.73	5.70	7.76	0.52	1.03		

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.79	5.77	7.81	0.51	1.02	
Potassium	mmol/l	6.21	5.72	6.70	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	49.2	38.9	59.5	5.15	10.30	FE+UIBC(saturation with iron)
	µg/dl	275	217	333	29.00	58.00	
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	2.95	2.48	3.42	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	261	219	303	21.00	42.00	
UIBC	µmol/l	11.3	9.28	13.3	1.01	2.02	Direct Colorimetric
	µg/dl	63.2	51.9	74.5	5.65	11.30	
Urea	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease kinetic
	mg/dl	119	102	136	8.50	17.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	8.01	10.4	0.60	1.20	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.01	10.4	0.61	1.21	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	8.01	10.4	0.60	1.20	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.5	24.3	32.7	2.10	4.20	Bromocresol Green
	g/dl	2.85	2.43	3.27	0.21	0.42	
Alkaline Phosphatase	U/l	309	262	356	23.50	47.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	120	178	14.50	29.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	27.7	21.9	33.5	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.62	1.28	1.96	0.17	0.34	
Bilirubin Total	µmol/l	82.2	64.9	99.5	8.65	17.30	Diazo with Dichloroaniline (DCA)
	mg/dl	4.81	3.80	5.82	0.51	1.01	
Calcium	mmol/l	3.22	2.90	3.54	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.29	2.96	3.62	0.17	0.33	Arsenazo III
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.87	6.85	8.89	0.51	1.02	Cholesterol Oxidase
	mg/dl	304	264	344	20.00	40.00	
CK Total	U/l	524	429	619	47.50	95.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	375	300	450	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	381	305	457	38.00	76.00	Creatinine PAP method
	mg/dl	4.31	3.45	5.17	0.43	0.86	
gamma-GT	U/l	176	150	202	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
Iron	µmol/l	35.0	28.7	41.3	3.15	6.30	Colorimetric without ppt.
	µg/dl	196	160	232	18.00	36.00	
Magnesium	mmol/l	1.61	1.42	1.80	0.10	0.19	Xylidyl Blue
	mg/dl	3.91	3.45	4.37	0.23	0.46	
Phosphate Inorganic	mmol/l	2.41	2.05	2.77	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.47	6.36	8.58	0.56	1.11	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - direct
Protein Total	g/l	46.0	36.8	55.2	4.60	9.20	Biuret reaction end point
	g/dl	4.60	3.68	5.52	0.46	0.92	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.98	2.51	3.45	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	264	222	306	21.00	42.00	
Urea	mmol/l	18.6	15.8	21.4	1.40	2.80	Urease kinetic
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	18.6	15.8	21.4	1.40	2.80	BUN
	mg/dl	52.2	44.4	60.0	3.90	7.80	
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	7.96	10.4	0.60	1.20	

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.6	25.1	34.1	2.25	4.50	Bromocresol Green
	g/dl	2.96	2.51	3.41	0.23	0.45	
Alkaline Phosphatase	U/l	302	257	347	22.50	45.00	AMP optimised to IFCC 37°C
	U/l	235	200	270	17.50	35.00	AMP optimised to IFCC 30°C
	U/l	193	164	222	14.50	29.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	100	80	120	10.00	20.00	Tris buffer without P5P 30°C
	U/l	76	61	91	7.50	15.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	67	53	81	7.00	14.00	Tris buffer without P5P 25°C
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Cholesterol	mmol/l	7.08	6.16	8.00	0.46	0.92	Cholesterol Oxidase
	mg/dl	273	238	308	17.50	35.00	
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
Protein Total	g/l	45.0	36.0	54.0	4.50	9.00	Biuret reaction end point
	g/dl	4.50	3.60	5.40	0.45	0.90	
Triglycerides	mmol/l	2.83	2.38	3.28	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	250	211	289	19.50	39.00	



Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	18.4	15.7	21.1	1.35	2.70	Urease kinetic
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.4	15.6	21.2	1.40	2.80	BUN
	mg/dl	51.6	43.9	59.3	3.85	7.70	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
alpha-HBDH	U/l	438	346	530	46.00	92.00	Oxobutyrate < 10 mmol/l 37°C
Albumin	g/l	26.5	22.5	30.5	2.00	4.00	Bromocresol Green
	g/dl	2.65	2.25	3.05	0.20	0.40	
	g/l	26.2	22.2	30.2	2.00	4.00	Bromocresol Purple
	g/dl	2.62	2.22	3.02	0.20	0.40	
Alkaline Phosphatase	U/l	379	322	436	28.50	57.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	137	110	164	13.50	27.00	Tris buffer without P5P 37°C
Amylase Total	U/l	267	227	307	20.00	40.00	pNP Maltotriose substrates 37°C
	U/l	279	238	320	20.50	41.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	276	235	317	20.50	41.00	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	158	126	190	16.00	32.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.5	13.9	21.1	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	21.5	17.0	26.0	2.25	4.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.26	0.995	1.53	0.13	0.27	
	µmol/l	21.4	16.9	25.9	2.25	4.50	Diazo with Sulphanilic Acid
	mg/dl	1.25	0.989	1.51	0.13	0.26	
Bilirubin Total	µmol/l	82.9	65.5	100	8.70	17.40	Diazo with Dichloroaniline (DCA)
	mg/dl	4.85	3.83	5.87	0.51	1.02	
	µmol/l	85.4	67.5	103	8.95	17.90	Diazo with Sulphanilic Acid
	mg/dl	5.00	3.95	6.05	0.53	1.05	
	µmol/l	84.1	66.4	102	8.85	17.70	DPD (Beckman AU)
mg/dl	4.92	3.88	5.96	0.52	1.04		

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Calcium	mmol/l	3.07	2.77	3.37	0.15	0.30	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.07	2.77	3.37	0.15	0.30	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.63	6.64	8.62	0.50	0.99	Cholesterol Oxidase
	mg/dl	295	256	334	19.50	39.00	
Cholinesterase	U/l	4709	3767	5651	471.00	942.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	552	453	651	49.50	99.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	25.4	20.3	30.5	2.55	5.10	Colorimetric
	µg/dl	162	129	195	16.50	33.00	
Creatinine	µmol/l	364	291	437	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.11	3.29	4.93	0.41	0.82	
	µmol/l	393	314	472	39.50	79.00	Enzymatic UV method
	mg/dl	4.44	3.55	5.33	0.45	0.89	
	µmol/l	390	312	468	39.00	78.00	Creatinine PAP method
	mg/dl	4.41	3.53	5.29	0.44	0.88	
	µmol/l	362	290	434	36.00	72.00	Jaffe rate blanked
	mg/dl	4.09	3.28	4.90	0.41	0.81	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	376	301	451	37.50	75.00	IDMS traceable
	mg/dl	4.25	3.40	5.10	0.43	0.85	
D-3-Hydroxybutyrate	mmol/l	1.15	0.98	1.32	0.09	0.17	Tris buffer 100mmol pH 8.5

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
gamma-GT	U/l	181	154	208	13.50	27.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C	
	U/l	165	140	190	12.50	25.00	Gamma glutamyl-4-nitroanilide 37°C	
	U/l	179	152	206	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
GLDH	U/l	29	23	35	3.00	6.00	Triethanolamine buffer 50 mmol 37°C	
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase	
	mg/dl	287	243	331	22.00	44.00		
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase	
	mg/dl	288	245	331	21.50	43.00		
HDL - Cholesterol	mmol/l	2.76	2.34	3.18	0.21	0.42	Direct HDL Immunoseparation	
	mg/dl	107	90.3	124	8.35	16.70		
	mmol/l	2.75	2.34	3.16	0.21	0.41	Direct Clearance Method	
	mg/dl	106	90.3	122	7.85	15.70		
	mmol/l	2.70	2.29	3.11	0.21	0.41	HDL - Ultra	
	mg/dl	104	88.4	120	7.80	15.60		
	Iron	µmol/l	37.5	30.8	44.2	3.35	6.70	Colorimetric with ppt.
		µg/dl	210	172	248	19.00	38.00	
µmol/l		37.1	30.4	43.8	3.35	6.70	Colorimetric without ppt.	
µg/dl		207	170	244	18.50	37.00		
Lactate	mmol/l	5.49	4.50	6.48	0.50	0.99	Colorimetric Lactate Oxidase	
	mg/dl	49.5	40.5	58.5	4.50	9.00		
LD (LDH)	U/l	353	300	406	26.50	53.00	L->P 37°C	
	U/l	810	689	931	60.50	121.00	P->L Scandinavian & Dutch 37°C	
	U/l	359	305	413	27.00	54.00	L->P IFCC 37°C	
Lipase	U/l	63	50	76	6.50	13.00	Other Colorimetric 37°C	
	U/l	52	42	62	5.00	10.00	Roche Colorimetric 37°C	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lipase	U/l	79	63	95	8.00	16.00	Radox Colorimetric 37°C
Lithium	mmol/l	2.04	1.80	2.28	0.12	0.24	Spectrophotometric
	mg/dl	1.42	1.25	1.59	0.09	0.17	
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Xylidyl Blue
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Osmolality	mOsm/kg	348	278	418	35.00	70.00	Calculated
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	
Potassium	mmol/l	6.18	5.69	6.67	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.3	35.4	53.2	4.45	8.90	Biuret reaction end point
	g/dl	4.43	3.54	5.32	0.45	0.89	
	g/l	43.9	35.1	52.7	4.40	8.80	Biuret reaction kinetic
	g/dl	4.39	3.51	5.27	0.44	0.88	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	49.6	39.2	60.0	5.20	10.40	FE+UIBC(saturation with iron)
	µg/dl	277	219	335	29.00	58.00	
Triglycerides	mmol/l	2.96	2.49	3.43	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	262	220	304	21.00	42.00	
	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.97	2.50	3.44	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	263	221	305	21.00	42.00	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease end point
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	

**Beckman Coulter AU Series®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.71	8.45	11.0	0.63	1.26	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.58	8.33	10.8	0.63	1.25	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.56	8.32	10.8	0.62	1.24	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.7	25.2	34.2	2.25	4.50	Bromocresol Green
	g/dl	2.97	2.52	3.42	0.23	0.45	
	g/l	28.0	23.8	32.2	2.10	4.20	Bromocresol Purple
	g/dl	2.80	2.38	3.22	0.21	0.42	
Alkaline Phosphatase	U/l	340	289	391	25.50	51.00	AMP optimised to IFCC 37°C
	U/l	340	289	391	25.50	51.00	AMP non-optimised 37°C
ALT (GPT)	U/l	127	102	152	12.50	25.00	Tris buffer without P5P 37°C
	U/l	125	100	150	12.50	25.00	Tris buffer SCE 37°C
Amylase Total	U/l	286	243	329	21.50	43.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	285	243	327	21.00	42.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	141	113	169	14.00	28.00	Tris buffer without P5P 37°C
	U/l	142	114	170	14.00	28.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	16.7	13.3	20.1	1.70	3.40	Differential rate pH change
	mmol/l	16.3	12.9	19.7	1.70	3.40	Ion selective electrode
Bilirubin Direct	µmol/l	15.6	12.4	18.8	1.60	3.20	Diazo with Sulphanilic Acid
	mg/dl	0.913	0.725	1.10	0.09	0.19	
Bilirubin Total	µmol/l	78.1	61.7	94.5	8.20	16.40	Diazo with Sulphanilic Acid
	mg/dl	4.57	3.61	5.53	0.48	0.96	
Calcium	mmol/l	3.02	2.72	3.32	0.15	0.30	Ion selective electrode
	mg/dl	12.1	10.9	13.3	0.60	1.20	
	mmol/l	3.05	2.74	3.36	0.16	0.31	Arsenazo III
	mg/dl	12.2	11.0	13.4	0.60	1.20	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.62	6.63	8.61	0.50	0.99	Cholesterol Oxidase
	mg/dl	294	256	332	19.00	38.00	
CK Total	U/l	529	434	624	47.50	95.00	CK-NAC (IFCC) 37°C
	U/l	554	454	654	50.00	100.00	Monothioglycerol 37°C
Creatinine	µmol/l	381	305	457	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.31	3.45	5.17	0.43	0.86	
	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	385	308	462	38.50	77.00	IDMS traceable
	mg/dl	4.35	3.48	5.22	0.44	0.87	
gamma-GT	U/l	145	123	167	11.00	22.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Oxygen electrode
	mg/dl	279	238	320	20.50	41.00	
	mmol/l	15.1	12.9	17.3	1.10	2.20	Glucose oxidase
	mg/dl	272	232	312	20.00	40.00	
HDL - Cholesterol	mmol/l	2.75	2.34	3.16	0.21	0.41	Direct HDL PPD
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	2.79	2.38	3.20	0.21	0.41	HDL - Ultra
	mg/dl	108	91.9	124	8.05	16.10	
Iron	µmol/l	36.6	30.0	43.2	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	5.10	4.18	6.02	0.46	0.92	Colorimetric Lactate Oxidase
	mg/dl	46.0	37.7	54.3	4.15	8.30	
LD (LDH)	U/l	302	257	347	22.50	45.00	L->P 37°C
Lipase	U/l	63	50	76	6.50	13.00	Other Colorimetric 37°C
Lithium	mmol/l	2.00	1.76	2.24	0.12	0.24	Spectrophotometric
	mg/dl	1.39	1.22	1.56	0.09	0.17	
Magnesium	mmol/l	1.68	1.48	1.88	0.10	0.20	Calmagite
	mg/dl	4.08	3.60	4.56	0.24	0.48	
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.07	6.01	8.13	0.53	1.06	
	mmol/l	2.27	1.93	2.61	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.04	5.98	8.10	0.53	1.06	
Potassium	mmol/l	6.18	5.69	6.67	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.1	35.3	52.9	4.40	8.80	Biuret reaction CX4/5/7
	g/dl	4.41	3.53	5.29	0.44	0.88	
	g/l	44.2	35.3	53.1	4.45	8.90	Biuret reaction end point
	g/dl	4.42	3.53	5.31	0.45	0.89	
	g/l	42.7	34.1	51.3	4.30	8.60	Biuret reaction kinetic
	g/dl	4.27	3.41	5.13	0.43	0.86	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.13	0.90	1.36	0.11	0.23	Beckman Dxl800 Hyper TSH
Triglycerides	mmol/l	3.05	2.56	3.54	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	270	227	313	21.50	43.00	
	mmol/l	3.09	2.60	3.58	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	273	230	316	21.50	43.00	

**Beckman CX4/5/7/9/LX20®/DxC600/800®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease end point
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	BUN
	mg/dl	56.4	47.9	64.9	4.25	8.50	
Uric Acid (Urate)	mmol/l	0.52	0.46	0.59	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.80	7.66	9.94	0.57	1.14	

BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Green
	g/dl	2.90	2.46	3.34	0.22	0.44	
Alkaline Phosphatase	U/l	329	280	378	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	256	218	294	19.00	38.00	AMP optimised to IFCC 30°C
	U/l	210	179	241	15.50	31.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	111	89	133	11.00	22.00	Tris buffer without P5P 30°C
	U/l	84	68	100	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	169	135	203	17.00	34.00	Tris buffer without P5P 37°C
	U/l	114	91	137	11.50	23.00	Tris buffer without P5P 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	81.3	64.2	98.4	8.55	17.10	Diazo with Sulphanilic Acid
	mg/dl	4.76	3.76	5.76	0.50	1.00	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	7.57	6.59	8.55	0.49	0.98	Cholesterol Oxidase
	mg/dl	292	254	330	19.00	38.00	
Creatinine	µmol/l	335	268	402	33.50	67.00	Alkaline picrate no deproteinization
	mg/dl	3.79	3.03	4.55	0.38	0.76	
Glucose	mmol/l	16.2	13.8	18.6	1.20	2.40	Glucose oxidase
	mg/dl	292	249	335	21.50	43.00	

BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.25	6.17	8.33	0.54	1.08	
Protein Total	g/l	42.6	34.1	51.1	4.25	8.50	Biuret reaction end point
	g/dl	4.26	3.41	5.11	0.43	0.85	
Triglycerides	mmol/l	2.95	2.48	3.42	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	
Urea	mmol/l	18.2	15.5	20.9	1.35	2.70	Urease kinetic
	mg/dl	109	93.2	125	7.90	15.80	
	mmol/l	18.2	15.5	20.9	1.35	2.70	BUN
	mg/dl	51.1	43.4	58.8	3.85	7.70	
Uric Acid (Urate)	mmol/l	0.58	0.51	0.66	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.76	8.48	11.0	0.64	1.28	

BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Green
	g/dl	2.87	2.44	3.30	0.22	0.43	
Alkaline Phosphatase	U/l	313	266	360	23.50	47.00	AMP optimised to IFCC 37°C
	U/l	244	207	281	18.50	37.00	AMP optimised to IFCC 30°C
	U/l	200	170	230	15.00	30.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37°C
	U/l	110	87	133	11.50	23.00	Tris buffer without P5P 30°C
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	166	133	199	16.50	33.00	Tris buffer without P5P 37°C
	U/l	112	90	134	11.00	22.00	Tris buffer without P5P 30°C
	U/l	79	63	95	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	80.6	63.6	97.6	8.50	17.00	Diazo with Sulphanilic Acid
	mg/dl	4.72	3.72	5.72	0.50	1.00	
Cholesterol	mmol/l	7.91	6.88	8.94	0.52	1.03	Cholesterol Oxidase
	mg/dl	305	266	344	19.50	39.00	
CK Total	U/l	550	451	649	49.50	99.00	CK-NAC (IFCC) 37°C
	U/l	344	282	406	31.00	62.00	CK-NAC (IFCC) 30°C
	U/l	234	192	276	21.00	42.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	342	274	410	34.00	68.00	Alkaline picrate no deproteinization
	mg/dl	3.86	3.10	4.62	0.38	0.76	
Glucose	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	

BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.32	6.23	8.41	0.55	1.09	
Protein Total	g/l	45.2	36.1	54.3	4.55	9.10	Biuret reaction end point
	g/dl	4.52	3.61	5.43	0.46	0.91	
Triglycerides	mmol/l	2.95	2.48	3.42	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	
Urea	mmol/l	17.9	15.2	20.6	1.35	2.70	Urease kinetic
	mg/dl	108	91.4	125	8.30	16.60	
	mmol/l	17.9	15.2	20.6	1.35	2.70	BUN
	mg/dl	50.2	42.7	57.7	3.75	7.50	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.68	8.42	10.9	0.63	1.26	
	mmol/l	0.59	0.51	0.66	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.86	8.58	11.1	0.64	1.28	

Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	28.2	24.0	32.4	2.10	4.20	Bromocresol Green
	g/dl	2.82	2.40	3.24	0.21	0.42	
AST (GOT)	U/l	154	123	185	15.50	31.00	Tris buffer without P5P 37°C
	U/l	104	83	125	10.50	21.00	Tris buffer without P5P 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	79.9	63.1	96.7	8.40	16.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.67	3.69	5.65	0.49	0.98	
Calcium	mmol/l	3.04	2.74	3.34	0.15	0.30	Arsenazo III
	mg/dl	12.2	11.0	13.4	0.60	1.20	
Cholesterol	mmol/l	7.68	6.68	8.68	0.50	1.00	Cholesterol Oxidase
	mg/dl	296	258	334	19.00	38.00	
Creatinine	µmol/l	333	267	399	33.00	66.00	Alkaline picrate no deproteinization
	mg/dl	3.76	3.02	4.50	0.37	0.74	
	µmol/l	382	305	459	38.50	77.00	Creatinine PAP method
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
HDL - Cholesterol	mmol/l	2.70	2.29	3.11	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	104	88.4	120	7.80	15.60	
Iron	µmol/l	34.6	28.4	40.8	3.10	6.20	Colorimetric without ppt.
	µg/dl	193	159	227	17.00	34.00	

**Biotechnica/Wiener BT and CB Series**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	2.32	1.98	2.66	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.19	6.14	8.24	0.53	1.05	
Protein Total	g/l	47.8	38.2	57.4	4.80	9.60	Biuret reaction end point
	g/dl	4.78	3.82	5.74	0.48	0.96	
Triglycerides	mmol/l	2.80	2.35	3.25	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	248	208	288	20.00	40.00	
Urea	mmol/l	19.0	16.1	21.9	1.45	2.90	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.0	16.2	21.8	1.40	2.80	BUN
	mg/dl	53.3	45.3	61.3	4.00	8.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.41	8.20	10.6	0.61	1.21	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.6	25.1	34.1	2.25	4.50	Bromocresol Green
	g/dl	2.96	2.51	3.41	0.23	0.45	
	g/l	25.8	21.9	29.7	1.95	3.90	Turbidimetric Assays
	g/dl	2.58	2.19	2.97	0.20	0.39	
Alkaline Phosphatase	U/l	258	219	297	19.50	39.00	Roche Integra AMP buffer 37°C
	U/l	201	171	231	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	165	140	190	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	126	101	151	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	75	111	9.00	18.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	248	211	285	18.50	37.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	269	228	310	20.50	41.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	269	228	310	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.0	12.7	19.3	1.65	3.30	Colorimetric
	mmol/l	16.3	12.9	19.7	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	28.7	22.6	34.8	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	1.32	2.04	0.18	0.36	
	µmol/l	28.8	22.7	34.9	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.33	2.03	0.18	0.35	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Direct	µmol/l	28.8	22.8	34.8	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin Total	µmol/l	71.8	56.8	86.8	7.50	15.00	Diazo with Dichloroaniline (DCA)
	mg/dl	4.20	3.32	5.08	0.44	0.88	
	µmol/l	72.2	57.0	87.4	7.60	15.20	Diazo with Sulphanilic Acid
	mg/dl	4.22	3.33	5.11	0.45	0.89	
	µmol/l	71.8	56.7	86.9	7.55	15.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.20	3.32	5.08	0.44	0.88	
	µmol/l	71.8	56.7	86.9	7.55	15.10	Diazonium ion
	mg/dl	4.20	3.32	5.08	0.44	0.88	
Calcium	mmol/l	3.12	2.81	3.43	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	3.07	2.76	3.38	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.11	2.80	3.42	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.2	13.8	0.65	1.30	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.58	6.59	8.57	0.50	0.99	Cholesterol Oxidase
	mg/dl	293	254	332	19.50	39.00	
CK Total	U/l	524	429	619	47.50	95.00	CK-NAC (IFCC) 37°C
	U/l	328	269	387	29.50	59.00	CK-NAC (IFCC) 30°C
	U/l	223	182	264	20.50	41.00	CK-NAC (IFCC) 25°C
	U/l	532	436	628	48.00	96.00	Creatinine phosphate substrate Start 37°C
	U/l	333	273	393	30.00	60.00	Creatinine phosphate substrate Start 30°C
	U/l	226	185	267	20.50	41.00	Creatinine phosphate substrate Start 25°C

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	362	290	434	36.00	72.00	Alkaline picrate with deproteinization
	mg/dl	4.09	3.28	4.90	0.41	0.81	
	µmol/l	375	300	450	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	382	305	459	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.32	3.45	5.19	0.44	0.87	
	µmol/l	362	290	434	36.00	72.00	Jaffe rate blanked
	mg/dl	4.09	3.28	4.90	0.41	0.81	
gamma-GT	µmol/l	373	299	447	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.21	3.38	5.04	0.42	0.83	
	µmol/l	373	298	448	37.50	75.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	U/l	166	141	191	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	131	111	151	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	181	154	208	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	121	165	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	95	129	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	3.44	2.93	3.95	0.26	0.51	Direct HDL PEGME
	mg/dl	133	113	153	10.00	20.00	
	mmol/l	3.49	2.97	4.01	0.26	0.52	Direct HDL Roche 3rd generation
	mg/dl	135	115	155	10.00	20.00	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Iron	µmol/l	36.8	30.2	43.4	3.30	6.60	Colorimetric with ppt.
	µg/dl	206	169	243	18.50	37.00	
	µmol/l	36.8	30.2	43.4	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Lactate	mmol/l	5.69	4.67	6.71	0.51	1.02	Colorimetric Lactate Oxidase
	mg/dl	51.3	42.1	60.5	4.60	9.20	
LD (LDH)	U/l	679	577	781	51.00	102.00	P->L German methods 37°C
	U/l	490	417	563	36.50	73.00	P->L German methods 30°C
	U/l	344	293	395	25.50	51.00	P->L German methods 25°C
	U/l	371	316	426	27.50	55.00	L->P IFCC 37°C
	U/l	268	228	308	20.00	40.00	L->P IFCC 30°C
	U/l	188	160	216	14.00	28.00	L->P IFCC 25°C
Lipase	U/l	61	49	73	6.00	12.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.06	1.81	2.31	0.13	0.25	Ion selective electrode
	mg/dl	1.43	1.26	1.60	0.09	0.17	
Magnesium	mmol/l	1.71	1.51	1.91	0.10	0.20	Chlorphosphonazo III
	mg/dl	4.16	3.67	4.65	0.25	0.49	
Phosphate Inorganic	mmol/l	2.20	1.87	2.53	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.82	5.80	7.84	0.51	1.02	
	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	42.3	33.9	50.7	4.20	8.40	Biuret reaction end point
	g/dl	4.23	3.39	5.07	0.42	0.84	
	g/l	42.1	33.7	50.5	4.20	8.40	Biuret reaction kinetic
	g/dl	4.21	3.37	5.05	0.42	0.84	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect	
TIBC	µmol/l	47.6	37.6	57.6	5.00	10.00	FE+UIBC(saturation with iron)	
	µg/dl	266	210	322	28.00	56.00		
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction	
	mg/dl	259	218	300	20.50	41.00		
	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	257	216	298	20.50	41.00		
UIBC	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/Glycerol Dehydrogenase	
	mg/dl	253	212	294	20.50	41.00		
	Urea	µmol/l	11.0	9.05	13.0	0.98	1.95	Direct Colorimetric
		µg/dl	61.5	50.6	72.4	5.45	10.90	
Urea	mmol/l	18.7	15.9	21.5	1.40	2.80	Urease kinetic	
	mg/dl	112	95.6	128	8.20	16.40		
	mmol/l	17.7	15.0	20.4	1.35	2.70	Urease hypochlorite	
	mg/dl	106	90.2	122	7.90	15.80		
	mmol/l	18.7	15.9	21.5	1.40	2.80	BUN	
	mg/dl	52.5	44.6	60.4	3.95	7.90		
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.26	8.05	10.5	0.61	1.21		
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase	
	mg/dl	9.26	8.05	10.5	0.61	1.21		
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	9.29	8.08	10.5	0.61	1.21		

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	30.3	25.8	34.8	2.25	4.50	Bromocresol Green
	g/dl	3.03	2.58	3.48	0.23	0.45	
ALT (GPT)	U/l	139	111	167	14.00	28.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	83.2	65.7	101	8.75	17.50	Diazo with Sulphanilic Acid
	mg/dl	4.87	3.84	5.90	0.52	1.03	
Calcium	mmol/l	3.07	2.77	3.37	0.15	0.30	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Cholesterol	mmol/l	7.76	6.76	8.76	0.50	1.00	Cholesterol Oxidase
	mg/dl	300	261	339	19.50	39.00	
CK Total	U/l	563	461	665	51.00	102.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	374	299	449	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	343	274	412	34.50	69.00	Jaffe rate blanked
	mg/dl	3.88	3.10	4.66	0.39	0.78	
gamma-GT	U/l	185	157	213	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
Iron	µmol/l	38.3	31.4	45.2	3.45	6.90	Colorimetric without ppt.
	µg/dl	214	176	252	19.00	38.00	
LD (LDH)	U/l	350	297	403	26.50	53.00	L->P IFCC 37°C

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	
Protein Total	g/l	47.7	38.1	57.3	4.80	9.60	Biuret reaction end point
	g/dl	4.77	3.81	5.73	0.48	0.96	
Triglycerides	mmol/l	2.89	2.43	3.35	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	256	215	297	20.50	41.00	
Urea	mmol/l	18.6	15.8	21.4	1.40	2.80	Urease kinetic
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	18.6	15.8	21.4	1.40	2.80	BUN
	mg/dl	52.2	44.4	60.0	3.90	7.80	
Uric Acid (Urate)	mmol/l	0.60	0.52	0.68	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.1	8.77	11.4	0.67	1.33	

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Acid Phosphatase (non-prostatic)	U/l	14.8	9.92	19.7	2.44	4.88	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	21.6	14.5	28.7	3.55	7.10	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	36.4	24.4	48.4	6.00	12.00	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	28.9	24.6	33.2	2.15	4.30	Bromocresol Green
	g/dl	2.89	2.46	3.32	0.22	0.43	
Alkaline Phosphatase	U/l	233	198	268	17.50	35.00	Roche Integra AMP buffer 37°C
	U/l	182	154	210	14.00	28.00	Roche Integra AMP buffer 30°C
	U/l	149	127	171	11.00	22.00	Roche Integra AMP buffer 25°C
	U/l	332	282	382	25.00	50.00	Randox AMP 37°C
	U/l	259	220	298	19.50	39.00	Randox AMP 30°C
	U/l	212	180	244	16.00	32.00	Randox AMP 25°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	282	240	324	21.00	42.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	256	217	295	19.50	39.00	Roche liquid stable pNPG7 37°C
	U/l	295	251	339	22.00	44.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.3	13.7	20.9	1.80	3.60	Enzymatic

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bile Acids	µmol/l	41.6	33.3	49.9	4.15	8.30	5th Generation Colorimetric
Bilirubin Direct	µmol/l	25.5	20.1	30.9	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	1.18	1.80	0.16	0.31	
	µmol/l	25.7	20.3	31.1	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.50	1.19	1.81	0.16	0.31	
Bilirubin Total	µmol/l	79.2	62.6	95.8	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.63	3.66	5.60	0.49	0.97	
	µmol/l	71.0	56.1	85.9	7.45	14.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.15	3.28	5.02	0.44	0.87	
	µmol/l	72.3	57.1	87.5	7.60	15.20	Diazonium ion
	mg/dl	4.23	3.34	5.12	0.45	0.89	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.12	2.81	3.43	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.53	6.55	8.51	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	253	329	19.00	38.00	
Cholinesterase	U/l	5056	4045	6067	505.50	1011.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	506	415	597	45.50	91.00	CK-NAC (IFCC) 37°C
	U/l	317	260	374	28.50	57.00	CK-NAC (IFCC) 30°C
	U/l	215	176	254	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	383	306	460	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	376	301	451	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.25	3.40	5.10	0.43	0.85	

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
gamma-GT	U/l	156	132	180	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	123	104	142	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	81	111	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	178	151	205	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	140	119	161	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	93	127	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	190	162	218	14.00	28.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	150	128	172	11.00	22.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.45	2.93	3.97	0.26	0.52	Direct HDL Roche 3rd generation
	mg/dl	133	113	153	10.00	20.00	
Iron	µmol/l	36.1	29.6	42.6	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	165	239	18.50	37.00	
Lactate	mmol/l	5.53	4.54	6.52	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.8	40.9	58.7	4.45	8.90	
LD (LDH)	U/l	684	581	787	51.50	103.00	P->L German methods 37°C
	U/l	494	419	569	37.50	75.00	P->L German methods 30°C
	U/l	347	295	399	26.00	52.00	P->L German methods 25°C
	U/l	358	304	412	27.00	54.00	L->P IFCC 37°C
	U/l	258	219	297	19.50	39.00	L->P IFCC 30°C
	U/l	182	154	210	14.00	28.00	L->P IFCC 25°C

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lipase	U/l	55	44	66	5.50	11.00	Roche Colorimetric 37°C
Magnesium	mmol/l	1.72	1.51	1.93	0.11	0.21	Xylidyl Blue
	mg/dl	4.18	3.67	4.69	0.26	0.51	
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.79	5.77	7.81	0.51	1.02	
Potassium	mmol/l	6.29	5.79	6.79	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.0	35.2	52.8	4.40	8.80	Biuret reaction end point
	g/dl	4.40	3.52	5.28	0.44	0.88	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
TIBC	µmol/l	46.1	36.4	55.8	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	258	203	313	27.50	55.00	
Triglycerides	mmol/l	2.97	2.49	3.45	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	263	220	306	21.50	43.00	
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.06	7.88	10.2	0.59	1.18	

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	27.8	23.6	32.0	2.10	4.20	Bromocresol Green
	g/dl	2.78	2.36	3.20	0.21	0.42	
Alkaline Phosphatase	U/l	341	290	392	25.50	51.00	AMP optimised to IFCC 37°C
	U/l	266	226	306	20.00	40.00	AMP optimised to IFCC 30°C
	U/l	218	185	251	16.50	33.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	125	100	150	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Amylase Total	U/l	289	246	332	21.50	43.00	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	141	112	170	14.50	29.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	67	53	81	7.00	14.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	43.0	34.4	51.6	4.30	8.60	Enzymatic Colorimetric
Bilirubin Total	µmol/l	82.3	65.0	99.6	8.65	17.30	Diazo with Sulphanilic Acid
	mg/dl	4.81	3.80	5.82	0.51	1.01	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.53	6.55	8.51	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	253	329	19.00	38.00	
CK Total	U/l	483	396	570	43.50	87.00	CK-NAC (IFCC) 37°C
	U/l	302	248	356	27.00	54.00	CK-NAC (IFCC) 30°C
	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 25°C

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	347	277	417	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.92	3.13	4.71	0.40	0.79	
D-3-Hydroxybutyrate	mmol/l	1.15	0.98	1.32	0.08	0.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	163	138	188	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	85	117	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	107	145	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	84	114	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
	mmol/l	15.6	13.2	18.0	1.20	2.40	Glucose oxidase
	mg/dl	281	238	324	21.50	43.00	
Iron	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Enzymatic
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.79	5.77	7.81	0.51	1.02	
Potassium	mmol/l	6.18	5.69	6.67	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.8	35.9	53.7	4.45	8.90	Biuret reaction end point
	g/dl	4.48	3.59	5.37	0.45	0.89	
Sodium	mmol/l	158	151	165	3.50	7.00	ISE method - indirect

**ILab 600®/650®/Aries/Taurus**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Triglycerides	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	265	222	308	21.50	43.00	
Urea	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	8.05	10.4	0.60	1.19	

JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	27.3	23.2	31.4	2.05	4.10	Ortho Vitros Microslide Systems
	g/dl	2.73	2.32	3.14	0.21	0.41	
Alkaline Phosphatase	U/l	225	191	259	17.00	34.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	147	117	177	15.00	30.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	168	142	194	13.00	26.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	189	151	227	19.00	38.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	18.6	14.8	22.4	1.90	3.80	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	74.7	59.0	90.4	7.85	15.70	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.37	3.45	5.29	0.46	0.92	
	µmol/l	74.3	58.7	89.9	7.80	15.60	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.35	3.43	5.27	0.46	0.92	
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Ortho Vitros Microslide Systems
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Chloride	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	7.05	6.13	7.97	0.46	0.92	Ortho Vitros Microslide Systems
	mg/dl	272	237	307	17.50	35.00	
CK Total	U/l	463	380	546	41.50	83.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	385	308	462	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.35	3.48	5.22	0.44	0.87	
gamma-GT	U/l	220	187	253	16.50	33.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	14.5	12.3	16.7	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	261	222	300	19.50	39.00	

JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
HDL - Cholesterol	mmol/l	2.34	1.99	2.69	0.18	0.35	Vitros Magnetic HDL
	mg/dl	90.3	76.8	104	6.75	13.50	
	mmol/l	2.50	2.13	2.87	0.19	0.37	Vitros 5.1 FS microtip assay
	mg/dl	96.5	82.2	111	7.15	14.30	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	
Iron	µmol/l	36.9	30.2	43.6	3.35	6.70	Ortho Vitros Microslide Systems
	µg/dl	206	169	243	18.50	37.00	
Lactate	mmol/l	5.10	4.18	6.02	0.46	0.92	Ortho Vitros Microslide Systems
	mg/dl	46.0	37.7	54.3	4.15	8.30	
LD (LDH)	U/l	1042	886	1198	78.00	156.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	689	553	825	68.00	136.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	2.48	2.18	2.78	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Phosphate Inorganic	mmol/l	2.21	1.88	2.54	0.17	0.33	Ortho Vitros Microslide Systems
	mg/dl	6.85	5.83	7.87	0.51	1.02	
Potassium	mmol/l	6.17	5.68	6.66	0.25	0.49	Ortho Vitros Microslide Systems
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Ortho Vitros Microslide Systems
	g/dl	4.56	3.65	5.47	0.46	0.91	
PSA Total	ng/ml =	29.9	22.4	37.4	3.75	7.50	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.09	0.87	1.31	0.11	0.22	Vitros ECi

**JOHNSON AND JOHNSON VITROS®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T3	nmol/l	5.78	4.34	7.22	0.72	1.44	Vitros ECi
	ng/ml	3.76	2.83	4.69	0.47	0.93	
	ng/dl	376	283	469	46.50	93.00	Vitros ECi
Triglycerides	mmol/l	3.24	2.72	3.76	0.26	0.52	Ortho Vitros Microslide Systems
	mg/dl	287	241	333	23.00	46.00	
Urea	mmol/l	18.0	15.3	20.7	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	108	92.0	124	8.00	16.00	
	mmol/l	18.0	15.3	20.7	1.35	2.70	BUN
	mg/dl	50.5	42.9	58.1	3.80	7.60	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.74	7.61	9.87	0.57	1.13	

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.4	24.1	32.7	2.15	4.30	Bromocresol Green
	g/dl	2.84	2.41	3.27	0.22	0.43	
Alkaline Phosphatase	U/l	503	428	578	37.50	75.00	Diethanolamine buffer DEA 37°C
	U/l	392	333	451	29.50	59.00	Diethanolamine buffer DEA 30°C
	U/l	321	273	369	24.00	48.00	Diethanolamine buffer DEA 25°C
	U/l	298	254	342	22.00	44.00	AMP optimised to IFCC 37°C
	U/l	232	198	266	17.00	34.00	AMP optimised to IFCC 30°C
	U/l	190	162	218	14.00	28.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	107	85	129	11.00	22.00	Tris buffer without P5P 30°C
	U/l	81	65	97	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	164	131	197	16.50	33.00	Tris buffer without P5P 37°C
	U/l	111	89	133	11.00	22.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	26.3	20.8	31.8	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.54	1.22	1.86	0.16	0.32	
Bilirubin Total	µmol/l	77.5	61.2	93.8	8.15	16.30	Diazo with Sulphanilic Acid
	mg/dl	4.53	3.58	5.48	0.48	0.95	
	µmol/l	74.8	59.1	90.5	7.85	15.70	Nitrobenzenediazonium salt
	mg/dl	4.38	3.46	5.30	0.46	0.92	
Calcium	mmol/l	3.21	2.88	3.54	0.17	0.33	Arsenazo III
	mg/dl	12.9	11.5	14.3	0.70	1.40	

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	115	106	124	4.50	9.00	ISE direct
Cholesterol	mmol/l	7.48	6.51	8.45	0.49	0.97	Cholesterol Oxidase
	mg/dl	289	251	327	19.00	38.00	
CK Total	U/l	550	451	649	49.50	99.00	CK-NAC (IFCC) 37°C
	U/l	344	282	406	31.00	62.00	CK-NAC (IFCC) 30°C
	U/l	234	192	276	21.00	42.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	380	304	456	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	372	297	447	37.50	75.00	Jaffe rate blanked
	mg/dl	4.20	3.36	5.04	0.42	0.84	
gamma-GT	U/l	174	148	200	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	137	117	157	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	91	123	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.1	13.7	18.5	1.20	2.40	Hexokinase
	mg/dl	290	247	333	21.50	43.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	3.25	2.76	3.74	0.25	0.49	Direct HDL PEGME
	mg/dl	125	107	143	9.00	18.00	
Iron	µmol/l	37.6	30.8	44.4	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
LD (LDH)	U/l	735	625	845	55.00	110.00	P->L Scandinavian & Dutch 37°C
	U/l	531	451	611	40.00	80.00	P->L Scandinavian & Dutch 30°C
	U/l	373	317	429	28.00	56.00	P->L Scandinavian & Dutch 25°C

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
LD (LDH)	U/l	353	300	406	26.50	53.00	L->P IFCC 37°C
	U/l	255	217	293	19.00	38.00	L->P IFCC 30°C
	U/l	179	152	206	13.50	27.00	L->P IFCC 25°C
Magnesium	mmol/l	1.62	1.42	1.82	0.10	0.20	Xylidyl Blue
	mg/dl	3.94	3.45	4.43	0.25	0.49	
Phosphate Inorganic	mmol/l	2.30	1.95	2.65	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.13	6.05	8.21	0.54	1.08	
Potassium	mmol/l	6.09	5.61	6.57	0.24	0.48	ISE method - direct
Protein Total	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.98	2.50	3.46	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	264	221	307	21.50	43.00	
Urea	mmol/l	18.5	15.8	21.2	1.35	2.70	Urease kinetic
	mg/dl	111	95.0	127	8.00	16.00	
	mmol/l	18.5	15.7	21.3	1.40	2.80	BUN
	mg/dl	51.9	44.1	59.7	3.90	7.80	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.63	8.38	10.9	0.63	1.25	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	8.11	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.32	8.11	10.5	0.61	1.21	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
alpha-HBDH	U/l	422	334	510	44.00	88.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	319	252	386	33.50	67.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	239	189	289	25.00	50.00	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	14.8	9.92	19.7	2.44	4.88	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	21.6	14.5	28.7	3.55	7.10	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	36.4	24.4	48.4	6.00	12.00	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	28.8	24.4	33.2	2.20	4.40	Bromocresol Green
	g/dl	2.88	2.44	3.32	0.22	0.44	
	g/l	27.0	23.0	31.0	2.00	4.00	Bromocresol Purple
	g/dl	2.70	2.30	3.10	0.20	0.40	
	g/l	27.3	23.2	31.4	2.05	4.10	Ortho Vitros Microslide Systems
	g/dl	2.73	2.32	3.14	0.21	0.41	
	g/l	25.9	22.0	29.8	1.95	3.90	Turbidimetric Assays
g/dl	2.59	2.20	2.98	0.20	0.39		
Alkaline Phosphatase	U/l	225	191	259	17.00	34.00	Ortho Vitros Microslide Systems 37°C
	U/l	487	414	560	36.50	73.00	Diethanolamine buffer DEA 37°C
	U/l	379	323	435	28.00	56.00	Diethanolamine buffer DEA 30°C
	U/l	311	265	357	23.00	46.00	Diethanolamine buffer DEA 25°C
	U/l	333	283	383	25.00	50.00	AMP optimised to IFCC 37°C
	U/l	259	220	298	19.50	39.00	AMP optimised to IFCC 30°C
	U/l	213	181	245	16.00	32.00	AMP optimised to IFCC 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Alkaline Phosphatase	U/l	319	271	367	24.00	48.00	AMP non-optimised 37°C
	U/l	249	211	287	19.00	38.00	AMP non-optimised 30°C
	U/l	204	173	235	15.50	31.00	AMP non-optimised 25°C
ALT (GPT)	U/l	122	97	147	12.50	25.00	Colorimetric 37°C
	U/l	90	72	108	9.00	18.00	Colorimetric 30°C
	U/l	69	55	83	7.00	14.00	Colorimetric 25°C
	U/l	147	117	177	15.00	30.00	Ortho Vitros Microslide Systems 37°C
	U/l	167	134	200	16.50	33.00	Tris buffer with P5P 37°C
	U/l	124	99	149	12.50	25.00	Tris buffer with P5P 30°C
	U/l	94	75	113	9.50	19.00	Tris buffer with P5P 25°C
	U/l	131	105	157	13.00	26.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
	U/l	125	100	150	12.50	25.00	Tris buffer SCE 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer SCE 30°C
U/l	70	56	84	7.00	14.00	Tris buffer SCE 25°C	
Amylase Pancreatic	U/l	245	208	282	18.50	37.00	Immunoinhibition EPS substrate 37°C
	U/l	240	204	276	18.00	36.00	Roche liquid stable pNPG7 37°C
	U/l	282	240	324	21.00	42.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	269	229	309	20.00	40.00	pNP Maltotriose substrates 37°C
	U/l	276	234	318	21.00	42.00	Siemens - blocked pNPG7 37°C
	U/l	225	191	259	17.00	34.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	301	256	346	22.50	45.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	263	223	303	20.00	40.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	283	241	325	21.00	42.00	Beckman Synchron CX4/CX5/CX7 37°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Amylase Total	U/l	323	275	371	24.00	48.00	Siemens - maltopenta/hexaoside 37°C
	U/l	251	214	288	18.50	37.00	Saccharogenic 37°C
	U/l	265	225	305	20.00	40.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	168	142	194	13.00	26.00	Ortho Vitros Microslide Systems 37°C
	U/l	262	223	301	19.50	39.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	262	223	301	19.50	39.00	Roche liquid stable pNPG7 37°C
	U/l	330	281	379	24.50	49.00	Siemens 2-chloro-pNPG3 37°C
	U/l	276	235	317	20.50	41.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	285	243	327	21.00	42.00	Beckman Synchron AMY7 37°C
	U/l	286	243	329	21.50	43.00	I.L. 2-chloro-pNPG3 37°C
	U/l	306	260	352	23.00	46.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	339	289	389	25.00	50.00	Abbott Architect IFCC Cal. 37°C
Apolipoprotein A-1	g/l	1.05	0.86	1.24	0.09	0.19	Immunoturbidimetric
	mg/dl	105	86.1	124	9.45	18.90	
Apolipoprotein B	g/l	0.54	0.44	0.64	0.05	0.10	Immunoturbidimetric
	mg/dl	54.1	44.4	63.8	4.85	9.70	
AST (GOT)	U/l	132	106	158	13.00	26.00	Colorimetric 37°C
	U/l	89	72	106	8.50	17.00	Colorimetric 30°C
	U/l	63	50	76	6.50	13.00	Colorimetric 25°C
	U/l	189	151	227	19.00	38.00	Ortho Vitros Microslide visible slide 37°C
	U/l	212	170	254	21.00	42.00	Tris buffer with P5P 37°C
	U/l	143	115	171	14.00	28.00	Tris buffer with P5P 30°C
	U/l	101	81	121	10.00	20.00	Tris buffer with P5P 25°C
	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37°C
	U/l	100	80	120	10.00	20.00	Tris buffer without P5P 30°C
U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
AST (GOT)	U/l	142	114	170	14.00	28.00	Tris buffer SCE 37°C
	U/l	96	77	115	9.50	19.00	Tris buffer SCE 30°C
	U/l	68	54	82	7.00	14.00	Tris buffer SCE 25°C
Bicarbonate	mmol/l	16.5	13.1	19.9	1.70	3.40	Colorimetric
	mmol/l	18.6	14.8	22.4	1.90	3.80	Ortho Vitros Microslide Systems
	mmol/l	16.7	13.3	20.1	1.70	3.40	Differential rate pH change
	mmol/l	16.8	13.3	20.3	1.75	3.50	Enzymatic
	mmol/l	17.1	13.6	20.6	1.75	3.50	Ion selective electrode
Bile Acids	µmol/l	40.5	32.4	48.6	4.05	8.10	4th Generation Colorimetric
	µmol/l	41.6	33.3	49.9	4.15	8.30	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.7	21.1	32.3	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	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	
	µmol/l	28.4	22.5	34.3	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.66	1.32	2.00	0.17	0.34	
	µmol/l	28.1	22.2	34.0	2.95	5.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.64	1.30	1.98	0.17	0.34	
Bilirubin Total	µmol/l	74.7	59.0	90.4	7.85	15.70	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.37	3.45	5.29	0.46	0.92	
	µmol/l	74.3	58.7	89.9	7.80	15.60	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.35	3.43	5.27	0.46	0.92	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	89.3	70.5	108	9.40	18.80	Diazo with Dichloroaniline (DCA)
	mg/dl	5.22	4.12	6.32	0.55	1.10	
	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	91.5	72.3	111	9.60	19.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.35	4.23	6.47	0.56	1.12	
	µmol/l	74.8	59.1	90.5	7.85	15.70	Nitrobenzenediazonium salt
	mg/dl	4.38	3.46	5.30	0.46	0.92	
	µmol/l	73.6	58.2	89.0	7.70	15.40	Diazonium ion
	mg/dl	4.31	3.40	5.22	0.46	0.91	
	µmol/l	84.2	66.5	102	8.85	17.70	Oxidation to Biliverdin/Vanadate
	mg/dl	4.93	3.89	5.97	0.52	1.04	
	µmol/l	91.1	72.0	110	9.55	19.10	Modified Jendrassik
	mg/dl	5.33	4.21	6.45	0.56	1.12	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.09	2.78	3.40	0.16	0.31	Ortho Vitros Microslide Systems
	mg/dl	12.4	11.1	13.7	0.65	1.30	
	mmol/l	3.02	2.72	3.32	0.15	0.30	Ion selective electrode
	mg/dl	12.1	10.9	13.3	0.60	1.20	
	mmol/l	3.19	2.87	3.51	0.16	0.32	Methylthymol blue
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.09	2.78	3.40	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.1	13.7	0.65	1.30	
	mmol/l	3.12	2.81	3.43	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	114	105	123	4.50	9.00	Colorimetric
	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems
	mmol/l	113	104	122	4.50	9.00	ISE indirect
	mmol/l	114	105	123	4.50	9.00	ISE direct
Cholesterol	mmol/l	7.05	6.13	7.97	0.46	0.92	Ortho Vitros Microslide Systems
	mg/dl	272	237	307	17.50	35.00	
	mmol/l	7.51	6.53	8.49	0.49	0.98	Cholesterol Oxidase
	mg/dl	290	252	328	19.00	38.00	
Cholinesterase	U/l	5219	4175	6263	522.00	1044.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	463	380	546	41.50	83.00	Ortho Vitros Microslide Systems 37°C
	U/l	552	453	651	49.50	99.00	CK-NAC serum start (DGKC) 37°C
	U/l	346	284	408	31.00	62.00	CK-NAC serum start (DGKC) 30°C
	U/l	235	193	277	21.00	42.00	CK-NAC serum start (DGKC) 25°C
	U/l	547	448	646	49.50	99.00	CK-NAC substrate start (DGKC) 37°C
	U/l	342	280	404	31.00	62.00	CK-NAC substrate start (DGKC) 30°C
	U/l	232	190	274	21.00	42.00	CK-NAC substrate start (DGKC) 25°C
	U/l	535	438	632	48.50	97.00	CK-NAC (IFCC) 37°C
	U/l	335	274	396	30.50	61.00	CK-NAC (IFCC) 30°C
	U/l	227	186	268	20.50	41.00	CK-NAC (IFCC) 25°C
	U/l	554	454	654	50.00	100.00	Monothioglycerol 37°C
	U/l	347	284	410	31.50	63.00	Monothioglycerol 30°C
	U/l	235	193	277	21.00	42.00	Monothioglycerol 25°C
Copper	µmol/l	27.7	22.2	33.2	2.75	5.50	Atomic absorption
	µg/dl	176	141	211	17.50	35.00	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Copper	µmol/l	25.5	20.4	30.6	2.55	5.10	Colorimetric
	µg/dl	162	130	194	16.00	32.00	
Cortisol	nmol/l	992	744	1240	124.00	248.00	Roche Cobas E411
	µg/dl	35.7	26.8	44.6	4.45	8.90	
Creatinine	µmol/l	342	274	410	34.00	68.00	Alkaline picrate with deproteinization
	mg/dl	3.86	3.10	4.62	0.38	0.76	
	µmol/l	366	293	439	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	388	310	466	39.00	78.00	Enzymatic UV method
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	384	307	461	38.50	77.00	Creatinine PAP method
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	µmol/l	373	299	447	37.00	74.00	Jaffe rate blanked
	mg/dl	4.21	3.38	5.04	0.42	0.83	
	µmol/l	378	303	453	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.27	3.42	5.12	0.43	0.85	
	µmol/l	369	296	442	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.17	3.34	5.00	0.42	0.83	
	µmol/l	385	308	462	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.35	3.48	5.22	0.44	0.87	
µmol/l	382	306	458	38.00	76.00	IDMS traceable	
mg/dl	4.32	3.46	5.18	0.43	0.86		
D-3-Hydroxybutyrate	mmol/l	1.16	0.99	1.33	0.09	0.17	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	3.61	2.89	4.33	0.36	0.72	Immunoturbidimetric
	ng/ml	2.82	2.26	3.38	0.28	0.56	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Folate	nmol/l	17.4	13.3	21.6	2.07	4.14	Roche Cobas E411
	ng/ml	7.69	5.87	9.51	0.91	1.82	
Free T4	pmol/l	50.3	37.7	62.9	6.30	12.60	Abbott Architect
	ng/dl	3.92	2.94	4.90	0.49	0.98	
	pg/ml	39.2	29.4	49.0	4.90	9.80	Abbott Architect
	pmol/l	68.2	51.2	85.2	8.50	17.00	Siemens Centaur XP/XPT/Classic
	ng/dl	5.32	3.99	6.65	0.67	1.33	
	pg/ml	53.2	39.9	66.5	6.65	13.30	Siemens Centaur XP/XPT/Classic
	pmol/l	63.7	47.8	79.6	7.95	15.90	Beckman Access
	ng/dl	4.97	3.73	6.21	0.62	1.24	
	pg/ml	49.7	37.3	62.1	6.20	12.40	Beckman Access
	pmol/l	63.6	47.7	79.5	7.95	15.90	Beckman Dxl800
	ng/dl	4.96	3.72	6.20	0.62	1.24	
	pg/ml	49.6	37.2	62.0	6.20	12.40	Beckman Dxl800
	pmol/l	76.4	57.3	95.5	9.55	19.10	Siemens Immulite 1000
	ng/dl	5.96	4.47	7.45	0.75	1.49	
	pg/ml	59.6	44.7	74.5	7.45	14.90	Siemens Immulite 1000
	pmol/l	71.7	53.8	89.6	8.95	17.90	Siemens Immulite 2000/2500
	ng/dl	5.59	4.20	6.98	0.70	1.39	
	pg/ml	55.9	42.0	69.8	6.95	13.90	Siemens Immulite 2000/2500
	pmol/l	78.2	58.7	97.7	9.75	19.50	Roche Elecsys
	ng/dl	6.10	4.58	7.62	0.76	1.52	
pg/ml	61.0	45.8	76.2	7.60	15.20	Roche Elecsys	
pmol/l	80.3	60.3	100	10.00	20.00	Roche Modular E170	
ng/dl	6.26	4.70	7.82	0.78	1.56		
pg/ml	62.6	47.0	78.2	7.80	15.60	Roche Modular E170	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Free T4	pmol/l	76.2	57.1	95.3	9.55	19.10	Roche Cobas E411
	ng/dl	5.94	4.45	7.43	0.75	1.49	
	pg/ml	59.4	44.5	74.3	7.45	14.90	Roche Cobas E411
	pmol/l	77.9	58.4	97.4	9.75	19.50	Roche Cobas 6000/8000
	ng/dl	6.08	4.56	7.60	0.76	1.52	
	pg/ml	60.8	45.6	76.0	7.60	15.20	Roche Cobas 6000/8000
	pmol/l	73.0	54.8	91.2	9.10	18.20	Biomerieux Vidas FT4N Kit
	ng/dl	5.69	4.27	7.11	0.71	1.42	
Gentamicin	µmol/l	17.6	14.1	21.1	1.75	3.50	Immunoturbidimetric
	µg/ml	8.41	6.74	10.1	0.84	1.67	
gamma-GT	U/l	170	145	195	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	134	114	154	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	105	89	121	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	220	187	253	16.50	33.00	Ortho Vitros Microslide Systems 37°C
	U/l	145	123	167	11.00	22.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	114	97	131	8.50	17.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	89	76	102	6.50	13.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	180	153	207	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	142	121	163	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	111	94	128	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	190	162	218	14.00	28.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	150	128	172	11.00	22.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l	117	100	134	8.50	17.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
GLDH	U/l	29	23	35	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	22	18	26	2.00	4.00	Triethanolamine buffer 50 mmol 30°C
	U/l	18	14	22	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.5	12.3	16.7	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	261	222	300	19.50	39.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose dehydrogenase
	mg/dl	288	245	331	21.50	43.00	
	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Oxygen electrode
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	2.81	2.38	3.24	0.22	0.43	Direct HDL PPD
	mg/dl	108	91.9	124	8.05	16.10	
	mmol/l	2.74	2.33	3.15	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	106	89.9	122	8.05	16.10	
	mmol/l	2.34	1.99	2.69	0.18	0.35	Vitros Magnetic HDL
	mg/dl	90.3	76.8	104	6.75	13.50	
	mmol/l	3.32	2.82	3.82	0.25	0.50	Direct HDL PEGME
	mg/dl	128	109	147	9.50	19.00	
	mmol/l	2.68	2.28	3.08	0.20	0.40	Direct Clearance Method
	mg/dl	103	88.0	118	7.50	15.00	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
HDL - Cholesterol	mmol/l	3.35	2.84	3.86	0.26	0.51	Direct HDL Roche 3rd generation
	mg/dl	129	110	148	9.50	19.00	
	mmol/l	2.64	2.24	3.04	0.20	0.40	HDL - Ultra
	mg/dl	102	86.5	118	7.75	15.50	
Immunoglobulin A	g/l	1.47	1.10	1.84	0.19	0.37	Immunoturbidimetric
	mg/dl	147	110	184	18.50	37.00	
Immunoglobulin G	g/l	5.31	4.35	6.27	0.48	0.96	Immunoturbidimetric
	mg/dl	531	435	627	48.00	96.00	
Immunoglobulin M	g/l	0.76	0.61	0.91	0.08	0.15	Immunoturbidimetric
	mg/dl	75.9	60.7	91.1	7.60	15.20	
Iron	µmol/l	36.9	30.2	43.6	3.35	6.70	Colorimetric with ppt.
	µg/dl	206	169	243	18.50	37.00	
	µmol/l	36.6	30.0	43.2	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	
	µmol/l	36.9	30.2	43.6	3.35	6.70	
µg/dl	206	169	243	18.50	37.00	Ortho Vitros Microslide Systems	
Lactate	mmol/l	5.08	4.17	5.99	0.46	0.91	Ion selective electrode
	mg/dl	45.8	37.6	54.0	4.10	8.20	
	mmol/l	5.50	4.51	6.49	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.6	40.6	58.6	4.50	9.00	
	mmol/l	5.10	4.18	6.02	0.46	0.92	Ortho Vitros Microslide Systems
	mg/dl	46.0	37.7	54.3	4.15	8.30	
	mmol/l	5.30	4.35	6.25	0.48	0.95	Enzymatic Electrode
	mg/dl	47.8	39.2	56.4	4.30	8.60	
	mmol/l	5.52	4.53	6.51	0.50	0.99	UV LDH
	mg/dl	49.7	40.8	58.6	4.45	8.90	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
LAP	U/l	14	12	16	1.00	2.00	NAGEL 37°C
LD (LDH)	U/l	1042	886	1198	78.00	156.00	Ortho Vitros Microslide Systems 37°C
	U/l	327	278	376	24.50	49.00	L->P 37°C
	U/l	236	201	271	17.50	35.00	L->P 30°C
	U/l	166	141	191	12.50	25.00	L->P 25°C
	U/l	793	674	912	59.50	119.00	P->L Scandinavian & Dutch 37°C
	U/l	573	487	659	43.00	86.00	P->L Scandinavian & Dutch 30°C
	U/l	402	342	462	30.00	60.00	P->L Scandinavian & Dutch 25°C
	U/l	698	594	802	52.00	104.00	P->L German methods 37°C
	U/l	504	429	579	37.50	75.00	P->L German methods 30°C
	U/l	354	301	407	26.50	53.00	P->L German methods 25°C
	U/l	695	591	799	52.00	104.00	P->L SFBC 37°C
	U/l	502	427	577	37.50	75.00	P->L SFBC 30°C
	U/l	352	300	404	26.00	52.00	P->L SFBC 25°C
	U/l	363	309	417	27.00	54.00	L->P IFCC 37°C
U/l	262	223	301	19.50	39.00	L->P IFCC 30°C	
U/l	184	157	211	13.50	27.00	L->P IFCC 25°C	
Lipase	U/l	61	49	73	6.00	12.00	Other Colorimetric 37°C
	U/l	689	553	825	68.00	136.00	Ortho Vitros Microslide Systems 37°C
	U/l	54	44	64	5.00	10.00	Roche Colorimetric 37°C
	U/l	82	66	98	8.00	16.00	Randox Colorimetric 37°C
	U/l	421	338	504	41.50	83.00	Randox Turbidimetric with colipase 37°C
Lithium	mmol/l	2.48	2.18	2.78	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Lithium	mmol/l	2.10	1.84	2.36	0.13	0.26	Ion selective electrode	
	mg/dl	1.46	1.28	1.64	0.09	0.18		
	mmol/l	2.02	1.78	2.26	0.12	0.24	Spectrophotometric	
	mg/dl	1.40	1.24	1.56	0.08	0.16		
	mmol/l	1.93	1.70	2.16	0.12	0.23	Randox Colorimetric	
	mg/dl	1.34	1.18	1.50	0.08	0.16		
	Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Arsenazo III
		mg/dl	4.11	3.62	4.60	0.25	0.49	
mmol/l		1.75	1.54	1.96	0.11	0.21	Ortho Vitros Microslide Systems	
mg/dl		4.25	3.74	4.76	0.26	0.51		
mmol/l		1.68	1.48	1.88	0.10	0.20	Calmagite	
mg/dl		4.08	3.60	4.56	0.24	0.48		
mmol/l		1.72	1.52	1.92	0.10	0.20	Xylidyl Blue	
mg/dl		4.18	3.69	4.67	0.25	0.49		
mmol/l		1.74	1.53	1.95	0.11	0.21	Methylthymol blue	
mg/dl		4.23	3.72	4.74	0.26	0.51		
mmol/l		1.72	1.51	1.93	0.11	0.21	Chlorphosphonazo III	
mg/dl		4.18	3.67	4.69	0.26	0.51		
mmol/l		1.72	1.52	1.92	0.10	0.20	Enzymatic	
mg/dl		4.18	3.69	4.67	0.25	0.49		
NEFA	mmol/l	0.52	0.44	0.60	0.04	0.08	Colorimetric	
Osmolality	mOsm/kg	340	272	408	34.00	68.00	Calculated	
	mOsm/kg	380	304	456	38.00	76.00	Freezing point depression	
Paracetamol	mmol/l	0.63	0.50	0.75	0.06	0.13	Colorimetric	
	mg/l	94.8	75.8	114	9.50	19.00		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Phosphate Inorganic	mmol/l	2.21	1.88	2.54	0.17	0.33	Ortho Vitros Microslide Systems	
	mg/dl	6.85	5.83	7.87	0.51	1.02		
	mmol/l	2.21	1.88	2.54	0.17	0.33	Phosphomolybdate enzymatic	
	mg/dl	6.85	5.83	7.87	0.51	1.02		
	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV	
	mg/dl	6.88	5.86	7.90	0.51	1.02		
	Potassium	mmol/l	6.17	5.68	6.66	0.25	0.49	Ortho Vitros Microslide Systems
		mmol/l	6.29	5.79	6.79	0.25	0.50	Enzymatic
mmol/l		5.91	5.44	6.38	0.24	0.47	Flame photometry	
mmol/l		6.16	5.67	6.65	0.25	0.49	ISE method - direct	
mmol/l		6.24	5.74	6.74	0.25	0.50	ISE method - indirect	
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Ortho Vitros Microslide Systems	
	g/dl	4.56	3.65	5.47	0.46	0.91		
	g/l	44.6	35.7	53.5	4.45	8.90	Biuret reaction end point	
	g/dl	4.46	3.57	5.35	0.45	0.89		
	g/l	43.1	34.5	51.7	4.30	8.60	Biuret reaction kinetic	
	g/dl	4.31	3.45	5.17	0.43	0.86		
PSA Total	ng/ml =	31.2	23.4	39.0	3.90	7.80	Roche Elecsys Modular E170	
	ng/ml =	30.9	23.2	38.6	3.85	7.70	Beckman Access standardised to Hybritech	
	ng/ml =	33.2	24.9	41.5	4.15	8.30	bioMerieux VIDAS TPSA	
	ng/ml =	26.1	19.6	32.6	3.25	6.50	Siemens Centaur XP/XPT/Classic	
	ng/ml =	27.2	20.4	34.0	3.40	6.80	Abbott Architect	
	ng/ml =	33.1	24.8	41.4	4.15	8.30	Cobas E411	
	ng/ml =	32.3	24.3	40.3	4.00	8.00	Roche Cobas 6000/8000	
	ng/ml =	29.9	22.4	37.4	3.75	7.50	Ortho Vitros 3600/5600/ECi PSA II	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Salicylate	mmol/l	0.84	0.67	1.01	0.08	0.17	Enzymatic
	mg/dl	11.6	9.27	13.9	1.17	2.33	
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	156	148	164	4.00	8.00	Enzymatic
	mmol/l	157	149	165	4.00	8.00	Flame photometry
	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
Theophylline	µmol/l	132	106	158	13.00	26.00	Immunoturbidimetric
	µg/ml	23.8	19.1	28.5	2.35	4.70	
Thyroid Stimulating Hormone	µU/ml =	0.96	0.77	1.15	0.10	0.19	Abbott Architect
	µU/ml =	1.08	0.87	1.30	0.11	0.22	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.15	0.92	1.38	0.11	0.23	bioMerieux VIDAS TSH
	µU/ml =	1.09	0.87	1.31	0.11	0.22	Vitros ECi
	µU/ml =	1.27	1.01	1.53	0.13	0.26	Roche Elecsys
	µU/ml =	1.24	0.99	1.49	0.13	0.25	Roche Modular E170
	µU/ml =	1.28	1.03	1.53	0.13	0.25	Roche Cobas E411
	µU/ml =	1.25	1.00	1.50	0.13	0.25	Roche Cobas 6000/8000
	µU/ml =	1.13	0.90	1.36	0.11	0.23	Beckman Dxl800 Hyper TSH
µU/ml =	1.07	0.86	1.28	0.11	0.21	Siemens Centaur XP/XPT/Classic TSH3-Ultra	
TIBC	µmol/l	45.1	35.7	54.5	4.70	9.40	Removal of excess free iron
	µg/dl	252	200	304	26.00	52.00	
	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	
	µmol/l	46.6	36.8	56.4	4.90	9.80	Direct Colorimetric
µg/dl	260	206	314	27.00	54.00		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	µmol/l	41.3	32.7	49.9	4.30	8.60	Calculated from Transferrin
	µg/dl	231	183	279	24.00	48.00	
	µmol/l	49.8	39.3	60.3	5.25	10.50	Randox Direct
	µg/dl	278	220	336	29.00	58.00	
Tobramycin	µmol/l	14.0	11.2	16.8	1.40	2.80	Immunoturbidimetric
	µg/ml	6.55	5.24	7.86	0.66	1.31	
Total T3	nmol/l	3.05	2.29	3.81	0.38	0.76	Abbott Architect
	ng/ml	1.99	1.49	2.49	0.25	0.50	
	ng/dl	199	149	249	25.00	50.00	Abbott Architect
	nmol/l	4.06	3.04	5.08	0.51	1.02	Siemens Centaur XP/XPT/Classic
	ng/ml	2.64	1.98	3.30	0.33	0.66	
	ng/dl	264	198	330	33.00	66.00	Siemens Centaur XP/XPT/Classic
	nmol/l	3.67	2.75	4.59	0.46	0.92	BioMerieux Vidas
	ng/ml	2.39	1.79	2.99	0.30	0.60	
	ng/dl	239	179	299	30.00	60.00	BioMerieux Vidas
	nmol/l	5.78	4.34	7.22	0.72	1.44	Vitros ECi
	ng/ml	3.76	2.83	4.69	0.47	0.93	
	ng/dl	376	283	469	46.50	93.00	Vitros ECi
	nmol/l	3.96	2.97	4.95	0.50	0.99	Roche Cobas E411
	ng/ml	2.58	1.93	3.23	0.33	0.65	
	ng/dl	258	193	323	32.50	65.00	Roche Cobas E411
	nmol/l	3.95	2.96	4.94	0.50	0.99	Roche Cobas 6000/8000
ng/ml	2.57	1.93	3.21	0.32	0.64		
ng/dl	257	193	321	32.00	64.00	Roche Cobas 6000/8000	
Total T4	nmol/l	216	162	270	27.00	54.00	Abbott Architect
	µg/dl	16.8	12.6	21.0	2.10	4.20	
	ng/ml	168	126	210	21.00	42.00	Abbott Architect

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Total T4	nmol/l	211	158	264	26.50	53.00	Siemens Centaur XP/XPT/Classic
	µg/dl	16.5	12.3	20.7	2.10	4.20	
	ng/ml	165	123	207	21.00	42.00	Siemens Centaur XP/XPT/Classic
	nmol/l	208	156	260	26.00	52.00	BioMerieux Vidas
	µg/dl	16.2	12.2	20.2	2.00	4.00	
	ng/ml	162	122	202	20.00	40.00	BioMerieux Vidas
	nmol/l	237	178	296	29.50	59.00	Siemens Immulite 1000
	µg/dl	18.5	13.9	23.1	2.30	4.60	
	ng/ml	185	139	231	23.00	46.00	Siemens Immulite 1000
	nmol/l	220	165	275	27.50	55.00	Siemens Immulite 2000/2500
	µg/dl	17.2	12.9	21.5	2.15	4.30	
	ng/ml	172	129	215	21.50	43.00	Siemens Immulite 2000/2500
	nmol/l	190	142	238	24.00	48.00	Roche Cobas E411
	µg/dl	14.8	11.1	18.5	1.85	3.70	
	ng/ml	148	111	185	18.50	37.00	Roche Cobas E411
Transferrin	nmol/l	195	146	244	24.50	49.00	Roche Cobas 6000/8000
	µg/dl	15.2	11.4	19.0	1.90	3.80	
	ng/ml	152	114	190	19.00	38.00	Roche Cobas 6000/8000
Triglycerides	g/l	1.77	1.42	2.12	0.18	0.35	Immunoturbidimetric
	mg/dl	177	142	212	17.50	35.00	
Triglycerides	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	257	216	298	20.50	41.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	216	300	21.00	42.00	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Triglycerides	mmol/l	2.99	2.51	3.47	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	265	222	308	21.50	43.00	
	mmol/l	2.89	2.43	3.35	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	256	215	297	20.50	41.00	
UIBC	mmol/l	3.24	2.72	3.76	0.26	0.52	Ortho Vitros Microslide Systems
	mg/dl	287	241	333	23.00	46.00	
Urea	µmol/l	10.9	8.93	12.9	0.99	1.97	Direct Colorimetric
	µg/dl	60.9	49.9	71.9	5.50	11.00	
Urea	mmol/l	18.0	15.3	20.7	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	108	92.0	124	8.00	16.00	
	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease end point
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.3	16.4	22.2	1.45	2.90	Urease kinetic
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	18.4	15.6	21.2	1.40	2.80	Urease hypochlorite
	mg/dl	111	93.8	128	8.60	17.20	
	mmol/l	19.3	16.4	22.2	1.45	2.90	BUN
	mg/dl	54.2	46.1	62.3	4.05	8.10	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.74	7.61	9.87	0.57	1.13	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.21	8.01	10.4	0.60	1.20	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	8.08	10.5	0.61	1.21	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	mmol/l	0.55	0.47	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	8.00	10.4	0.60	1.19	
Vitamin B12	pmol/l	223	178	268	22.50	45.00	Roche Cobas E411
	pg/ml	302	241	363	30.50	61.00	
Zinc	µmol/l	33.5	26.8	40.2	3.35	6.70	Colorimetric with deproteinisation
	µg/dl	219	175	263	22.00	44.00	

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

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin (electrophoresis)		61.1	55.1	67.1	3.00	6.00	% of total Protein (Beckman Capillary)
alpha-1-globulin		7.9	6.0	9.8	0.95	1.90	% of total Protein (Beckman Capillary)
alpha-2-globulin		5.5	4.2	6.8	0.66	1.32	% of total Protein (Beckman Capillary)
beta-globulin		13.3	10.1	16.5	1.60	3.20	% of total Protein (Beckman Capillary)
gamma-globulin		12.2	9.3	15.1	1.47	2.93	% of total Protein (Beckman Capillary)

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.4	25.0	33.8	2.20	4.40	Bromocresol Green
	g/dl	2.94	2.50	3.38	0.22	0.44	
Alkaline Phosphatase	U/l	449	381	517	34.00	68.00	Diethanolamine buffer DEA 37°C
	U/l	350	297	403	26.50	53.00	Diethanolamine buffer DEA 30°C
	U/l	287	243	331	22.00	44.00	Diethanolamine buffer DEA 25°C
	U/l	331	282	380	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	258	220	296	19.00	38.00	AMP optimised to IFCC 30°C
	U/l	212	180	244	16.00	32.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer without P5P 37°C
	U/l	102	82	122	10.00	20.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
Amylase Total	U/l	279	237	321	21.00	42.00	pNP Maltotrioxide substrates 37°C
AST (GOT)	U/l	152	121	183	15.50	31.00	Tris buffer without P5P 37°C
	U/l	103	82	124	10.50	21.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.7	25.0	38.4	3.35	6.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.85	1.46	2.24	0.20	0.39	
Bilirubin Total	µmol/l	81.5	64.4	98.6	8.55	17.10	Diazo with Sulphanilic Acid
	mg/dl	4.77	3.77	5.77	0.50	1.00	
	µmol/l	81.5	64.3	98.7	8.60	17.20	Oxidation to Biliverdin/Vanadate
	mg/dl	4.77	3.76	5.78	0.51	1.01	

MINDRAY BS-200/300/400

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Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Calcium	mmol/l	3.17	2.85	3.49	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.08	2.77	3.39	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Cholesterol	mmol/l	7.52	6.54	8.50	0.49	0.98	Cholesterol Oxidase
	mg/dl	290	252	328	19.00	38.00	
CK Total	U/l	545	447	643	49.00	98.00	CK-NAC (IFCC) 37°C
	U/l	341	280	402	30.50	61.00	CK-NAC (IFCC) 30°C
	U/l	232	190	274	21.00	42.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	286	430	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.05	3.23	4.87	0.41	0.82	
	µmol/l	378	302	454	38.00	76.00	Enzymatic UV method
	mg/dl	4.27	3.41	5.13	0.43	0.86	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	172	146	198	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	115	157	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	90	122	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	2.73	2.32	3.14	0.21	0.41	Direct HDL PPD
	mg/dl	105	89.6	120	7.70	15.40	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Iron	µmol/l	35.9	29.4	42.4	3.25	6.50	Colorimetric without ppt.
	µg/dl	201	164	238	18.50	37.00	
LD (LDH)	U/l	721	613	829	54.00	108.00	P->L German methods 37°C
	U/l	521	443	599	39.00	78.00	P->L German methods 30°C
	U/l	366	311	421	27.50	55.00	P->L German methods 25°C
	U/l	356	302	410	27.00	54.00	L->P IFCC 37°C
	U/l	257	218	296	19.50	39.00	L->P IFCC 30°C
	U/l	180	153	207	13.50	27.00	L->P IFCC 25°C
Magnesium	mmol/l	1.57	1.39	1.75	0.09	0.18	Xylidyl Blue
	mg/dl	3.82	3.38	4.26	0.22	0.44	
Phosphate Inorganic	mmol/l	2.18	1.85	2.51	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.76	5.74	7.78	0.51	1.02	
	mmol/l	2.10	1.79	2.41	0.16	0.31	Phosphomolybdate UV
	mg/dl	6.51	5.55	7.47	0.48	0.96	
Protein Total	g/l	46.2	37.0	55.4	4.60	9.20	Biuret reaction end point
	g/dl	4.62	3.70	5.54	0.46	0.92	
Triglycerides	mmol/l	2.84	2.38	3.30	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	251	211	291	20.00	40.00	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease end point
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	18.8	16.0	21.6	1.40	2.80	Urease kinetic
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	18.5	15.7	21.3	1.40	2.80	Urease hypochlorite
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.8	16.0	21.6	1.40	2.80	BUN
	mg/dl	52.8	44.9	60.7	3.95	7.90	

**MINDRAY BS-200/300/400**

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.37	8.15	10.6	0.61	1.22	
	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	7.95	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	7.96	10.3	0.59	1.18	

Roche Cobas 6000 c501 e601

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Green
	g/dl	2.95	2.51	3.39	0.22	0.44	
	g/l	26.3	22.3	30.3	2.00	4.00	Bromocresol Purple
	g/dl	2.63	2.23	3.03	0.20	0.40	
	g/l	26.6	22.6	30.6	2.00	4.00	Turbidimetric Assays
	g/dl	2.66	2.26	3.06	0.20	0.40	
Alkaline Phosphatase	U/l	251	214	288	18.50	37.00	Roche Integra AMP buffer 37°C
	U/l	196	167	225	14.50	29.00	Roche Integra AMP buffer 30°C
	U/l	160	137	183	11.50	23.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	128	102	154	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	75	115	10.00	20.00	Tris buffer without P5P 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	238	202	274	18.00	36.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	259	220	298	19.50	39.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	260	221	299	19.50	39.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	147	117	177	15.00	30.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.2	12.8	19.6	1.70	3.40	Colorimetric
	mmol/l	16.5	13.1	19.9	1.70	3.40	Enzymatic
Bile Acids	µmol/l	42.7	34.2	51.2	4.25	8.50	Enzymatic Colorimetric

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Direct	µmol/l	28.3	22.4	34.2	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	1.31	2.01	0.18	0.35	
	µmol/l	28.3	22.3	34.3	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.30	2.02	0.18	0.36	
Bilirubin Total	µmol/l	72.4	57.2	87.6	7.60	15.20	Diazo with Sulphanilic Acid
	mg/dl	4.24	3.35	5.13	0.45	0.89	
	µmol/l	72.6	57.4	87.8	7.60	15.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.25	3.36	5.14	0.45	0.89	
Calcium	µmol/l	73.0	57.7	88.3	7.65	15.30	Diazonium ion
	mg/dl	4.27	3.38	5.16	0.45	0.89	
	mmol/l	3.14	2.82	3.46	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Chloride	mmol/l	3.12	2.81	3.43	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.49	6.52	8.46	0.49	0.97	Cholesterol Oxidase
	mg/dl	289	252	326	18.50	37.00	
Cholinesterase	U/l	5100	4080	6120	510.00	1020.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	539	442	636	48.50	97.00	CK-NAC substrate start (DGKC) 37°C
	U/l	337	277	397	30.00	60.00	CK-NAC substrate start (DGKC) 30°C
	U/l	229	188	270	20.50	41.00	CK-NAC substrate start (DGKC) 25°C
	U/l	526	431	621	47.50	95.00	CK-NAC (IFCC) 37°C
	U/l	329	270	388	29.50	59.00	CK-NAC (IFCC) 30°C
	U/l	224	183	265	20.50	41.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	383	306	460	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.33	3.46	5.20	0.44	0.87	

Roche Cobas 6000 c501 e601

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	μmol/l	394	315	473	39.50	79.00	Enzymatic UV method
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	μmol/l	391	313	469	39.00	78.00	Roche Creatinine Plus
	mg/dl	4.42	3.54	5.30	0.44	0.88	
	μmol/l	385	308	462	38.50	77.00	Jaffe rate blanked
	mg/dl	4.35	3.48	5.22	0.44	0.87	
	μmol/l	376	300	452	38.00	76.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.25	3.39	5.11	0.43	0.86	
μmol/l	371	297	445	37.00	74.00	Jaffe rate blanked compensated (-18 μmol/l)	
mg/dl	4.19	3.36	5.02	0.42	0.83		
D-3-Hydroxybutyrate	mmol/l	1.16	0.98	1.34	0.09	0.18	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	77.9	58.4	97.4	9.75	19.50	Roche Cobas 6000/8000
	ng/dl	6.08	4.56	7.60	0.76	1.52	
	pg/ml	60.8	45.6	76.0	7.60	15.20	Roche Cobas 6000/8000
gamma-GT	U/l	159	135	183	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	106	144	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	98	83	113	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	182	155	209	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	122	164	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	96	128	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	27	21	33	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	21	16	26	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose dehydrogenase
	mg/dl	281	240	322	20.50	41.00	

Roche Cobas 6000 c501 e601

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Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase	
	mg/dl	281	240	322	20.50	41.00		
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase	
	mg/dl	278	236	320	21.00	42.00		
HDL - Cholesterol	mmol/l	2.71	2.31	3.11	0.20	0.40	Direct HDL Immunoseparation	
	mg/dl	105	89.2	121	7.90	15.80		
	mmol/l	3.14	2.67	3.61	0.24	0.47	Direct HDL PEGME	
	mg/dl	121	103	139	9.00	18.00		
Iron	mmol/l	3.34	2.84	3.84	0.25	0.50	Direct HDL Roche 3rd generation	
	mg/dl	129	110	148	9.50	19.00		
	Iron	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric with ppt.
		µg/dl	205	168	242	18.50	37.00	
µmol/l		36.8	30.2	43.4	3.30	6.60	Colorimetric without ppt.	
µg/dl		206	169	243	18.50	37.00		
Lactate	mmol/l	5.48	4.49	6.47	0.50	0.99	Colorimetric Lactate Oxidase	
	mg/dl	49.4	40.5	58.3	4.45	8.90		
LD (LDH)	U/l	688	585	791	51.50	103.00	P->L German methods 37°C	
	U/l	497	422	572	37.50	75.00	P->L German methods 30°C	
	U/l	349	297	401	26.00	52.00	P->L German methods 25°C	
	U/l	364	309	419	27.50	55.00	L->P IFCC 37°C	
	U/l	263	223	303	20.00	40.00	L->P IFCC 30°C	
	U/l	185	157	213	14.00	28.00	L->P IFCC 25°C	
	Lipase	U/l	53	43	63	5.00	10.00	Roche Colorimetric 37°C
U/l		53	43	63	5.00	10.00	Roche Turbidimetric with colipase 37°C	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lithium	mmol/l	2.03	1.79	2.27	0.12	0.24	Spectrophotometric
	mg/dl	1.41	1.24	1.58	0.09	0.17	
Magnesium	mmol/l	1.72	1.52	1.92	0.10	0.20	Xylidyl Blue
	mg/dl	4.18	3.69	4.67	0.25	0.49	
	mmol/l	1.74	1.53	1.95	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Osmolality	mOsm/kg	348	278	418	35.00	70.00	Calculated
Phosphate Inorganic	mmol/l	2.20	1.87	2.53	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.82	5.80	7.84	0.51	1.02	
	mmol/l	2.21	1.88	2.54	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.85	5.83	7.87	0.51	1.02	
Potassium	mmol/l	6.31	5.80	6.82	0.26	0.51	ISE method - indirect
Protein Total	g/l	44.3	35.4	53.2	4.45	8.90	Biuret reaction CX4/5/7
	g/dl	4.43	3.54	5.32	0.45	0.89	
	g/l	44.2	35.3	53.1	4.45	8.90	Biuret reaction end point
	g/dl	4.42	3.53	5.31	0.45	0.89	
	g/l	44.6	35.7	53.5	4.45	8.90	Biuret reaction kinetic
	g/dl	4.46	3.57	5.35	0.45	0.89	
PSA Total	ng/ml =	32.3	24.3	40.3	4.00	8.00	Roche Cobas 6000/8000
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.25	1.00	1.50	0.13	0.25	Roche Cobas 6000/8000
TIBC	µmol/l	46.9	37.1	56.7	4.90	9.80	FE+UIBC(saturation with iron)
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	45.6	36.0	55.2	4.80	9.60	Direct Colorimetric
	µg/dl	255	201	309	27.00	54.00	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
TIBC	µmol/l	42.2	33.3	51.1	4.45	8.90	Calculated from Transferrin
	µg/dl	236	186	286	25.00	50.00	
Total T3	nmol/l	3.95	2.96	4.94	0.50	0.99	Roche Cobas 6000/8000
	ng/ml	2.57	1.93	3.21	0.32	0.64	
	ng/dl	257	193	321	32.00	64.00	Roche Cobas 6000/8000
Total T4	nmol/l	195	146	244	24.50	49.00	Roche Cobas 6000/8000
	µg/dl	15.2	11.4	19.0	1.90	3.80	
	ng/ml	152	114	190	19.00	38.00	Roche Cobas 6000/8000
Triglycerides	mmol/l	2.92	2.46	3.38	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	218	298	20.00	40.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	259	218	300	20.50	41.00	
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease end point
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.3	16.4	22.2	1.45	2.90	Urease kinetic
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	19.3	16.4	22.2	1.45	2.90	BUN
	mg/dl	54.2	46.1	62.3	4.05	8.10	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	7.90	10.2	0.59	1.17	
	mmol/l	0.54	0.47	0.60	0.03	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.99	7.83	10.2	0.58	1.16	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.9	24.5	33.3	2.20	4.40	Bromocresol Green
	g/dl	2.89	2.45	3.33	0.22	0.44	
Alkaline Phosphatase	U/l	257	218	296	19.50	39.00	Roche Integra AMP buffer 37°C
	U/l	200	170	230	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	164	139	189	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	126	101	151	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	75	111	9.00	18.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Amylase Total	U/l	268	228	308	20.00	40.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	143	115	171	14.00	28.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	68	55	81	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	29.5	23.3	35.7	3.10	6.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	1.36	2.10	0.19	0.37	
	µmol/l	29.2	23.1	35.3	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	30.0	23.7	36.3	3.15	6.30	Roche JG factored
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Bilirubin Total	µmol/l	75.6	59.7	91.5	7.95	15.90	Diazo with Sulphanilic Acid
	mg/dl	4.42	3.49	5.35	0.47	0.93	
	µmol/l	70.7	55.8	85.6	7.45	14.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.14	3.26	5.02	0.44	0.88	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Calcium	mmol/l	3.11	2.80	3.42	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.2	13.8	0.65	1.30	
	mmol/l	3.08	2.77	3.39	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.12	2.81	3.43	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.59	6.60	8.58	0.50	0.99	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
CK Total	U/l	531	435	627	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	332	272	392	30.00	60.00	CK-NAC (IFCC) 30°C
	U/l	226	185	267	20.50	41.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	355	284	426	35.50	71.00	Alkaline picrate with deproteinization
	mg/dl	4.01	3.21	4.81	0.40	0.80	
	µmol/l	354	283	425	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	378	302	454	38.00	76.00	Roche Creatinine Plus
	mg/dl	4.27	3.41	5.13	0.43	0.86	
µmol/l	358	287	429	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.05	3.24	4.86	0.41	0.81		
gamma-GT	U/l	183	155	211	14.00	28.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	144	122	166	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	113	96	130	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	179	152	206	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	120	162	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	94	126	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	
	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose oxidase
	mg/dl	283	241	325	21.00	42.00	
HDL - Cholesterol	mmol/l	3.30	2.81	3.79	0.25	0.49	Direct HDL Roche 3rd generation
	mg/dl	127	108	146	9.50	19.00	
Iron	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	
LD (LDH)	U/l	377	320	434	28.50	57.00	L->P IFCC 37°C
	U/l	272	231	313	20.50	41.00	L->P IFCC 30°C
	U/l	191	162	220	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	55	44	66	5.50	11.00	Roche Colorimetric 37°C
Magnesium	mmol/l	1.70	1.49	1.91	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.13	3.62	4.64	0.26	0.51	
Phosphate Inorganic	mmol/l	2.25	1.91	2.59	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.98	5.92	8.04	0.53	1.06	
Potassium	mmol/l	6.07	5.58	6.56	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.4	35.5	53.3	4.45	8.90	Biuret reaction end point
	g/dl	4.44	3.55	5.33	0.45	0.89	
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	255	214	296	20.50	41.00	
Urea	mmol/l	19.2	16.4	22.0	1.40	2.80	Urease end point
	mg/dl	115	98.6	131	8.20	16.40	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Urea	mmol/l	18.6	15.8	21.4	1.40	2.80	Urease kinetic	
	mg/dl	112	95.0	129	8.50	17.00		
	mmol/l	18.5	15.7	21.3	1.40	2.80	Urease hypochlorite	
	mg/dl	111	94.4	128	8.30	16.60		
	mmol/l	18.6	15.8	21.4	1.40	2.80	BUN	
	mg/dl	52.2	44.4	60.0	3.90	7.80		
	Uric Acid (Urate)	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
		mg/dl	9.14	7.95	10.3	0.60	1.19	
mmol/l		0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase	
mg/dl		9.19	8.00	10.4	0.60	1.19		
mmol/l		0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl		9.27	8.08	10.5	0.60	1.19		

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Green
	g/dl	2.95	2.51	3.39	0.22	0.44	
	g/l	26.3	22.3	30.3	2.00	4.00	Bromocresol Purple
	g/dl	2.63	2.23	3.03	0.20	0.40	
Alkaline Phosphatase	U/l	250	212	288	19.00	38.00	Roche Integra AMP buffer 37°C
	U/l	195	165	225	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	160	135	185	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	128	103	153	12.50	25.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	244	207	281	18.50	37.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	263	224	302	19.50	39.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	56	82	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.1	12.8	19.4	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	27.6	21.8	33.4	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	27.4	21.7	33.1	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.27	1.93	0.17	0.33	
	µmol/l	27.8	21.9	33.7	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.63	1.28	1.98	0.18	0.35	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	72.8	57.5	88.1	7.65	15.30	Diazo with Sulphanilic Acid
	mg/dl	4.26	3.36	5.16	0.45	0.90	
	µmol/l	72.9	57.6	88.2	7.65	15.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.26	3.37	5.15	0.45	0.89	
Calcium	µmol/l	73.4	57.9	88.9	7.75	15.50	Diazonium ion
	mg/dl	4.29	3.39	5.19	0.45	0.90	
	mmol/l	3.15	2.83	3.47	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Calcium	mmol/l	3.00	2.70	3.30	0.15	0.30	Arsenazo III
	mg/dl	12.0	10.8	13.2	0.60	1.20	
	mmol/l	3.16	2.84	3.48	0.16	0.32	NM-BAPTA
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	253	329	19.00	38.00	
CK Total	U/l	530	435	625	47.50	95.00	CK-NAC (IFCC) 37°C
	U/l	332	272	392	30.00	60.00	CK-NAC (IFCC) 30°C
	U/l	225	185	265	20.00	40.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	368	294	442	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	398	318	478	40.00	80.00	Enzymatic UV method
	mg/dl	4.50	3.59	5.41	0.46	0.91	
	µmol/l	399	319	479	40.00	80.00	Roche Creatinine Plus
	mg/dl	4.51	3.60	5.42	0.46	0.91	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	386	309	463	38.50	77.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.36	3.49	5.23	0.44	0.87	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	185	157	213	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	146	124	168	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	114	97	131	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	3.22	2.74	3.70	0.24	0.48	Direct HDL Roche 3rd generation
	mg/dl	124	106	142	9.00	18.00	
Iron	µmol/l	36.2	29.7	42.7	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	166	238	18.00	36.00	
Lactate	mmol/l	5.54	4.54	6.54	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	49.9	40.9	58.9	4.50	9.00	
LD (LDH)	U/l	678	576	780	51.00	102.00	P->L German methods 37°C
	U/l	490	416	564	37.00	74.00	P->L German methods 30°C
	U/l	344	292	396	26.00	52.00	P->L German methods 25°C
	U/l	365	310	420	27.50	55.00	L->P IFCC 37°C
	U/l	264	224	304	20.00	40.00	L->P IFCC 30°C
	U/l	185	157	213	14.00	28.00	L->P IFCC 25°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	54	44	64	5.00	10.00	Roche Colorimetric 37°C
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Xylidyl Blue
	mg/dl	4.23	3.72	4.74	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.32	5.82	6.82	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.4	35.5	53.3	4.45	8.90	Biuret reaction end point
	g/dl	4.44	3.55	5.33	0.45	0.89	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	46.8	37.0	56.6	4.90	9.80	FE+UIBC(saturation with iron)
	µg/dl	262	207	317	27.50	55.00	
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	3.04	2.55	3.53	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	269	226	312	21.50	43.00	
Urea	mmol/l	19.6	16.6	22.6	1.50	3.00	Urease kinetic
	mg/dl	118	99.8	136	9.10	18.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.22	8.01	10.4	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	8.06	10.5	0.61	1.21	

**Roche Cobas C311®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.29	8.08	10.5	0.61	1.21	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Green
	g/dl	2.95	2.51	3.39	0.22	0.44	
Alkaline Phosphatase	U/l	232	197	267	17.50	35.00	Roche Integra AMP buffer 37°C
	U/l	181	153	209	14.00	28.00	Roche Integra AMP buffer 30°C
	U/l	148	126	170	11.00	22.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	236	201	271	17.50	35.00	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	261	222	300	19.50	39.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	147	117	177	15.00	30.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.4	13.8	21.0	1.80	3.60	Enzymatic
Bile Acids	µmol/l	39.7	31.8	47.6	3.95	7.90	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.2	23.1	35.3	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.48	1.17	1.79	0.16	0.31	
Bilirubin Total	µmol/l	74.3	58.7	89.9	7.80	15.60	Diazo with Sulphanilic Acid
	mg/dl	4.35	3.43	5.27	0.46	0.92	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	71.9	56.8	87.0	7.55	15.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.21	3.32	5.10	0.45	0.89	
	µmol/l	71.5	56.5	86.5	7.50	15.00	Diazonium ion
	mg/dl	4.18	3.31	5.05	0.44	0.87	
Calcium	mmol/l	3.07	2.77	3.37	0.15	0.30	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.09	2.78	3.40	0.16	0.31	NM-BAPTA
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.41	6.45	8.37	0.48	0.96	Cholesterol Oxidase
	mg/dl	286	249	323	18.50	37.00	
CK Total	U/l	511	419	603	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	320	262	378	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	217	178	256	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	392	313	471	39.50	79.00	Roche Creatinine Plus
	mg/dl	4.43	3.54	5.32	0.45	0.89	
	µmol/l	382	306	458	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.32	3.46	5.18	0.43	0.86	
gamma-GT	U/l	155	131	179	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	122	103	141	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	81	111	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	178	152	204	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	140	120	160	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	94	126	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	

Roche Cobas c701 / c702 / c711

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Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Glucose oxidase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.24	2.75	3.73	0.25	0.49	Direct HDL Roche 3rd generation
	mg/dl	125	106	144	9.50	19.00	
Iron	µmol/l	35.7	29.2	42.2	3.25	6.50	Colorimetric without ppt.
	µg/dl	200	163	237	18.50	37.00	
Lactate	mmol/l	5.43	4.45	6.41	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	48.9	40.1	57.7	4.40	8.80	
LD (LDH)	U/l	365	310	420	27.50	55.00	L->P IFCC 37°C
	U/l	264	224	304	20.00	40.00	L->P IFCC 30°C
	U/l	185	157	213	14.00	28.00	L->P IFCC 25°C
Lipase	U/l	54	43	65	5.50	11.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.05	1.80	2.30	0.13	0.25	Spectrophotometric
	mg/dl	1.42	1.25	1.59	0.09	0.17	
Magnesium	mmol/l	1.71	1.50	1.92	0.11	0.21	Xylidyl Blue
	mg/dl	4.16	3.65	4.67	0.26	0.51	
Phosphate Inorganic	mmol/l	2.18	1.85	2.51	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.76	5.74	7.78	0.51	1.02	
Potassium	mmol/l	6.31	5.81	6.81	0.25	0.50	ISE method - indirect
Protein Total	g/l	43.7	35.0	52.4	4.35	8.70	Biuret reaction end point
	g/dl	4.37	3.50	5.24	0.44	0.87	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	48.1	38.0	58.2	5.05	10.10	FE+UIBC(saturation with iron)
	µg/dl	269	212	326	28.50	57.00	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
TIBC	μmol/l	40.5	32.0	49.0	4.25	8.50	Calculated from Transferrin
	μg/dl	226	179	273	23.50	47.00	
Triglycerides	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.93	2.47	3.39	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	259	219	299	20.00	40.00	
UIBC	μmol/l	12.1	9.94	14.3	1.08	2.16	Direct Colorimetric
	μg/dl	67.6	55.6	79.6	6.00	12.00	
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	Urease kinetic
	mg/dl	115	97.4	133	8.80	17.60	
	mmol/l	19.1	16.2	22.0	1.45	2.90	BUN
	mg/dl	53.6	45.6	61.6	4.00	8.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.09	7.90	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	7.83	10.2	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.97	7.80	10.1	0.59	1.17	

RX SERIES®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.6	24.3	32.9	2.15	4.30	Bromocresol Green
	g/dl	2.86	2.43	3.29	0.22	0.43	
Alkaline Phosphatase	U/l	527	448	606	39.50	79.00	Diethanolamine buffer DEA 37°C
	U/l	332	282	382	25.00	50.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	138	110	166	14.00	28.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	282	240	324	21.00	42.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	295	251	339	22.00	44.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.0	14.3	21.7	1.85	3.70	Enzymatic
Bile Acids	µmol/l	41.6	33.3	49.9	4.15	8.30	5th Generation Colorimetric
Bilirubin Direct	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	
	µmol/l	29.7	23.5	35.9	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Bilirubin Total	µmol/l	83.0	65.6	100	8.70	17.40	Diazo with Sulphanilic Acid
	mg/dl	4.86	3.84	5.88	0.51	1.02	
	µmol/l	86.2	68.1	104	9.05	18.10	Oxidation to Biliverdin/Vanadate
	mg/dl	5.04	3.98	6.10	0.53	1.06	
Calcium	mmol/l	3.14	2.83	3.45	0.16	0.31	Arsenazo III
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE direct

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Cholesterol	mmol/l	7.89	6.86	8.92	0.52	1.03	Cholesterol Oxidase
	mg/dl	305	265	345	20.00	40.00	
CK Total	U/l	526	431	621	47.50	95.00	CK-NAC substrate start (DGKC) 37°C
	U/l	591	485	697	53.00	106.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	323	258	388	32.50	65.00	Alkaline picrate no deproteinization
	mg/dl	3.65	2.92	4.38	0.37	0.73	
	µmol/l	387	310	464	38.50	77.00	Enzymatic UV method
	mg/dl	4.37	3.50	5.24	0.44	0.87	
gamma-GT	U/l	194	165	223	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	
Iron	µmol/l	37.5	30.8	44.2	3.35	6.70	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.52	4.53	6.51	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.7	40.8	58.6	4.45	8.90	
LD (LDH)	U/l	710	604	816	53.00	106.00	P->L German methods 37°C
	U/l	379	322	436	28.50	57.00	L->P IFCC 37°C
Lipase	U/l	87	70	104	8.50	17.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.01	1.77	2.25	0.12	0.24	Colorimetric
	mg/dl	1.40	1.23	1.57	0.09	0.17	
Magnesium	mmol/l	1.71	1.50	1.92	0.11	0.21	Xylidyl Blue
	mg/dl	4.16	3.65	4.67	0.26	0.51	
Phosphate Inorganic	mmol/l	2.23	1.90	2.56	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.91	5.89	7.93	0.51	1.02	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Potassium	mmol/l	6.08	5.59	6.57	0.25	0.49	ISE method - direct
	mmol/l	6.29	5.79	6.79	0.25	0.50	Enzymatic
Protein Total	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	156	148	165	4.15	8.30	Enzymatic
TIBC	µmol/l	49.8	39.3	60.3	5.25	10.50	Direct Colorimetric
	µg/dl	278	220	336	29.00	58.00	
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
Urea	mmol/l	19.2	16.4	22.0	1.40	2.80	Urease kinetic
	mg/dl	115	98.6	131	8.20	16.40	
	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.54	8.30	10.8	0.62	1.24	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	8.00	10.4	0.60	1.19	

SIEMENS ADVIA 1200/1650/1800/2400®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	27.9	23.7	32.1	2.10	4.20	Bromocresol Green
	g/dl	2.79	2.37	3.21	0.21	0.42	
	g/l	26.3	22.3	30.3	2.00	4.00	Bromocresol Purple
	g/dl	2.63	2.23	3.03	0.20	0.40	
Alkaline Phosphatase	U/l	288	245	331	21.50	43.00	AMP optimised to IFCC 37°C
	U/l	276	235	317	20.50	41.00	AMP non-optimised 37°C
ALT (GPT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	237	202	272	17.50	35.00	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	277	235	319	21.00	42.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.1	15.1	23.1	2.00	4.00	Enzymatic
Bile Acids	µmol/l	43.4	34.7	52.1	4.35	8.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.6	21.8	33.4	2.90	5.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.61	1.28	1.94	0.17	0.33	
Bilirubin Total	µmol/l	83.7	66.1	101	8.80	17.60	Oxidation to Biliverdin/Vanadate
	mg/dl	4.90	3.87	5.93	0.52	1.03	
Calcium	mmol/l	3.16	2.85	3.47	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.08	2.77	3.39	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Cholesterol	mmol/l	7.71	6.71	8.71	0.50	1.00	Cholesterol Oxidase
	mg/dl	298	259	337	19.50	39.00	
CK Total	U/l	528	433	623	47.50	95.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	388	310	466	39.00	78.00	Enzymatic UV method
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
gamma-GT	U/l	178	152	204	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Glucose oxidase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	2.37	2.02	2.72	0.18	0.35	Direct Clearance Method
	mg/dl	91.5	78.0	105	6.75	13.50	
Iron	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.44	4.46	6.42	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.0	40.2	57.8	4.40	8.80	
LD (LDH)	U/l	702	597	807	52.50	105.00	P->L German methods 37°C
	U/l	363	309	417	27.00	54.00	L->P IFCC 37°C
Lipase	U/l	79	63	95	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	1.91	1.68	2.14	0.12	0.23	Spectrophotometric
	mg/dl	1.33	1.17	1.49	0.08	0.16	
Magnesium	mmol/l	1.71	1.51	1.91	0.10	0.20	Xylidyl Blue
	mg/dl	4.16	3.67	4.65	0.25	0.49	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.23	1.90	2.56	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.91	5.89	7.93	0.51	1.02	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Biuret reaction end point
	g/dl	4.55	3.64	5.46	0.46	0.91	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	μmol/l	49.4	39.1	59.7	5.15	10.30	Direct Colorimetric
	μg/dl	276	219	333	28.50	57.00	
Triglycerides	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	224	308	21.00	42.00	
	mmol/l	2.96	2.49	3.43	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	262	220	304	21.00	42.00	
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.06	10.5	0.60	1.20	

SIEMENS DIMENSION EXL®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	26.7	22.7	30.7	2.00	4.00	Bromocresol Purple
	g/dl	2.67	2.27	3.07	0.20	0.40	
Alkaline Phosphatase	U/l	288	245	331	21.50	43.00	Siemens Dimension AMP buffer 37°C
	U/l	285	242	328	21.50	43.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	115	171	14.00	28.00	Tris buffer with P5P 37°C
	U/l	145	116	174	14.50	29.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	328	279	377	24.50	49.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	177	142	212	17.50	35.00	Tris buffer with P5P 37°C
	U/l	185	148	222	18.50	37.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.1	14.3	21.9	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	16.0	12.7	19.3	1.65	3.30	Diazo with Sulphanilic Acid
	mg/dl	0.936	0.743	1.13	0.10	0.19	
Bilirubin Total	µmol/l	77.6	61.3	93.9	8.15	16.30	Diazo with Sulphanilic Acid
	mg/dl	4.54	3.59	5.49	0.48	0.95	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	115	105	125	5.00	10.00	ISE indirect
Cholesterol	mmol/l	7.14	6.21	8.07	0.47	0.93	Dimension-Siemens reagents
	mg/dl	276	240	312	18.00	36.00	
CK Total	U/l	505	414	596	45.50	91.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	389	311	467	39.00	78.00	Alkaline picrate no deproteinization
	mg/dl	4.40	3.51	5.29	0.45	0.89	

SIEMENS DIMENSION EXL®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	387	310	464	38.50	77.00	Enzymatic UV method
	mg/dl	4.37	3.50	5.24	0.44	0.87	
gamma-GT	U/l	183	155	211	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	216	184	248	16.00	32.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	3.29	2.80	3.78	0.25	0.49	Direct HDL PPD
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	3.33	2.83	3.83	0.25	0.50	Direct HDL PEGME
	mg/dl	129	109	149	10.00	20.00	
Iron	µmol/l	35.1	28.8	41.4	3.15	6.30	Colorimetric with ppt.
	µg/dl	196	161	231	17.50	35.00	
	µmol/l	35.1	28.8	41.4	3.15	6.30	Colorimetric without ppt.
	µg/dl	196	161	231	17.50	35.00	
Lactate	mmol/l	5.50	4.51	6.49	0.50	0.99	UV LDH
	mg/dl	49.6	40.6	58.6	4.50	9.00	
LD (LDH)	U/l	351	299	403	26.00	52.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	340	289	391	25.50	51.00	L->P IFCC 37°C
Lipase	U/l	247	198	296	24.50	49.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.72	1.51	1.93	0.11	0.21	Methylthymol blue
	mg/dl	4.18	3.67	4.69	0.26	0.51	
Phosphate Inorganic	mmol/l	2.23	1.90	2.56	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.91	5.89	7.93	0.51	1.02	
Potassium	mmol/l	6.23	5.73	6.73	0.25	0.50	ISE method - indirect

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Protein Total	g/l	46.1	36.9	55.3	4.60	9.20	Biuret reaction end point
	g/dl	4.61	3.69	5.53	0.46	0.92	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.1	33.3	50.9	4.40	8.80	Removal of excess free iron
	µg/dl	235	186	284	24.50	49.00	
Triglycerides	mmol/l	2.85	2.40	3.30	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	216	300	21.00	42.00	
Urea	mmol/l	19.6	16.6	22.6	1.50	3.00	Urease kinetic
	mg/dl	118	99.8	136	9.10	18.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	7.95	10.3	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.19	8.00	10.4	0.60	1.19	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Green
	g/dl	2.90	2.46	3.34	0.22	0.44	
	g/l	27.3	23.2	31.4	2.05	4.10	Bromocresol Purple
	g/dl	2.73	2.32	3.14	0.21	0.41	
Alkaline Phosphatase	U/l	287	244	330	21.50	43.00	Siemens Dimension AMP buffer 37°C
	U/l	288	245	331	21.50	43.00	AMP optimised to IFCC 37°C
	U/l	273	232	314	20.50	41.00	Randox AMP 37°C
ALT (GPT)	U/l	143	114	172	14.50	29.00	Tris buffer with P5P 37°C
	U/l	145	116	174	14.50	29.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	332	282	382	25.00	50.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	182	146	218	18.00	36.00	Tris buffer with P5P 37°C
	U/l	185	148	222	18.50	37.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	19.2	15.2	23.2	2.00	4.00	Enzymatic
Bilirubin Direct	µmol/l	15.9	12.6	19.2	1.65	3.30	Diazo with Sulphanilic Acid
	mg/dl	0.930	0.737	1.12	0.10	0.19	
Bilirubin Total	µmol/l	77.8	61.4	94.2	8.20	16.40	Diazo with Sulphanilic Acid
	mg/dl	4.55	3.59	5.51	0.48	0.96	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Chloride	mmol/l	116	106	126	5.00	10.00	ISE indirect
Cholesterol	mmol/l	7.18	6.25	8.11	0.47	0.93	Dimension-Siemens reagents
	mg/dl	277	241	313	18.00	36.00	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
CK Total	U/l	519	426	612	46.50	93.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	386	309	463	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.36	3.49	5.23	0.44	0.87	
	μmol/l	379	304	454	37.50	75.00	Enzymatic UV method
	mg/dl	4.28	3.44	5.12	0.42	0.84	
gamma-GT	μmol/l	390	312	468	39.00	78.00	Jaffe rate blanked
	mg/dl	4.41	3.53	5.29	0.44	0.88	
gamma-GT	U/l	184	157	211	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	216	183	249	16.50	33.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	3.44	2.93	3.95	0.26	0.51	Direct HDL PPD
	mg/dl	133	113	153	10.00	20.00	
	mmol/l	3.39	2.88	3.90	0.26	0.51	Direct HDL PEGME
	mg/dl	131	111	151	10.00	20.00	
Iron	μmol/l	35.1	28.8	41.4	3.15	6.30	Colorimetric without ppt.
	μg/dl	196	161	231	17.50	35.00	
LD (LDH)	U/l	360	306	414	27.00	54.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	350	297	403	26.50	53.00	L->P IFCC 37°C
Lipase	U/l	247	198	296	24.50	49.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Methylthymol blue
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Phosphate Inorganic	mmol/l	2.25	1.91	2.59	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	6.98	5.92	8.04	0.53	1.06	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	2.26	1.93	2.59	0.17	0.33	Phosphomolybdate UV
	mg/dl	7.01	5.98	8.04	0.52	1.03	
Potassium	mmol/l	6.19	5.70	6.68	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.8	36.6	55.0	4.60	9.20	Biuret reaction end point
	g/dl	4.58	3.66	5.50	0.46	0.92	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	40.4	31.9	48.9	4.25	8.50	Removal of excess free iron
	µg/dl	226	178	274	24.00	48.00	
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	217	299	20.50	41.00	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease end point
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	mmol/l	0.54	0.47	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.14	7.95	10.3	0.60	1.19	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	8.13	10.6	0.61	1.23	

SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	26.3	22.3	30.3	2.00	4.00	Bromocresol Purple
	g/dl	2.63	2.23	3.03	0.20	0.40	
Alkaline Phosphatase	U/l	287	244	330	21.50	43.00	Siemens Dimension AMP buffer 37°C
Bicarbonate	mmol/l	17.6	13.9	21.3	1.85	3.70	Enzymatic
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.02	0.807	1.23	0.11	0.21	
Bilirubin Total	µmol/l	75.7	59.8	91.6	7.95	15.90	Diazo with Sulphanilic Acid
	mg/dl	4.43	3.50	5.36	0.47	0.93	
Calcium	mmol/l	3.01	2.71	3.31	0.15	0.30	Cresolphthalein complexone
	mg/dl	12.1	10.9	13.3	0.60	1.20	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
CK Total	U/l	523	429	617	47.00	94.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	394	316	472	39.00	78.00	Jaffe rate blanked
	mg/dl	4.45	3.57	5.33	0.44	0.88	
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Hexokinase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	3.33	2.83	3.83	0.25	0.50	Direct HDL PEGME
	mg/dl	129	109	149	10.00	20.00	
Iron	µmol/l	35.1	28.8	41.4	3.15	6.30	Colorimetric without ppt.
	µg/dl	196	161	231	17.50	35.00	
LD (LDH)	U/l	352	299	405	26.50	53.00	L->P IFCC 37°C

SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	308	247	369	30.50	61.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.81	1.59	2.03	0.11	0.22	Methylthymol blue
	mg/dl	4.40	3.86	4.94	0.27	0.54	
Phosphate Inorganic	mmol/l	2.18	1.85	2.51	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.76	5.74	7.78	0.51	1.02	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.8	36.6	55.0	4.60	9.20	Biuret reaction end point
	g/dl	4.58	3.66	5.50	0.46	0.92	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	7.91	10.3	0.59	1.18	

VITALAB FLEXOR®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.8	25.3	34.3	2.25	4.50	Bromocresol Green
	g/dl	2.98	2.53	3.43	0.23	0.45	
ALT (GPT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	82.7	65.3	100	8.70	17.40	Diazo with Sulphanilic Acid
	mg/dl	4.84	3.82	5.86	0.51	1.02	
Calcium	mmol/l	3.07	2.76	3.38	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Cholesterol	mmol/l	7.58	6.60	8.56	0.49	0.98	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
Creatinine	µmol/l	369	295	443	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.17	3.33	5.01	0.42	0.84	
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
LD (LDH)	U/l	370	315	425	27.50	55.00	L->P IFCC 37°C
Protein Total	g/l	48.0	38.4	57.6	4.80	9.60	Biuret reaction end point
	g/dl	4.80	3.84	5.76	0.48	0.96	
Triglycerides	mmol/l	2.79	2.34	3.24	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	247	207	287	20.00	40.00	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	

**VITALAB FLEXOR®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 939UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-05-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	