

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

CAT. NO. HNI530 **GTIN:** 05055273203783 **SIZE:** 20 x 5ml
CAT. NO. HS2611 **GTIN:** 05055273203813 **SIZE:** 5 x 5ml
LOT NO. 1391UN **EXPIRY:** 2023-03-28

INTENDED USE

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

DEVICE DESCRIPTION

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

SAFETY PRECAUTIONS AND WARNINGS

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

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

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

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

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

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

LIMITATIONS

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

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

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

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

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

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

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

The control should not be used as a calibration material.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

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 2 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

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

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

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

NOTES

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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.

04 Mar '20 bm

Abbott Alinity / Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Green
	g/dl	4.20	3.57	4.83	0.32	0.63	
	g/l	43.2	36.8	49.6	3.20	6.40	Bromocresol Purple
	g/dl	4.32	3.68	4.96	0.32	0.64	
Alkaline Phosphatase	U/l	170	144	196	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	155	132	178	11.50	23.00	AMP optimised to NVKC/SFBC 37°C
	U/l	170	145	195	12.50	25.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	104	89	119	7.50	15.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.4	10.6	16.2	1.40	2.80	Enzymatic
Bile Acids	µmol/l	24.2	19.4	29.0	2.40	4.80	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	20.0	15.8	24.2	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.17	0.924	1.42	0.12	0.25	
	µmol/l	20.6	16.3	24.9	2.15	4.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.21	0.954	1.47	0.13	0.26	
Bilirubin Total	µmol/l	27.9	22.1	33.7	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.29	1.99	0.18	0.35	

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Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazonium ion
	mg/dl	1.61	1.28	1.94	0.17	0.33	
Calcium	mmol/l	2.17	1.95	2.39	0.11	0.22	Arsenazo III
	mg/dl	8.70	7.82	9.58	0.44	0.88	
Chloride	mmol/l	102	93.8	110	4.10	8.20	ISE indirect
Cholesterol	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Oxidase
	mg/dl	157	136	178	10.50	21.00	
Cholinesterase	U/l	6511	5209	7813	651.00	1302.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	201	165	237	18.00	36.00	CK-NAC serum start (DGKC) 37°C
	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	12.1	9.65	14.6	1.23	2.45	Colorimetric
	µg/dl	77.0	61.4	92.6	7.80	15.60	
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	128	103	153	12.50	25.00	Enzymatic UV method
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	127	101	153	13.00	26.00	IDMS traceable
	mg/dl	1.44	1.14	1.74	0.15	0.30	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.91	5.02	6.80	0.45	0.89	Hexokinase
	mg/dl	106	90.5	122	7.75	15.50	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.06	5.15	6.97	0.46	0.91	Glucose oxidase
	mg/dl	109	92.8	125	8.10	16.20	
HDL - Cholesterol	mmol/l	1.61	1.37	1.85	0.12	0.24	Direct HDL PPD
	mg/dl	62.1	52.9	71.3	4.60	9.20	
	mmol/l	1.60	1.36	1.84	0.12	0.24	Direct Clearance Method
	mg/dl	61.8	52.5	71.1	4.65	9.30	
Iron	mmol/l	1.60	1.36	1.84	0.12	0.24	HDL - Ultra
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	μmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric with ppt.
	μg/dl	108	88.3	128	9.85	19.70	
Lactate	μmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	μg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.68	1.38	1.98	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.1	12.4	17.8	1.35	2.70	
LD (LDH)	U/l	194	165	223	14.50	29.00	L->P 37°C
	U/l	195	166	224	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	32	26	38	3.00	6.00	Other Colorimetric 37°C
Lithium	mmol/l	1.01	0.89	1.13	0.06	0.12	Spectrophotometric
	mg/dl	0.701	0.616	0.786	0.04	0.09	
Magnesium	mmol/l	0.81	0.71	0.90	0.05	0.10	Arsenazo III
	mg/dl	1.96	1.73	2.19	0.12	0.23	
	mmol/l	0.81	0.71	0.91	0.05	0.10	Enzymatic
	mg/dl	1.97	1.73	2.21	0.12	0.24	
Osmolality	mOsm/kg	296	237	355	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.15	3.53	4.77	0.31	0.62	


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Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.12	3.50	4.74	0.31	0.62	
Potassium	mmol/l	3.95	3.63	4.27	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction end point
	g/dl	5.80	4.64	6.96	0.58	1.16	
	g/l	57.4	45.9	68.9	5.75	11.50	Biuret reaction kinetic
	g/dl	5.74	4.59	6.89	0.58	1.15	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	μmol/l	36.7	29.0	44.4	3.85	7.70	FE+UIBC(saturation with iron)
	μg/dl	205	162	248	21.50	43.00	
	μmol/l	42.5	33.6	51.4	4.45	8.90	Calculated from Transferrin
	μg/dl	238	188	288	25.00	50.00	
Triglycerides	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.9	77.7	108	7.60	15.20	
	mmol/l	1.03	0.87	1.19	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	91.2	76.8	106	7.20	14.40	
	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.9	77.8	108	7.55	15.10	
UIBC	μmol/l	16.4	13.5	19.3	1.45	2.90	Direct Colorimetric
	μg/dl	91.7	75.5	108	8.10	16.20	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease end point
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.18	6.10	8.26	0.54	1.08	Urease kinetic
	mg/dl	43.2	36.7	49.7	3.25	6.50	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.18	6.10	8.26	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.78	5.04	6.52	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.78	5.02	6.54	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.80	5.04	6.56	0.38	0.76	

Beckman Coulter AU Series®

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	40.3	34.3	46.3	3.00	6.00	Bromocresol Green
	g/dl	4.03	3.43	4.63	0.30	0.60	
	g/l	45.0	38.3	51.7	3.35	6.70	Bromocresol Purple
	g/dl	4.50	3.83	5.17	0.34	0.67	
Alkaline Phosphatase	U/l	272	231	313	20.50	41.00	Diethanolamine buffer DEA 37°C
	U/l	199	169	229	15.00	30.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	38	31	45	3.50	7.00	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	91	78	104	6.50	13.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	85	73	97	6.00	12.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	36	29	43	3.50	7.00	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	14.6	11.5	17.7	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	20.1	15.9	24.3	2.10	4.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.18	0.930	1.43	0.13	0.25	
	µmol/l	20.4	16.1	24.7	2.15	4.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.19	0.942	1.44	0.12	0.25	
Bilirubin Total	µmol/l	31.0	24.5	37.5	3.25	6.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.81	1.43	2.19	0.19	0.38	
	µmol/l	29.3	23.2	35.4	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.36	2.06	0.18	0.35	

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	30.4	24.0	36.8	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
	µmol/l	30.4	24.0	36.8	3.20	6.40	DPD (Beckman AU)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
Calcium	mmol/l	2.17	1.96	2.38	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.70	7.86	9.54	0.42	0.84	
	mmol/l	2.17	1.95	2.39	0.11	0.22	Arsenazo III
	mg/dl	8.70	7.82	9.58	0.44	0.88	
Chloride	mmol/l	99.6	91.6	108	4.00	8.00	ISE indirect
Cholesterol	mmol/l	4.10	3.56	4.64	0.27	0.54	Cholesterol Oxidase
	mg/dl	158	137	179	10.50	21.00	
Cholinesterase	U/l	5217	4173	6261	522.00	1044.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	210	172	248	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	207	169	245	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	197	162	232	17.50	35.00	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	132	105	159	13.50	27.00	Enzymatic UV method
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	Creatinine PAP method
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	121	97.0	145	12.00	24.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.37	1.10	1.64	0.14	0.27	

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Creatinine	µmol/l	124	99.6	148	12.20	24.40	IDMS traceable
	mg/dl	1.40	1.13	1.67	0.14	0.27	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	54	46	62	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	39	53	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	51	44	58	3.50	7.00	Beckman Szasz (Extinction Coeff) 37°C
Glucose	mmol/l	6.15	5.23	7.07	0.46	0.92	Hexokinase
	mg/dl	111	94.2	128	8.40	16.80	
	mmol/l	6.15	5.23	7.07	0.46	0.92	Glucose oxidase
	mg/dl	111	94.2	128	8.40	16.80	
HDL - Cholesterol	mmol/l	1.53	1.30	1.76	0.12	0.23	Direct HDL Immunoseparation
	mg/dl	59.1	50.2	68.0	4.45	8.90	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct Clearance Method
	mg/dl	62.5	53.3	71.7	4.60	9.20	
	mmol/l	1.59	1.35	1.83	0.12	0.24	
mg/dl	61.4	52.1	70.7	4.65	9.30		
Iron	µmol/l	20.4	16.8	24.0	1.80	3.60	Colorimetric with ppt.
	µg/dl	114	93.9	134	10.05	20.10	
	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	91.7	132	10.15	20.30	
Lactate	mmol/l	1.59	1.30	1.88	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.3	11.7	16.9	1.30	2.60	
LD (LDH)	U/l	189	160	218	14.50	29.00	L->P 37°C
	U/l	418	355	481	31.50	63.00	P->L Scandinavian & Dutch 37°C

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LD (LDH)	U/l	198	168	228	15.00	30.00	L->P IFCC 37°C
	U/l	186	158	214	14.00	28.00	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	29	23	35	3.00	6.00	Other Colorimetric 37°C
	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
	U/l	41	33	49	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	0.99	0.87	1.11	0.06	0.12	Spectrophotometric
	mg/dl	0.685	0.603	0.767	0.04	0.08	
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Xylidyl Blue
	mg/dl	2.02	1.78	2.26	0.12	0.24	
Osmolality	mOsm/kg	295	236	354	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.25	3.60	4.90	0.33	0.65	
	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.12	3.50	4.74	0.31	0.62	
Potassium	mmol/l	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	57.8	46.2	69.4	5.80	11.60	Biuret reaction end point
	g/dl	5.78	4.62	6.94	0.58	1.16	
	g/l	58.3	46.7	69.9	5.80	11.60	Biuret reaction kinetic
	g/dl	5.83	4.67	6.99	0.58	1.16	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	41.8	33.0	50.6	4.40	8.80	FE+UIBC(saturation with iron)
	µg/dl	234	184	284	25.00	50.00	
Triglycerides	mmol/l	1.09	0.92	1.27	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.0	112	7.75	15.50	
	mmol/l	1.08	0.91	1.25	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	95.6	80.2	111	7.70	15.40	

**Beckman Coulter AU Series®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
UIBC	µmol/l	21.5	17.7	25.3	1.90	3.80	Direct Colorimetric
	µg/dl	120	98.9	141	10.55	21.10	
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	Urease end point
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.11	6.65	0.39	0.77	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	5.11	6.65	0.39	0.77	

Beckman CX4/5/7/9/LX20®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Purple
	g/dl	4.40	3.74	5.06	0.33	0.66	
Alkaline Phosphatase	U/l	180	153	207	13.50	27.00	p-Nitrophenylphosphate AMP 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.6	10.8	16.4	1.40	2.80	Differential rate pH change
Bilirubin Total	µmol/l	31.5	24.9	38.1	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.84	1.46	2.22	0.19	0.38	
Calcium	mmol/l	2.07	1.86	2.28	0.11	0.21	Ion selective electrode
	mg/dl	8.30	7.45	9.15	0.43	0.85	
Chloride	mmol/l	101	92.7	109	4.15	8.30	ISE indirect
Cholesterol	mmol/l	4.04	3.51	4.57	0.27	0.53	Cholesterol Oxidase
	mg/dl	156	135	177	10.50	21.00	
CK Total	U/l	217	178	256	19.50	39.00	Monothioglycerol 37°C
Creatinine	µmol/l	125	100	150	12.50	25.00	IDMS traceable
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	43	37	49	3.00	6.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	5.97	5.08	6.86	0.45	0.89	Hexokinase
	mg/dl	108	91.5	125	8.25	16.50	
	mmol/l	5.85	4.97	6.73	0.44	0.88	Glucose oxidase
mg/dl	105	89.6	120	7.70	15.40		

Beckman CX4/5/7/9/LX20®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	19.2	15.8	22.6	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	88.3	126	9.35	18.70	
LD (LDH)	U/l	162	137	187	12.50	25.00	L->P 37°C
Lipase	U/l	33	27	39	3.00	6.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.81	0.71	0.90	0.05	0.10	Calmagite
	mg/dl	1.96	1.72	2.20	0.12	0.24	
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.19	3.57	4.81	0.31	0.62	
Potassium	mmol/l	3.86	3.55	4.17	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.7	47.0	70.4	5.85	11.70	Biuret reaction end point
	g/dl	5.87	4.70	7.04	0.59	1.17	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.7	110	7.50	15.00	
Urea	mmol/l	7.59	6.45	8.73	0.57	1.14	Urease kinetic
	mg/dl	45.6	38.8	52.4	3.40	6.80	
	mmol/l	7.59	6.45	8.73	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	44.2	37.6	50.8	3.30	6.60	Bromocresol Purple
	g/dl	4.42	3.76	5.08	0.33	0.66	
Alkaline Phosphatase	U/l	178	152	204	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	178	152	204	13.00	26.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	37	29	45	4.00	8.00	Tris buffer SCE 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	33	26	40	3.50	7.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	13.6	10.8	16.4	1.40	2.80	Differential rate pH change
	mmol/l	12.7	10.1	15.3	1.30	2.60	Ion selective electrode
Bilirubin Total	µmol/l	31.6	25.0	38.2	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
Calcium	mmol/l	2.08	1.87	2.29	0.11	0.21	Ion selective electrode
	mg/dl	8.34	7.49	9.19	0.43	0.85	
Chloride	mmol/l	101	92.5	110	4.25	8.50	ISE indirect
Cholesterol	mmol/l	4.04	3.51	4.57	0.27	0.53	Cholesterol Oxidase
	mg/dl	156	135	177	10.50	21.00	
Cholinesterase	U/l	5728	4582	6874	573.00	1146.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	214	175	253	19.50	39.00	Monothioglycerol 37°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	125	100	150	12.50	25.00	IDMS traceable
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	43	36	50	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	5.94	5.05	6.83	0.45	0.89	Hexokinase
	mg/dl	107	91.0	123	8.00	16.00	
	mmol/l	5.88	5.00	6.76	0.44	0.88	Glucose oxidase
	mg/dl	106	90.1	122	7.95	15.90	
HDL - Cholesterol	mmol/l	1.67	1.42	1.92	0.13	0.25	Direct HDL PPD
	mg/dl	64.5	54.8	74.2	4.85	9.70	
	mmol/l	1.66	1.41	1.91	0.13	0.25	HDL - Ultra
	mg/dl	64.1	54.4	73.8	4.85	9.70	
Iron	µmol/l	19.8	16.3	23.3	1.75	3.50	Colorimetric without ppt.
	µg/dl	111	91.1	131	9.95	19.90	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	162	137	187	12.50	25.00	L->P 37°C
	U/l	162	138	186	12.00	24.00	L->P IFCC 37°C
Lipase	U/l	33	27	39	3.00	6.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.82	0.72	0.91	0.05	0.10	Calmagite
	mg/dl	1.98	1.74	2.22	0.12	0.24	
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.19	3.57	4.81	0.31	0.62	
Potassium	mmol/l	3.87	3.56	4.18	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction end point
	g/dl	5.88	4.70	7.06	0.59	1.18	
	g/l	56.3	45.1	67.5	5.60	11.20	Biuret reaction kinetic
	g/dl	5.63	4.51	6.75	0.56	1.12	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.8	109	7.50	15.00	
	mmol/l	1.08	0.91	1.26	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	95.6	80.1	111	7.75	15.50	
Urea	mmol/l	7.66	6.51	8.81	0.58	1.15	Urease end point
	mg/dl	46.0	39.1	52.9	3.45	6.90	
	mmol/l	7.62	6.48	8.76	0.57	1.14	Urease kinetic
	mg/dl	45.8	38.9	52.7	3.45	6.90	
	mmol/l	7.62	6.48	8.76	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	


COBAS INTEGRA®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Green
	g/dl	4.33	3.68	4.98	0.33	0.65	
	g/l	42.7	36.3	49.1	3.20	6.40	Bromocresol Purple
	g/dl	4.27	3.63	4.91	0.32	0.64	
	g/l	41.1	34.9	47.3	3.10	6.20	Turbidimetric Assays
	g/dl	4.11	3.49	4.73	0.31	0.62	
Alkaline Phosphatase	U/l	149	127	171	11.00	22.00	Roche Integra AMP buffer 37°C
	U/l	116	99	133	8.50	17.00	Roche Integra AMP buffer 30°C
	U/l	95	81	109	7.00	14.00	Roche Integra AMP buffer 25°C
	U/l	142	121	163	10.50	21.00	AMP optimised to IFCC 37°C
	U/l	111	94	128	8.50	17.00	AMP optimised to IFCC 30°C
	U/l	91	77	105	7.00	14.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	13.6	10.8	16.4	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	19.0	15.0	23.0	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.11	0.878	1.34	0.12	0.23	
Bilirubin Total	µmol/l	18.2	14.4	22.0	1.90	3.80	Roche JG factored
	mg/dl	1.06	0.842	1.28	0.11	0.22	
	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	26.2	20.7	31.7	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	µmol/l	26.8	21.1	32.5	2.85	5.70	Diazonium ion
	mg/dl	1.57	1.23	1.91	0.17	0.34	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
	mmol/l	2.13	1.91	2.35	0.11	0.22	NM-BAPTA
	mg/dl	8.54	7.66	9.42	0.44	0.88	
Chloride	mmol/l	101	92.8	109	4.10	8.20	ISE indirect
	mmol/l	100	92.2	108	3.90	7.80	ISE direct
Cholesterol	mmol/l	3.97	3.46	4.48	0.26	0.51	Cholesterol Oxidase
	mg/dl	153	134	172	9.50	19.00	
CK Total	U/l	188	154	222	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	118	96	140	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	80	65	95	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Creatinine	µmol/l	129	103	155	13.00	26.00	Roche Creatinine Plus	
	mg/dl	1.46	1.16	1.76	0.15	0.30		
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	1.46	1.16	1.76	0.15	0.30		
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked compensated (-18 µmol/l)	
	mg/dl	1.42	1.14	1.70	0.14	0.28		
	gamma-GT	U/l	47	40	54	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	37	32	42	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l		29	25	33	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
Glucose	mmol/l	6.17	5.25	7.09	0.46	0.92	Hexokinase	
	mg/dl	111	94.6	127	8.20	16.40		
HDL - Cholesterol	mmol/l	1.83	1.55	2.11	0.14	0.28	Direct HDL PEGME	
	mg/dl	70.6	59.8	81.4	5.40	10.80		
	mmol/l	1.78	1.51	2.05	0.14	0.27	Direct HDL Roche 3rd generation	
	mg/dl	68.7	58.3	79.1	5.20	10.40		
	mmol/l	1.82	1.55	2.09	0.14	0.27	Direct HDL Roche 4th Generation	
	mg/dl	70.3	59.8	80.8	5.25	10.50		
	Iron	µmol/l	19.9	16.3	23.5	1.80	3.60	Colorimetric with ppt.
		µg/dl	111	91.1	131	9.95	19.90	
	µmol/l	20.1	16.5	23.7	1.80	3.60	Colorimetric without ppt.	
	µg/dl	112	92.2	132	9.90	19.80		

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lactate	mmol/l	1.67	1.37	1.97	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.0	12.3	17.7	1.35	2.70	
LD (LDH)	U/l	371	315	427	28.00	56.00	P->L German methods 37°C
	U/l	268	227	309	20.50	41.00	P->L German methods 30°C
	U/l	188	160	216	14.00	28.00	P->L German methods 25°C
	U/l	208	177	239	15.50	31.00	L->P IFCC 37°C
	U/l	150	128	172	11.00	22.00	L->P IFCC 30°C
	U/l	105	90	120	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	29	23	35	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	0.98	0.86	1.09	0.06	0.12	Ion selective electrode
	mg/dl	0.677	0.596	0.758	0.04	0.08	
Magnesium	mmol/l	0.86	0.75	0.96	0.05	0.10	Chlorphosphonazo III
	mg/dl	2.08	1.83	2.33	0.13	0.25	
Phosphate Inorganic	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.15	3.53	4.77	0.31	0.62	
	mmol/l	1.38	1.18	1.58	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.28	3.66	4.90	0.31	0.62	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - indirect
Protein Total	g/l	55.8	44.6	67.0	5.60	11.20	Biuret reaction end point
	g/dl	5.58	4.46	6.70	0.56	1.12	
	g/l	57.1	45.7	68.5	5.70	11.40	Biuret reaction kinetic
	g/dl	5.71	4.57	6.85	0.57	1.14	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
TIBC	µmol/l	37.3	29.5	45.1	3.90	7.80	FE+UIBC(saturation with iron)
	µg/dl	209	165	253	22.00	44.00	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.6	113	7.90	15.80	
	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	82.0	113	7.70	15.40	
Urea	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	99.1	82.9	115	8.10	16.20	
	mmol/l	6.96	5.92	8.00	0.52	1.04	Urease kinetic
	mg/dl	41.8	35.6	48.0	3.10	6.20	
Uric Acid (Urate)	mmol/l	6.96	5.92	8.00	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.09	6.63	0.39	0.77	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.86	5.11	6.61	0.38	0.75	

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	14.5	11.4	17.6	1.55	3.10	Diazo with Sulphanilic Acid
	mg/dl	0.848	0.667	1.03	0.09	0.18	
Bilirubin Total	µmol/l	29.2	23.0	35.4	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Calcium	mmol/l	2.09	1.88	2.30	0.11	0.21	Arsenazo III
	mg/dl	8.38	7.54	9.22	0.42	0.84	
Cholesterol	mmol/l	4.08	3.55	4.61	0.27	0.53	Cholesterol Oxidase
	mg/dl	157	137	177	10.00	20.00	
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
Glucose	mmol/l	6.11	5.19	7.03	0.46	0.92	Glucose oxidase
	mg/dl	110	93.5	127	8.25	16.50	
LD (LDH)	U/l	205	174	236	15.50	31.00	L->P IFCC 37°C
Protein Total	g/l	55.1	44.0	66.2	5.55	11.10	Biuret reaction end point
	g/dl	5.51	4.40	6.62	0.56	1.11	
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	

**Elitech/Vitalab Selectra Series**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.17	6.09	8.25	0.54	1.08	Urease kinetic
	mg/dl	43.1	36.6	49.6	3.25	6.50	
	mmol/l	7.17	6.09	8.25	0.54	1.08	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Acid Phosphatase (Total)	U/l	10.6	7.10	14.1	1.75	3.50	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
Alkaline Phosphatase	U/l	145	123	167	11.00	22.00	Roche Integra AMP buffer 37°C
	U/l	113	96	130	8.50	17.00	Roche Integra AMP buffer 30°C
	U/l	93	79	107	7.00	14.00	Roche Integra AMP buffer 25°C
	U/l	178	151	205	13.50	27.00	Radox AMP 37°C
	U/l	139	118	160	10.50	21.00	Radox AMP 30°C
	U/l	114	96	132	9.00	18.00	Radox AMP 25°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	16	26	2.50	5.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	76	65	87	5.50	11.00	Radox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	85	72	98	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Radox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.74	7.86	9.62	0.44	0.88	

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	NM-BAPTA
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Chloride	mmol/l	96.8	89.1	105	3.85	7.70	ISE indirect
Cholesterol	mmol/l	3.91	3.40	4.42	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	
gamma-GT	U/l	49	41	57	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	32	46	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	25	35	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	55	47	63	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	37	49	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	34	29	39	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
	mmol/l	5.84	4.96	6.72	0.44	0.88	Glucose oxidase
	mg/dl	105	89.4	121	7.80	15.60	
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Xylidyl Blue
	mg/dl	2.02	1.77	2.27	0.13	0.25	
Phosphate Inorganic	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.12	3.50	4.74	0.31	0.62	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Biuret reaction end point
	g/dl	5.95	4.76	7.14	0.60	1.19	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	

**HITACHI SERIES®****ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)**

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.24	6.16	8.32	0.54	1.08	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.24	6.15	8.33	0.55	1.09	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	

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

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	40.4	34.3	46.5	3.05	6.10	Bromocresol Green
	g/dl	4.04	3.43	4.65	0.31	0.61	
Alkaline Phosphatase	U/l	277	235	319	21.00	42.00	Diethanolamine buffer DEA 37°C
	U/l	216	183	249	16.50	33.00	Diethanolamine buffer DEA 30°C
	U/l	177	150	204	13.50	27.00	Diethanolamine buffer DEA 25°C
	U/l	166	141	191	12.50	25.00	AMP optimised to IFCC 37°C
	U/l	129	110	148	9.50	19.00	AMP optimised to IFCC 30°C
	U/l	106	90	122	8.00	16.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	25.5	20.4	30.6	2.55	5.10	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	16.7	13.2	20.2	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.977	0.772	1.18	0.10	0.21	
Bilirubin Total	µmol/l	25.9	20.5	31.3	2.70	5.40	Nitrobenzenediazonium salt
	mg/dl	1.52	1.20	1.84	0.16	0.32	
Calcium	mmol/l	2.06	1.86	2.26	0.10	0.20	Arsenazo III
	mg/dl	8.26	7.45	9.07	0.41	0.81	



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

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	104	95.4	113	4.30	8.60	ISE direct
Cholesterol	mmol/l	3.99	3.47	4.51	0.26	0.52	Cholesterol Oxidase
	mg/dl	154	134	174	10.00	20.00	
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	129	106	152	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	139	111	167	14.00	28.00	Creatinine PAP method
	mg/dl	1.57	1.25	1.89	0.16	0.32	
gamma-GT	U/l	54	46	62	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	36	50	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.20	5.27	7.13	0.47	0.93	Hexokinase
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	6.02	5.11	6.93	0.46	0.91	Glucose oxidase
	mg/dl	108	92.1	124	7.95	15.90	
HDL - Cholesterol	mmol/l	1.58	1.35	1.81	0.12	0.23	Direct HDL PEGME
	mg/dl	61.0	52.1	69.9	4.45	8.90	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct Clearance Method
	mg/dl	56.4	47.9	64.9	4.25	8.50	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
LD (LDH)	U/l	386	328	444	29.00	58.00	P->L SFBC 37°C
	U/l	279	237	321	21.00	42.00	P->L SFBC 30°C
	U/l	196	166	226	15.00	30.00	P->L SFBC 25°C

Konelab 20/30/60®/Thermo Scientific Indiko Plus				ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)			
Lot. No. 1391UN Cat. No. HN1530/HS2611							
Size 20 x 5ml / 5 x 5ml		Expiry 2023-03-28		Range			
Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Xylidyl Blue
	mg/dl	2.02	1.78	2.26	0.12	0.24	
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	0.33	0.65	
Potassium	mmol/l	3.84	3.53	4.15	0.16	0.31	ISE method - direct
Protein Total	g/l	56.4	45.1	67.7	5.65	11.30	Biuret reaction end point
	g/dl	5.64	4.51	6.77	0.57	1.13	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-HBDH	U/l	204	161	247	21.50	43.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	154	122	186	16.00	32.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	115	91	139	12.00	24.00	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (Total)	U/l	10.6	7.10	14.1	1.75	3.50	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
	g/l	43.6	37.1	50.1	3.25	6.50	Bromocresol Purple
	g/dl	4.36	3.71	5.01	0.33	0.65	
	g/l	40.2	34.2	46.2	3.00	6.00	Ortho Vitros Microslide Systems
	g/dl	4.02	3.42	4.62	0.30	0.60	
	g/l	40.9	34.8	47.0	3.05	6.10	Turbidimetric Assays
Alkaline Phosphatase	U/l	151	128	174	11.50	23.00	Ortho Vitros Microslide Systems 37°C
	U/l	273	232	314	20.50	41.00	Diethanolamine buffer DEA 37°C
	U/l	213	181	245	16.00	32.00	Diethanolamine buffer DEA 30°C
	U/l	174	148	200	13.00	26.00	Diethanolamine buffer DEA 25°C
	U/l	176	150	202	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	137	117	157	10.00	20.00	AMP optimised to IFCC 30°C
	U/l	112	96	128	8.00	16.00	AMP optimised to IFCC 25°C
	U/l	163	139	187	12.00	24.00	AMP optimised to NVKC/SFBC 37°C
	U/l	127	108	146	9.50	19.00	AMP optimised to NVKC/SFBC 30°C
U/l	104	89	119	7.50	15.00	AMP optimised to NVKC/SFBC 25°C	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Alkaline Phosphatase	U/l	172	146	198	13.00	26.00	AMP non-optimised 37°C
	U/l	134	114	154	10.00	20.00	AMP non-optimised 30°C
	U/l	110	93	127	8.50	17.00	AMP non-optimised 25°C
ALT (GPT)	U/l	48	39	57	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer with P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer with P5P 25°C
	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
	U/l	37	29	45	4.00	8.00	Tris buffer SCE 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer SCE 30°C
Amylase Pancreatic	U/l	65	56	74	4.50	9.00	Immunoinhibition EPS substrate 37°C
	U/l	65	56	74	4.50	9.00	Roche EPS Liquid 37°C
	U/l	77	65	89	6.00	12.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	90	77	103	6.50	13.00	pNP Maltotriose substrates 37°C
	U/l	90	76	104	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	72	61	83	5.50	11.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	86	73	99	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	84	72	96	6.00	12.00	Saccharogenic 37°C
	U/l	88	75	101	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
U/l	69	58	80	5.50	11.00	Ortho Vitros Microslide Systems 37°C	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	96	82	110	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
	U/l	91	78	104	6.50	13.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	92	78	106	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	85	73	97	6.00	12.00	Beckman CNPG3 (Extinction Coeff) 37°C
Apolipoprotein A-1	g/l	1.11	0.91	1.31	0.10	0.20	Immunoturbidimetric
	mg/dl	111	91.0	131	10.00	20.00	
Apolipoprotein B	g/l	0.51	0.42	0.60	0.05	0.09	Immunoturbidimetric
	mg/dl	51.2	42.0	60.4	4.60	9.20	
AST (GOT)	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
	U/l	54	43	65	5.50	11.00	Tris buffer with P5P 37°C
	U/l	37	29	45	4.00	8.00	Tris buffer with P5P 30°C
	U/l	26	20	32	3.00	6.00	Tris buffer with P5P 25°C
	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
	U/l	33	27	39	3.00	6.00	Tris buffer SCE 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer SCE 30°C
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Colorimetric
	mmol/l	15.2	12.1	18.3	1.55	3.10	Ortho Vitros Microslide Systems
	mmol/l	13.6	10.8	16.4	1.40	2.80	Differential rate pH change
	mmol/l	14.4	11.4	17.4	1.50	3.00	Enzymatic
	mmol/l	13.3	10.5	16.1	1.40	2.80	Ion selective electrode
Bile Acids	µmol/l	26.7	21.4	32.0	2.65	5.30	4th Generation Colorimetric

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bile Acids	µmol/l	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric
Bilirubin Direct	µmol/l	19.4	15.3	23.5	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	0.895	1.37	0.12	0.24	
	µmol/l	19.2	15.2	23.2	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.12	0.889	1.35	0.12	0.23	
	µmol/l	20.5	16.2	24.8	2.15	4.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.20	0.948	1.45	0.13	0.25	
	µmol/l	17.9	14.1	21.7	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.05	0.825	1.28	0.11	0.23	
Bilirubin Total	µmol/l	13.9	11.0	16.8	1.45	2.90	Modified Jendrassik
	mg/dl	0.813	0.644	0.982	0.08	0.17	
	µmol/l	24.9	19.6	30.2	2.65	5.30	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.46	1.15	1.77	0.16	0.31	
	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	1.29	1.99	0.18	0.35	
	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.72	1.36	2.08	0.18	0.36	
	µmol/l	26.9	21.3	32.5	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	25.9	20.5	31.3	2.70	5.40	Nitrobenzenediazonium salt
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazonium ion
	mg/dl	1.60	1.26	1.94	0.17	0.34	
µmol/l	31.3	24.7	37.9	3.30	6.60	Oxidation to Biliverdin/Vanadate	
mg/dl	1.83	1.44	2.22	0.20	0.39		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Total	µmol/l	33.0	26.1	39.9	3.45	6.90	Modified Jendrassik
	mg/dl	1.93	1.53	2.33	0.20	0.40	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
	mmol/l	2.19	1.97	2.41	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.78	7.90	9.66	0.44	0.88	
	mmol/l	2.08	1.87	2.29	0.11	0.21	Ion selective electrode
	mg/dl	8.34	7.49	9.19	0.43	0.85	
	mmol/l	2.17	1.95	2.39	0.11	0.22	Arsenazo III
	mg/dl	8.70	7.82	9.58	0.44	0.88	
	mmol/l	2.13	1.92	2.34	0.11	0.21	NM-BAPTA
	mg/dl	8.54	7.70	9.38	0.42	0.84	
mmol/l	0.99	0.89	1.09	0.05	0.10	Ionised calcium	
mg/dl	3.98	3.58	4.38	0.20	0.40		
Chloride	mmol/l	102	93.8	110	4.10	8.20	Colorimetric
	mmol/l	101	93.1	109	3.95	7.90	Ortho Vitros Microslide Systems
	mmol/l	99.7	91.7	108	4.00	8.00	ISE indirect
	mmol/l	101	92.9	109	4.05	8.10	ISE direct
Cholesterol	mmol/l	3.94	3.42	4.46	0.26	0.52	Ortho Vitros Microslide Systems
	mg/dl	152	132	172	10.00	20.00	
	mmol/l	4.02	3.50	4.54	0.26	0.52	Cholesterol Oxidase
mg/dl	155	135	175	10.00	20.00		
Cholinesterase	U/l	5451	4361	6541	545.00	1090.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	180	148	212	16.00	32.00	Ortho Vitros Microslide Systems 37°C
	U/l	202	166	238	18.00	36.00	CK-NAC serum start (DGKC) 37°C
	U/l	126	104	148	11.00	22.00	CK-NAC serum start (DGKC) 30°C
	U/l	86	71	101	7.50	15.00	CK-NAC serum start (DGKC) 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	197	162	232	17.50	35.00	CK-NAC substrate start (DGKC) 37°C
	U/l	123	101	145	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	84	69	99	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	196	160	232	18.00	36.00	CK-NAC (IFCC) 37°C
	U/l	123	100	146	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC (IFCC) 25°C
	U/l	214	175	253	19.50	39.00	Monothioglycerol 37°C
	U/l	134	110	158	12.00	24.00	Monothioglycerol 30°C
	U/l	91	74	108	8.50	17.00	Monothioglycerol 25°C
Copper	µmol/l	15.7	12.6	18.8	1.55	3.10	Atomic absorption
	µg/dl	99.9	80.1	120	9.90	19.80	
	µmol/l	15.5	12.4	18.6	1.55	3.10	Colorimetric
	µg/dl	98.6	78.9	118	9.85	19.70	
Cortisol	nmol/l	495	371	619	62.00	124.00	Roche Cobas E411
	µg/dl	17.8	13.4	22.2	2.20	4.40	
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate with deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	130	104	156	13.00	26.00	Enzymatic UV method
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	131	105	157	13.00	26.00	Creatinine PAP method
	mg/dl	1.48	1.19	1.77	0.15	0.29	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	125	99.7	150	12.65	25.30	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Vitros IDMS Traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	IDMS traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	2.01	1.61	2.41	0.20	0.40	Immunoturbidimetric
	ng/ml	1.57	1.26	1.88	0.16	0.31	
Folate	nmol/l	44.6	33.9	55.3	5.35	10.70	Roche Cobas 6000/8000
	ng/ml	19.7	14.9	24.5	2.40	4.80	
Free T4	pmol/l	17.9	13.4	22.4	2.25	4.50	Abbott Architect
	ng/dl	1.40	1.05	1.75	0.18	0.35	
	pg/ml	14.0	10.5	17.5	1.75	3.50	Abbott Architect
	pmol/l	18.3	13.7	22.9	2.30	4.60	Siemens Centaur XP/XPT/Classic
	ng/dl	1.43	1.07	1.79	0.18	0.36	
	pg/ml	14.3	10.7	17.9	1.80	3.60	Siemens Centaur XP/XPT/Classic
	pmol/l	18.8	14.1	23.5	2.35	4.70	Beckman Access
	ng/dl	1.47	1.10	1.84	0.19	0.37	
	pg/ml	14.7	11.0	18.4	1.85	3.70	Beckman Access
	pmol/l	17.4	13.1	21.7	2.15	4.30	Beckman Dxl800
ng/dl	1.36	1.02	1.70	0.17	0.34		
pg/ml	13.6	10.2	17.0	1.70	3.40	Beckman Dxl800	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	23.0	17.2	28.8	2.90	5.80	Roche Cobas E411
	ng/dl	1.79	1.34	2.24	0.23	0.45	
	pg/ml	17.9	13.4	22.4	2.25	4.50	Roche Cobas E411
	pmol/l	22.5	16.9	28.1	2.80	5.60	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
	pmol/l	20.8	15.6	26.0	2.60	5.20	Biomerieux Vidas FT4N Kit
	ng/dl	1.62	1.22	2.02	0.20	0.40	
Gentamicin	µmol/l	7.36	5.89	8.83	0.74	1.47	Immunturbidimetric
	µg/ml	3.52	2.82	4.22	0.35	0.70	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	64	55	73	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	43	36	50	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	34	28	40	3.00	6.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	27	22	32	2.50	5.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	52	45	59	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	28	36	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	55	47	63	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	37	49	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	34	29	39	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
GLDH	U/l	19	15	23	2.00	4.00	Triethanolamine buffer 50 mmol 37°C	
	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 30°C	
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 25°C	
Glucose	mmol/l	5.94	5.05	6.83	0.45	0.89	Ortho Vitros Microslide Systems	
	mg/dl	107	91.0	123	8.00	16.00		
	mmol/l	6.03	5.13	6.93	0.45	0.90	Glucose dehydrogenase	
	mg/dl	109	92.4	126	8.30	16.60		
	mmol/l	6.08	5.17	6.99	0.46	0.91	Hexokinase	
	mg/dl	110	93.2	127	8.40	16.80		
	mmol/l	6.00	5.10	6.90	0.45	0.90	Oxygen electrode	
	mg/dl	108	91.9	124	8.05	16.10		
	mmol/l	6.06	5.15	6.97	0.46	0.91	Glucose oxidase	
	mg/dl	109	92.8	125	8.10	16.20		
	HDL - Cholesterol	mmol/l	1.63	1.38	1.88	0.13	0.25	Direct HDL PPD
		mg/dl	62.9	53.3	72.5	4.80	9.60	
mmol/l		1.52	1.30	1.74	0.11	0.22	Direct HDL Immunoseparation	
mg/dl		58.7	50.2	67.2	4.25	8.50		
mmol/l		1.54	1.31	1.77	0.12	0.23	Vitros Magnetic HDL	
mg/dl		59.4	50.6	68.2	4.40	8.80		
mmol/l		1.63	1.39	1.87	0.12	0.24	Direct HDL PEGME	
mg/dl		62.9	53.7	72.1	4.60	9.20		
mmol/l		1.46	1.24	1.68	0.11	0.22	Direct Clearance Method	
mg/dl		56.4	47.9	64.9	4.25	8.50		
mmol/l		1.52	1.29	1.75	0.12	0.23	Vitros dHDL PTA/MgCl2 direct precipitation	
mg/dl		58.7	49.8	67.6	4.45	8.90		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
HDL - Cholesterol	mmol/l	1.77	1.51	2.03	0.13	0.26	Direct HDL Roche 3rd generation
	mg/dl	68.3	58.3	78.3	5.00	10.00	
	mmol/l	1.60	1.36	1.84	0.12	0.24	HDL - Ultra
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	mmol/l	1.80	1.53	2.07	0.14	0.27	Direct HDL Roche 4th Generation
	mg/dl	69.5	59.1	79.9	5.20	10.40	
Immunoglobulin A	g/l	1.60	1.20	2.00	0.20	0.40	Immunoturbidimetric
	mg/dl	160	120	200	20.00	40.00	
Immunoglobulin G	g/l	6.79	5.57	8.01	0.61	1.22	Immunoturbidimetric
	mg/dl	679	557	801	61.00	122.00	
Immunoglobulin M	g/l	0.68	0.55	0.82	0.07	0.14	Immunoturbidimetric
	mg/dl	68.2	54.6	81.8	6.80	13.60	
Iron	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric with ppt.
	µg/dl	111	90.6	131	10.20	20.40	
	µmol/l	19.7	16.2	23.2	1.75	3.50	Colorimetric without ppt.
	µg/dl	110	90.6	129	9.70	19.40	
	µmol/l	20.5	16.8	24.2	1.85	3.70	Ortho Vitros Microslide Systems
	µg/dl	115	93.9	136	10.55	21.10	
Lactate	mmol/l	1.60	1.31	1.89	0.15	0.29	Ion selective electrode
	mg/dl	14.4	11.8	17.0	1.30	2.60	
	mmol/l	1.65	1.35	1.95	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	14.9	12.2	17.6	1.35	2.70	
	mmol/l	1.55	1.27	1.83	0.14	0.28	Ortho Vitros Microslide Systems
	mg/dl	14.0	11.4	16.6	1.30	2.60	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	1.70	1.40	2.00	0.15	0.30	Enzymatic Electrode
	mg/dl	15.3	12.6	18.0	1.35	2.70	
	mmol/l	1.66	1.36	1.96	0.15	0.30	UV LDH
	mg/dl	15.0	12.3	17.7	1.35	2.70	
LAP	U/l	18	15	21	1.50	3.00	NAGEL 37°C
LD (LDH)	U/l	561	477	645	42.00	84.00	Ortho Vitros Microslide Systems 37°C
	U/l	177	151	203	13.00	26.00	L->P 37°C
	U/l	128	109	147	9.50	19.00	L->P 30°C
	U/l	90	77	103	6.50	13.00	L->P 25°C
	U/l	421	358	484	31.50	63.00	P->L Scandinavian & Dutch 37°C
	U/l	304	258	350	23.00	46.00	P->L Scandinavian & Dutch 30°C
	U/l	213	182	244	15.50	31.00	P->L Scandinavian & Dutch 25°C
	U/l	386	328	444	29.00	58.00	P->L German methods 37°C
	U/l	279	237	321	21.00	42.00	P->L German methods 30°C
	U/l	196	166	226	15.00	30.00	P->L German methods 25°C
	U/l	387	329	445	29.00	58.00	P->L SFBC 37°C
	U/l	279	238	320	20.50	41.00	P->L SFBC 30°C
	U/l	196	167	225	14.50	29.00	P->L SFBC 25°C
	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
U/l	144	123	165	10.50	21.00	L->P IFCC 30°C	
U/l	101	86	116	7.50	15.00	L->P IFCC 25°C	
Lipase	U/l	33	26	40	3.50	7.00	Other Colorimetric 37°C
	U/l	173	139	207	17.00	34.00	Ortho Vitros Microslide Systems 37°C
	U/l	28	23	33	2.50	5.00	Roche Colorimetric 37°C
	U/l	41	33	49	4.00	8.00	Randox Colorimetric 37°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Ion selective electrode	
	mg/dl	0.694	0.612	0.776	0.04	0.08		
	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric	
	mg/dl	0.708	0.624	0.792	0.04	0.08		
	mmol/l	1.06	0.93	1.19	0.06	0.13	Randox Colorimetric	
	mg/dl	0.736	0.648	0.824	0.04	0.09		
	Magnesium	mmol/l	0.81	0.71	0.91	0.05	0.10	Arsenazo III
		mg/dl	1.97	1.73	2.21	0.12	0.24	
mmol/l		0.83	0.73	0.92	0.05	0.10	Ortho Vitros Microslide Systems	
mg/dl		2.00	1.76	2.24	0.12	0.24		
mmol/l		0.82	0.72	0.91	0.05	0.10	Calmagite	
mg/dl		1.98	1.74	2.22	0.12	0.24		
mmol/l		0.83	0.73	0.93	0.05	0.10	Xylidyl Blue	
mg/dl		2.02	1.78	2.26	0.12	0.24		
mmol/l		0.80	0.71	0.90	0.05	0.10	Methylthymol blue	
mg/dl		1.95	1.72	2.18	0.12	0.23		
mmol/l		0.84	0.74	0.94	0.05	0.10	Chlorphosphonazo III	
mg/dl		2.04	1.80	2.28	0.12	0.24		
mmol/l		0.81	0.71	0.91	0.05	0.10	Enzymatic	
mg/dl		1.97	1.73	2.21	0.12	0.24		
NEFA		mmol/l	1.55	1.32	1.78	0.12	0.23	Colorimetric
Osmolality		mOsm/kg	294	236	352	29.00	58.00	Calculated
	mOsm/kg	305	244	366	30.50	61.00	Freezing point depression	
	mOsm/kg	298	239	357	29.50	59.00	Vapour pressure	
Paracetamol	mmol/l	0.08	0.06	0.09	0.01	0.02	Colorimetric	
	mg/l	11.8	9.38	14.2	1.21	2.42		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Ortho Vitros Microslide Systems	
	mg/dl	4.31	3.66	4.96	0.33	0.65		
	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic	
	mg/dl	4.19	3.57	4.81	0.31	0.62		
	mmol/l	1.35	1.14	1.56	0.11	0.21	Phosphomolybdate UV	
	mg/dl	4.19	3.53	4.85	0.33	0.66		
	Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	Ortho Vitros Microslide Systems
		mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - direct
mmol/l		3.95	3.64	4.26	0.16	0.31	ISE method - indirect	
mmol/l		4.09	3.76	4.42	0.17	0.33	Enzymatic	
Protein Total	g/l	58.6	46.9	70.3	5.85	11.70	Ortho Vitros Microslide Systems	
	g/dl	5.86	4.69	7.03	0.59	1.17		
	g/l	58.1	46.5	69.7	5.80	11.60	Biuret reaction end point	
	g/dl	5.81	4.65	6.97	0.58	1.16		
	g/l	57.3	45.8	68.8	5.75	11.50	Biuret reaction kinetic	
	g/dl	5.73	4.58	6.88	0.58	1.15		
PSA Total	ng/ml =	12.5	9.35	15.7	1.58	3.15	Roche Cobas Core EIA	
	ng/ml =	12.6	9.48	15.7	1.56	3.12	Roche Elecsys Modular E170	
	ng/ml =	13.6	10.2	17.0	1.70	3.40	Beckman Access standardised to Hybritech	
	ng/ml =	10.0	7.50	12.5	1.25	2.50	bioMerieux VIDAS TPSA	
	ng/ml =	10.2	7.61	12.8	1.30	2.59	Siemens Centaur XP/XPT/Classic	
	ng/ml =	8.96	6.72	11.2	1.12	2.24	Abbott Architect	
	ng/ml =	12.5	9.37	15.6	1.57	3.13	Cobas E411	
	ng/ml =	12.1	9.07	15.1	1.52	3.03	Roche Cobas 6000/8000	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
PSA Total	ng/ml =	13.4	10.0	16.8	1.70	3.40	Beckman DXI standardised to Hybritech
Salicylate	mmol/l	0.43	0.35	0.52	0.04	0.09	Gravimetric
	mg/dl	5.99	4.79	7.19	0.60	1.20	
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	141	134	148	3.50	7.00	ISE method - direct
	mmol/l	143	135	151	4.00	8.00	ISE method - indirect
	mmol/l	144	137	151	3.50	7.00	Enzymatic
Theophylline	µmol/l	28.3	22.6	34.0	2.85	5.70	Gravimetric
	µg/ml	5.10	4.07	6.13	0.52	1.03	
Thyroid Stimulating Hormone	µU/ml =	0.88	0.71	1.06	0.09	0.18	Abbott Architect
	µU/ml =	1.39	1.11	1.67	0.14	0.28	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.14	0.92	1.37	0.11	0.23	Siemens Immulite 2000/2500
	µU/ml =	0.95	0.76	1.14	0.09	0.19	Vitros ECi
	µU/ml =	1.31	1.05	1.57	0.13	0.26	Roche Cobas E411
	µU/ml =	1.29	1.03	1.55	0.13	0.26	Roche Cobas 6000/8000
	µU/ml =	1.04	0.83	1.25	0.11	0.21	Beckman Dxl800 Hyper TSH
	µU/ml =	1.02	0.82	1.23	0.10	0.21	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.01	0.81	1.21	0.10	0.20	Beckman Dxl 600/800 Access (3rd IS)
TIBC	µmol/l	44.3	35.0	53.6	4.65	9.30	Ortho Vitros Microslide Systems
	µg/dl	248	196	300	26.00	52.00	
	µmol/l	37.1	29.3	44.9	3.90	7.80	Removal of excess free iron
	µg/dl	207	164	250	21.50	43.00	
	µmol/l	38.4	30.3	46.5	4.05	8.10	FE+UIBC(saturation with iron)
µg/dl	215	169	261	23.00	46.00		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	µmol/l	44.1	34.9	53.3	4.60	9.20	Direct Colorimetric
	µg/dl	247	195	299	26.00	52.00	
	µmol/l	43.6	34.4	52.8	4.60	9.20	Calculated from Transferrin
	µg/dl	244	192	296	26.00	52.00	
Tobramycin	µmol/l	48.2	38.1	58.3	5.05	10.10	Randox Direct
	µg/dl	269	213	325	28.00	56.00	
Tobramycin	µmol/l	6.30	5.04	7.57	0.63	1.26	Gravimetric
	µg/ml	2.95	2.36	3.54	0.30	0.59	
Total T3	nmol/l	1.71	1.28	2.14	0.22	0.43	Abbott Architect
	ng/ml	1.11	0.833	1.39	0.14	0.28	
	ng/dl	111	83.3	139	13.85	27.70	Abbott Architect
	nmol/l	1.97	1.48	2.46	0.25	0.49	Siemens Centaur XP/XPT/Classic
	ng/ml	1.28	0.963	1.60	0.16	0.32	
	ng/dl	128	96.3	160	15.85	31.70	Siemens Centaur XP/XPT/Classic
	nmol/l	1.98	1.49	2.47	0.25	0.49	Roche Cobas E411
	ng/ml	1.29	0.970	1.61	0.16	0.32	
	ng/dl	129	97.0	161	16.00	32.00	Roche Cobas E411
	nmol/l	1.98	1.49	2.47	0.25	0.49	Roche Cobas 6000/8000
Total T4	ng/ml	1.29	0.970	1.61	0.16	0.32	
	ng/dl	129	97.0	161	16.00	32.00	Roche Cobas 6000/8000
	nmol/l	94.2	70.7	118	11.75	23.50	Abbott Architect
	µg/dl	7.35	5.51	9.19	0.92	1.84	
	ng/ml	73.5	55.1	91.9	9.20	18.40	Abbott Architect
	nmol/l	84.3	63.2	105	10.55	21.10	Siemens Centaur XP/XPT/Classic
Total T4	µg/dl	6.58	4.93	8.23	0.83	1.65	
	ng/ml	65.8	49.3	82.3	8.25	16.50	Siemens Centaur XP/XPT/Classic

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	94.3	70.7	118	11.80	23.60	Siemens Immulite 2000/2500
	µg/dl	7.36	5.51	9.21	0.93	1.85	
	ng/ml	73.6	55.1	92.1	9.25	18.50	Siemens Immulite 2000/2500
	nmol/l	90.5	67.9	113	11.30	22.60	Roche Modular E170
	µg/dl	7.06	5.30	8.82	0.88	1.76	
	ng/ml	70.6	53.0	88.2	8.80	17.60	Roche Modular E170
	nmol/l	88.3	66.2	110	11.05	22.10	Roche Cobas E411
	µg/dl	6.89	5.16	8.62	0.87	1.73	
	ng/ml	68.9	51.6	86.2	8.65	17.30	Roche Cobas E411
	nmol/l	81.6	61.2	102	10.20	20.40	Roche Cobas 6000/8000
	µg/dl	6.36	4.77	7.95	0.80	1.59	
	ng/ml	63.6	47.7	79.5	7.95	15.90	Roche Cobas 6000/8000
	nmol/l	110	82.3	138	13.85	27.70	Microgenics DRI assay
	µg/dl	8.58	6.42	10.7	1.08	2.16	
	ng/ml	85.8	64.2	107	10.80	21.60	Microgenics DRI assay
Transferrin	g/l	1.83	1.46	2.20	0.19	0.37	Immunoturbidimetric
	mg/dl	183	146	220	18.50	37.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	79.7	110	7.50	15.00	
	mmol/l	1.07	0.90	1.24	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.7	110	7.50	15.00	
	mmol/l	1.05	0.89	1.22	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.9	78.3	108	7.30	14.60	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Ortho Vitros Microslide Systems	
	mg/dl	106	89.4	123	8.30	16.60		
UIBC	µmol/l	17.6	14.4	20.8	1.60	3.20	Direct Colorimetric	
	µg/dl	98.4	80.5	116	8.95	17.90		
Urea	mmol/l	6.91	5.87	7.95	0.52	1.04	Ortho Vitros Microslide Systems	
	mg/dl	41.5	35.3	47.7	3.10	6.20		
	mmol/l	7.29	6.20	8.38	0.55	1.09	Urease end point	
	mg/dl	43.8	37.3	50.3	3.25	6.50		
	mmol/l	7.22	6.14	8.30	0.54	1.08	Urease kinetic	
	mg/dl	43.4	36.9	49.9	3.25	6.50		
	mmol/l	7.22	6.14	8.30	0.54	1.08	BUN	
	mg/dl	20.3	17.3	23.3	1.50	3.00		
	mmol/l	6.98	5.93	8.03	0.53	1.05	Urease - hypochlorite	
	mg/dl	41.9	35.6	48.2	3.15	6.30		
	Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Ortho Vitros Microslide Systems
		mg/dl	5.56	4.84	6.28	0.36	0.72	
mmol/l		0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase	
mg/dl		5.78	5.02	6.54	0.38	0.76		
mmol/l		0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase	
mg/dl		5.76	5.01	6.51	0.38	0.75		
mmol/l		0.34	0.30	0.39	0.02	0.04	Spectrophotometric at 280-290	
mg/dl		5.75	5.01	6.49	0.37	0.74		
mmol/l		0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl		5.71	4.97	6.45	0.37	0.74		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Vitamin B12	pmol/l	475	380	570	47.50	95.00	Roche Cobas E411
	pg/ml	644	515	773	64.50	129.00	
Zinc	µmol/l	21.3	17.0	25.6	2.15	4.30	Colorimetric with deproteinisation
	µg/dl	139	111	167	14.00	28.00	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin (electrophoresis)		68.2	61.4	75.0	3.40	6.80	% of total Protein (Beckman Capillary)
alpha-1-globulin		6.4	4.9	7.9	0.77	1.54	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.4	4.9	7.9	0.77	1.54	% of total Protein (Beckman Capillary)
beta-globulin		9.2	7.0	11.4	1.11	2.21	% of total Protein (Beckman Capillary)
gamma-globulin		9.8	7.5	12.2	1.18	2.35	% of total Protein (Beckman Capillary)

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.3	35.9	48.7	3.20	6.40	Bromocresol Green
	g/dl	4.23	3.59	4.87	0.32	0.64	
Alkaline Phosphatase	U/l	254	216	292	19.00	38.00	Diethanolamine buffer DEA 37°C
	U/l	198	168	228	15.00	30.00	Diethanolamine buffer DEA 30°C
	U/l	162	138	186	12.00	24.00	Diethanolamine buffer DEA 25°C
	U/l	181	154	208	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	141	120	162	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	116	98	134	9.00	18.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37°C
	U/l	29	24	34	2.50	5.00	Tris buffer without P5P 30°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	19.8	15.7	23.9	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.16	0.918	1.40	0.12	0.24	
Bilirubin Total	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.72	1.36	2.08	0.18	0.36	
	µmol/l	26.5	20.9	32.1	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.55	1.22	1.88	0.17	0.33	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Arsenazo III
	mg/dl	8.54	7.66	9.42	0.44	0.88	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Cholesterol	mmol/l	4.11	3.58	4.64	0.27	0.53	Cholesterol Oxidase
	mg/dl	159	138	180	10.50	21.00	
CK Total	U/l	196	161	231	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	123	101	145	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.26	5.32	7.20	0.47	0.94	Glucose oxidase
	mg/dl	113	95.9	130	8.55	17.10	
HDL - Cholesterol	mmol/l	1.38	1.18	1.58	0.10	0.20	Direct HDL PPD
	mg/dl	53.3	45.5	61.1	3.90	7.80	
Iron	µmol/l	19.7	16.1	23.3	1.80	3.60	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
LD (LDH)	U/l	406	345	467	30.50	61.00	P->L German methods 37°C
	U/l	293	249	337	22.00	44.00	P->L German methods 30°C
	U/l	206	175	237	15.50	31.00	P->L German methods 25°C
	U/l	405	344	466	30.50	61.00	P->L SFBC 37°C
	U/l	292	248	336	22.00	44.00	P->L SFBC 30°C
	U/l	205	174	236	15.50	31.00	P->L SFBC 25°C
	U/l	204	174	234	15.00	30.00	L->P IFCC 37°C
	U/l	147	126	168	10.50	21.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Magnesium	mmol/l	0.85	0.74	0.95	0.05	0.10	Xylidyl Blue
	mg/dl	2.05	1.81	2.29	0.12	0.24	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Protein Total	g/l	58.5	46.8	70.2	5.85	11.70	Biuret reaction end point
	g/dl	5.85	4.68	7.02	0.59	1.17	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.3	111	7.65	15.30	
Urea	mmol/l	7.43	6.32	8.54	0.56	1.11	Urease kinetic
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.43	6.32	8.54	0.56	1.11	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.61	4.87	6.35	0.37	0.74	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.2	34.2	46.2	3.00	6.00	Ortho Vitros Microslide Systems
	g/dl	4.02	3.42	4.62	0.30	0.60	
Alkaline Phosphatase	U/l	151	128	174	11.50	23.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	48	38	58	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	69	58	80	5.50	11.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	15.2	12.1	18.3	1.55	3.10	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	24.9	19.6	30.2	2.65	5.30	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.46	1.15	1.77	0.16	0.31	
Bilirubin, Unconjugated Vitros BU	µmol/l	14.6	11.5	17.6	1.53	3.05	BuBc Vitros Slide
	mg/dl	0.851	0.673	1.03	0.09	0.18	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Chloride	mmol/l	101	93.1	109	3.95	7.90	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	3.94	3.42	4.46	0.26	0.52	Ortho Vitros Microslide Systems
	mg/dl	152	132	172	10.00	20.00	
CK Total	U/l	180	148	212	16.00	32.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Vitros IDMS Traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	64	55	73	4.50	9.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	5.94	5.05	6.83	0.45	0.89	Ortho Vitros Microslide Systems
	mg/dl	107	91.0	123	8.00	16.00	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
HDL - Cholesterol	mmol/l	1.52	1.29	1.75	0.12	0.23	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	58.7	49.8	67.6	4.45	8.90	
Iron	µmol/l	20.5	16.8	24.2	1.85	3.70	Ortho Vitros Microslide Systems
	µg/dl	115	93.9	136	10.55	21.10	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Ortho Vitros Microslide Systems
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	561	477	645	42.00	84.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	173	139	207	17.00	34.00	Ortho Vitros Microslide Systems 37°C
Magnesium	mmol/l	0.83	0.73	0.92	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.00	1.76	2.24	0.12	0.24	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.31	3.66	4.96	0.33	0.65	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	Ortho Vitros Microslide Systems
Protein Total	g/l	58.6	46.9	70.3	5.85	11.70	Ortho Vitros Microslide Systems
	g/dl	5.86	4.69	7.03	0.59	1.17	
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
TIBC	µmol/l	44.3	35.0	53.6	4.65	9.30	Ortho Vitros Microslide Systems
	µg/dl	248	196	300	26.00	52.00	
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	106	89.4	123	8.30	16.60	
Urea	mmol/l	6.91	5.87	7.95	0.52	1.04	Ortho Vitros Microslide Systems
	mg/dl	41.5	35.3	47.7	3.10	6.20	
	mmol/l	6.91	5.87	7.95	0.52	1.04	BUN
	mg/dl	19.4	16.5	22.3	1.45	2.90	

**Ortho VITROS®****ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)**

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.56	4.84	6.28	0.36	0.72	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Green
	g/dl	4.33	3.68	4.98	0.33	0.65	
	g/l	43.6	37.1	50.1	3.25	6.50	Bromocresol Purple
	g/dl	4.36	3.71	5.01	0.33	0.65	
	g/l	40.9	34.8	47.0	3.05	6.10	Turbidimetric Assays
	g/dl	4.09	3.48	4.70	0.31	0.61	
Alkaline Phosphatase	U/l	145	123	167	11.00	22.00	Roche Integra AMP buffer 37°C
	U/l	113	96	130	8.50	17.00	Roche Integra AMP buffer 30°C
	U/l	93	79	107	7.00	14.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	85	73	97	6.00	12.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.1	11.2	17.0	1.45	2.90	Colorimetric
	mmol/l	14.2	11.3	17.1	1.45	2.90	Enzymatic

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bile Acids	µmol/l	24.1	19.3	28.9	2.40	4.80	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	19.1	15.1	23.1	2.00	4.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.12	0.883	1.36	0.12	0.24	
	µmol/l	19.0	15.0	23.0	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.11	0.878	1.34	0.12	0.23	
	µmol/l	19.1	15.1	23.1	2.00	4.00	Roche JG factored
	mg/dl	1.12	0.883	1.36	0.12	0.24	
Bilirubin Total	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	27.1	21.4	32.8	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazonium ion
	mg/dl	1.59	1.25	1.93	0.17	0.34	
Calcium	mmol/l	2.13	1.92	2.34	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.54	7.70	9.38	0.42	0.84	
	mmol/l	2.13	1.92	2.34	0.11	0.21	NM-BAPTA
	mg/dl	8.54	7.70	9.38	0.42	0.84	
Chloride	mmol/l	97.1	89.3	105	3.90	7.80	ISE indirect
Cholesterol	mmol/l	3.95	3.44	4.46	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	133	171	9.50	19.00	
Cholinesterase	U/l	5243	4194	6292	524.50	1049.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	187	153	221	17.00	34.00	CK-NAC substrate start (DGKC) 37°C
	U/l	117	96	138	10.50	21.00	CK-NAC substrate start (DGKC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC substrate start (DGKC) 25°C
	U/l	191	157	225	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	67	95	7.00	14.00	CK-NAC (IFCC) 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	μmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	132	105	159	13.50	27.00	Enzymatic UV method
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	μmol/l	133	106	160	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	μmol/l	137	109	165	14.00	28.00	Jaffe rate blanked
	mg/dl	1.55	1.23	1.87	0.16	0.32	
	μmol/l	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	μmol/l	132	106	158	13.00	26.00	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	22.5	16.9	28.1	2.80	5.60	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Glucose	mmol/l	6.17	5.24	7.10	0.47	0.93	Glucose dehydrogenase	
	mg/dl	111	94.4	128	8.30	16.60		
	mmol/l	6.10	5.18	7.02	0.46	0.92	Hexokinase	
	mg/dl	110	93.3	127	8.35	16.70		
HDL - Cholesterol	mmol/l	1.75	1.49	2.01	0.13	0.26	Direct HDL PEGME	
	mg/dl	67.6	57.5	77.7	5.05	10.10		
	mmol/l	1.76	1.49	2.03	0.14	0.27	Direct HDL Roche 3rd generation	
	mg/dl	67.9	57.5	78.3	5.20	10.40		
Iron	mmol/l	1.79	1.52	2.06	0.14	0.27	Direct HDL Roche 4th Generation	
	mg/dl	69.1	58.7	79.5	5.20	10.40		
	Iron	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric with ppt.
		µg/dl	111	90.6	131	10.20	20.40	
µmol/l		20.0	16.4	23.6	1.80	3.60	Colorimetric without ppt.	
µg/dl		112	91.7	132	10.15	20.30		
Lactate	mmol/l	1.64	1.35	1.93	0.15	0.29	Colorimetric Lactate Oxidase	
	mg/dl	14.8	12.2	17.4	1.30	2.60		
LD (LDH)	U/l	189	161	217	14.00	28.00	L->P 37°C	
	U/l	136	116	156	10.00	20.00	L->P 30°C	
	U/l	96	82	110	7.00	14.00	L->P 25°C	
	U/l	388	329	447	29.50	59.00	P->L German methods 37°C	
	U/l	280	238	322	21.00	42.00	P->L German methods 30°C	
	U/l	197	167	227	15.00	30.00	P->L German methods 25°C	
	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C	
	U/l	144	123	165	10.50	21.00	L->P IFCC 30°C	
	U/l	101	86	116	7.50	15.00	L->P IFCC 25°C	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lipase	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Spectrophotometric
	mg/dl	0.715	0.631	0.799	0.04	0.08	
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Xylidyl Blue
	mg/dl	2.03	1.78	2.28	0.13	0.25	
	mmol/l	0.83	0.73	0.93	0.05	0.10	Chlorphosphonazo III
	mg/dl	2.01	1.77	2.25	0.12	0.24	
Osmolality	mOsm/kg	297	238	356	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	
	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.2	46.6	69.8	5.80	11.60	Biuret reaction end point
	g/dl	5.82	4.66	6.98	0.58	1.16	
	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction kinetic
	g/dl	5.80	4.64	6.96	0.58	1.16	
PSA Total	ng/ml =	12.1	9.07	15.1	1.52	3.03	Roche Cobas 6000/8000
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.29	1.03	1.55	0.13	0.26	Roche Cobas 6000/8000
TIBC	µmol/l	37.4	29.5	45.3	3.95	7.90	FE+UIBC(saturation with iron)
	µg/dl	209	165	253	22.00	44.00	
	µmol/l	46.3	36.6	56.0	4.85	9.70	Calculated from Transferrin
	µg/dl	259	205	313	27.00	54.00	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Total T3	nmol/l	1.98	1.49	2.47	0.25	0.49	Roche Cobas 6000/8000
	ng/ml	1.29	0.970	1.61	0.16	0.32	
	ng/dl	129	97.0	161	16.00	32.00	Roche Cobas 6000/8000
Total T4	nmol/l	81.6	61.2	102	10.20	20.40	Roche Cobas 6000/8000
	µg/dl	6.36	4.77	7.95	0.80	1.59	
	ng/ml	63.6	47.7	79.5	7.95	15.90	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.4	114	7.90	15.80	
UIBC	µmol/l	17.2	14.1	20.3	1.55	3.10	Direct Colorimetric
	µg/dl	96.1	78.8	113	8.65	17.30	
Urea	mmol/l	7.26	6.17	8.35	0.55	1.09	Urease end point
	mg/dl	43.6	37.1	50.1	3.25	6.50	
	mmol/l	7.11	6.05	8.17	0.53	1.06	Urease kinetic
	mg/dl	42.7	36.4	49.0	3.15	6.30	
	mmol/l	7.11	6.04	8.18	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.91	6.35	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.66	4.92	6.40	0.37	0.74	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Green
	g/dl	4.34	3.69	4.99	0.33	0.65	
Alkaline Phosphatase	U/l	147	125	169	11.00	22.00	Roche Integra AMP buffer 37°C
	U/l	115	97	133	9.00	18.00	Roche Integra AMP buffer 30°C
	U/l	94	80	108	7.00	14.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.0	14.2	21.8	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
Bilirubin Total	µmol/l	25.0	19.7	30.3	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.46	1.15	1.77	0.16	0.31	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	26.8	21.2	32.4	2.80	5.60	Diazonium ion
	mg/dl	1.57	1.24	1.90	0.17	0.33	
Calcium	mmol/l	2.17	1.95	2.39	0.11	0.22	NM-BAPTA
	mg/dl	8.70	7.82	9.58	0.44	0.88	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	103	94.7	111	4.15	8.30	ISE indirect
Cholesterol	mmol/l	3.97	3.45	4.49	0.26	0.52	Cholesterol Oxidase
	mg/dl	153	133	173	10.00	20.00	
CK Total	U/l	187	153	221	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	117	96	138	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	126	101	151	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Hexokinase
	mg/dl	112	94.8	129	8.60	17.20	
HDL - Cholesterol	mmol/l	1.77	1.51	2.03	0.13	0.26	Direct HDL Roche 3rd generation
	mg/dl	68.3	58.3	78.3	5.00	10.00	
	mmol/l	1.82	1.55	2.09	0.14	0.27	Direct HDL Roche 4th Generation
	mg/dl	70.3	59.8	80.8	5.25	10.50	
LD (LDH)	U/l	209	177	241	16.00	32.00	L->P IFCC 37°C
	U/l	151	128	174	11.50	23.00	L->P IFCC 30°C
	U/l	106	90	122	8.00	16.00	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.31	3.66	4.96	0.33	0.65	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.3	45.9	68.7	5.70	11.40	Biuret reaction end point
	g/dl	5.73	4.59	6.87	0.57	1.14	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.1	112	7.70	15.40	
	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	98.2	82.1	114	8.05	16.10	
Urea	mmol/l	6.95	5.91	7.99	0.52	1.04	Urease kinetic
	mg/dl	41.8	35.5	48.1	3.15	6.30	
	mmol/l	6.95	5.91	7.99	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Green
	g/dl	4.32	3.67	4.97	0.33	0.65	
	g/l	43.7	37.1	50.3	3.30	6.60	Bromocresol Purple
	g/dl	4.37	3.71	5.03	0.33	0.66	
Alkaline Phosphatase	U/l	144	123	165	10.50	21.00	Roche Integra AMP buffer 37°C
	U/l	112	96	128	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	92	79	105	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.1	11.2	17.0	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	19.4	15.3	23.5	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	0.895	1.37	0.12	0.24	
	µmol/l	19.4	15.3	23.5	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.13	0.895	1.37	0.12	0.24	
	µmol/l	19.2	15.2	23.2	2.00	4.00	Roche JG factored
mg/dl	1.12	0.889	1.35	0.12	0.23		

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods	
			low	high				
Bilirubin Total	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Sulphanilic Acid	
	mg/dl	1.61	1.27	1.95	0.17	0.34		
	µmol/l	27.2	21.5	32.9	2.85	5.70	Dichlorophenyl Diazonium (DPD)	
	mg/dl	1.59	1.26	1.92	0.17	0.33		
	µmol/l	27.7	21.9	33.5	2.90	5.80	Diazonium ion	
	mg/dl	1.62	1.28	1.96	0.17	0.34		
Calcium	mmol/l	2.13	1.92	2.34	0.11	0.21	Cresolphthalein complexone	
	mg/dl	8.54	7.70	9.38	0.42	0.84		
	mmol/l	2.14	1.92	2.36	0.11	0.22	NM-BAPTA	
	mg/dl	8.58	7.70	9.46	0.44	0.88		
	mmol/l	97.5	89.7	105	3.90	7.80		ISE indirect
	mg/dl	154	134	174	10.00	20.00		Cholesterol Oxidase
CK Total	U/l	195	160	230	17.50	35.00	CK-NAC (IFCC) 37°C	
	U/l	122	100	144	11.00	22.00	CK-NAC (IFCC) 30°C	
	U/l	83	68	98	7.50	15.00	CK-NAC (IFCC) 25°C	
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization	
	mg/dl	1.47	1.18	1.76	0.15	0.29		
	µmol/l	134	107	161	13.50	27.00	Roche Creatinine Plus	
	mg/dl	1.51	1.21	1.81	0.15	0.30		
	µmol/l	134	108	160	13.00	26.00	Jaffe rate blanked	
	mg/dl	1.51	1.22	1.80	0.15	0.29		
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	1.48	1.19	1.77	0.15	0.29		
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C	
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C	
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
gamma-GT	U/l	54	46	62	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	36	50	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
	mmol/l	6.11	5.20	7.02	0.46	0.91	Glucose oxidase
	mg/dl	110	93.7	126	8.15	16.30	
HDL - Cholesterol	mmol/l	1.81	1.54	2.08	0.14	0.27	Direct HDL Roche 3rd generation
	mg/dl	69.9	59.4	80.4	5.25	10.50	
	mmol/l	1.80	1.53	2.07	0.14	0.27	Direct HDL Roche 4th Generation
	mg/dl	69.5	59.1	79.9	5.20	10.40	
Iron	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	91.7	132	10.15	20.30	
Lactate	mmol/l	1.69	1.39	1.99	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.2	12.5	17.9	1.35	2.70	
LD (LDH)	U/l	383	325	441	29.00	58.00	P->L German methods 37°C
	U/l	277	235	319	21.00	42.00	P->L German methods 30°C
	U/l	194	165	223	14.50	29.00	P->L German methods 25°C
	U/l	204	173	235	15.50	31.00	L->P IFCC 37°C
	U/l	147	125	169	11.00	22.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C
	U/l	28	23	33	2.50	5.00	Roche Colorimetric 37°C
Lipase	U/l	28	23	33	2.50	5.00	Roche Colorimetric 37°C
	U/l	28	23	33	2.50	5.00	
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Xylidyl Blue
	mg/dl	2.01	1.77	2.25	0.12	0.24	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Magnesium	mmol/l	0.82	0.72	0.92	0.05	0.10	Chlorphosphonazo III
	mg/dl	1.99	1.75	2.23	0.12	0.24	
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.19	3.57	4.81	0.31	0.62	
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.7	46.9	70.5	5.90	11.80	Biuret reaction end point
	g/dl	5.87	4.69	7.05	0.59	1.18	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	µmol/l	36.7	29.0	44.4	3.85	7.70	FE+UIBC(saturation with iron)
	µg/dl	205	162	248	21.50	43.00	
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
	mmol/l	1.09	0.91	1.27	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	96.5	80.7	112	7.90	15.80	
UIBC	µmol/l	16.8	13.8	19.8	1.50	3.00	Direct Colorimetric
	µg/dl	93.9	77.1	111	8.40	16.80	
Urea	mmol/l	7.29	6.20	8.38	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.3	50.3	3.25	6.50	
	mmol/l	7.29	6.20	8.38	0.55	1.09	BUN
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	

**Roche Cobas C311®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.73	4.99	6.47	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.75	5.01	6.49	0.37	0.74	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Green
	g/dl	4.34	3.69	4.99	0.33	0.65	
	g/l	42.4	36.1	48.7	3.15	6.30	Bromocresol Purple
	g/dl	4.24	3.61	4.87	0.32	0.63	
	g/l	42.6	36.2	49.0	3.20	6.40	Turbidimetric Assays
	g/dl	4.26	3.62	4.90	0.32	0.64	
Alkaline Phosphatase	U/l	137	116	158	10.50	21.00	Roche Integra AMP buffer 37°C
	U/l	107	90	124	8.50	17.00	Roche Integra AMP buffer 30°C
	U/l	88	74	102	7.00	14.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	64	54	74	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	87	74	100	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.7	11.6	17.8	1.55	3.10	Enzymatic
Bile Acids	µmol/l	23.3	18.6	28.0	2.35	4.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	18.9	14.9	22.9	2.00	4.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.11	0.872	1.35	0.12	0.24	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Direct	µmol/l	18.7	14.8	22.6	1.95	3.90	Roche JG factored
	mg/dl	1.09	0.866	1.31	0.11	0.22	
Bilirubin Total	µmol/l	26.0	20.5	31.5	2.75	5.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	26.4	20.8	32.0	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	µmol/l	26.4	20.8	32.0	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazonium ion
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Calcium	mmol/l	2.08	1.87	2.29	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.34	7.49	9.19	0.43	0.85	
	mmol/l	2.13	1.91	2.35	0.11	0.22	NM-BAPTA
	mg/dl	8.54	7.66	9.42	0.44	0.88	
Chloride	mmol/l	98.4	90.5	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.94	3.43	4.45	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	132	172	10.00	20.00	
Cholinesterase	U/l	5129	4103	6155	513.00	1026.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	158	226	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	120	99	141	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	82	67	97	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	135	108	162	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
gamma-GT	U/l	45	38	52	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	23	33	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.11	5.19	7.03	0.46	0.92	Hexokinase
	mg/dl	110	93.5	127	8.25	16.50	
HDL - Cholesterol	mmol/l	1.78	1.52	2.04	0.13	0.26	Direct HDL Roche 3rd generation
	mg/dl	68.7	58.7	78.7	5.00	10.00	
	mmol/l	1.79	1.52	2.06	0.14	0.27	Direct HDL Roche 4th Generation
	mg/dl	69.1	58.7	79.5	5.20	10.40	
Iron	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	90.6	131	10.20	20.40	
Lactate	mmol/l	1.64	1.35	1.93	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.8	12.2	17.4	1.30	2.60	
LD (LDH)	U/l	201	170	232	15.50	31.00	L->P IFCC 37°C
	U/l	145	123	167	11.00	22.00	L->P IFCC 30°C
	U/l	102	86	118	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.626	0.804	0.04	0.09	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Magnesium	mmol/l	0.84	0.74	0.94	0.05	0.10	Xylidyl Blue
	mg/dl	2.04	1.79	2.29	0.13	0.25	
Phosphate Inorganic	mmol/l	1.32	1.12	1.52	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.09	3.47	4.71	0.31	0.62	
Potassium	mmol/l	4.03	3.71	4.35	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction end point
	g/dl	5.80	4.64	6.96	0.58	1.16	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	μmol/l	38.7	30.6	46.8	4.05	8.10	FE+UIBC(saturation with iron)
	μg/dl	216	171	261	22.50	45.00	
	μmol/l	42.1	33.3	50.9	4.40	8.80	Calculated from Transferrin
	μg/dl	235	186	284	24.50	49.00	
Triglycerides	mmol/l	1.09	0.91	1.27	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	96.5	80.9	112	7.80	15.60	
	mmol/l	1.10	0.93	1.27	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
Urea	mmol/l	6.99	5.94	8.04	0.53	1.05	Urease kinetic
	mg/dl	42.0	35.7	48.3	3.15	6.30	
	mmol/l	6.99	5.94	8.04	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.66	4.94	6.38	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.61	4.89	6.33	0.36	0.72	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	41.9	35.6	48.2	3.15	6.30	Bromocresol Green
	g/dl	4.19	3.56	4.82	0.32	0.63	
Alkaline Phosphatase	U/l	287	244	330	21.50	43.00	Diethanolamine buffer DEA 37°C
	U/l	177	151	203	13.00	26.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	76	65	87	5.50	11.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.8	12.5	19.1	1.65	3.30	Enzymatic
Bile Acids	µmol/l	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric
Bilirubin Direct	µmol/l	20.4	16.1	24.7	2.15	4.30	Diazo with Sulphanilic Acid
	mg/dl	1.19	0.942	1.44	0.12	0.25	
	µmol/l	17.8	14.0	21.6	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.04	0.819	1.26	0.11	0.22	
Bilirubin Total	µmol/l	32.4	25.6	39.2	3.40	6.80	Diazo with Sulphanilic Acid
	mg/dl	1.90	1.50	2.30	0.20	0.40	
	µmol/l	31.5	24.9	38.1	3.30	6.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.84	1.46	2.22	0.19	0.38	
Calcium	mmol/l	2.24	2.01	2.47	0.12	0.23	Arsenazo III
	mg/dl	8.98	8.06	9.90	0.46	0.92	
Chloride	mmol/l	97.8	90.0	106	3.90	7.80	ISE direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.43	3.85	5.01	0.29	0.58	Cholesterol Oxidase
	mg/dl	171	149	193	11.00	22.00	
CK Total	U/l	224	184	264	20.00	40.00	CK-NAC substrate start (DGKC) 37°C
	U/l	236	194	278	21.00	42.00	
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	133	106	160	13.50	27.00	Enzymatic UV method
	mg/dl	1.50	1.20	1.80	0.15	0.30	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.53	5.55	7.51	0.49	0.98	Hexokinase
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	6.38	5.42	7.34	0.48	0.96	Glucose oxidase
	mg/dl	115	97.7	132	8.65	17.30	
Iron	µmol/l	20.7	17.0	24.4	1.85	3.70	Colorimetric without ppt.
	µg/dl	116	95.0	137	10.50	21.00	
Lactate	mmol/l	1.57	1.29	1.85	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.6	16.6	1.25	2.50	
LD (LDH)	U/l	394	335	453	29.50	59.00	P->L German methods 37°C
	U/l	200	170	230	15.00	30.00	
Lipase	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.06	0.93	1.19	0.06	0.13	Colorimetric
	mg/dl	0.736	0.648	0.824	0.04	0.09	
Magnesium	mmol/l	0.85	0.75	0.95	0.05	0.10	Xylidyl Blue
	mg/dl	2.06	1.82	2.30	0.12	0.24	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.31	3.66	4.96	0.33	0.65	

RX SERIES®		ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)					
Lot. No. 1391UN Cat. No. HN1530/HS2611							
Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - direct
	mmol/l	4.01	3.69	4.33	0.16	0.32	Enzymatic
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction end point
	g/dl	5.97	4.78	7.16	0.60	1.19	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - direct
	mmol/l	144	137	151	3.50	7.00	Enzymatic
TIBC	µmol/l	48.2	38.1	58.3	5.05	10.10	Direct Colorimetric
	µg/dl	269	213	325	28.00	56.00	
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
Urea	mmol/l	7.31	6.21	8.41	0.55	1.10	Urease kinetic
	mg/dl	43.9	37.3	50.5	3.30	6.60	
	mmol/l	7.31	6.21	8.41	0.55	1.10	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.56	4.84	6.28	0.36	0.72	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.93	5.17	6.69	0.38	0.76	

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.6	34.5	46.7	3.05	6.10	Bromocresol Green
	g/dl	4.06	3.45	4.67	0.31	0.61	
	g/l	42.8	36.4	49.2	3.20	6.40	Bromocresol Purple
	g/dl	4.28	3.64	4.92	0.32	0.64	
Alkaline Phosphatase	U/l	156	133	179	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	164	139	189	12.50	25.00	AMP non-optimised 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.7	12.4	19.0	1.65	3.30	Enzymatic
Bile Acids	µmol/l	26.8	21.4	32.2	2.70	5.40	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	17.9	14.2	21.6	1.85	3.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.05	0.831	1.27	0.11	0.22	
Bilirubin Total	µmol/l	31.1	24.6	37.6	3.25	6.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.82	1.44	2.20	0.19	0.38	
Calcium	mmol/l	2.07	1.86	2.28	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.30	7.45	9.15	0.43	0.85	
	mmol/l	2.14	1.93	2.35	0.11	0.21	Arsenazo III
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Chloride	mmol/l	101	93.3	109	3.85	7.70	ISE indirect
Cholesterol	mmol/l	4.00	3.48	4.52	0.26	0.52	Cholesterol Oxidase
	mg/dl	154	134	174	10.00	20.00	


SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	5775	4620	6930	577.50	1155.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	126	100	152	13.00	26.00	Enzymatic UV method
	mg/dl	1.42	1.13	1.71	0.15	0.29	
	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	125	100	150	12.50	25.00	
mg/dl	1.41	1.13	1.69	0.14	0.28		
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.89	5.01	6.77	0.44	0.88	Hexokinase
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	5.98	5.08	6.88	0.45	0.90	Glucose oxidase
	mg/dl	108	91.5	125	8.25	16.50	
HDL - Cholesterol	mmol/l	1.30	1.11	1.49	0.10	0.19	Direct Clearance Method
	mg/dl	50.2	42.8	57.6	3.70	7.40	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.47	1.20	1.74	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	202	172	232	15.00	30.00	L->P 37°C
	U/l	379	322	436	28.50	57.00	P->L German methods 37°C
	U/l	202	172	232	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	37	30	44	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
	mg/dl	0.708	0.626	0.790	0.04	0.08	

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.81	0.71	0.90	0.05	0.10	Xylidyl Blue
	mg/dl	1.96	1.72	2.20	0.12	0.24	
Phosphate Inorganic	mmol/l	1.37	1.17	1.57	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.25	3.63	4.87	0.31	0.62	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect
Protein Total	g/l	56.3	45.0	67.6	5.65	11.30	Biuret reaction end point
	g/dl	5.63	4.50	6.76	0.57	1.13	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	μmol/l	47.1	37.2	57.0	4.95	9.90	FE+UIBC(saturation with iron)
	μg/dl	263	208	318	27.50	55.00	
	μmol/l	44.8	35.4	54.2	4.70	9.40	Direct Colorimetric
	μg/dl	250	198	302	26.00	52.00	
	μmol/l	41.6	32.8	50.4	4.40	8.80	Calculated from Transferrin
	μg/dl	233	183	283	25.00	50.00	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.7	114	7.75	15.50	
Urea	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.53	6.40	8.66	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Purple
	g/dl	4.32	3.67	4.97	0.33	0.65	
Alkaline Phosphatase	U/l	158	134	182	12.00	24.00	Siemens Dimension AMP buffer 37°C
	U/l	161	137	185	12.00	24.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	36	56	5.00	10.00	Tris buffer with P5P 37°C
	U/l	45	36	54	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	96	81	111	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	51	41	61	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Total	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	
Calcium	mmol/l	2.05	1.85	2.25	0.10	0.20	Cresolphthalein complexone
	mg/dl	8.22	7.41	9.03	0.41	0.81	
Chloride	mmol/l	99.3	91.3	107	4.00	8.00	ISE indirect
Cholesterol	mmol/l	3.76	3.27	4.25	0.25	0.49	Cholesterol Oxidase
	mg/dl	145	126	164	9.50	19.00	
	mmol/l	3.73	3.24	4.22	0.25	0.49	Dimension-Siemens reagents
	mg/dl	144	125	163	9.50	19.00	
CK Total	U/l	190	156	224	17.00	34.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	134	107	161	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.51	1.21	1.81	0.15	0.30	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	133	107	159	13.00	26.00	IDMS traceable
	mg/dl	1.50	1.21	1.79	0.15	0.29	
gamma-GT	U/l	57	48	66	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	65	55	75	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.10	5.18	7.02	0.46	0.92	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
HDL - Cholesterol	mmol/l	1.59	1.35	1.83	0.12	0.24	Direct HDL PEGME
	mg/dl	61.4	52.1	70.7	4.65	9.30	
Iron	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
Lactate	mmol/l	1.71	1.40	2.02	0.16	0.31	Colorimetric Lactate Oxidase
	mg/dl	15.4	12.6	18.2	1.40	2.80	
LD (LDH)	U/l	190	161	219	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	127	102	152	12.50	25.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.79	0.70	0.89	0.05	0.10	Methylthymol blue
	mg/dl	1.93	1.70	2.16	0.12	0.23	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.9	48.0	71.8	5.95	11.90	Biuret reaction end point
	g/dl	5.99	4.80	7.18	0.60	1.19	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	µmol/l	36.1	28.5	43.7	3.80	7.60	FE+UIBC(saturation with iron)
	µg/dl	202	159	245	21.50	43.00	
Triglycerides	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	90.3	75.9	105	7.20	14.40	
	mmol/l	1.02	0.86	1.19	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	90.3	75.7	105	7.30	14.60	
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.75	4.99	6.51	0.38	0.76	

SIEMENS DIMENSION RxL/Max/Xpand®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.3	35.1	47.5	3.10	6.20	Bromocresol Green
	g/dl	4.13	3.51	4.75	0.31	0.62	
	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Purple
	g/dl	4.33	3.68	4.98	0.33	0.65	
Alkaline Phosphatase	U/l	157	134	180	11.50	23.00	Siemens Dimension AMP buffer 37°C
	U/l	162	137	187	12.50	25.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	37	55	4.50	9.00	Tris buffer with P5P 37°C
	U/l	46	37	55	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	97	82	112	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	52	42	62	5.00	10.00	Tris buffer with P5P 37°C
	U/l	53	42	64	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.5	12.3	18.7	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	13.0	10.3	15.7	1.35	2.70	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.761	0.603	0.919	0.08	0.16	
Bilirubin Total	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	
Calcium	mmol/l	2.07	1.86	2.28	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.30	7.45	9.15	0.43	0.85	
Chloride	mmol/l	99.0	91.1	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.71	3.22	4.20	0.25	0.49	Dimension-Siemens reagents
	mg/dl	143	124	162	9.50	19.00	

SIEMENS DIMENSION RxL/Max/Xpand®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1391UN Cat. No. HN1530/HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	193	158	228	17.50	35.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	132	105	159	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	μmol/l	129	103	155	13.00	26.00	Enzymatic UV method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	137	110	164	13.50	27.00	IDMS traceable
	mg/dl	1.55	1.24	1.86	0.16	0.31	
gamma-GT	U/l	64	54	74	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
HDL - Cholesterol	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct HDL PPD
	mg/dl	63.7	54.0	73.4	4.85	9.70	
	mmol/l	1.64	1.39	1.89	0.13	0.25	Direct HDL PEGME
	mg/dl	63.3	53.7	72.9	4.80	9.60	
Iron	μmol/l	18.6	15.2	22.0	1.70	3.40	Colorimetric without ppt.
	μg/dl	104	85.0	123	9.50	19.00	
LD (LDH)	U/l	197	167	227	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	189	161	217	14.00	28.00	L->P IFCC 37°C
Lipase	U/l	127	102	152	12.50	25.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.80	0.71	0.90	0.05	0.10	Methylthymol blue
	mg/dl	1.95	1.72	2.18	0.12	0.23	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.37	3.72	5.02	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	



SIEMENS DIMENSION RxL/Max/Xpand®		ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)					
Lot. No. 1391UN Cat. No. HN1530/HS2611							
Size 20 x 5ml / 5 x 5ml Expiry 2023-03-28		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	60.2	48.2	72.2	6.00	12.00	Biuret reaction end point
	g/dl	6.02	4.82	7.22	0.60	1.20	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.0	77.3	107	7.35	14.70	
	mmol/l	1.06	0.89	1.23	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	93.8	79.0	109	7.40	14.80	
	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.9	77.8	108	7.55	15.10	
Urea	mmol/l	7.37	6.26	8.48	0.56	1.11	Urease end point
	mg/dl	44.3	37.6	51.0	3.35	6.70	
	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.28	6.19	8.37	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.76	5.02	6.50	0.37	0.74	