

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. 1551UN	EXPIRY: 2025-08-28	

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.

GLDH is stable for 2 days at 2-8°C.

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.

Due to the zinc content in some batches of rubber stoppers, the QC and calibrator material should be aliquoted into polypropylene tubes and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

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

MATERIALS PROVIDED

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

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

Due to the variation caused by test equipment, test reagents and laboratory technique, the quoted ranges are provided for guidance. It is recommended that these ranges are used until each laboratory has established its own ranges, based on individual laboratory requirements.

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 $\pm 2S.D.$

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

NOTES

® All trademarks recognised.

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

EC	REP
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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
	g/l	42.4	36.0	48.8	3.20	6.40	Bromocresol Purple
	g/dl	4.24	3.60	4.88	0.32	0.64	
Alkaline Phosphatase	U/l	186	159	213	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	183	155	211	14.00	28.00	AMP non-optimised 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	64	54	74	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	106	90	122	8.00	16.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	25.3	20.2	30.4	2.55	5.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	11.3	8.96	13.6	1.17	2.34	Enzymatic
Bilirubin Direct	µmol/l	25.1	19.9	30.3	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	µmol/l	25.5	20.1	30.9	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.49	1.18	1.80	0.16	0.31	
Bilirubin Total	µmol/l	31.1	24.6	37.6	3.25	6.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.82	1.44	2.20	0.19	0.38	
	µmol/l	31.0	24.5	37.5	3.25	6.50	Diazo with Sulphanilic Acid
	mg/dl	1.81	1.43	2.19	0.19	0.38	

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Bilirubin Total	µmol/l	30.2	23.9	36.5	3.15	6.30	Diazonium ion
	mg/dl	1.77	1.40	2.14	0.19	0.37	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Arsenazo III
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Cholesterol	mmol/l	4.11	3.57	4.65	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	138	180	10.50	21.00	
	mmol/l	4.20	3.65	4.75	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	162	141	183	10.50	21.00	
Chloride	mmol/l	96.4	88.7	104	3.85	7.70	ISE indirect
Cholinesterase	U/l	6850	5480	8220	685.00	1370.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC serum start (DGKC) 37°C
	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	216	177	255	19.50	39.00	Abbott CK-NAC (IFCC) 37°C
Copper	µmol/l	12.2	9.75	14.7	1.23	2.45	Colorimetric
	µg/dl	77.6	62.0	93.2	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	127	101	153	13.00	26.00	Enzymatic UV method
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	122	97.8	146	12.10	24.20	Creatinine PAP method
	mg/dl	1.38	1.11	1.65	0.14	0.27	
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.30	5.36	7.24	0.47	0.94	Hexokinase
	mg/dl	114	96.6	131	8.70	17.40	

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Glucose	mmol/l	6.65	5.65	7.65	0.50	1.00	Glucose oxidase
	mg/dl	120	102	138	9.00	18.00	
HDL - Cholesterol	mmol/l	1.45	1.23	1.67	0.11	0.22	Direct HDL PPD
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Direct Clearance Method
	mg/dl	54.0	45.9	62.1	4.05	8.10	
	mmol/l	1.40	1.19	1.61	0.11	0.21	HDL - Ultra
	mg/dl	54.0	45.9	62.1	4.05	8.10	
Iron	µmol/l	19.2	15.7	22.7	1.75	3.50	Colorimetric with ppt.
	µg/dl	107	87.8	126	9.60	19.20	
	µmol/l	19.2	15.7	22.7	1.75	3.50	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.70	1.39	2.01	0.16	0.31	Colorimetric Lactate Oxidase
	mg/dl	15.3	12.5	18.1	1.40	2.80	
LD (LDH)	U/l	204	173	235	15.50	31.00	L->P 37°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	35	28	42	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	0.625	0.791	0.04	0.08	
Magnesium	mmol/l	0.85	0.75	0.95	0.05	0.10	Arsenazo III
	mg/dl	2.07	1.82	2.32	0.13	0.25	
	mmol/l	0.86	0.76	0.97	0.05	0.10	Enzymatic
	mg/dl	2.10	1.85	2.35	0.13	0.25	
Osmolality	mOsm/kg	294	235	353	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.44	1.23	1.65	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.46	3.81	5.11	0.33	0.65	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.44	1.22	1.66	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.46	3.78	5.14	0.34	0.68	
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.9	47.9	71.9	6.00	12.00	Biuret reaction end point
	g/dl	5.99	4.79	7.19	0.60	1.20	
	g/l	60.2	48.2	72.2	6.00	12.00	Biuret reaction kinetic
	g/dl	6.02	4.82	7.22	0.60	1.20	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
TIBC	μmol/l	41.1	32.5	49.7	4.30	8.60	FE+UIBC(saturation with iron)
	μg/dl	230	182	278	24.00	48.00	
	μmol/l	45.9	36.2	55.6	4.85	9.70	Calculated from Transferrin
	μg/dl	257	202	312	27.50	55.00	
Triglycerides	mmol/l	0.94	0.79	1.09	0.08	0.15	Lipase/GPO-PAP no correction
	mg/dl	83.4	70.0	96.8	6.70	13.40	
	mmol/l	0.98	0.83	1.14	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	87.1	73.2	101	6.95	13.90	
	mmol/l	0.93	0.78	1.08	0.07	0.15	Lipase/Glycerol Dehydrogenase
	mg/dl	82.6	69.4	95.8	6.60	13.20	
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	
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	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.72	6.56	8.88	0.58	1.16	Urease end point
	mg/dl	46.4	39.4	53.4	3.50	7.00	
	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	

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		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.1	34.1	46.1	3.00	6.00	Bromocresol Green
	g/dl	4.01	3.41	4.61	0.30	0.60	
	g/l	41.6	35.4	47.8	3.10	6.20	Bromocresol Purple
	g/dl	4.16	3.54	4.78	0.31	0.62	
Alkaline Phosphatase	U/l	217	184	250	16.50	33.00	AMP optimised to IFCC 37°C
	U/l	207	176	238	15.50	31.00	Beckman (Extinction Coefficient) 37°C
	U/l	300	255	345	22.50	45.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
	U/l	40	32	48	4.00	8.00	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	81	69	93	6.00	12.00	Other 2-chloro-pNPG3 37°C
	U/l	80	68	92	6.00	12.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	34	27	41	3.50	7.00	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	12.9	10.2	15.6	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	26.7	21.1	32.3	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Bilirubin Total	µmol/l	36.0	28.4	43.6	3.80	7.60	DPD (Beckman AU)
	mg/dl	2.11	1.66	2.56	0.23	0.45	
	µmol/l	36.5	28.8	44.2	3.85	7.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.14	1.68	2.60	0.23	0.46	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Arsenazo III
	mg/dl	8.94	8.06	9.82	0.44	0.88	
Cholesterol	mmol/l	4.15	3.61	4.69	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.26	3.71	4.81	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	164	143	185	10.50	21.00	
Chloride	mmol/l	94.1	86.6	102	3.75	7.50	ISE indirect
Cholinesterase	U/l	5760	4608	6912	576.00	1152.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	217	178	256	19.50	39.00	Beckman (Extinction Coefficient) 37°C
	U/l	233	191	275	21.00	42.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	119	95.2	143	11.90	23.80	Alkaline picrate no deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	μmol/l	116	92.8	139	11.60	23.20	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.31	1.05	1.57	0.13	0.26	
	μmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	132	106	158	13.00	26.00	Enzymatic UV method
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	121	96.8	145	12.10	24.20	IDMS traceable
	mg/dl	1.37	1.09	1.65	0.14	0.28	
gamma-GT	U/l	55	47	63	4.00	8.00	Beckman Szasz (Extinction Coeff) 37°C
	U/l	56	48	64	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	56	48	64	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

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GLDH	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.55	5.57	7.53	0.49	0.98	Hexokinase
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	6.44	5.47	7.41	0.49	0.97	Glucose oxidase
	mg/dl	116	98.6	133	8.70	17.40	
HDL - Cholesterol	mmol/l	1.25	1.06	1.44	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	48.3	40.9	55.7	3.70	7.40	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Direct Clearance Method
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.37	1.16	1.58	0.11	0.21	Direct HDL PPD
	mg/dl	52.9	44.8	61.0	4.05	8.10	
Iron	mmol/l	1.45	1.23	1.67	0.11	0.22	HDL - Ultra
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	µmol/l	19.2	15.7	22.7	1.75	3.50	Colorimetric with ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	µmol/l	18.7	15.3	22.1	1.70	3.40	Colorimetric without ppt.
	µg/dl	105	85.5	125	9.75	19.50	
	mmol/l	1.54	1.26	1.82	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	13.9	11.4	16.4	1.25	2.50	
LD (LDH)	U/l	183	156	210	13.50	27.00	L to P Beckman (Extinction Coeff) 37°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
	U/l	204	173	235	15.50	31.00	L->P 37°C
	U/l	441	375	507	33.00	66.00	P->L Scandinavian & Dutch 37°C
Lipase	U/l	34	27	41	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	0.624	0.792	0.04	0.08	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Osmolality	mOsm/kg	295	236	354	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.51	1.28	1.74	0.12	0.23	Beckman PHOSm (365nm)
	mg/dl	4.68	3.97	5.39	0.36	0.71	
	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.56	3.88	5.24	0.34	0.68	
Potassium	mmol/l	3.95	3.63	4.27	0.16	0.32	ISE method - indirect
Protein Total	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	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
TIBC	µmol/l	44.9	35.5	54.3	4.70	9.40	FE+UIBC(saturation with iron)
	µg/dl	251	198	304	26.50	53.00	
Triglycerides	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	75.0	104	7.20	14.40	
	mmol/l	0.99	0.84	1.15	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	88.0	73.9	102	7.05	14.10	
UIBC	µmol/l	26.3	21.6	31.0	2.35	4.70	Direct Colorimetric
	µg/dl	147	121	173	13.00	26.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.98	5.21	6.75	0.39	0.77	
	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	
Urea	mmol/l	7.47	6.35	8.59	0.56	1.12	Urease end point
	mg/dl	44.9	38.2	51.6	3.35	6.70	

**Beckman Coulter AU Series®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.54	6.41	8.67	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.54	6.41	8.67	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

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	193	164	222	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Beckman Mod. IFCC Ref. without P5P 37°C
Bilirubin Direct	µmol/l	19.0	15.0	23.0	2.00	4.00	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.11	0.878	1.34	0.12	0.23	
Bilirubin Total	µmol/l	37.5	29.6	45.4	3.95	7.90	Diazo with Sulphanilic Acid
	mg/dl	2.19	1.73	2.65	0.23	0.46	
Calcium	mmol/l	2.15	1.93	2.37	0.11	0.22	Ion selective electrode
	mg/dl	8.62	7.74	9.50	0.44	0.88	
Cholesterol	mmol/l	4.12	3.59	4.65	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	139	179	10.00	20.00	
Chloride	mmol/l	96.0	88.3	104	3.85	7.70	ISE indirect
Creatinine	µmol/l	125	99.9	150	12.55	25.10	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
Glucose	mmol/l	6.18	5.25	7.11	0.47	0.93	Glucose oxidase
	mg/dl	111	94.6	127	8.20	16.40	
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	HDL - Ultra
	mg/dl	56.4	47.9	64.9	4.25	8.50	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Calmagite
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.74	4.03	5.45	0.36	0.71	
Potassium	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.6	47.7	71.5	5.95	11.90	Biuret reaction end point
	g/dl	5.96	4.77	7.15	0.60	1.19	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.07	0.90	1.25	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.2	110	7.75	15.50	
Uric Acid (Urate)	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	

Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
ALT (GPT)	U/l	40	32	48	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	18	28	2.50	5.00	Tris buffer without P5P 25°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
Bilirubin Total	µmol/l	28.4	22.5	34.3	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	1.32	2.00	0.17	0.34	
Calcium	mmol/l	2.33	2.09	2.57	0.12	0.24	Arsenazo III
	mg/dl	9.34	8.38	10.3	0.48	0.96	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
CK Total	U/l	184	151	217	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	115	95	135	10.00	20.00	CK-NAC (IFCC) 30°C
	U/l	78	64	92	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	134	107	161	13.50	27.00	Jaffe rate blanked
	mg/dl	1.51	1.21	1.81	0.15	0.30	
Glucose	mmol/l	6.28	5.34	7.22	0.47	0.94	Glucose oxidase
	mg/dl	113	96.2	130	8.40	16.80	
Protein Total	g/l	56.8	45.4	68.2	5.70	11.40	Biuret reaction end point
	g/dl	5.68	4.54	6.82	0.57	1.14	

**Biotechnica/Wiener BT and CB Series**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	0.98	0.82	1.13	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	86.3	72.5	100	6.90	13.80	
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	
Urea	mmol/l	7.83	6.66	9.00	0.59	1.17	Urease kinetic
	mg/dl	47.1	40.0	54.2	3.55	7.10	
	mmol/l	7.83	6.66	9.00	0.59	1.17	BUN
	mg/dl	22.0	18.7	25.3	1.65	3.30	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.8	37.2	50.4	3.30	6.60	Bromocresol Green
	g/dl	4.38	3.72	5.04	0.33	0.66	
	g/l	40.0	34.0	46.0	3.00	6.00	Turbidimetric Assays
	g/dl	4.00	3.40	4.60	0.30	0.60	
Alkaline Phosphatase	U/l	181	154	208	13.50	27.00	Roche Integra AMP buffer 37°C
	U/l	141	120	162	10.50	21.00	Roche Integra AMP buffer 30°C
	U/l	116	98	134	9.00	18.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	91	77	105	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.4	10.6	16.2	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	26.3	20.8	31.8	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	µmol/l	26.2	20.7	31.7	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.53	1.21	1.85	0.16	0.32	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	26.0	20.5	31.5	2.75	5.50	Roche DPD JG standardised
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	23.6	18.7	28.5	2.45	4.90	Roche DPD Doumas standardised
	mg/dl	1.38	1.09	1.67	0.15	0.29	
Bilirubin Total	µmol/l	32.2	25.5	38.9	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.88	1.49	2.27	0.20	0.39	
	µmol/l	31.7	25.0	38.4	3.35	6.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	32.0	25.3	38.7	3.35	6.70	Diazonium ion
	mg/dl	1.87	1.48	2.26	0.20	0.39	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.19	1.97	2.41	0.11	0.22	NM-BAPTA
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Cholesterol	mmol/l	4.11	3.57	4.65	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	138	180	10.50	21.00	
	mmol/l	4.11	3.57	4.65	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	159	138	180	10.50	21.00	
Chloride	mmol/l	95.0	87.4	103	3.80	7.60	ISE indirect
CK Total	U/l	209	172	246	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	124	99.5	149	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	133	107	159	13.00	26.00	Enzymatic UV method
	mg/dl	1.50	1.21	1.79	0.15	0.29	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	131	105	157	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	μmol/l	123	98.0	148	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	μmol/l	121	96.9	145	12.05	24.10	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.37	1.09	1.65	0.14	0.28	
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	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.57	5.58	7.56	0.50	0.99	Hexokinase
	mg/dl	118	101	135	8.50	17.00	
HDL - Cholesterol	mmol/l	1.34	1.14	1.54	0.10	0.20	Direct HDL Roche 4th Generation
	mg/dl	51.7	44.0	59.4	3.85	7.70	
Iron	μmol/l	18.6	15.2	22.0	1.70	3.40	Colorimetric with ppt.
	μg/dl	104	85.0	123	9.50	19.00	
	μmol/l	19.1	15.6	22.6	1.75	3.50	Colorimetric without ppt.
	μg/dl	107	87.2	127	9.90	19.80	
Lactate	mmol/l	1.61	1.32	1.90	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.5	11.9	17.1	1.30	2.60	
LD (LDH)	U/l	219	186	252	16.50	33.00	L->P IFCC 37°C
	U/l	158	134	182	12.00	24.00	L->P IFCC 30°C
	U/l	111	94	128	8.50	17.00	L->P IFCC 25°C

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Ion selective electrode
	mg/dl	0.708	0.626	0.790	0.04	0.08	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.94	2.48	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.20	1.94	2.46	0.13	0.26	
Phosphate Inorganic	mmol/l	1.56	1.33	1.79	0.12	0.23	Phosphomolybdate enzymatic
	mg/dl	4.84	4.12	5.56	0.36	0.72	
	mmol/l	1.54	1.31	1.77	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.77	4.06	5.48	0.36	0.71	
Potassium	mmol/l	3.96	3.65	4.27	0.16	0.31	ISE method - indirect
Protein Total	g/l	56.2	45.0	67.4	5.60	11.20	Biuret reaction end point
	g/dl	5.62	4.50	6.74	0.56	1.12	
	g/l	57.5	46.0	69.0	5.75	11.50	Biuret reaction kinetic
	g/dl	5.75	4.60	6.90	0.58	1.15	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - indirect
TIBC	µmol/l	40.3	31.8	48.8	4.25	8.50	FE+UIBC(saturation with iron)
	µg/dl	225	178	272	23.50	47.00	
Triglycerides	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	75.2	104	7.10	14.20	
	mmol/l	0.99	0.83	1.15	0.08	0.16	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	87.4	73.5	101	6.95	13.90	
	mmol/l	1.03	0.86	1.20	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	91.2	76.5	106	7.35	14.70	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.01	0.85	1.18	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	89.4	74.8	104	7.30	14.60	
UIBC	μmol/l	21.6	17.7	25.5	1.95	3.90	Direct Colorimetric
	μg/dl	121	98.9	143	11.05	22.10	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.01	5.24	6.78	0.39	0.77	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.06	5.28	6.84	0.39	0.78	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	5.21	6.75	0.39	0.77	
Urea	mmol/l	7.09	6.03	8.15	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.09	6.03	8.15	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	

Konelab 20/30/60®/Thermo Scientific Indiko Plus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	39.6	33.7	45.5	2.95	5.90	Bromocresol Green
	g/dl	3.96	3.37	4.55	0.30	0.59	
Alkaline Phosphatase	U/l	296	252	340	22.00	44.00	Diethanolamine buffer DEA 37°C
	U/l	231	196	266	17.50	35.00	Diethanolamine buffer DEA 30°C
	U/l	189	161	217	14.00	28.00	Diethanolamine buffer DEA 25°C
	U/l	185	157	213	14.00	28.00	AMP optimised to IFCC 37°C
	U/l	144	122	166	11.00	22.00	AMP optimised to IFCC 30°C
	U/l	118	100	136	9.00	18.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	29.8	23.6	36.0	3.10	6.20	Nitrobenzenediazonium salt
	mg/dl	1.74	1.38	2.10	0.18	0.36	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.18	3.63	4.73	0.28	0.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	140	182	10.50	21.00	
Chloride	mmol/l	102	94.0	110	4.00	8.00	ISE direct

Konelab 20/30/60®/Thermo Scientific Indiko Plus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	233	191	275	21.00	42.00	CK-NAC (IFCC) 37°C
	U/l	146	120	172	13.00	26.00	CK-NAC (IFCC) 30°C
	U/l	99	81	117	9.00	18.00	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	
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	6.69	5.68	7.70	0.51	1.01	Hexokinase
	mg/dl	121	102	140	9.50	19.00	
	mmol/l	6.52	5.54	7.50	0.49	0.98	Glucose oxidase
	mg/dl	117	99.8	134	8.60	17.20	
HDL - Cholesterol	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct HDL PEGME
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Iron	µmol/l	20.8	17.0	24.6	1.90	3.80	Colorimetric without ppt.
	µg/dl	116	95.0	137	10.50	21.00	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.20	1.94	2.46	0.13	0.26	
Phosphate Inorganic	mmol/l	1.55	1.32	1.78	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.81	4.09	5.53	0.36	0.72	
Potassium	mmol/l	3.87	3.56	4.18	0.16	0.31	ISE method - direct
Protein Total	g/l	60.2	48.1	72.3	6.05	12.10	Biuret reaction end point
	g/dl	6.02	4.81	7.23	0.61	1.21	
Sodium	mmol/l	135	129	141	3.00	6.00	ISE method - direct
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.4	110	7.65	15.30	

Konelab 20/30/60®/Thermo Scientific Indiko Plus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.17	5.36	6.98	0.41	0.81	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	5.19	6.77	0.40	0.79	
Urea	mmol/l	7.58	6.44	8.72	0.57	1.14	Urease kinetic
	mg/dl	45.6	38.7	52.5	3.45	6.90	
	mmol/l	7.58	6.44	8.72	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.7	35.5	47.9	3.10	6.20	Bromocresol Green
	g/dl	4.17	3.55	4.79	0.31	0.62	
	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	
	g/l	41.0	34.8	47.2	3.10	6.20	Ortho Vitros Microslide Systems
	g/dl	4.10	3.48	4.72	0.31	0.62	
	g/l	40.4	34.3	46.5	3.05	6.10	Turbidimetric Assays
	g/dl	4.04	3.43	4.65	0.31	0.61	
Alkaline Phosphatase	U/l	164	140	188	12.00	24.00	Ortho Vitros Microslide Systems 37°C
	U/l	291	248	334	21.50	43.00	Diethanolamine buffer DEA 37°C
	U/l	227	193	261	17.00	34.00	Diethanolamine buffer DEA 30°C
	U/l	186	158	214	14.00	28.00	Diethanolamine buffer DEA 25°C
	U/l	196	166	226	15.00	30.00	AMP optimised to IFCC 37°C
	U/l	153	129	177	12.00	24.00	AMP optimised to IFCC 30°C
	U/l	125	106	144	9.50	19.00	AMP optimised to IFCC 25°C
	U/l	183	156	210	13.50	27.00	AMP non-optimised 37°C
	U/l	143	122	164	10.50	21.00	AMP non-optimised 30°C
	U/l	117	100	134	8.50	17.00	AMP non-optimised 25°C
	U/l	176	150	202	13.00	26.00	Colorimetric 37°C
	U/l	137	117	157	10.00	20.00	Colorimetric 30°C
	U/l	112	96	128	8.00	16.00	Colorimetric 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
ALT (GPT)	U/l	38	30	46	4.00	8.00	Colorimetric 37°C
	U/l	28	22	34	3.00	6.00	Colorimetric 30°C
	U/l	21	17	25	2.00	4.00	Colorimetric 25°C
	U/l	42	34	50	4.00	8.00	Ortho Vitros Microslide Systems 37°C
	U/l	42	34	50	4.00	8.00	Tris buffer with P5P 37°C
	U/l	31	25	37	3.00	6.00	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	42	34	50	4.00	8.00	Ortho Vitros MicroSlide visible 37°C
Amylase Pancreatic	U/l	64	55	73	4.50	9.00	Immunoinhibition EPS substrate 37°C
	U/l	64	55	73	4.50	9.00	Roche EPS Liquid 37°C
	U/l	75	64	86	5.50	11.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	74	63	85	5.50	11.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	100	85	115	7.50	15.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	89	76	102	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	72	61	83	5.50	11.00	Ortho Vitros Microslide Systems 37°C
	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
	U/l	94	80	108	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	92	78	106	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	80	68	92	6.00	12.00	Beckman CNPG3 (Extinction Coeff) 37°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Apolipoprotein A-1	g/l	1.10	0.90	1.30	0.10	0.20	Immunoturbidimetric
	mg/dl	110	90.2	130	9.90	19.80	
Apolipoprotein B	g/l	0.75	0.61	0.88	0.07	0.13	Immunoturbidimetric
	mg/dl	74.7	61.3	88.1	6.70	13.40	
Acid Phosphatase (Total)	U/l	19.1	12.8	25.4	3.15	6.30	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	33	27	39	3.00	6.00	Colorimetric 37°C
	U/l	22	18	26	2.00	4.00	Colorimetric 30°C
	U/l	16	13	19	1.50	3.00	Colorimetric 25°C
	U/l	50	40	60	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
	U/l	49	39	59	5.00	10.00	Tris buffer with P5P 37°C
	U/l	33	26	40	3.50	7.00	Tris buffer with P5P 30°C
	U/l	23	19	27	2.00	4.00	Tris buffer with P5P 25°C
	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
	U/l	47	38	56	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	32	26	38	3.00	6.00	Tris buffer with P5P NVKC 30°C
	U/l	22	18	26	2.00	4.00	Tris buffer with P5P NVKC 25°C
Bile Acids	μmol/l	24.1	19.3	28.9	2.40	4.80	5th Generation Colorimetric
Bicarbonate	mmol/l	12.7	10.1	15.3	1.30	2.60	Colorimetric
	mmol/l	13.7	10.9	16.5	1.40	2.80	Ortho Vitros Microslide Systems
	mmol/l	12.7	10.1	15.3	1.30	2.60	Enzymatic
	mmol/l	11.1	8.83	13.4	1.14	2.27	Ion selective electrode
Bilirubin Direct	μmol/l	26.6	21.0	32.2	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	1.23	1.89	0.17	0.33	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	μmol/l	25.7	20.3	31.1	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	μmol/l	25.6	20.2	31.0	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.50	1.18	1.82	0.16	0.32	
	μmol/l	22.3	17.6	27.0	2.35	4.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.30	1.03	1.57	0.14	0.27	
	μmol/l	19.9	15.7	24.1	2.10	4.20	Modified Jendrassik
	mg/dl	1.16	0.918	1.40	0.12	0.24	
Bilirubin Total	μmol/l	28.7	22.7	34.7	3.00	6.00	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	μmol/l	31.2	24.7	37.7	3.25	6.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	μmol/l	32.6	25.8	39.4	3.40	6.80	Diazo with Sulphanilic Acid
	mg/dl	1.91	1.51	2.31	0.20	0.40	
	μmol/l	30.7	24.3	37.1	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	μmol/l	29.8	23.6	36.0	3.10	6.20	Nitrobenzenediazonium salt
	mg/dl	1.74	1.38	2.10	0.18	0.36	
	μmol/l	30.5	24.1	36.9	3.20	6.40	Diazonium ion
	mg/dl	1.78	1.41	2.15	0.19	0.37	
	μmol/l	36.0	28.5	43.5	3.75	7.50	Oxidation to Biliverdin/Vanadate
	mg/dl	2.11	1.67	2.55	0.22	0.44	
	μmol/l	40.6	32.1	49.1	4.25	8.50	Modified Jendrassik
	mg/dl	2.38	1.88	2.88	0.25	0.50	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.82	7.94	9.70	0.44	0.88	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.22	2.00	2.44	0.11	0.22	Arsenazo III
	mg/dl	8.90	8.02	9.78	0.44	0.88	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	0.90	0.81	0.99	0.05	0.09	Ionised calcium
	mg/dl	3.60	3.24	3.96	0.18	0.36	
	mmol/l	4.09	3.56	4.62	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	158	137	179	10.50	21.00	
	mmol/l	4.13	3.60	4.66	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	139	179	10.00	20.00	
Chloride	mmol/l	4.18	3.63	4.73	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	161	140	182	10.50	21.00	
	mmol/l	4.12	3.58	4.66	0.27	0.54	Cholesterol Dehydrogenase
	mg/dl	159	138	180	10.50	21.00	
	mmol/l	106	97.1	115	4.45	8.90	Colorimetric
	mmol/l	95.7	88.1	103	3.80	7.60	Ortho Vitros Microslide Systems
Cholinesterase	mmol/l	94.1	86.6	102	3.75	7.50	ISE indirect
	mmol/l	95.2	87.6	103	3.80	7.60	ISE direct
	U/l	5962	4770	7154	596.00	1192.00	Colorimetric Butyrylthiocholine 37°C
	U/l	205	168	242	18.50	37.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	208	170	246	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	130	106	154	12.00	24.00	CK-NAC serum start (DGKC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	U/l	88	72	104	8.00	16.00	CK-NAC serum start (DGKC) 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	130	106	154	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
	U/l	218	178	258	20.00	40.00	Monothioglycerol 37°C
	U/l	136	111	161	12.50	25.00	Monothioglycerol 30°C
	U/l	93	76	110	8.50	17.00	Monothioglycerol 25°C
Copper	µmol/l	15.8	12.6	19.0	1.60	3.20	Atomic absorption
	µg/dl	100	80.1	120	9.95	19.90	
	µmol/l	15.8	12.6	19.0	1.60	3.20	Colorimetric
	µg/dl	100	80.1	120	9.95	19.90	
Cortisol	nmol/l	494	371	617	61.50	123.00	Roche Cobas 6000/8000
	µg/dl	17.8	13.4	22.2	2.20	4.40	
Creatinine	µmol/l	124	99.0	149	12.50	25.00	Alkaline picrate with deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	125	99.9	150	12.55	25.10	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	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	128	102	154	13.00	26.00	Creatinine PAP method
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	128	103	153	12.50	25.00	Jaffe rate blanked
	mg/dl	1.45	1.16	1.74	0.15	0.29	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	127	102	152	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	μmol/l	121	96.5	146	12.25	24.50	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	μmol/l	124	98.9	149	12.55	25.10	Vitros IDMS Traceable
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	μmol/l	122	97.3	147	12.35	24.70	IDMS traceable
	mg/dl	1.38	1.10	1.66	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	1.73	1.38	2.08	0.18	0.35	Immunoturbidimetric
	ng/ml	1.35	1.08	1.62	0.14	0.27	
Folate	nmol/l	20.9	15.9	25.9	2.50	5.00	Roche Cobas 6000/8000
	ng/ml	9.22	7.01	11.4	1.11	2.21	
Free T4	pmol/l	17.7	13.2	22.2	2.25	4.50	Abbott Architect
	ng/dl	1.38	1.03	1.73	0.18	0.35	
	pg/ml	13.8	10.3	17.3	1.75	3.50	Abbott Architect
	pmol/l	22.0	16.5	27.5	2.75	5.50	Siemens Centaur XP/XPT/Classic
	ng/dl	1.72	1.29	2.15	0.22	0.43	
	pg/ml	17.2	12.9	21.5	2.15	4.30	Siemens Centaur XP/XPT/Classic
	pmol/l	20.2	15.1	25.3	2.55	5.10	Beckman Access
	ng/dl	1.58	1.18	1.98	0.20	0.40	
	pg/ml	15.8	11.8	19.8	2.00	4.00	Beckman Access
	pmol/l	18.2	13.7	22.7	2.25	4.50	Beckman Dxl800
	ng/dl	1.42	1.07	1.77	0.18	0.35	
	pg/ml	14.2	10.7	17.7	1.75	3.50	Beckman Dxl800

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	41.6	31.2	52.0	5.20	10.40	Vitros ECI
	ng/dl	3.24	2.43	4.05	0.41	0.81	
	pg/ml	32.4	24.3	40.5	4.05	8.10	Vitros ECI
	pmol/l	22.9	17.2	28.6	2.85	5.70	Roche Cobas 4000/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 4000/E411
	pmol/l	23.3	17.4	29.2	2.95	5.90	Roche Cobas e601/602
	ng/dl	1.82	1.36	2.28	0.23	0.46	
	pg/ml	18.2	13.6	22.8	2.30	4.60	Roche Cobas e601/602
	pmol/l	22.4	16.8	28.0	2.80	5.60	Biomerieux Vidas FT4N Kit
	ng/dl	1.75	1.31	2.19	0.22	0.44	
	pg/ml	17.5	13.1	21.9	2.20	4.40	Biomerieux Vidas FT4N Kit
	pmol/l	23.7	17.8	29.6	2.95	5.90	Roche Cobas e402/e801
	ng/dl	1.85	1.39	2.31	0.23	0.46	
	pg/ml	18.5	13.9	23.1	2.30	4.60	Roche Cobas e402/e801
Gentamicin	µmol/l	8.41	6.73	10.1	0.84	1.68	Immunoturbidimetric
	µg/ml	4.02	3.22	4.82	0.40	0.80	
gamma-GT	U/l	52	45	59	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	41	35	47	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	32	28	36	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	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

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	58	49	67	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	39	53	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	36	30	42	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.29	5.35	7.23	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	113	96.4	130	8.30	16.60	
	mmol/l	6.44	5.47	7.41	0.49	0.97	Hexokinase
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	6.55	5.56	7.54	0.50	0.99	Glucose oxidase
	mg/dl	118	100	136	9.00	18.00	
alpha-HBDH	U/l	224	177	271	23.50	47.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	169	134	204	17.50	35.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	127	100	154	13.50	27.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.42	1.20	1.64	0.11	0.22	Direct HDL PPD
	mg/dl	54.8	46.3	63.3	4.25	8.50	
	mmol/l	1.25	1.06	1.44	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	48.3	40.9	55.7	3.70	7.40	
	mmol/l	1.22	1.04	1.40	0.09	0.18	Vitros Magnetic HDL
	mg/dl	47.1	40.1	54.1	3.50	7.00	
	mmol/l	1.31	1.12	1.50	0.10	0.19	Direct HDL PEGME
	mg/dl	50.6	43.2	58.0	3.70	7.40	
	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct Clearance Method
	mg/dl	48.6	41.3	55.9	3.65	7.30	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.24	1.06	1.42	0.09	0.18	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	47.9	40.9	54.9	3.50	7.00	
	mmol/l	1.41	1.20	1.62	0.11	0.21	HDL - Ultra
	mg/dl	54.4	46.3	62.5	4.05	8.10	
	mmol/l	1.32	1.12	1.52	0.10	0.20	Direct HDL Roche 4th Generation
	mg/dl	51.0	43.2	58.8	3.90	7.80	
Immunoglobulin A	g/l	1.85	1.39	2.31	0.23	0.46	Immunoturbidimetric
	mg/dl	185	139	231	23.00	46.00	
Immunoglobulin G	g/l	6.87	5.63	8.11	0.62	1.24	Immunoturbidimetric
	mg/dl	687	563	811	62.00	124.00	
Immunoglobulin M	g/l	0.61	0.49	0.73	0.06	0.12	Immunoturbidimetric
	mg/dl	61.0	48.8	73.2	6.10	12.20	
Iron	μmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric with ppt.
	μg/dl	103	85.0	121	9.00	18.00	
	μmol/l	18.6	15.2	22.0	1.70	3.40	Colorimetric without ppt.
	μg/dl	104	85.0	123	9.50	19.00	
	μmol/l	18.3	15.0	21.6	1.65	3.30	Ortho Vitros Microslide Systems
	μg/dl	102	83.9	120	9.05	18.10	
Lactate	mmol/l	1.62	1.33	1.91	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.6	12.0	17.2	1.30	2.60	
	mmol/l	1.48	1.22	1.74	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	13.3	11.0	15.6	1.15	2.30	
	mmol/l	1.64	1.35	1.93	0.15	0.29	Enzymatic Electrode
	mg/dl	14.8	12.2	17.4	1.30	2.60	
	mmol/l	1.59	1.30	1.88	0.15	0.29	UV LDH
	mg/dl	14.3	11.7	16.9	1.30	2.60	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

		Range					
Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	205	174	236	15.50	31.00	L->P 37°C
	U/l	148	126	170	11.00	22.00	L->P 30°C
	U/l	104	88	120	8.00	16.00	L->P 25°C
	U/l	442	376	508	33.00	66.00	P->L Scandinavian & Dutch 37°C
	U/l	319	271	367	24.00	48.00	P->L Scandinavian & Dutch 30°C
	U/l	224	191	257	16.50	33.00	P->L Scandinavian & Dutch 25°C
	U/l	414	352	476	31.00	62.00	P->L German methods 37°C
	U/l	299	254	344	22.50	45.00	P->L German methods 30°C
	U/l	210	178	242	16.00	32.00	P->L German methods 25°C
	U/l	417	355	479	31.00	62.00	P->L SFBC 37°C
	U/l	301	256	346	22.50	45.00	P->L SFBC 30°C
	U/l	211	180	242	15.50	31.00	P->L SFBC 25°C
	U/l	212	180	244	16.00	32.00	L->P IFCC 37°C
	U/l	153	130	176	11.50	23.00	L->P IFCC 30°C
	U/l	107	91	123	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	231	196	266	17.50	35.00	Ortho Vitros IFCC Traceable 37°C
	U/l	34	28	40	3.00	6.00	Other Colorimetric 37°C
	U/l	211	169	253	21.00	42.00	Ortho Vitros Microslide Systems 37°C
	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
Lithium	U/l	40	32	48	4.00	8.00	Randox Colorimetric 37°C
	mmol/l	1.02	0.90	1.14	0.06	0.12	Ion selective electrode
	mg/dl	0.708	0.623	0.793	0.04	0.09	
	mmol/l	1.04	0.91	1.17	0.06	0.13	Spectrophotometric
	mg/dl	0.722	0.635	0.809	0.04	0.09	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.86	0.75	0.96	0.05	0.10	Arsenazo III
	mg/dl	2.08	1.83	2.33	0.13	0.25	
	mmol/l	0.87	0.77	0.98	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.12	1.87	2.37	0.13	0.25	
	mmol/l	0.94	0.83	1.06	0.06	0.11	Calmagite
	mg/dl	2.29	2.01	2.57	0.14	0.28	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.92	2.46	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Methylthymol blue
	mg/dl	2.20	1.94	2.46	0.13	0.26	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.87	0.76	0.97	0.05	0.10	Enzymatic
	mg/dl	2.11	1.85	2.37	0.13	0.26	
NEFA	mmol/l	1.29	1.03	1.55	0.13	0.26	Colorimetric
Osmolality	mOsm/kg	292	233	351	29.50	59.00	Calculated
	mOsm/kg	295	236	354	29.50	59.00	Freezing point depression
Paracetamol	mmol/l	0.09	0.07	0.10	0.01	0.02	Gravimetric
	mg/l	13.0	10.4	15.6	1.30	2.60	
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.74	4.03	5.45	0.36	0.71	
	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.56	3.88	5.24	0.34	0.68	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	Ortho Vitros Microslide Systems
	mmol/l	3.93	3.62	4.24	0.16	0.31	ISE method - direct
	mmol/l	3.98	3.67	4.29	0.16	0.31	ISE method - indirect
	mmol/l	4.16	3.83	4.49	0.17	0.33	Enzymatic
Protein Total	g/l	59.6	47.7	71.5	5.95	11.90	Ortho Vitros Microslide Systems
	g/dl	5.96	4.77	7.15	0.60	1.19	
	g/l	58.6	46.9	70.3	5.85	11.70	Biuret reaction end point
	g/dl	5.86	4.69	7.03	0.59	1.17	
	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction kinetic
	g/dl	5.84	4.67	7.01	0.59	1.17	
PSA Total	ng/ml =	11.1	8.35	13.9	1.38	2.75	Beckman Access standardised to Hybritech
	ng/ml =	11.3	8.48	14.1	1.41	2.82	bioMerieux VIDAS TPSA
	ng/ml =	9.60	7.20	12.0	1.20	2.40	Abbott Architect
	ng/ml =	11.7	8.75	14.7	1.48	2.95	Cobas E411
	ng/ml =	11.8	8.87	14.7	1.47	2.93	Roche Cobas 6000/8000
	ng/ml =	8.92	6.69	11.2	1.12	2.23	Beckman Dxl800 standardised to WHO IRP96/670
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	138	131	145	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	137	131	143	3.00	6.00	ISE method - direct
	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
	mmol/l	142	135	149	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 =	1.19	0.95	1.43	0.12	0.24	Abbott Architect

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Thyroid Stimulating Hormone	µU/ml =	1.55	1.24	1.86	0.16	0.31	bioMerieux VIDAS TSH
	µU/ml =	1.73	1.39	2.07	0.17	0.34	Roche Cobas 4000/E411
	µU/ml =	1.71	1.37	2.05	0.17	0.34	Roche Cobas e601/602
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.40	1.12	1.68	0.14	0.28	Beckman Dxl 600/800 Access (3rd IS)
	µU/ml =	1.65	1.32	1.98	0.17	0.33	Roche Cobas e402/e801
TIBC	µmol/l	41.6	32.8	50.4	4.40	8.80	FE+UIBC(saturation with iron)
	µg/dl	233	183	283	25.00	50.00	
	µmol/l	46.8	37.0	56.6	4.90	9.80	Direct Colorimetric
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	45.0	35.5	54.5	4.75	9.50	Calculated from Transferrin
	µg/dl	252	198	306	27.00	54.00	
Tobramycin	µmol/l	48.2	38.1	58.3	5.05	10.10	Randox Direct
	µg/dl	269	213	325	28.00	56.00	
	µg/ml	2.95	2.36	3.54	0.30	0.59	
Total T3	nmol/l	6.30	5.04	7.56	0.63	1.26	Gravimetric
	ng/ml	2.95	2.36	3.54	0.30	0.59	
	ng/dl	1.94	1.46	2.42	0.24	0.48	Abbott Architect
	ng/ml	1.26	0.950	1.57	0.16	0.31	
	ng/dl	126	95.0	157	15.50	31.00	Abbott Architect
	nmol/l	2.06	1.54	2.58	0.26	0.52	Roche Cobas 4000/E411
	ng/ml	1.34	1.00	1.68	0.17	0.34	
	ng/dl	134	100	168	17.00	34.00	Roche Cobas 4000/E411
	nmol/l	2.23	1.67	2.79	0.28	0.56	Roche Cobas e601/602
	ng/ml	1.45	1.09	1.81	0.18	0.36	
	ng/dl	145	109	181	18.00	36.00	Roche Cobas e601/602

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	99.0	74.2	124	12.40	24.80	Abbott Architect
	µg/dl	7.72	5.79	9.65	0.97	1.93	
	ng/ml	77.2	57.9	96.5	9.65	19.30	Abbott Architect
	nmol/l	87.6	65.7	110	10.95	21.90	Siemens Immulite 2000/2500
	µg/dl	6.83	5.12	8.54	0.86	1.71	
	ng/ml	68.3	51.2	85.4	8.55	17.10	Siemens Immulite 2000/2500
	nmol/l	98.0	73.5	123	12.25	24.50	Roche Cobas 4000/E411
	µg/dl	7.64	5.73	9.55	0.96	1.91	
	ng/ml	76.4	57.3	95.5	9.55	19.10	Roche Cobas 4000/E411
	nmol/l	99.3	74.4	124	12.45	24.90	Roche Cobas e601/602
	µg/dl	7.75	5.80	9.70	0.98	1.95	
	ng/ml	77.5	58.0	97.0	9.75	19.50	Roche Cobas e601/602
	nmol/l	107	80.3	134	13.35	26.70	Microgenics DRI assay
	µg/dl	8.35	6.26	10.4	1.05	2.09	
	ng/ml	83.5	62.6	104	10.45	20.90	Microgenics DRI assay
Transferrin	g/l	1.81	1.45	2.17	0.18	0.36	Immunoturbidimetric
	mg/dl	181	145	217	18.00	36.00	
Triglycerides	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	74.9	104	7.25	14.50	
	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	89.4	74.9	104	7.25	14.50	
	mmol/l	1.00	0.84	1.16	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	88.5	74.3	103	7.10	14.20	
	mmol/l	0.98	0.82	1.13	0.08	0.16	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	86.6	72.7	101	6.95	13.90	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	0.98	0.82	1.13	0.08	0.16	Lipase/Glycerol Dehydrogenase
	mg/dl	86.5	72.7	100	6.90	13.80	
	mmol/l	1.19	1.00	1.38	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	105	88.1	122	8.45	16.90	
UIBC	μmol/l	22.2	18.2	26.2	2.00	4.00	Direct Colorimetric
	μg/dl	124	102	146	11.00	22.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Ortho Vitros Microslide Systems
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.43	6.32	8.54	0.56	1.11	Urease end point
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.39	6.28	8.50	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.46	6.34	8.58	0.56	1.12	Urease hypochlorite
	mg/dl	44.8	38.1	51.5	3.35	6.70	
	mmol/l	7.39	6.28	8.50	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Vitamin B12	pmol/l	398	318	478	40.00	80.00	Roche Cobas 6000/8000
	pg/ml	539	431	647	54.00	108.00	
Zinc	μmol/l	30.4	24.3	36.5	3.05	6.10	Colorimetric with deproteinisation
	μg/dl	199	159	239	20.00	40.00	
	μmol/l	29.7	23.8	35.6	2.95	5.90	Colorimetric without deprot.
	μg/dl	194	155	233	19.50	39.00	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-1-globulin		5.6	4.3	6.9	0.67	1.34	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.9	5.2	8.6	0.83	1.66	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		67.3	60.6	74.0	3.35	6.70	% of total Protein (Beckman Capillary)
beta-globulin		10.0	7.6	12.4	1.20	2.40	% of total Protein (Beckman Capillary)
gamma-globulin		10.2	7.8	12.7	1.23	2.45	% of total Protein (Beckman Capillary)

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.0	34.8	47.2	3.10	6.20	Ortho Vitros Microslide Systems
	g/dl	4.10	3.48	4.72	0.31	0.62	
Alkaline Phosphatase	U/l	164	140	188	12.00	24.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Ortho Vitros Microslide Systems 37°C
	U/l	42	34	50	4.00	8.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	72	61	83	5.50	11.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	50	40	60	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	13.7	10.9	16.5	1.40	2.80	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	28.7	22.7	34.7	3.00	6.00	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin, Unconjugated Vitros BU	µmol/l	14.4	11.4	17.4	1.50	3.00	BuBc Vitros Slide
	mg/dl	0.842	0.667	1.02	0.09	0.18	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Cholesterol	mmol/l	4.09	3.56	4.62	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	158	137	179	10.50	21.00	
Chloride	mmol/l	95.7	88.1	103	3.80	7.60	Ortho Vitros Microslide Systems
Cholinesterase	U/l	5449	4359	6539	545.00	1090.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	205	168	242	18.50	37.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	124	98.9	149	12.55	25.10	Vitros IDMS Traceable
	mg/dl	1.40	1.12	1.68	0.14	0.28	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	41.6	31.2	52.0	5.20	10.40	Vitros ECI
	ng/dl	3.24	2.43	4.05	0.41	0.81	
	pg/ml	32.4	24.3	40.5	4.05	8.10	Vitros ECI
gamma-GT	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	6.29	5.35	7.23	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	113	96.4	130	8.30	16.60	
HDL - Cholesterol	mmol/l	1.22	1.04	1.40	0.09	0.18	Vitros Magnetic HDL
	mg/dl	47.1	40.1	54.1	3.50	7.00	
	mmol/l	1.24	1.06	1.42	0.09	0.18	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	47.9	40.9	54.9	3.50	7.00	
Iron	µmol/l	18.3	15.0	21.6	1.65	3.30	Ortho Vitros Microslide Systems
	µg/dl	102	83.9	120	9.05	18.10	
Lactate	mmol/l	1.48	1.22	1.74	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	13.3	11.0	15.6	1.15	2.30	
LD (LDH)	U/l	231	196	266	17.50	35.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	211	169	253	21.00	42.00	Ortho Vitros Microslide Systems 37°C
Magnesium	mmol/l	0.87	0.77	0.98	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.12	1.87	2.37	0.13	0.25	
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.74	4.03	5.45	0.36	0.71	
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	Ortho Vitros Microslide Systems
Protein Total	g/l	59.6	47.7	71.5	5.95	11.90	Ortho Vitros Microslide Systems
	g/dl	5.96	4.77	7.15	0.60	1.19	
Sodium	mmol/l	138	131	145	3.50	7.00	Ortho Vitros Microslide Systems
Triglycerides	mmol/l	1.19	1.00	1.38	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	105	88.1	122	8.45	16.90	

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

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.68	4.94	6.42	0.37	0.74	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Ortho Vitros Microslide Systems
	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	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.6	36.2	49.0	3.20	6.40	Bromocresol Green
	g/dl	4.26	3.62	4.90	0.32	0.64	
	g/l	41.7	35.4	48.0	3.15	6.30	Bromocresol Purple
	g/dl	4.17	3.54	4.80	0.32	0.63	
	g/l	40.7	34.6	46.8	3.05	6.10	Turbidimetric Assays
	g/dl	4.07	3.46	4.68	0.31	0.61	
Alkaline Phosphatase	U/l	178	151	205	13.50	27.00	Roche Integra AMP buffer 37°C
	U/l	139	118	160	10.50	21.00	Roche Integra AMP buffer 30°C
	U/l	114	96	132	9.00	18.00	Roche Integra AMP buffer 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	64	55	73	4.50	9.00	Roche EPS Liquid 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	88	75	101	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	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	μmol/l	24.8	19.8	29.8	2.50	5.00	Enzymatic Colorimetric
Bicarbonate	mmol/l	12.6	9.99	15.2	1.31	2.61	Colorimetric

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	12.5	9.91	15.1	1.30	2.59	Enzymatic
Bilirubin Direct	μmol/l	26.3	20.8	31.8	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	μmol/l	26.1	20.6	31.6	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	μmol/l	26.2	20.7	31.7	2.75	5.50	Roche DPD JG standardised
	mg/dl	1.53	1.21	1.85	0.16	0.32	
Bilirubin Total	μmol/l	29.6	23.4	35.8	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.73	1.37	2.09	0.18	0.36	
	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	30.3	23.9	36.7	3.20	6.40	Diazonium ion
	mg/dl	1.77	1.40	2.14	0.19	0.37	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.21	1.99	2.43	0.11	0.22	NM-BAPTA
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Cholesterol	mmol/l	4.14	3.60	4.68	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.16	3.62	4.70	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	161	140	182	10.50	21.00	
Chloride	mmol/l	91.6	84.2	99.0	3.70	7.40	ISE indirect
Cholinesterase	U/l	5548	4438	6658	555.00	1110.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	129	106	152	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC substrate start (DGKC) 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	210	172	248	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	132	106	158	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	127	102	152	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	μmol/l	127	102	152	12.50	25.00	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.44	1.15	1.73	0.15	0.29	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	23.3	17.4	29.2	2.95	5.90	Roche Cobas e601/602
	ng/dl	1.82	1.36	2.28	0.23	0.46	
	pg/ml	18.2	13.6	22.8	2.30	4.60	Roche Cobas e601/602
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	26	34	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	14	11	17	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	11	8	14	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.39	5.43	7.35	0.48	0.96	Hexokinase
	mg/dl	115	97.8	132	8.60	17.20	
HDL - Cholesterol	mmol/l	1.32	1.12	1.52	0.10	0.20	Direct HDL Roche 4th Generation
	mg/dl	51.0	43.2	58.8	3.90	7.80	
Iron	μmol/l	18.1	14.9	21.3	1.60	3.20	Colorimetric with ppt.
	μg/dl	101	83.3	119	8.85	17.70	
	μmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric without ppt.
	μg/dl	103	84.4	122	9.30	18.60	
Lactate	mmol/l	1.60	1.32	1.88	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.4	11.9	16.9	1.25	2.50	
LD (LDH)	U/l	221	188	254	16.50	33.00	L->P 37°C
	U/l	160	136	184	12.00	24.00	L->P 30°C
	U/l	112	95	129	8.50	17.00	L->P 25°C
	U/l	216	183	249	16.50	33.00	P->L German methods 37°C
	U/l	156	132	180	12.00	24.00	P->L German methods 30°C
	U/l	110	93	127	8.50	17.00	P->L German methods 25°C
	U/l	214	181	247	16.50	33.00	L->P IFCC 37°C
	U/l	155	131	179	12.00	24.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.05	0.92	1.18	0.06	0.13	Spectrophotometric
	mg/dl	0.729	0.640	0.818	0.04	0.09	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.89	0.79	1.00	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.17	1.91	2.43	0.13	0.26	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Osmolality	mOsm/kg	285	228	342	28.50	57.00	Calculated
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Phosphomolybdate enzymatic
	mg/dl	4.62	3.91	5.33	0.36	0.71	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	4.02	3.69	4.35	0.17	0.33	ISE method - indirect
Protein Total	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	57.5	46.0	69.0	5.75	11.50	Biuret reaction kinetic
	g/dl	5.75	4.60	6.90	0.58	1.15	
PSA Total	ng/ml =	11.8	8.87	14.7	1.47	2.93	Roche Cobas 6000/8000
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.71	1.37	2.05	0.17	0.34	Roche Cobas e601/602
TIBC	μmol/l	39.8	31.4	48.2	4.20	8.40	FE+UIBC(saturation with iron)
	μg/dl	222	176	268	23.00	46.00	
	μmol/l	47.8	37.7	57.9	5.05	10.10	Calculated from Transferrin
	μg/dl	267	211	323	28.00	56.00	
Total T3	nmol/l	2.23	1.67	2.79	0.28	0.56	Roche Cobas e601/602
	ng/ml	1.45	1.09	1.81	0.18	0.36	
	ng/dl	145	109	181	18.00	36.00	Roche Cobas e601/602
Total T4	nmol/l	99.3	74.4	124	12.45	24.90	Roche Cobas e601/602
	μg/dl	7.75	5.80	9.70	0.98	1.95	
	ng/ml	77.5	58.0	97.0	9.75	19.50	Roche Cobas e601/602
Triglycerides	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	90.3	75.8	105	7.25	14.50	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.03	0.86	1.20	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	91.2	76.4	106	7.40	14.80	
UIBC	μmol/l	21.7	17.8	25.6	1.95	3.90	Direct Colorimetric
	μg/dl	121	99.5	143	10.75	21.50	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	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	
	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	
Urea	mmol/l	7.37	6.26	8.48	0.56	1.11	Urease kinetic
	mg/dl	44.3	37.6	51.0	3.35	6.70	
	mmol/l	7.37	6.26	8.48	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.6	37.1	50.1	3.25	6.50	Bromocresol Green
	g/dl	4.36	3.71	5.01	0.33	0.65	
Alkaline Phosphatase	U/l	176	150	202	13.00	26.00	Roche Integra AMP buffer 37°C
	U/l	137	117	157	10.00	20.00	Roche Integra AMP buffer 30°C
	U/l	112	96	128	8.00	16.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	25.1	19.8	30.4	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	µmol/l	25.5	20.1	30.9	2.70	5.40	Roche DPD JG standardised
	mg/dl	1.49	1.18	1.80	0.16	0.31	
Bilirubin Total	µmol/l	32.2	25.4	39.0	3.40	6.80	Diazo with Sulphanilic Acid
	mg/dl	1.88	1.49	2.27	0.20	0.39	
	µmol/l	31.1	24.6	37.6	3.25	6.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.82	1.44	2.20	0.19	0.38	
	µmol/l	32.3	25.5	39.1	3.40	6.80	Diazonium ion
	mg/dl	1.89	1.49	2.29	0.20	0.40	

Roche Cobas C111®

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Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.13	3.60	4.66	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	139	179	10.00	20.00	
	mmol/l	4.13	3.59	4.67	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	159	139	179	10.00	20.00	
CK Total	U/l	210	172	248	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.45	1.15	1.75	0.15	0.30	
Glucose	mmol/l	6.55	5.57	7.53	0.49	0.98	Hexokinase
	mg/dl	118	100	136	9.00	18.00	
HDL - Cholesterol	mmol/l	1.29	1.10	1.48	0.10	0.19	Direct HDL Roche 4th Generation
	mg/dl	49.8	42.5	57.1	3.65	7.30	
LD (LDH)	U/l	213	181	245	16.00	32.00	L->P IFCC 37°C
	U/l	154	131	177	11.50	23.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.74	4.03	5.45	0.36	0.71	
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	
Triglycerides	mmol/l	1.02	0.86	1.19	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	90.3	75.7	105	7.30	14.60	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with 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 no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.14	6.66	0.38	0.76	
Urea	mmol/l	7.04	5.98	8.10	0.53	1.06	Urease kinetic
	mg/dl	42.3	35.9	48.7	3.20	6.40	
	mmol/l	7.04	5.98	8.10	0.53	1.06	BUN
	mg/dl	19.8	16.8	22.8	1.50	3.00	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.1	36.6	49.6	3.25	6.50	Bromocresol Green
	g/dl	4.31	3.66	4.96	0.33	0.65	
Alkaline Phosphatase	U/l	175	149	201	13.00	26.00	Roche Integra AMP buffer 37°C
	U/l	136	116	156	10.00	20.00	Roche Integra AMP buffer 30°C
	U/l	112	95	129	8.50	17.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	89	76	102	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	27.3	21.6	33.0	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	µmol/l	27.4	21.6	33.2	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	µmol/l	27.7	21.9	33.5	2.90	5.80	Roche DPD JG standardised
	mg/dl	1.62	1.28	1.96	0.17	0.34	
Bilirubin Total	µmol/l	31.1	24.5	37.7	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.82	1.43	2.21	0.20	0.39	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	30.8	24.3	37.3	3.25	6.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	30.7	24.3	37.1	3.20	6.40	Diazonium ion
	mg/dl	1.80	1.42	2.18	0.19	0.38	
Calcium	mmol/l	2.23	2.01	2.45	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.94	8.06	9.82	0.44	0.88	
	mmol/l	2.22	2.00	2.44	0.11	0.22	NM-BAPTA
	mg/dl	8.90	8.02	9.78	0.44	0.88	
Cholesterol	mmol/l	4.16	3.62	4.70	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	140	182	10.50	21.00	
	mmol/l	4.16	3.62	4.70	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	161	140	182	10.50	21.00	
Chloride	mmol/l	91.5	84.2	98.8	3.65	7.30	ISE indirect
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	132	108	156	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	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	107	161	13.50	27.00	Jaffe rate blanked
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	49	41	57	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	32	46	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	56	48	64	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	44	38	50	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.45	5.49	7.41	0.48	0.96	Hexokinase
	mg/dl	116	98.9	133	8.55	17.10	
	mmol/l	6.48	5.51	7.45	0.49	0.97	Glucose oxidase
	mg/dl	117	99.3	135	8.85	17.70	
HDL - Cholesterol	mmol/l	1.32	1.12	1.52	0.10	0.20	Direct HDL Roche 4th Generation
	mg/dl	51.0	43.2	58.8	3.90	7.80	
Iron	µmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.3	121	9.35	18.70	
Lactate	mmol/l	1.65	1.35	1.95	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	14.9	12.2	17.6	1.35	2.70	
LD (LDH)	U/l	215	183	247	16.00	32.00	L->P IFCC 37°C
	U/l	155	132	178	11.50	23.00	L->P IFCC 30°C
	U/l	109	93	125	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.18	1.91	2.45	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.50	1.27	1.73	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.65	3.94	5.36	0.36	0.71	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	139	132	146	3.50	7.00	ISE method - indirect
TIBC	μmol/l	41.0	32.4	49.6	4.30	8.60	FE+UIBC(saturation with iron)
	μg/dl	229	181	277	24.00	48.00	
Triglycerides	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	90.3	76.2	104	7.05	14.10	
	mmol/l	1.02	0.85	1.19	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	90.3	75.6	105	7.35	14.70	
UIBC	μmol/l	22.9	18.8	27.0	2.05	4.10	Direct Colorimetric
	μg/dl	128	105	151	11.50	23.00	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.93	5.16	6.70	0.39	0.77	
Urea	mmol/l	7.50	6.37	8.63	0.57	1.13	Urease kinetic
	mg/dl	45.1	38.3	51.9	3.40	6.80	
	mmol/l	7.50	6.38	8.62	0.56	1.12	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.8	36.4	49.2	3.20	6.40	Bromocresol Green
	g/dl	4.28	3.64	4.92	0.32	0.64	
	g/l	41.6	35.4	47.8	3.10	6.20	Bromocresol Purple
	g/dl	4.16	3.54	4.78	0.31	0.62	
	g/l	41.2	35.0	47.4	3.10	6.20	Turbidimetric Assays
	g/dl	4.12	3.50	4.74	0.31	0.62	
Alkaline Phosphatase	U/l	172	146	198	13.00	26.00	Roche Integra AMP buffer 37°C
	U/l	134	114	154	10.00	20.00	Roche Integra AMP buffer 30°C
	U/l	110	93	127	8.50	17.00	Roche Integra AMP buffer 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	64	55	73	4.50	9.00	Roche EPS Liquid 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	μmol/l	24.6	19.6	29.6	2.50	5.00	Enzymatic Colorimetric
Bicarbonate	mmol/l	12.6	10.0	15.2	1.30	2.60	Enzymatic
Bilirubin Direct	μmol/l	26.4	20.9	31.9	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	1.22	1.86	0.16	0.32	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	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	26.3	20.8	31.8	2.75	5.50	Roche DPD JG standardised
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	μmol/l	20.1	15.9	24.3	2.10	4.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.18	0.930	1.43	0.13	0.25	
Bilirubin Total	μmol/l	31.2	24.6	37.8	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	μmol/l	30.3	24.0	36.6	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.77	1.40	2.14	0.19	0.37	
	μmol/l	30.7	24.3	37.1	3.20	6.40	Diazonium ion
	mg/dl	1.80	1.42	2.18	0.19	0.38	
Calcium	mmol/l	2.22	1.99	2.45	0.12	0.23	Cresolphthalein complexone
	mg/dl	8.90	7.98	9.82	0.46	0.92	
	mmol/l	2.19	1.97	2.41	0.11	0.22	NM-BAPTA
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Cholesterol	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	158	138	178	10.00	20.00	
	mmol/l	4.12	3.58	4.66	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	159	138	180	10.50	21.00	
Chloride	mmol/l	91.8	84.5	99.1	3.65	7.30	ISE indirect
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	132	108	156	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	135	108	162	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.53	1.22	1.84	0.16	0.31	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	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	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.40	5.44	7.36	0.48	0.96	Hexokinase
	mg/dl	115	98.0	132	8.50	17.00	
HDL - Cholesterol	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct HDL Roche 4th Generation
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Iron	μmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric with ppt.
	μg/dl	101	82.7	119	9.15	18.30	
	μmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric without ppt.
	μg/dl	98.9	81.1	117	8.90	17.80	
Lactate	mmol/l	1.58	1.29	1.87	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.2	11.6	16.8	1.30	2.60	
LD (LDH)	U/l	214	182	246	16.00	32.00	L->P IFCC 37°C
	U/l	155	131	179	12.00	24.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Spectrophotometric
	mg/dl	0.715	0.629	0.801	0.04	0.09	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.56	3.88	5.24	0.34	0.68	
Potassium	mmol/l	3.99	3.67	4.31	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	139	132	146	3.50	7.00	ISE method - indirect
TIBC	μmol/l	41.7	33.0	50.4	4.35	8.70	FE+UIBC(saturation with iron)
	μg/dl	233	184	282	24.50	49.00	
Triglycerides	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	75.1	104	7.15	14.30	
	mmol/l	1.00	0.84	1.16	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	88.5	74.3	103	7.10	14.20	
UIBC	μmol/l	23.5	19.3	27.7	2.10	4.20	Direct Colorimetric
	μg/dl	131	108	154	11.50	23.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.78	5.04	6.52	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.73	4.99	6.47	0.37	0.74	
Urea	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	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

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	
Alkaline Phosphatase	U/l	299	254	344	22.50	45.00	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
Amylase Pancreatic	U/l	75	64	86	5.50	11.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	101	86	116	7.50	15.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	24.1	19.3	28.9	2.40	4.80	5th Generation Colorimetric
Bicarbonate	mmol/l	13.0	10.3	15.7	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	25.9	20.5	31.3	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	20.3	16.0	24.6	2.15	4.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.19	0.936	1.44	0.13	0.25	
Bilirubin Total	µmol/l	35.8	28.3	43.3	3.75	7.50	Diazo with Sulphanilic Acid
	mg/dl	2.09	1.66	2.52	0.22	0.43	
	µmol/l	34.3	27.1	41.5	3.60	7.20	Oxidation to Biliverdin/Vanadate
	mg/dl	2.01	1.59	2.43	0.21	0.42	
Calcium	mmol/l	2.30	2.07	2.53	0.12	0.23	Arsenazo III
	mg/dl	9.22	8.30	10.1	0.46	0.92	
Cholesterol	mmol/l	4.29	3.73	4.85	0.28	0.56	Cholesterol Oxidase - Abell Kendall
	mg/dl	166	144	188	11.00	22.00	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	92.5	85.1	99.9	3.70	7.40	ISE direct
CK Total	U/l	246	202	290	22.00	44.00	CK-NAC substrate start (DGKC) 37°C
	U/l	260	213	307	23.50	47.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	123	98.4	148	12.30	24.60	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	μmol/l	134	107	161	13.50	27.00	Enzymatic UV method
	mg/dl	1.51	1.21	1.81	0.15	0.30	
gamma-GT	U/l	58	50	66	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.28	5.34	7.22	0.47	0.94	Hexokinase
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	6.76	5.74	7.78	0.51	1.02	Glucose oxidase
	mg/dl	122	103	141	9.50	19.00	
Iron	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	
Lactate	mmol/l	1.58	1.30	1.86	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.2	11.7	16.7	1.25	2.50	
LD (LDH)	U/l	441	375	507	33.00	66.00	P->L German methods 37°C
	U/l	216	184	248	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	40	32	48	4.00	8.00	Randox Colorimetric 37°C
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
Phosphate Inorganic	mmol/l	1.49	1.27	1.71	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.62	3.94	5.30	0.34	0.68	
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.16	3.83	4.49	0.17	0.33	Enzymatic
Protein Total	g/l	61.3	49.1	73.5	6.10	12.20	Biuret reaction end point
	g/dl	6.13	4.91	7.35	0.61	1.22	
Sodium	mmol/l	137	130	144	3.50	7.00	ISE method - direct
	mmol/l	142	135	149	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	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	75.1	104	7.15	14.30	
Uric Acid (Urate)	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.18	5.38	6.98	0.40	0.80	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.85	5.09	6.61	0.38	0.76	
Urea	mmol/l	7.61	6.47	8.75	0.57	1.14	Urease kinetic
	mg/dl	45.7	38.9	52.5	3.40	6.80	
	mmol/l	7.61	6.47	8.75	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Purple
	g/dl	4.29	3.65	4.93	0.32	0.64	
Alkaline Phosphatase	U/l	176	149	203	13.50	27.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	36	54	4.50	9.00	Tris buffer without P5P 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	28.7	22.9	34.5	2.90	5.80	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.4	11.4	17.4	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	22.4	17.7	27.1	2.35	4.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.31	1.04	1.58	0.14	0.27	
Bilirubin Total	µmol/l	36.6	28.9	44.3	3.85	7.70	Oxidation to Biliverdin/Vanadate
	mg/dl	2.14	1.69	2.59	0.23	0.45	
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	
	mmol/l	2.25	2.03	2.47	0.11	0.22	Arsenazo III
	mg/dl	9.02	8.14	9.90	0.44	0.88	
Cholesterol	mmol/l	4.23	3.68	4.78	0.28	0.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	163	142	184	10.50	21.00	
Chloride	mmol/l	95.3	87.7	103	3.80	7.60	ISE indirect

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	224	183	265	20.50	41.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	126	101	151	12.50	25.00	Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	μmol/l	127	101	153	13.00	26.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.34	5.39	7.29	0.48	0.95	Hexokinase
	mg/dl	114	97.1	131	8.45	16.90	
	mmol/l	6.57	5.58	7.56	0.50	0.99	Glucose oxidase
	mg/dl	118	101	135	8.50	17.00	
HDL - Cholesterol	mmol/l	1.13	0.96	1.30	0.09	0.17	Direct Clearance Method
	mg/dl	43.6	36.9	50.3	3.35	6.70	
Iron	μmol/l	18.2	15.0	21.4	1.60	3.20	Colorimetric without ppt.
	μg/dl	102	83.9	120	9.05	18.10	
Lactate	mmol/l	1.47	1.21	1.73	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.9	15.5	1.15	2.30	
LD (LDH)	U/l	414	352	476	31.00	62.00	P->L German methods 37°C
	U/l	211	180	242	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	37	30	44	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.04	0.91	1.17	0.06	0.13	Spectrophotometric
	mg/dl	0.722	0.633	0.811	0.04	0.09	
Magnesium	mmol/l	0.86	0.76	0.97	0.05	0.10	Xylidyl Blue
	mg/dl	2.10	1.85	2.35	0.13	0.25	
Phosphate Inorganic	mmol/l	1.52	1.29	1.75	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.71	4.00	5.42	0.36	0.71	

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - 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	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
TIBC	μmol/l	43.3	34.2	52.4	4.55	9.10	Calculated from Transferrin
	μg/dl	242	191	293	25.50	51.00	
Triglycerides	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.7	110	7.50	15.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.01	5.24	6.78	0.39	0.77	
Urea	mmol/l	7.83	6.66	9.00	0.59	1.17	Urease kinetic
	mg/dl	47.1	40.0	54.2	3.55	7.10	
	mmol/l	7.83	6.66	9.00	0.59	1.17	BUN
	mg/dl	22.0	18.7	25.3	1.65	3.30	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.7	34.6	46.8	3.05	6.10	Bromocresol Green
	g/dl	4.07	3.46	4.68	0.31	0.61	
	g/l	42.3	36.0	48.6	3.15	6.30	Bromocresol Purple
	g/dl	4.23	3.60	4.86	0.32	0.63	
Alkaline Phosphatase	U/l	178	151	205	13.50	27.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	33	51	4.50	9.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	70	60	80	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.8	11.0	16.6	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	23.6	18.6	28.6	2.50	5.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.38	1.09	1.67	0.15	0.29	
Bilirubin Total	µmol/l	35.7	28.2	43.2	3.75	7.50	Oxidation to Biliverdin/Vanadate
	mg/dl	2.09	1.65	2.53	0.22	0.44	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.78	7.90	9.66	0.44	0.88	
	mmol/l	2.28	2.05	2.51	0.12	0.23	Arsenazo III
	mg/dl	9.14	8.22	10.1	0.46	0.92	
Cholesterol	mmol/l	4.15	3.61	4.69	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.29	3.73	4.85	0.28	0.56	Dimension-Siemens reagents
	mg/dl	166	144	188	11.00	22.00	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.26	3.70	4.82	0.28	0.56	Cholesterol Oxidase - IDMS
	mg/dl	164	143	185	10.50	21.00	
Chloride	mmol/l	98.3	90.4	106	3.95	7.90	ISE indirect
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	125	100	150	12.50	25.00	Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	μmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.30	5.36	7.24	0.47	0.94	Hexokinase
	mg/dl	114	96.6	131	8.70	17.40	
	mmol/l	6.39	5.43	7.35	0.48	0.96	Glucose oxidase
	mg/dl	115	97.8	132	8.60	17.20	
HDL - Cholesterol	mmol/l	1.17	1.00	1.34	0.09	0.17	Direct Clearance Method
	mg/dl	45.2	38.4	52.0	3.40	6.80	
Iron	μmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric without ppt.
	μg/dl	102	83.3	121	9.35	18.70	
Lactate	mmol/l	1.47	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	209	177	241	16.00	32.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	35	28	42	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.07	0.94	1.20	0.07	0.13	Spectrophotometric
	mg/dl	0.743	0.653	0.833	0.05	0.09	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.85	0.75	0.95	0.05	0.10	Xylidyl Blue
	mg/dl	2.07	1.82	2.32	0.13	0.25	
Phosphate Inorganic	mmol/l	1.52	1.30	1.74	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.71	4.03	5.39	0.34	0.68	
Potassium	mmol/l	3.83	3.53	4.13	0.15	0.30	ISE method - indirect
Protein Total	g/l	57.0	45.6	68.4	5.70	11.40	Biuret reaction end point
	g/dl	5.70	4.56	6.84	0.57	1.14	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - indirect
TIBC	μmol/l	46.9	37.0	56.8	4.95	9.90	Direct Colorimetric
	μg/dl	262	207	317	27.50	55.00	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.4	114	7.90	15.80	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.00	5.21	6.79	0.40	0.79	
Urea	mmol/l	7.77	6.60	8.94	0.59	1.17	Urease kinetic
	mg/dl	46.7	39.7	53.7	3.50	7.00	
	mmol/l	7.77	6.60	8.94	0.59	1.17	BUN
	mg/dl	21.8	18.5	25.1	1.65	3.30	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	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	174	148	200	13.00	26.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	48	39	57	4.50	9.00	Tris buffer with P5P 37°C
	U/l	48	38	58	5.00	10.00	Tris buffer with P5P NVKC 37°C
	U/l	49	39	59	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	46	37	55	4.50	9.00	Tris buffer with P5P 37°C
	U/l	47	38	56	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	48	38	58	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	18.2	14.3	22.1	1.95	3.90	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.06	0.837	1.28	0.11	0.22	
Bilirubin Total	µmol/l	34.7	27.4	42.0	3.65	7.30	Diazo with Sulphanilic Acid
	mg/dl	2.03	1.60	2.46	0.22	0.43	
Calcium	mmol/l	2.10	1.89	2.31	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.42	7.58	9.26	0.42	0.84	
Cholesterol	mmol/l	3.63	3.15	4.11	0.24	0.48	Dimension-Siemens reagents
	mg/dl	140	122	158	9.00	18.00	
Chloride	mmol/l	94.6	87.0	102	3.80	7.60	ISE indirect
CK Total	U/l	207	169	245	19.00	38.00	CK-NAC (IFCC) 37°C
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	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	128	103	153	12.50	25.00	Creatinine PAP method
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	μmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
gamma-GT	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	67	57	77	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.60	5.61	7.59	0.50	0.99	Hexokinase
	mg/dl	119	101	137	9.00	18.00	
HDL - Cholesterol	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct HDL PEGME
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Iron	μmol/l	17.3	14.2	20.4	1.55	3.10	Colorimetric without ppt.
	μg/dl	96.7	79.4	114	8.65	17.30	
LD (LDH)	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Magnesium	mmol/l	0.91	0.80	1.01	0.05	0.11	Methylthymol blue
	mg/dl	2.20	1.93	2.47	0.14	0.27	
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Phosphomolybdate enzymatic
	mg/dl	4.74	4.03	5.45	0.36	0.71	
	mmol/l	1.52	1.30	1.74	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.71	4.03	5.39	0.34	0.68	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - indirect
Protein Total	g/l	61.1	48.8	73.4	6.15	12.30	Biuret reaction end point
	g/dl	6.11	4.88	7.34	0.62	1.23	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	0.96	0.80	1.11	0.08	0.15	Lipase/GPO-PAP no correction
	mg/dl	84.6	71.1	98.1	6.75	13.50	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	0.97	0.81	1.12	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	85.6	71.9	99.3	6.85	13.70	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	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	
Urea	mmol/l	7.68	6.53	8.83	0.58	1.15	Urease kinetic
	mg/dl	46.2	39.2	53.2	3.50	7.00	
	mmol/l	7.68	6.53	8.83	0.58	1.15	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Alkaline Phosphatase	U/l	175	149	201	13.00	26.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	44	35	53	4.50	9.00	Tris buffer with P5P 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	47	38	56	4.50	9.00	Tris buffer with P5P 37°C
Bilirubin Total	μmol/l	34.4	27.2	41.6	3.60	7.20	Diazo with Sulphanilic Acid
	mg/dl	2.01	1.59	2.43	0.21	0.42	
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	
Cholesterol	mmol/l	3.64	3.17	4.11	0.24	0.47	Dimension-Siemens reagents
	mg/dl	141	122	160	9.50	19.00	
Chloride	mmol/l	96.0	88.3	104	3.85	7.70	ISE indirect
CK Total	U/l	209	171	247	19.00	38.00	CK-NAC (IFCC) 37°C
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	
gamma-GT	U/l	63	54	72	4.50	9.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.59	5.60	7.58	0.50	0.99	Hexokinase
	mg/dl	119	101	137	9.00	18.00	
HDL - Cholesterol	mmol/l	1.35	1.15	1.55	0.10	0.20	Direct HDL PEGME
	mg/dl	52.1	44.4	59.8	3.85	7.70	
Iron	μmol/l	16.8	13.8	19.8	1.50	3.00	Colorimetric without ppt.
	μg/dl	93.9	77.1	111	8.40	16.80	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1551UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Methylthymol blue
	mg/dl	2.16	1.90	2.42	0.13	0.26	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - indirect
Protein Total	g/l	61.3	49.1	73.5	6.10	12.20	Biuret reaction end point
	g/dl	6.13	4.91	7.35	0.61	1.22	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	0.99	0.83	1.15	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	87.8	73.7	102	7.05	14.10	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.88	5.11	6.65	0.39	0.77	
Urea	mmol/l	7.71	6.56	8.86	0.58	1.15	Urease kinetic
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	7.71	6.55	8.87	0.58	1.16	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	