

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. 1593UN	EXPIRY: 2026-01-28	

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 Method section. If necessary, contact Randox Laboratories - Technical Services, Northern Ireland, tel: +44 (0) 28 9445 1070 or email Technical.Services@randox.com.

NOTES

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

EC	REP	Randox Teoranta, Meenmore, Dungloe, Donegal, F94 TV06, Ireland
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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
	g/l	42.4	36.1	48.7	3.15	6.30	Bromocresol Purple
	g/dl	4.24	3.61	4.87	0.32	0.63	
	g/l	41.9	35.6	48.2	3.15	6.30	Ortho Vitros Microslide Systems
	g/dl	4.19	3.56	4.82	0.32	0.63	
	g/l	40.1	34.1	46.1	3.00	6.00	Turbidimetric Assays
	g/dl	4.01	3.41	4.61	0.30	0.60	
Alkaline Phosphatase	U/l	170	145	195	12.50	25.00	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	193	164	222	14.50	29.00	AMP optimised to IFCC 37°C
	U/l	150	128	172	11.00	22.00	AMP optimised to IFCC 30°C
	U/l	123	105	141	9.00	18.00	AMP optimised to IFCC 25°C
	U/l	185	157	213	14.00	28.00	AMP non-optimised 37°C
	U/l	144	122	166	11.00	22.00	AMP non-optimised 30°C
	U/l	118	100	136	9.00	18.00	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

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
ALT (GPT)	U/l	31	25	37	3.00	6.00	Colorimetric 37°C
	U/l	23	19	27	2.00	4.00	Colorimetric 30°C
	U/l	17	14	20	1.50	3.00	Colorimetric 25°C
	U/l	37	29	45	4.00	8.00	Tris buffer with P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer with P5P 30°C
	U/l	21	16	26	2.50	5.00	Tris buffer with P5P 25°C
	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	15	21	1.50	3.00	Tris buffer without P5P 25°C
	U/l	43	34	52	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer with P5P NVKC 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer with P5P NVKC 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Immuno-inhibition EPS substrate 37°C
	U/l	66	56	76	5.00	10.00	Roche EPS Liquid 37°C
	U/l	76	64	88	5.90	11.80	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	pNP Maltotriose substrates 37°C
	U/l	97	83	111	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	77	66	88	5.55	11.10	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	105	89	121	8.00	16.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	91	78	104	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	92	79	105	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	77	65	89	6.00	12.00	Ortho Vitros Microslide Systems 37°C
U/l	90	77	103	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	92	78	106	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	98	83	113	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
	U/l	96	81	111	7.50	15.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	96	81	111	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	110	93	127	8.50	17.00	Abbott Architect IFCC Cal. 37°C
	U/l	84	71	97	6.50	13.00	Beckman CNPG3 (Extinction Coeff) 37°C
Apolipoprotein A-1	g/l	1.21	0.99	1.43	0.11	0.22	Immunoturbidimetric
	mg/dl	121	99.2	143	10.90	21.80	
Apolipoprotein B	g/l	0.67	0.55	0.79	0.06	0.12	Immunoturbidimetric
	mg/dl	66.9	54.9	78.9	6.00	12.00	
Acid Phosphatase (Total)	U/l	17.9	12.0	23.8	2.95	5.90	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	31	25	38	3.15	6.30	Colorimetric 37°C
	U/l	21	17	25	2.00	4.00	Colorimetric 30°C
	U/l	15	12	18	1.50	3.00	Colorimetric 25°C
	U/l	49	39	59	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	34	28	40	3.00	6.00	Tris buffer with P5P 30°C
	U/l	24	20	28	2.00	4.00	Tris buffer with P5P 25°C
	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
	U/l	48	39	57	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	23	19	27	2.00	4.00	Tris buffer with P5P NVKC 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bile Acids	µmol/l	24.5	19.6	29.4	2.45	4.90	Enzymatic Colorimetric
	µmol/l	27.3	21.8	32.8	2.75	5.50	4th Generation Colorimetric
	µmol/l	25.7	20.6	30.8	2.55	5.10	5th Generation Colorimetric
Bicarbonate	mmol/l	13.9	11.1	16.7	1.40	2.80	Colorimetric
	mmol/l	15.7	12.5	18.9	1.60	3.20	Ortho Vitros Microslide Systems
	mmol/l	14.2	11.2	17.2	1.50	3.00	Enzymatic
	mmol/l	14.8	11.8	17.8	1.50	3.00	Ion selective electrode
Bilirubin Direct	µmol/l	20.7	16.4	25.0	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	0.959	1.46	0.13	0.25	
	µmol/l	20.7	16.4	25.0	2.15	4.30	Diazo with Sulphanilic Acid
	mg/dl	1.21	0.959	1.46	0.13	0.25	
	µmol/l	20.9	16.5	25.3	2.20	4.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.22	0.965	1.48	0.13	0.26	
	µmol/l	18.8	14.8	22.8	2.00	4.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.10	0.866	1.33	0.12	0.23	
Bilirubin Total	µmol/l	18.0	14.2	21.8	1.90	3.80	Modified Jendrassik
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	25.0	19.8	30.2	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	28.5	22.5	34.5	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	29.5	23.3	35.7	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.73	1.36	2.10	0.19	0.37	
	µmol/l	27.2	21.5	32.9	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.26	1.92	0.17	0.33	

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Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	27.9	22.1	33.7	2.90	5.80	Nitrobenzenediazonium salt
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazonium ion
	mg/dl	1.61	1.27	1.95	0.17	0.34	
	µmol/l	32.2	25.4	39.0	3.40	6.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.88	1.49	2.27	0.20	0.39	
	µmol/l	36.9	29.2	44.6	3.85	7.70	Modified Jendrassik
	mg/dl	2.16	1.71	2.61	0.23	0.45	
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.58	7.74	9.42	0.42	0.84	
	mmol/l	2.14	1.93	2.35	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	8.58	7.74	9.42	0.42	0.84	
	mmol/l	2.09	1.89	2.29	0.10	0.20	Ion selective electrode
	mg/dl	8.38	7.58	9.18	0.40	0.80	
	mmol/l	2.17	1.95	2.39	0.11	0.22	Arsenazo III
	mg/dl	8.70	7.82	9.58	0.44	0.88	
	mmol/l	2.16	1.95	2.37	0.11	0.21	NM-BAPTA
	mg/dl	8.66	7.82	9.50	0.42	0.84	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	157	137	177	10.00	20.00	
	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	4.20	3.65	4.75	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	162	141	183	10.50	21.00	
	mmol/l	4.06	3.54	4.58	0.26	0.52	Cholesterol Dehydrogenase
	mg/dl	157	137	177	10.00	20.00	

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Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	95.3	87.7	103	3.80	7.60	Ortho Vitros Microslide Systems
	mmol/l	93.6	86.1	101	3.75	7.50	ISE indirect
	mmol/l	95.2	87.6	103	3.80	7.60	ISE direct
Cholinesterase	U/l	5985	4788	7182	598.50	1197.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	172	141	203	15.50	31.00	Ortho Vitros Microslide Systems 37°C
	U/l	184	151	217	16.50	33.00	CK-NAC serum start (DGKC) 37°C
	U/l	115	95	135	10.00	20.00	CK-NAC serum start (DGKC) 30°C
	U/l	78	64	92	7.00	14.00	CK-NAC serum start (DGKC) 25°C
	U/l	197	162	232	17.50	35.00	CK-NAC substrate start (DGKC) 37°C
	U/l	123	101	145	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	84	69	99	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	190	155	225	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	119	97	141	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
Copper	µmol/l	16.3	13.1	19.5	1.60	3.20	Atomic absorption
	µg/dl	104	83.3	125	10.35	20.70	
	µmol/l	16.0	12.8	19.2	1.60	3.20	Colorimetric
	µg/dl	102	81.4	123	10.30	20.60	
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	119	95.5	143	11.75	23.50	Alkaline picrate with deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	124	99.1	149	12.45	24.90	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	

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Analyte	unit	Target	low	high	1SD	2SD	methods
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	125	100	150	12.50	25.00	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	125	99.9	150	12.55	25.10	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	121	97.2	145	11.90	23.80	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.37	1.10	1.64	0.14	0.27	
	µmol/l	119	95.6	142	11.70	23.40	Vitros IDMS Traceable
	mg/dl	1.34	1.08	1.60	0.13	0.26	
µmol/l	123	98.3	148	12.35	24.70	IDMS traceable	
mg/dl	1.39	1.11	1.67	0.14	0.28		
D-3-Hydroxybutyrate	mmol/l	0.30	0.25	0.34	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.74	1.39	2.09	0.18	0.35	Immunoturbidimetric
	ng/ml	1.36	1.09	1.63	0.14	0.27	
Folate	nmol/l	20.6	15.7	25.6	2.47	4.94	Roche Cobas 6000/8000
	ng/ml	9.10	6.92	11.3	1.09	2.18	
Free T4	pmol/l	16.6	12.5	20.7	2.05	4.10	Abbott Architect
	ng/dl	1.29	0.975	1.61	0.16	0.32	
	pg/ml	12.9	9.75	16.1	1.58	3.15	Abbott Architect
	pmol/l	19.3	14.5	24.1	2.40	4.80	
	ng/dl	1.51	1.13	1.89	0.19	0.38	Siemens Centaur XP/XPT/Classic
	pg/ml	15.1	11.3	18.9	1.90	3.80	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	18.3	13.7	22.9	2.30	4.60	Beckman Access
	ng/dl	1.43	1.07	1.79	0.18	0.36	
	pg/ml	14.3	10.7	17.9	1.80	3.60	Beckman Access
	pmol/l	16.5	12.4	20.6	2.05	4.10	Beckman Dxl800
	ng/dl	1.29	0.967	1.61	0.16	0.32	
	pg/ml	12.9	9.67	16.1	1.62	3.23	Beckman Dxl800
	pmol/l	36.7	27.5	45.9	4.60	9.20	Vitros ECi
	ng/dl	2.86	2.15	3.57	0.36	0.71	
	pg/ml	28.6	21.5	35.7	3.55	7.10	Vitros ECi
	pmol/l	22.2	16.6	27.8	2.80	5.60	Roche Cobas 4000/E411
	ng/dl	1.73	1.29	2.17	0.22	0.44	
	pg/ml	17.3	12.9	21.7	2.20	4.40	Roche Cobas 4000/E411
	pmol/l	22.0	16.5	27.5	2.75	5.50	Roche Cobas e601/602
	ng/dl	1.72	1.29	2.15	0.22	0.43	
	pg/ml	17.2	12.9	21.5	2.15	4.30	Roche Cobas e601/602
	pmol/l	18.9	14.2	23.6	2.35	4.70	Biomerieux Vidas FT4N Kit
	ng/dl	1.47	1.11	1.83	0.18	0.36	
	pg/ml	14.7	11.1	18.3	1.80	3.60	Biomerieux Vidas FT4N Kit
pmol/l	21.4	16.0	26.8	2.70	5.40	Roche Cobas e402/e801	
ng/dl	1.67	1.25	2.09	0.21	0.42		
pg/ml	16.7	12.5	20.9	2.10	4.20	Roche Cobas e402/e801	
Gentamicin	µmol/l	7.11	5.69	8.53	0.71	1.42	Gravimetric
	µg/ml	3.40	2.72	4.08	0.34	0.68	
gamma-GT	U/l	45	38	52	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	23	33	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	56	48	64	4.00	8.00	Ortho Vitros Microslide Systems 37°C
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	31	41	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	24	32	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	48	41	55	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.25	5.31	7.19	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	113	95.7	130	8.65	17.30	
	mmol/l	6.31	5.37	7.25	0.47	0.94	Glucose dehydrogenase
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	6.22	5.29	7.15	0.47	0.93	Hexokinase
	mg/dl	112	95.3	129	8.35	16.70	
mmol/l	6.35	5.40	7.30	0.48	0.95	Glucose oxidase	
mg/dl	114	97.3	131	8.35	16.70		
alpha-HBDH	U/l	222	175	269	23.50	47.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	168	132	204	18.00	36.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	126	99	153	13.50	27.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.50	1.28	1.72	0.11	0.22	Direct HDL PPD
	mg/dl	57.9	49.4	66.4	4.25	8.50	
	mmol/l	1.33	1.13	1.53	0.10	0.20	Direct HDL Immunoseparation
	mg/dl	51.3	43.6	59.0	3.85	7.70	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.42	1.21	1.63	0.11	0.21	Vitros Magnetic HDL
	mg/dl	54.8	46.7	62.9	4.05	8.10	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Direct HDL PEGME
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.33	1.13	1.53	0.10	0.20	Direct Clearance Method
	mg/dl	51.3	43.6	59.0	3.85	7.70	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	54.4	46.3	62.5	4.05	8.10	
mmol/l	1.49	1.27	1.71	0.11	0.22	HDL - Ultra	
mg/dl	57.5	49.0	66.0	4.25	8.50		
mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Roche 4th Generation	
mg/dl	53.7	45.5	61.9	4.10	8.20		
Immunoglobulin A	g/l	2.07	1.55	2.59	0.26	0.52	Immunoturbidimetric
	mg/dl	207	155	259	26.00	52.00	
Immunoglobulin G	g/l	7.13	5.85	8.41	0.64	1.28	Immunoturbidimetric
	mg/dl	713	585	841	64.00	128.00	
Immunoglobulin M	g/l	1.10	0.88	1.32	0.11	0.22	Immunoturbidimetric
	mg/dl	110	88.0	132	11.00	22.00	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric with ppt.
	µg/dl	108	88.9	127	9.55	19.10	
	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
	µmol/l	19.2	15.7	22.7	1.75	3.50	Ortho Vitros Microslide Systems
	µg/dl	107	87.8	126	9.60	19.20	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Lactate	mmol/l	1.63	1.34	1.92	0.15	0.29	Ion selective electrode	
	mg/dl	14.7	12.1	17.3	1.30	2.60		
	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		
	mmol/l	1.50	1.23	1.77	0.14	0.27	Ortho Vitros Microslide Systems	
	mg/dl	13.5	11.1	15.9	1.20	2.40		
	mmol/l	1.52	1.25	1.79	0.14	0.27	Enzymatic Electrode	
	mg/dl	13.7	11.3	16.1	1.20	2.40		
	mmol/l	1.52	1.24	1.80	0.14	0.28	UV LDH	
	mg/dl	13.7	11.2	16.2	1.25	2.50		
	LD (LDH)	U/l	206	175	237	15.50	31.00	L->P 37°C
		U/l	149	126	172	11.50	23.00	L->P 30°C
U/l		104	89	119	7.50	15.00	L->P 25°C	
U/l		451	383	519	34.00	68.00	P->L Scandinavian & Dutch 37°C	
U/l		326	277	375	24.50	49.00	P->L Scandinavian & Dutch 30°C	
U/l		229	194	264	17.50	35.00	P->L Scandinavian & Dutch 25°C	
U/l		422	358	486	32.00	64.00	P->L German methods 37°C	
U/l		305	258	352	23.50	47.00	P->L German methods 30°C	
U/l		214	182	246	16.00	32.00	P->L German methods 25°C	
U/l		421	358	484	31.50	63.00	P->L SFBC 37°C	
U/l		304	258	350	23.00	46.00	P->L SFBC 30°C	
U/l		213	182	244	15.50	31.00	P->L SFBC 25°C	
U/l		216	184	248	16.00	32.00	L->P IFCC 37°C	
U/l		156	133	179	11.50	23.00	L->P IFCC 30°C	
U/l		110	93	127	8.50	17.00	L->P IFCC 25°C	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	237	201	273	18.00	36.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	34	28	40	3.00	6.00	Other Colorimetric 37°C
	U/l	231	185	277	23.00	46.00	Ortho Vitros Microslide Systems 37°C
	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	0.98	0.86	1.09	0.06	0.12	Ion selective electrode
	mg/dl	0.677	0.596	0.758	0.04	0.08	
	mmol/l	0.99	0.87	1.11	0.06	0.12	Spectrophotometric
Magnesium	mg/dl	0.687	0.604	0.770	0.04	0.08	
	mmol/l	0.88	0.78	0.99	0.05	0.11	Arsenazo III
	mg/dl	2.14	1.89	2.39	0.13	0.25	
	mmol/l	0.89	0.79	1.00	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.94	0.83	1.06	0.06	0.11	Calmagite
	mg/dl	2.29	2.02	2.56	0.14	0.27	
	mmol/l	0.92	0.81	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.95	0.84	1.06	0.06	0.11	Methylthymol blue
	mg/dl	2.30	2.03	2.57	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.89	0.78	0.99	0.05	0.11	Enzymatic
mg/dl	2.16	1.90	2.42	0.13	0.26		
NEFA	mmol/l	1.41	1.13	1.69	0.14	0.28	Colorimetric
Osmolality	mOsm/kg	295	236	354	29.50	59.00	Calculated

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Osmolality	mOsm/kg	298	238	358	30.00	60.00	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	1.52	1.29	1.75	0.12	0.23	Ortho Vitros Microslide Systems	
	mg/dl	4.71	4.00	5.42	0.36	0.71		
	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate enzymatic	
	mg/dl	4.53	3.84	5.22	0.35	0.69		
Potassium	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		
	Protein Total	mmol/l	3.90	3.59	4.21	0.16	0.31	Ortho Vitros Microslide Systems
		mmol/l	3.83	3.52	4.14	0.16	0.31	
mmol/l		3.90	3.59	4.21	0.16	0.31	ISE method - indirect	
mmol/l		4.10	3.77	4.43	0.17	0.33		
Protein Total	g/l	60.4	48.4	72.4	6.00	12.00	Ortho Vitros Microslide Systems	
	g/dl	6.04	4.84	7.24	0.60	1.20		
	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		
	g/l	59.9	47.9	71.9	6.00	12.00	Biuret reaction kinetic	
	g/dl	5.99	4.79	7.19	0.60	1.20		
PSA Total	ng/ml =	9.69	7.27	12.1	1.21	2.42	Beckman Access standardised to Hybritech	
	ng/ml =	10.2	7.67	12.7	1.27	2.53	bioMerieux VIDAS TPSA	
	ng/ml =	8.62	6.47	10.8	1.08	2.15	Siemens Centaur XP/XPT/Classic	
	ng/ml =	8.15	6.11	10.2	1.02	2.04	Abbott Architect	
	ng/ml =	10.7	8.01	13.4	1.35	2.69	Cobas E411	
	ng/ml =	10.1	7.60	12.6	1.25	2.50	Roche Cobas 6000/8000	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	139	132	146	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	139	132	146	3.50	7.00	ISE method - direct
	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
	mmol/l	145	138	152	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 =	1.24	0.99	1.49	0.12	0.25	Abbott Architect
	µU/ml =	1.66	1.33	1.99	0.17	0.33	bioMerieux VIDAS TSH
	µU/ml =	1.64	1.32	1.96	0.16	0.32	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.72	1.38	2.06	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 =	1.39	1.11	1.67	0.14	0.28	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.48	1.18	1.78	0.15	0.30	Beckman Dxl 600/800 Access (3rd IS)
	µU/ml =	1.69	1.35	2.03	0.17	0.34	Roche Cobas e402/e801
TIBC	µmol/l	45.0	35.5	54.5	4.75	9.50	Removal of excess free iron
	µg/dl	252	198	306	27.00	54.00	
	µmol/l	43.4	34.3	52.5	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	243	192	294	25.50	51.00	
	µmol/l	45.8	36.2	55.4	4.80	9.60	Direct Colorimetric
	µg/dl	256	202	310	27.00	54.00	
	µmol/l	47.9	37.9	57.9	5.00	10.00	Calculated from Transferrin
	µg/dl	268	212	324	28.00	56.00	
	µmol/l	47.8	37.7	57.9	5.05	10.10	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
TIBC	µmol/l	51.4	40.6	62.2	5.40	10.80	Randox Direct	
	µg/dl	287	227	347	30.00	60.00		
Tobramycin	µmol/l	6.30	5.04	7.56	0.63	1.26	Gravimetric	
	µg/ml	2.95	2.36	3.54	0.30	0.59		
Total T3	nmol/l	1.86	1.40	2.32	0.23	0.46	Abbott Architect	
	ng/ml	1.21	0.911	1.51	0.15	0.30		
	ng/dl	121	91.1	151	14.95	29.90	Abbott Architect	
	nmol/l	2.01	1.51	2.51	0.25	0.50	BioMerieux Vidas	
	ng/ml	1.31	0.983	1.64	0.16	0.33		
	ng/dl	131	98.3	164	16.35	32.70	BioMerieux Vidas	
	nmol/l	2.27	1.70	2.84	0.29	0.57	Roche Cobas 4000/E411	
	ng/ml	1.48	1.11	1.85	0.19	0.37		
	ng/dl	148	111	185	18.50	37.00	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	
	Total T4	nmol/l	91.9	68.9	115	11.50	23.00	Abbott Architect
		µg/dl	7.17	5.37	8.97	0.90	1.80	
ng/ml		71.7	53.7	89.7	9.00	18.00	Abbott Architect	
nmol/l		97.7	73.2	122	12.25	24.50	Roche Cobas 4000/E411	
µg/dl		7.62	5.71	9.53	0.96	1.91		
ng/ml		76.2	57.1	95.3	9.55	19.10	Roche Cobas 4000/E411	
nmol/l		97.5	73.1	122	12.20	24.40	Roche Cobas e601/602	
µg/dl		7.61	5.70	9.52	0.96	1.91		
ng/ml		76.1	57.0	95.2	9.55	19.10	Roche Cobas e601/602	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	105	79.1	131	12.95	25.90	Microgenics DRI assay
	µg/dl	8.19	6.17	10.2	1.01	2.02	
	ng/ml	81.9	61.7	102	10.10	20.20	Microgenics DRI assay
Transferrin	g/l	2.00	1.60	2.40	0.20	0.40	Immunoturbidimetric
	mg/dl	200	160	240	20.00	40.00	
Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.3	119	8.35	16.70	
	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	103	86.0	120	8.50	17.00	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	84.6	117	8.20	16.40	
	mmol/l	1.15	0.97	1.33	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	102	85.5	119	8.25	16.50	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	101	84.6	117	8.20	16.40	
	mmol/l	1.36	1.14	1.58	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	120	101	139	9.50	19.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.59	4.87	6.31	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.66	4.92	6.40	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.85	5.09	6.61	0.38	0.76	
	mmol/l	0.35	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	

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	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 with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Ortho Vitros Microslide Systems
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.17	6.10	8.24	0.54	1.07	Urease end point
	mg/dl	43.1	36.7	49.5	3.20	6.40	
	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.18	6.10	8.26	0.54	1.08	Urease - hypochlorite
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.28	6.19	8.37	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	
Vitamin B12	pmol/l	411	329	493	41.00	82.00	Roche Cobas 6000/8000
	pg/ml	557	446	668	55.50	111.00	
Zinc	µmol/l	27.4	21.9	32.9	2.75	5.50	Colorimetric with deproteinisation
	µg/dl	179	143	215	18.00	36.00	

**METHOD (Elec.)****ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)**

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-1-globulin		4.6	3.5	5.7	0.55	1.10	% of total Protein (Beckman Capillary)
alpha-2-globulin		7.0	5.3	8.7	0.84	1.68	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		67.5	60.8	74.2	3.35	6.70	% of total Protein (Beckman Capillary)
beta-globulin		10.3	7.8	12.8	1.24	2.47	% of total Protein (Beckman Capillary)
gamma-globulin		10.6	8.1	13.1	1.27	2.54	% of total Protein (Beckman Capillary)

Abbott Alinity/ Architect c/ci Svstems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.7	35.4	48.0	3.15	6.30	Bromocresol Green
	g/dl	4.17	3.54	4.80	0.32	0.63	
	g/l	42.8	36.4	49.2	3.20	6.40	Bromocresol Purple
	g/dl	4.28	3.64	4.92	0.32	0.64	
Alkaline Phosphatase	U/l	190	162	218	14.00	28.00	p-Nitrophenylphosphate AMP 37°C
	U/l	184	156	212	14.00	28.00	AMP optimised to IFCC 37°C
	U/l	184	157	211	13.50	27.00	AMP non-optimised 37°C
ALT (GPT)	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	110	93	127	8.50	17.00	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	25.1	20.1	30.1	2.50	5.00	Enzymatic Colorimetric
Bicarbonate	mmol/l	13.2	10.5	15.9	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	20.7	16.4	25.0	2.15	4.30	Diazo with Sulphanilic Acid
	mg/dl	1.21	0.959	1.46	0.13	0.25	
	µmol/l	20.8	16.5	25.1	2.15	4.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.22	0.965	1.48	0.13	0.26	
Bilirubin Total	µmol/l	28.1	22.2	34.0	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	1.30	1.98	0.17	0.34	
	µmol/l	28.3	22.4	34.2	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.31	2.01	0.18	0.35	

Abbott Alinity/ Architect c/ci Svstems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazonium ion
	mg/dl	1.64	1.29	1.99	0.18	0.35	
Calcium	mmol/l	2.13	1.92	2.34	0.11	0.21	Arsenazo III
	mg/dl	8.54	7.70	9.38	0.42	0.84	
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	4.10	3.56	4.64	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	158	137	179	10.50	21.00	
Chloride	mmol/l	95.9	88.3	104	3.80	7.60	ISE indirect
Cholinesterase	U/l	6887	5509	8265	689.00	1378.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	187	153	221	17.00	34.00	CK-NAC serum start (DGKC) 37°C
	U/l	191	156	226	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	195	160	230	17.50	35.00	Abbott CK-NAC (IFCC) 37°C
Copper	µmol/l	11.8	9.46	14.1	1.17	2.34	Colorimetric
	µg/dl	75.0	60.2	89.8	7.40	14.80	
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	126	101	151	12.50	25.00	Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	45	39	51	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	44	38	50	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.14	5.22	7.06	0.46	0.92	Hexokinase
	mg/dl	111	94.1	128	8.45	16.90	
	mmol/l	6.45	5.49	7.41	0.48	0.96	Glucose oxidase
	mg/dl	116	98.9	133	8.55	17.10	


Abbott Alinity/ Architect c/ci Svstems®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.50	1.28	1.72	0.11	0.22	Direct HDL PPD
	mg/dl	57.9	49.4	66.4	4.25	8.50	
	mmol/l	1.51	1.28	1.74	0.12	0.23	Direct Clearance Method
	mg/dl	58.3	49.4	67.2	4.45	8.90	
HDL - Ultra	mmol/l	1.48	1.26	1.70	0.11	0.22	HDL - Ultra
	mg/dl	57.1	48.6	65.6	4.25	8.50	
Iron	µmol/l	20.4	16.7	24.1	1.85	3.70	Colorimetric with ppt.
	µg/dl	114	93.4	135	10.30	20.60	
	µmol/l	20.3	16.7	23.9	1.80	3.60	Colorimetric without ppt.
	µg/dl	113	93.4	133	9.80	19.60	
Lactate	mmol/l	1.67	1.37	1.97	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.0	12.3	17.7	1.35	2.70	
LD (LDH)	U/l	206	175	237	15.50	31.00	L->P 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	33	27	39	3.00	6.00	Other Colorimetric 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.611	0.777	0.04	0.08	
Magnesium	mmol/l	0.88	0.78	0.99	0.05	0.11	Arsenazo III
	mg/dl	2.14	1.89	2.39	0.13	0.25	
	mmol/l	0.89	0.78	0.99	0.05	0.11	Enzymatic
	mg/dl	2.15	1.89	2.41	0.13	0.26	
Osmolality	mOsm/kg	301	241	361	30.00	60.00	Calculated
Phosphate Inorganic	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.50	3.81	5.19	0.35	0.69	

Abbott Alinity/ Architect c/ci Svstems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	3.91	3.59	4.23	0.16	0.32	ISE method - indirect
Protein Total	g/l	61.0	48.8	73.2	6.10	12.20	Biuret reaction end point
	g/dl	6.10	4.88	7.32	0.61	1.22	
	g/l	60.8	48.7	72.9	6.05	12.10	Biuret reaction kinetic
	g/dl	6.08	4.87	7.29	0.61	1.21	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	43.2	34.1	52.3	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	241	191	291	25.00	50.00	
	µmol/l	49.0	38.7	59.3	5.15	10.30	Calculated from Transferrin
	µg/dl	274	216	332	29.00	58.00	
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.8	113	7.80	15.60	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.9	116	8.05	16.10	
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	
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.58	4.86	6.30	0.36	0.72	

**Abbott Alinity/ Architect c/ci Svstems®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.3	34.2	46.4	3.05	6.10	Bromocresol Green
	g/dl	4.03	3.42	4.64	0.31	0.61	
Alkaline Phosphatase	U/l	290	246	334	22.00	44.00	Diethanolamine buffer DEA 37°C
	U/l	212	180	244	16.00	32.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	34	28	40	3.00	6.00	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	87	74	100	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	96	81	111	7.50	15.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	93	79	107	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	84	71	97	6.50	13.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	34	27	41	3.50	7.00	Beckman (Extinction Coefficient) 37°C
Bile Acids	µmol/l	24.4	19.5	29.3	2.45	4.90	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.4	11.5	17.3	1.45	2.90	
Bilirubin Direct	µmol/l	20.6	16.3	24.9	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	0.954	1.47	0.13	0.26	
Bilirubin Total	µmol/l	31.4	24.8	38.0	3.30	6.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	1.45	2.23	0.20	0.39	
	µmol/l	31.9	25.2	38.6	3.35	6.70	DPD (Beckman AU)
	mg/dl	1.87	1.47	2.27	0.20	0.40	
Calcium	mmol/l	2.17	1.95	2.39	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.70	7.82	9.58	0.44	0.88	



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.18	1.97	2.39	0.11	0.21	Arsenazo III
	mg/dl	8.74	7.90	9.58	0.42	0.84	
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	4.27	3.72	4.82	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	165	144	186	10.50	21.00	
Cholesterol	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Dehydrogenase
	mg/dl	157	136	178	10.50	21.00	
Chloride	mmol/l	93.4	86.0	101	3.70	7.40	ISE indirect
Cholinesterase	U/l	5549	4439	6659	555.00	1110.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	194	159	229	17.50	35.00	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	123	98.1	148	12.45	24.90	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	127	102	152	12.50	25.00	Enzymatic UV method
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	118	94.1	142	11.95	23.90	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.33	1.06	1.60	0.14	0.27	
µmol/l	123	98.2	148	12.40	24.80	IDMS traceable	
mg/dl	1.39	1.11	1.67	0.14	0.28		
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	48	40	56	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	46	39	53	3.50	7.00	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.26	5.32	7.20	0.47	0.94	Glucose dehydrogenase
	mg/dl	113	95.9	130	8.55	17.10	
	mmol/l	6.23	5.29	7.17	0.47	0.94	Hexokinase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.33	1.13	1.53	0.10	0.20	Direct HDL Immunoseparation
	mg/dl	51.3	43.6	59.0	3.85	7.70	
	mmol/l	1.54	1.31	1.77	0.12	0.23	Direct Clearance Method
	mg/dl	59.4	50.6	68.2	4.40	8.80	
Iron	mmol/l	1.51	1.28	1.74	0.12	0.23	HDL - Ultra
	mg/dl	58.3	49.4	67.2	4.45	8.90	
	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric with ppt.
	µg/dl	112	91.7	132	10.15	20.30	
Lactate	µmol/l	19.7	16.1	23.3	1.80	3.60	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
	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	203	173	233	15.00	30.00	L->P 37°C
	U/l	450	383	517	33.50	67.00	P->L Scandinavian & Dutch 37°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 37°C
	U/l	194	165	223	14.50	29.00	L to P Beckman (Extinction Coeff) 37°C



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	34	27	41	3.50	7.00	Other Colorimetric 37°C
	U/l	45	36	54	4.50	9.00	Randox Colorimetric 37°C
Lithium	mmol/l	0.96	0.84	1.07	0.06	0.12	Spectrophotometric
	mg/dl	0.664	0.584	0.744	0.04	0.08	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Calmagite
	mg/dl	2.24	1.98	2.50	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
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	3.86	3.55	4.17	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.1	47.3	70.9	5.90	11.80	Biuret reaction end point
	g/dl	5.91	4.73	7.09	0.59	1.18	
	g/l	59.1	47.2	71.0	5.95	11.90	Biuret reaction kinetic
	g/dl	5.91	4.72	7.10	0.60	1.19	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
TIBC	µmol/l	47.3	37.4	57.2	4.95	9.90	FE+UIBC(saturation with iron)
	µg/dl	264	209	319	27.50	55.00	
	µmol/l	46.6	36.8	56.4	4.90	9.80	Direct Colorimetric
	µg/dl	260	206	314	27.00	54.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	84.3	116	7.85	15.70	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	

**Beckman Coulter AU Series®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

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 no ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.01	5.22	6.80	0.40	0.79	
Urea	mmol/l	7.18	6.10	8.26	0.54	1.08	Urease end point
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.41	6.30	8.52	0.56	1.11	Urease kinetic
	mg/dl	44.5	37.9	51.1	3.30	6.60	
	mmol/l	7.41	6.30	8.52	0.56	1.11	BUN
	mg/dl	20.8	17.7	23.9	1.55	3.10	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.9	37.3	50.5	3.30	6.60	Bromocresol Purple
	g/dl	4.39	3.73	5.05	0.33	0.66	
Amylase Total	U/l	95	81	109	7.00	14.00	Beckman Synchron AMY7 37°C
Bilirubin Direct	µmol/l	13.5	10.6	16.4	1.45	2.90	Diazo with Sulphanilic Acid
	mg/dl	0.790	0.620	0.960	0.09	0.17	
	µmol/l	14.0	11.0	17.0	1.50	3.00	Diazo/ Sulphanilic Beckman DxC
	mg/dl	0.819	0.644	0.994	0.09	0.18	
Bilirubin Total	µmol/l	31.8	25.1	38.5	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.86	1.47	2.25	0.20	0.39	
Calcium	mmol/l	2.09	1.88	2.30	0.11	0.21	Ion selective electrode
	mg/dl	8.38	7.54	9.22	0.42	0.84	
Cholesterol	mmol/l	4.03	3.51	4.55	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	135	177	10.50	21.00	
Chloride	mmol/l	94.1	86.6	102	3.75	7.50	ISE indirect
Creatinine	µmol/l	116	92.8	139	11.60	23.20	Alkaline picrate no deproteinization
	mg/dl	1.31	1.05	1.57	0.13	0.26	
Glucose	mmol/l	6.00	5.10	6.90	0.45	0.90	Glucose oxidase
	mg/dl	108	91.9	124	8.05	16.10	
HDL - Cholesterol	mmol/l	1.64	1.39	1.89	0.13	0.25	HDL - Ultra
	mg/dl	63.3	53.7	72.9	4.80	9.60	
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	

**Beckman DxC600/800®****ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)**

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.75	3.45	4.05	0.15	0.30	ISE method - indirect
Protein Total	g/l	60.9	48.7	73.1	6.10	12.20	Biuret reaction end point
	g/dl	6.09	4.87	7.31	0.61	1.22	
Sodium	mmol/l	137	130	144	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.3	119	8.35	16.70	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	
Urea	mmol/l	7.50	6.38	8.62	0.56	1.12	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	

Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.3	34.2	46.4	3.05	6.10	Bromocresol Green
	g/dl	4.03	3.42	4.64	0.31	0.61	
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
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
Bilirubin Direct	µmol/l	16.6	13.1	20.1	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.971	0.766	1.18	0.10	0.21	
Calcium	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	
Cholesterol	mmol/l	3.99	3.47	4.51	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	134	174	10.00	20.00	
Creatinine	µmol/l	116	93.1	139	11.45	22.90	Alkaline picrate no deproteinization
	mg/dl	1.31	1.05	1.57	0.13	0.26	
Glucose	mmol/l	5.96	5.06	6.86	0.45	0.90	Glucose oxidase
	mg/dl	107	91.2	123	7.90	15.80	
Phosphate Inorganic	mmol/l	1.60	1.36	1.84	0.12	0.24	Phosphomolybdate UV
	mg/dl	4.96	4.22	5.70	0.37	0.74	
Protein Total	g/l	60.6	48.5	72.7	6.05	12.10	Biuret reaction end point
	g/dl	6.06	4.85	7.27	0.61	1.21	

**Biotechnica/Wiener BT and CB Series**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.0	116	8.00	16.00	
Uric Acid (Urate)	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	
Urea	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.28	6.19	8.37	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Green
	g/dl	4.34	3.69	4.99	0.33	0.65	
	g/l	39.2	33.4	45.0	2.90	5.80	Turbidimetric Assays
	g/dl	3.92	3.34	4.50	0.29	0.58	
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	30	24	36	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	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Amylase Total	U/l	94	80	108	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	93	79	107	7.00	14.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 30°C
	U/l	14	11	17	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.7	10.9	16.5	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	20.7	16.4	25.0	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	0.959	1.46	0.13	0.25	
	µmol/l	19.9	15.7	24.1	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.16	0.918	1.40	0.12	0.24	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	20.2	16.0	24.4	2.10	4.20	Roche DPD JG standardised
	mg/dl	1.18	0.936	1.42	0.12	0.24	
Bilirubin Total	µmol/l	28.4	22.5	34.3	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.32	2.00	0.17	0.34	
	µmol/l	28.0	22.2	33.8	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	1.30	1.98	0.17	0.34	
Calcium	µmol/l	28.8	22.8	34.8	3.00	6.00	Diazonium ion
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	mmol/l	2.15	1.93	2.37	0.11	0.22	Cresolphthalein complexone
		mg/dl	8.62	7.74	9.50	0.44	
mmol/l	2.13	1.92	2.34	0.11	0.21	NM-BAPTA	
	mg/dl	8.54	7.70	9.38	0.42		0.84
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	
	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	158	138	178	10.00	20.00	
Chloride	mmol/l	94.4	86.8	102	3.80	7.60	ISE indirect
CK Total	U/l	182	149	215	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	114	93	135	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	77	63	91	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	117	93.5	141	11.75	23.50	Alkaline picrate with deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.45	1.15	1.75	0.15	0.30	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	116	93.1	139	11.45	22.90	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.31	1.05	1.57	0.13	0.26	
	µmol/l	122	97.5	147	12.25	24.50	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.38	1.10	1.66	0.14	0.28	
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	22	30	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.33	5.38	7.28	0.48	0.95	Hexokinase
	mg/dl	114	96.9	131	8.55	17.10	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Roche 4th Generation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
Iron	µmol/l	20.1	16.4	23.8	1.85	3.70	Colorimetric with ppt.
	µg/dl	112	91.7	132	10.15	20.30	
	µmol/l	19.9	16.3	23.5	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	91.1	131	9.95	19.90	
Lactate	mmol/l	1.60	1.31	1.89	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.4	11.8	17.0	1.30	2.60	
LD (LDH)	U/l	223	190	256	16.50	33.00	L->P IFCC 37°C
	U/l	161	137	185	12.00	24.00	L->P IFCC 30°C
	U/l	113	96	130	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	36	29	43	3.50	7.00	Roche Colorimetric 37°C

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	36	29	43	3.50	7.00	
Lithium	mmol/l	0.96	0.84	1.07	0.06	0.12	Ion selective electrode
	mg/dl	0.665	0.585	0.745	0.04	0.08	
Magnesium	mmol/l	0.93	0.81	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.26	1.99	2.53	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	1.53	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	3.86	3.55	4.17	0.16	0.31	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	
	g/l	59.2	47.3	71.1	5.95	11.90	Biuret reaction kinetic
	g/dl	5.92	4.73	7.11	0.60	1.19	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
TIBC	µmol/l	43.1	34.1	52.1	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	241	191	291	25.00	50.00	
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.7	118	8.15	16.30	
	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	104	87.0	121	8.50	17.00	
	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/Glycerol Dehydrogenase
	mg/dl	104	86.8	121	8.60	17.20	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
	mmol/l	0.35	0.31	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	6.98	5.93	8.03	0.53	1.05	Urease kinetic
	mg/dl	41.9	35.6	48.2	3.15	6.30	
	mmol/l	6.98	5.93	8.03	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.2	35.9	48.5	3.15	6.30	Bromocresol Green
	g/dl	4.22	3.59	4.85	0.32	0.63	
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Calcium	mmol/l	2.27	2.04	2.50	0.12	0.23	Arsenazo III
	mg/dl	9.10	8.18	10.0	0.46	0.92	
Cholesterol	mmol/l	4.33	3.77	4.89	0.28	0.56	Cholesterol Oxidase - Abell Kendall
	mg/dl	167	146	188	10.50	21.00	
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	118	94.1	142	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.33	1.06	1.60	0.14	0.27	
	µmol/l	123	98.7	147	12.15	24.30	Creatinine PAP method
	mg/dl	1.39	1.12	1.66	0.14	0.27	
Glucose	mmol/l	6.73	5.72	7.74	0.51	1.01	Glucose oxidase
	mg/dl	121	103	139	9.00	18.00	
Protein Total	g/l	60.5	48.4	72.6	6.05	12.10	Biuret reaction end point
	g/dl	6.05	4.84	7.26	0.61	1.21	
Triglycerides	mmol/l	1.21	1.02	1.40	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	107	90.3	124	8.35	16.70	
Uric Acid (Urate)	mmol/l	0.41	0.36	0.46	0.03	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.90	6.01	7.79	0.45	0.89	

**Elitech/Vitalab Selectra Series**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.26	6.17	8.35	0.55	1.09	Urease kinetic
	mg/dl	43.6	37.1	50.1	3.25	6.50	
	mmol/l	7.26	6.17	8.35	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	


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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	39.5	33.6	45.4	2.95	5.90	Bromocresol Green
	g/dl	3.95	3.36	4.54	0.30	0.59	
Alkaline Phosphatase	U/l	199	169	229	15.00	30.00	AMP optimised to IFCC 37°C
	U/l	155	132	178	11.50	23.00	AMP optimised to IFCC 30°C
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	32.8	25.9	39.7	3.45	6.90	Diazo with Sulphanilic Acid
	mg/dl	1.92	1.52	2.32	0.20	0.40	
	µmol/l	26.4	20.9	31.9	2.75	5.50	Nitrobenzenediazonium salt
	mg/dl	1.54	1.22	1.86	0.16	0.32	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Arsenazo III
	mg/dl	8.54	7.66	9.42	0.44	0.88	
Cholesterol	mmol/l	4.12	3.58	4.66	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	138	180	10.50	21.00	
CK Total	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	121	100	142	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	82	68	96	7.00	14.00	CK-NAC (IFCC) 25°C


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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	
gamma-GT	U/l	45	38	52	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	23	33	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.02	5.12	6.92	0.45	0.90	Glucose oxidase
	mg/dl	108	92.3	124	7.85	15.70	
HDL - Cholesterol	mmol/l	1.34	1.14	1.54	0.10	0.20	Direct HDL PEGME
	mg/dl	51.7	44.0	59.4	3.85	7.70	
Iron	µmol/l	21.6	17.7	25.5	1.95	3.90	Colorimetric without ppt.
	µg/dl	121	98.9	143	11.05	22.10	
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.20	1.93	2.47	0.14	0.27	
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	3.78	3.48	4.08	0.15	0.30	ISE method - direct
Protein Total	g/l	60.8	48.6	73.0	6.10	12.20	Biuret reaction end point
	g/dl	6.08	4.86	7.30	0.61	1.22	
Sodium	mmol/l	137	130	144	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	86.2	120	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.06	5.28	6.84	0.39	0.78	
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	



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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	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	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.9	35.6	48.2	3.15	6.30	Ortho Vitros Microslide Systems
	g/dl	4.19	3.56	4.82	0.32	0.63	
Alkaline Phosphatase	U/l	170	145	195	12.50	25.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Ortho Vitros Microslide Systems 37°C
	U/l	37	29	45	4.00	8.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	77	65	89	6.00	12.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	49	39	59	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	15.7	12.5	18.9	1.60	3.20	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	25.0	19.8	30.2	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.46	1.16	1.76	0.15	0.30	
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	157	137	177	10.00	20.00	
Chloride	mmol/l	95.3	87.7	103	3.80	7.60	Ortho Vitros Microslide Systems
CK Total	U/l	172	141	203	15.50	31.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	119	95.6	142	11.70	23.40	Vitros IDMS Traceable
	mg/dl	1.34	1.08	1.60	0.13	0.26	
Free T4	pmol/l	36.7	27.5	45.9	4.60	9.20	Vitros ECi
	ng/dl	2.86	2.15	3.57	0.36	0.71	
	pg/ml	28.6	21.5	35.7	3.55	7.10	Vitros ECi


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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	56	48	64	4.00	8.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	6.25	5.31	7.19	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	113	95.7	130	8.65	17.30	
HDL - Cholesterol	mmol/l	1.41	1.20	1.62	0.11	0.21	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	54.4	46.3	62.5	4.05	8.10	
Iron	µmol/l	19.2	15.7	22.7	1.75	3.50	Ortho Vitros Microslide Systems
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.50	1.23	1.77	0.14	0.27	Ortho Vitros Microslide Systems
	mg/dl	13.5	11.1	15.9	1.20	2.40	
LD (LDH)	U/l	237	201	273	18.00	36.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	231	185	277	23.00	46.00	Ortho Vitros Microslide Systems 37°C
	U/l	35	28	42	3.50	7.00	
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.52	1.29	1.75	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.71	4.00	5.42	0.36	0.71	
Potassium	mmol/l	3.90	3.59	4.21	0.16	0.31	Ortho Vitros Microslide Systems
Protein Total	g/l	60.4	48.4	72.4	6.00	12.00	Ortho Vitros Microslide Systems
	g/dl	6.04	4.84	7.24	0.60	1.20	
Sodium	mmol/l	139	132	146	3.50	7.00	Ortho Vitros Microslide Systems
Triglycerides	mmol/l	1.36	1.14	1.58	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	120	101	139	9.50	19.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.59	4.87	6.31	0.36	0.72	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Ortho Vitros Microslide Systems
	mg/dl	42.8	36.4	49.2	3.20	6.40	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.5	37.0	50.0	3.25	6.50	Bromocresol Green
	g/dl	4.35	3.70	5.00	0.33	0.65	
Alkaline Phosphatase	U/l	182	155	209	13.50	27.00	Roche Integra AMP buffer 37°C
	U/l	142	121	163	10.50	21.00	Roche Integra AMP buffer 30°C
	U/l	116	99	133	8.50	17.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	30	24	36	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	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Amylase Total	U/l	95	81	109	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	17	27	2.50	5.00	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	20.1	15.9	24.3	2.10	4.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.18	0.930	1.43	0.13	0.25	
	µmol/l	20.2	16.0	24.4	2.10	4.20	Roche DPD JG standardised
	mg/dl	1.18	0.936	1.42	0.12	0.24	
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	27.8	22.0	33.6	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	28.6	22.6	34.6	3.00	6.00	Diazonium ion
	mg/dl	1.67	1.32	2.02	0.18	0.35	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	NM-BAPTA
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Cholesterol	mmol/l	4.17	3.63	4.71	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	140	182	10.50	21.00	
	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	158	138	178	10.00	20.00	
CK Total	U/l	186	153	219	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	116	96	136	10.00	20.00	CK-NAC (IFCC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	124	99.4	149	12.30	24.60	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	127	101	153	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	121	97.1	145	11.95	23.90	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.37	1.10	1.64	0.14	0.27	
	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	
Glucose	mmol/l	6.45	5.49	7.41	0.48	0.96	Hexokinase
	mg/dl	116	98.9	133	8.55	17.10	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Roche 4th Generation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
LD (LDH)	U/l	221	188	254	16.50	33.00	L->P IFCC 37°C
	U/l	160	136	184	12.00	24.00	L->P IFCC 30°C
	U/l	112	95	129	8.50	17.00	L->P IFCC 25°C

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
Phosphate Inorganic	mmol/l	1.57	1.33	1.81	0.12	0.24	Phosphomolybdate UV
	mg/dl	4.87	4.12	5.62	0.38	0.75	
Protein Total	g/l	58.3	46.6	70.0	5.85	11.70	Biuret reaction end point
	g/dl	5.83	4.66	7.00	0.59	1.17	
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	103	86.4	120	8.30	16.60	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.73	4.99	6.47	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.01	5.22	6.80	0.40	0.79	
Urea	mmol/l	6.87	5.84	7.90	0.52	1.03	Urease kinetic
	mg/dl	41.3	35.1	47.5	3.10	6.20	
	mmol/l	6.87	5.84	7.90	0.52	1.03	BUN
	mg/dl	19.3	16.4	22.2	1.45	2.90	

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.0	36.6	49.4	3.20	6.40	Bromocresol Green
	g/dl	4.30	3.66	4.94	0.32	0.64	
	g/l	40.9	34.8	47.0	3.05	6.10	Turbidimetric Assays
	g/dl	4.09	3.48	4.70	0.31	0.61	
Alkaline Phosphatase	U/l	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	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	91	77	105	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	91	78	104	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	92	78	106	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	24	38	3.50	7.00	Tris buffer without P5P 37°C
	U/l	21	16	26	2.50	5.00	Tris buffer without P5P 30°C
	U/l	15	11	19	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.2	19.3	29.1	2.45	4.90	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.0	11.1	16.9	1.45	2.90	Colorimetric
	mmol/l	13.8	10.9	16.7	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	20.7	16.4	25.0	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	0.959	1.46	0.13	0.25	

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	20.2	16.0	24.4	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.18	0.936	1.42	0.12	0.24	
	µmol/l	20.8	16.5	25.1	2.15	4.30	Roche DPD JG standardised
	mg/dl	1.22	0.965	1.48	0.13	0.26	
Bilirubin Total	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.61	1.27	1.95	0.17	0.34	
	µmol/l	26.5	20.9	32.1	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.55	1.22	1.88	0.17	0.33	
	µmol/l	26.8	21.1	32.5	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.23	1.91	0.17	0.34	
	µmol/l	26.8	21.2	32.4	2.80	5.60	Diazonium ion
	mg/dl	1.57	1.24	1.90	0.17	0.33	
Calcium	mmol/l	2.16	1.94	2.38	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.66	7.78	9.54	0.44	0.88	
	mmol/l	2.17	1.95	2.39	0.11	0.22	NM-BAPTA
	mg/dl	8.70	7.82	9.58	0.44	0.88	
Cholesterol	mmol/l	4.18	3.64	4.72	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	141	181	10.00	20.00	
	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	91.3	84.0	98.6	3.65	7.30	ISE indirect
Cholinesterase	U/l	5575	4460	6690	557.50	1115.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	189	155	223	17.00	34.00	CK-NAC substrate start (DGKC) 37°C
	U/l	118	97	139	10.50	21.00	CK-NAC substrate start (DGKC) 30°C
	U/l	80	66	94	7.00	14.00	CK-NAC substrate start (DGKC) 25°C

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	187	153	221	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	117	96	138	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	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	130	104	156	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	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	
D-3-Hydroxybutyrate	µmol/l	128	103	153	12.50	25.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.45	1.16	1.74	0.15	0.29	
D-3-Hydroxybutyrate	mmol/l	0.27	0.23	0.31	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	22.7	17.0	28.4	2.85	5.70	Roche Cobas e601/602
	ng/dl	1.77	1.33	2.21	0.22	0.44	
	pg/ml	17.7	13.3	22.1	2.20	4.40	Roche Cobas e601/602
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	22	30	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
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

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.20	5.27	7.13	0.47	0.93	Hexokinase
	mg/dl	112	95.0	129	8.50	17.00	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Roche 4th Generation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
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	1.60	1.31	1.89	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.4	11.8	17.0	1.30	2.60	
LD (LDH)	U/l	213	181	245	16.00	32.00	L->P 37°C
	U/l	154	131	177	11.50	23.00	L->P 30°C
	U/l	108	92	124	8.00	16.00	L->P 25°C
	U/l	218	186	250	16.00	32.00	L->P IFCC 37°C
	U/l	157	134	180	11.50	23.00	L->P IFCC 30°C
	U/l	111	94	128	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
	U/l	35	28	42	3.50	7.00	
Lithium	mmol/l	0.99	0.87	1.11	0.06	0.12	Spectrophotometric
	mg/dl	0.690	0.607	0.773	0.04	0.08	
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.26	1.99	2.53	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Osmolality	mOsm/kg	286	228	344	29.00	58.00	Calculated

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.53	3.84	5.22	0.35	0.69	
	mmol/l	1.47	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	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.2	47.4	71.0	5.90	11.80	Biuret reaction end point
	g/dl	5.92	4.74	7.10	0.59	1.18	
	g/l	58.9	47.1	70.7	5.90	11.80	Biuret reaction kinetic
	g/dl	5.89	4.71	7.07	0.59	1.18	
PSA Total	ng/ml =	9.66	7.24	12.1	1.21	2.42	Roche Cobas 6000/8000
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.70	1.36	2.04	0.17	0.34	Roche Cobas e601/602
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	49.4	39.0	59.8	5.20	10.40	Calculated from Transferrin
	µg/dl	276	218	334	29.00	58.00	
Total T3	nmol/l	2.21	1.65	2.77	0.28	0.56	Roche Cobas e601/602
	ng/ml	1.44	1.07	1.81	0.19	0.37	
	ng/dl	144	107	181	18.50	37.00	Roche Cobas e601/602
Total T4	nmol/l	99.1	74.3	124	12.40	24.80	Roche Cobas e601/602
	µg/dl	7.73	5.80	9.66	0.97	1.93	
	ng/ml	77.3	58.0	96.6	9.65	19.30	Roche Cobas e601/602
Triglycerides	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.0	121	8.50	17.00	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	102	85.7	118	8.15	16.30	

Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.16	0.97	1.35	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	103	86.0	120	8.50	17.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	5.01	6.51	0.38	0.75	
Urea	mmol/l	7.24	6.15	8.33	0.55	1.09	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.24	6.15	8.33	0.55	1.09	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
	g/l	41.7	35.4	48.0	3.15	6.30	Bromocresol Purple
	g/dl	4.17	3.54	4.80	0.32	0.63	
Alkaline Phosphatase	U/l	178	152	204	13.00	26.00	Roche Integra AMP buffer 37°C
	U/l	139	118	160	10.50	21.00	Roche Integra AMP buffer 30°C
	U/l	114	97	131	8.50	17.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	69	59	79	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	90	77	103	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.8	11.0	16.6	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	21.3	16.9	25.7	2.20	4.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.25	0.989	1.51	0.13	0.26	
	µmol/l	21.4	16.9	25.9	2.25	4.50	Diazo with Sulphanilic Acid
	mg/dl	1.25	0.989	1.51	0.13	0.26	



Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	21.1	16.7	25.5	2.20	4.40	Roche DPD JG standardised
	mg/dl	1.23	0.977	1.48	0.13	0.25	
Bilirubin Total	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
Calcium	µmol/l	27.0	21.3	32.7	2.85	5.70	Diazonium ion
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	mmol/l	2.17	1.96	2.38	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.70	7.86	9.54	0.42	0.84	
Cholesterol	mmol/l	2.18	1.96	2.40	0.11	0.22	NM-BAPTA
	mg/dl	8.74	7.86	9.62	0.44	0.88	
	mmol/l	4.20	3.66	4.74	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	162	141	183	10.50	21.00	
Chloride	mmol/l	4.25	3.69	4.81	0.28	0.56	Cholesterol Oxidase - IDMS
	mg/dl	164	142	186	11.00	22.00	
	mmol/l	91.5	84.2	98.8	3.65	7.30	ISE indirect
	U/l	190	156	224	17.00	34.00	CK-NAC (IFCC) 37°C
CK Total	U/l	119	98	140	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
Creatinine	mg/dl	1.53	1.22	1.84	0.16	0.31	
	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	129	103	155	13.00	26.00	Jaffe rate blanked
mg/dl	1.46	1.16	1.76	0.15	0.30		

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	22	30	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.23	5.30	7.16	0.47	0.93	Hexokinase
	mg/dl	112	95.5	129	8.25	16.50	
	mmol/l	6.22	5.28	7.16	0.47	0.94	Glucose oxidase
	mg/dl	112	95.1	129	8.45	16.90	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Roche 4th Generation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
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	19.3	15.9	22.7	1.70	3.40	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.63	1.34	1.92	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.7	12.1	17.3	1.30	2.60	
LD (LDH)	U/l	220	187	253	16.50	33.00	L->P IFCC 37°C
	U/l	159	135	183	12.00	24.00	L->P IFCC 30°C
	U/l	112	95	129	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.62	3.91	5.33	0.36	0.71	
Potassium	mmol/l	3.93	3.62	4.24	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.3	47.5	71.1	5.90	11.80	Biuret reaction end point
	g/dl	5.93	4.75	7.11	0.59	1.18	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.18	0.99	1.37	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.7	120	8.15	16.30	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	101	84.8	117	8.10	16.20	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.09	6.63	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	5.11	6.65	0.39	0.77	
Urea	mmol/l	7.44	6.32	8.56	0.56	1.12	Urease kinetic
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.44	6.32	8.56	0.56	1.12	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Green
	g/dl	4.32	3.67	4.97	0.33	0.65	
	g/l	41.3	35.1	47.5	3.10	6.20	Bromocresol Purple
	g/dl	4.13	3.51	4.75	0.31	0.62	
	g/l	42.3	35.9	48.7	3.20	6.40	Turbidimetric Assays
	g/dl	4.23	3.59	4.87	0.32	0.64	
Alkaline Phosphatase	U/l	173	147	199	13.00	26.00	Roche Integra AMP buffer 37°C
	U/l	135	115	155	10.00	20.00	Roche Integra AMP buffer 30°C
	U/l	111	94	128	8.50	17.00	Roche Integra AMP buffer 25°C
	U/l	178	151	205	13.50	27.00	Colorimetric 37°C
	U/l	139	118	160	10.50	21.00	Colorimetric 30°C
	U/l	114	96	132	9.00	18.00	Colorimetric 25°C
ALT (GPT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 30°C
	U/l	14	11	17	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.1	19.3	28.9	2.40	4.80	Enzymatic Colorimetric

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	14.1	11.2	17.0	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	20.5	16.2	24.8	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.20	0.948	1.45	0.13	0.25	
	µmol/l	19.1	15.1	23.1	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.12	0.883	1.36	0.12	0.24	
	µmol/l	20.7	16.4	25.0	2.15	4.30	Roche DPD JG standardised
	mg/dl	1.21	0.959	1.46	0.13	0.25	
Bilirubin Total	µmol/l	17.1	13.5	20.7	1.80	3.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.00	0.790	1.21	0.11	0.21	
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	26.5	20.9	32.1	2.80	5.60	Diazonium ion
	mg/dl	1.55	1.22	1.88	0.17	0.33	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.54	7.66	9.42	0.44	0.88	
	mmol/l	2.16	1.94	2.38	0.11	0.22	NM-BAPTA
	mg/dl	8.66	7.78	9.54	0.44	0.88	
Cholesterol	mmol/l	4.20	3.66	4.74	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	162	141	183	10.50	21.00	
	mmol/l	4.17	3.63	4.71	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	161	140	182	10.50	21.00	
Chloride	mmol/l	91.7	84.3	99.1	3.70	7.40	ISE indirect
Cholinesterase	U/l	5472	4378	6566	547.00	1094.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	191	156	226	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	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	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
gamma-GT	U/l	42	35	49	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	22	30	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Hexokinase
	mg/dl	112	94.8	129	8.60	17.20	
HDL - Cholesterol	mmol/l	1.38	1.17	1.59	0.11	0.21	Direct HDL Roche 4th Generation
	mg/dl	53.3	45.2	61.4	4.05	8.10	
Iron	µmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric with ppt.
	µg/dl	102	83.3	121	9.35	18.70	
	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
Lactate	mmol/l	1.59	1.30	1.88	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.3	11.7	16.9	1.30	2.60	
LD (LDH)	U/l	216	184	248	16.00	32.00	L->P IFCC 37°C
	U/l	156	133	179	11.50	23.00	L->P IFCC 30°C
	U/l	110	93	127	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	34	28	40	3.00	6.00	Roche Colorimetric 37°C

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lithium	mmol/l	0.98	0.87	1.10	0.06	0.12	Spectrophotometric
	mg/dl	0.683	0.601	0.765	0.04	0.08	
Magnesium	mmol/l	0.94	0.83	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.29	2.01	2.57	0.14	0.28	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	3.93	3.62	4.24	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.9	47.1	70.7	5.90	11.80	Biuret reaction end point
	g/dl	5.89	4.71	7.07	0.59	1.18	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
TIBC	µmol/l	42.8	33.8	51.8	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	239	189	289	25.00	50.00	
Triglycerides	mmol/l	1.16	0.98	1.35	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	86.3	120	8.35	16.70	
	mmol/l	1.20	1.01	1.39	0.10	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	106	89.4	123	8.30	16.60	
	mmol/l	1.15	0.96	1.34	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	102	85.2	119	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	
Urea	mmol/l	7.12	6.06	8.18	0.53	1.06	Urease kinetic
	mg/dl	42.8	36.4	49.2	3.20	6.40	

**Roche Cobas c701 / c702 / c711**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
Alkaline Phosphatase	U/l	304	258	350	23.00	46.00	Diethanolamine buffer DEA 37°C
	U/l	188	159	217	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	76	64	88	5.90	11.80	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	105	89	121	8.00	16.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	25.7	20.6	30.8	2.55	5.10	5th Generation Colorimetric
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	20.0	15.8	24.2	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.17	0.924	1.42	0.12	0.25	
	µmol/l	18.3	14.4	22.2	1.95	3.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.07	0.842	1.30	0.11	0.23	
Bilirubin Total	µmol/l	31.7	25.0	38.4	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	31.7	25.1	38.3	3.30	6.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.85	1.47	2.23	0.19	0.38	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Cholesterol	mmol/l	4.24	3.69	4.79	0.28	0.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	164	142	186	11.00	22.00	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	92.1	84.8	99.4	3.65	7.30	ISE direct
CK Total	U/l	220	180	260	20.00	40.00	CK-NAC substrate start (DGKC) 37°C
	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	115	91.6	138	11.70	23.40	Alkaline picrate no deproteinization
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	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	48	41	55	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°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	
	mmol/l	6.47	5.50	7.44	0.49	0.97	Glucose oxidase
	mg/dl	117	99.1	135	8.95	17.90	
Iron	µmol/l	20.2	16.5	23.9	1.85	3.70	Colorimetric without ppt.
	µg/dl	113	92.2	134	10.40	20.80	
Lactate	mmol/l	1.53	1.25	1.81	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	13.8	11.3	16.3	1.25	2.50	
LD (LDH)	U/l	422	359	485	31.50	63.00	P->L German methods 37°C
	U/l	194	165	223	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37°C
Magnesium	mmol/l	0.95	0.84	1.07	0.06	0.12	Xylidyl Blue
	mg/dl	2.31	2.03	2.59	0.14	0.28	
Phosphate Inorganic	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	3.90	3.59	4.21	0.16	0.31	ISE method - direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.10	3.77	4.43	0.17	0.33	Enzymatic
Protein Total	g/l	61.8	49.5	74.1	6.15	12.30	Biuret reaction end point
	g/dl	6.18	4.95	7.41	0.62	1.23	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - direct
	mmol/l	145	138	152	3.50	7.00	Enzymatic
TIBC	μmol/l	51.4	40.6	62.2	5.40	10.80	Direct Colorimetric
	μg/dl	287	227	347	30.00	60.00	
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	103	86.5	120	8.25	16.50	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no 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 with ascorbate oxidase @ 546nm
	mg/dl	6.00	5.22	6.78	0.39	0.78	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	

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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.1	34.9	47.3	3.10	6.20	Bromocresol Green
	g/dl	4.11	3.49	4.73	0.31	0.62	
	g/l	42.6	36.2	49.0	3.20	6.40	Bromocresol Purple
	g/dl	4.26	3.62	4.90	0.32	0.64	
Alkaline Phosphatase	U/l	178	152	204	13.00	26.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	95	81	109	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	28.1	22.5	33.7	2.80	5.60	Enzymatic Colorimetric
Bicarbonate	mmol/l	16.7	13.2	20.2	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.08	0.848	1.31	0.12	0.23	
Bilirubin Total	µmol/l	32.1	25.4	38.8	3.35	6.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.88	1.49	2.27	0.20	0.39	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Arsenazo III
Cholesterol	mmol/l	4.18	3.64	4.72	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	141	181	10.00	20.00	
Chloride	mmol/l	95.2	87.6	103	3.80	7.60	ISE indirect


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

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	203	166	240	18.50	37.00	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	125	99.7	150	12.65	25.30	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.08	5.17	6.99	0.46	0.91	Hexokinase
	mg/dl	110	93.2	127	8.40	16.80	
	mmol/l	6.31	5.36	7.26	0.48	0.95	Glucose oxidase
	mg/dl	114	96.6	131	8.70	17.40	
HDL - Cholesterol	mmol/l	1.23	1.05	1.41	0.09	0.18	Direct Clearance Method
	mg/dl	47.5	40.5	54.5	3.50	7.00	
Iron	μmol/l	18.9	15.5	22.3	1.70	3.40	Colorimetric without ppt.
	μg/dl	106	86.6	125	9.70	19.40	
Lactate	mmol/l	1.47	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	434	369	499	32.50	65.00	P->L German methods 37°C
	U/l	217	184	250	16.50	33.00	L->P IFCC 37°C
Lipase	U/l	40	32	48	4.00	8.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Xylidyl Blue
	mg/dl	2.13	1.88	2.38	0.13	0.25	
Phosphate Inorganic	mmol/l	1.49	1.26	1.72	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.62	3.91	5.33	0.36	0.71	
Potassium	mmol/l	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.8	47.1	70.5	5.85	11.70	Biuret reaction end point
	g/dl	5.88	4.71	7.05	0.59	1.17	

**SIEMENS ADVIA 1200/1650/1800/2400®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	μmol/l	46.3	36.6	56.0	4.85	9.70	Calculated from Transferrin
	μg/dl	259	205	313	27.00	54.00	
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	106	89.4	123	8.30	16.60	
	mmol/l	1.22	1.03	1.41	0.10	0.19	L/G Kinase EP. no correction
Uric Acid (Urate)	mg/dl	108	91.2	125	8.40	16.80	Uricase peroxidase no ascorbate oxidase
	mmol/l	0.35	0.31	0.40	0.02	0.05	
Urea	mg/dl	5.95	5.17	6.73	0.39	0.78	Urease kinetic
	mmol/l	7.63	6.49	8.77	0.57	1.14	
	mmol/l	7.63	6.49	8.77	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.9	34.7	47.1	3.10	6.20	Bromocresol Green
	g/dl	4.09	3.47	4.71	0.31	0.62	
	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Purple
	g/dl	4.20	3.57	4.83	0.32	0.63	
Alkaline Phosphatase	U/l	180	153	207	13.50	27.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	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	101	86	116	7.50	15.00	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	16.0	12.7	19.3	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	19.0	15.0	23.0	2.00	4.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.11	0.878	1.34	0.12	0.23	
Bilirubin Total	µmol/l	32.9	26.0	39.8	3.45	6.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.92	1.52	2.32	0.20	0.40	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.54	7.66	9.42	0.44	0.88	
	mmol/l	2.21	1.98	2.44	0.12	0.23	Arsenazo III
	mg/dl	8.86	7.94	9.78	0.46	0.92	
Cholesterol	mmol/l	4.21	3.67	4.75	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	163	142	184	10.50	21.00	
	mmol/l	4.12	3.58	4.66	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	159	138	180	10.50	21.00	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	97.1	89.4	105	3.85	7.70	ISE indirect
CK Total	U/l	190	156	224	17.00	34.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	118	94.3	142	11.85	23.70	Alkaline picrate no deproteinization
	mg/dl	1.33	1.07	1.59	0.13	0.26	
	μmol/l	124	98.9	149	12.55	25.10	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	44	38	50	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.17	5.24	7.10	0.47	0.93	Hexokinase
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	6.23	5.30	7.16	0.47	0.93	Glucose oxidase
	mg/dl	112	95.5	129	8.25	16.50	
HDL - Cholesterol	mmol/l	1.27	1.08	1.46	0.10	0.19	Direct Clearance Method
	mg/dl	49.0	41.7	56.3	3.65	7.30	
Iron	μmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric without ppt.
	μg/dl	106	87.2	125	9.40	18.80	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	211	180	242	15.50	31.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	216	184	248	16.00	32.00	
Lipase	U/l	39	32	46	3.50	7.00	Other 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	0.86	0.76	0.96	0.05	0.10	Xylidyl Blue
	mg/dl	2.09	1.84	2.34	0.13	0.25	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	
Potassium	mmol/l	3.76	3.46	4.06	0.15	0.30	ISE method - indirect
Protein Total	g/l	58.7	47.0	70.4	5.85	11.70	Biuret reaction end point
	g/dl	5.87	4.70	7.04	0.59	1.17	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
TIBC	μmol/l	47.5	37.5	57.5	5.00	10.00	Direct Colorimetric
	μg/dl	266	210	322	28.00	56.00	
Triglycerides	mmol/l	1.23	1.04	1.42	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	109	92.0	126	8.50	17.00	
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	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
Urea	mmol/l	7.55	6.41	8.69	0.57	1.14	Urease kinetic
	mg/dl	45.4	38.5	52.3	3.45	6.90	
	mmol/l	7.55	6.42	8.68	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Purple
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	176	149	203	13.50	27.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer with P5P 37°C
	U/l	43	34	52	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	40	32	48	4.00	8.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	99	84	114	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	47	38	56	4.50	9.00	Tris buffer with P5P 37°C
	U/l	48	39	57	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	49	40	58	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	14.1	11.1	17.1	1.50	3.00	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.825	0.649	1.00	0.09	0.18	
Bilirubin Total	µmol/l	30.7	24.3	37.1	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.80	1.42	2.18	0.19	0.38	
Calcium	mmol/l	2.06	1.85	2.27	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.26	7.41	9.11	0.43	0.85	
Cholesterol	mmol/l	3.74	3.25	4.23	0.25	0.49	Dimension-Siemens reagents
	mg/dl	144	125	163	9.50	19.00	
Chloride	mmol/l	94.6	87.0	102	3.80	7.60	ISE indirect
CK Total	U/l	184	151	217	16.50	33.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	132	105	159	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.19	1.79	0.15	0.30	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	129	103	155	13.00	26.00	Creatinine PAP method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked
	mg/dl	1.48	1.19	1.77	0.15	0.29	
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	59	50	68	4.50	9.00	Siemens Dimension (non 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	
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL PEGME
	mg/dl	56.4	47.9	64.9	4.25	8.50	
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	18.8	15.5	22.1	1.65	3.30	Colorimetric without ppt.
	µg/dl	105	86.6	123	9.20	18.40	
LD (LDH)	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	110	88	132	11.00	22.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.95	0.83	1.06	0.06	0.11	Methylthymol blue
	mg/dl	2.30	2.02	2.58	0.14	0.28	
Phosphate Inorganic	mmol/l	1.57	1.34	1.80	0.12	0.23	Phosphomolybdate enzymatic
	mg/dl	4.87	4.15	5.59	0.36	0.72	
	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	3.81	3.50	4.12	0.16	0.31	ISE method - indirect
Protein Total	g/l	61.0	48.8	73.2	6.10	12.20	Biuret reaction end point
	g/dl	6.10	4.88	7.32	0.61	1.22	

**SIEMENS DIMENSION EXL®****ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)**

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.7	114	7.75	15.50	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.43	6.31	8.55	0.56	1.12	Urease kinetic
	mg/dl	44.7	37.9	51.5	3.40	6.80	
	mmol/l	7.43	6.32	8.54	0.56	1.11	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	98	83	113	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	49	39	59	5.00	10.00	Tris buffer with P5P 37°C
Bilirubin Direct	µmol/l	13.8	10.9	16.7	1.45	2.90	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.807	0.638	0.976	0.08	0.17	
Bilirubin Total	µmol/l	28.5	22.5	34.5	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.67	1.32	2.02	0.18	0.35	
Calcium	mmol/l	2.12	1.91	2.33	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.50	7.66	9.34	0.42	0.84	
Cholesterol	mmol/l	3.80	3.31	4.29	0.25	0.49	Dimension-Siemens reagents
	mg/dl	147	128	166	9.50	19.00	
Chloride	mmol/l	92.0	84.6	99.4	3.70	7.40	ISE indirect
CK Total	U/l	191	157	225	17.00	34.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	131	104	158	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.18	1.78	0.15	0.30	
gamma-GT	U/l	54	46	62	4.00	8.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.26	5.32	7.20	0.47	0.94	Hexokinase
	mg/dl	113	95.9	130	8.55	17.10	
HDL - Cholesterol	mmol/l	1.55	1.31	1.79	0.12	0.24	Direct HDL PEGME
	mg/dl	59.8	50.6	69.0	4.60	9.20	
Potassium	mmol/l	3.79	3.49	4.09	0.15	0.30	ISE method - indirect
Protein Total	g/l	61.1	48.9	73.3	6.10	12.20	Biuret reaction end point
	g/dl	6.11	4.89	7.33	0.61	1.22	

**SIEMENS DIMENSION RxL/Max/Xpand®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1593UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2026-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	83.8	116	8.10	16.20	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.70	4.96	6.44	0.37	0.74	
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	