

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

CAT. NO.	HE1532	GTIN:	05055273203608	SIZE	20 x 5ml
CAT. NO.	HS2611	GTIN:	05055273203813	SIZE	5 x 5ml
LOT NO.	1212UE	EXPIRY:	2025-08-28		

INTENDED USE

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

DEVICE DESCRIPTION

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

SAFETY PRECAUTIONS AND WARNINGS

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

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests. However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

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

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

LIMITATIONS

For Total & Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25µl - 30µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation Total and Prostatic Acid Phosphatase is stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at -18°C to -24°C. Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement. Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze. GLDH is stable for 2 day 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 3 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
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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	30.5	25.9	35.1	2.30	4.60	Bromocresol Green
	g/dl	3.05	2.59	3.51	0.23	0.46	
	g/l	29.1	24.7	33.5	2.20	4.40	Bromocresol Purple
	g/dl	2.91	2.47	3.35	0.22	0.44	
	g/l	29.8	25.4	34.2	2.20	4.40	Ortho Vitros Microslide Systems
	g/dl	2.98	2.54	3.42	0.22	0.44	
	g/l	28.1	23.9	32.3	2.10	4.20	Turbidimetric Assays
	g/dl	2.81	2.39	3.23	0.21	0.42	
Alkaline Phosphatase	U/l	283	241	325	21.00	42.00	Ortho Vitros Microslide Systems 37°C
	U/l	546	464	628	41.00	82.00	Diethanolamine buffer DEA 37°C
	U/l	425	361	489	32.00	64.00	Diethanolamine buffer DEA 30°C
	U/l	349	296	402	26.50	53.00	Diethanolamine buffer DEA 25°C
	U/l	386	328	444	29.00	58.00	AMP optimised to IFCC 37°C
	U/l	301	256	346	22.50	45.00	AMP optimised to IFCC 30°C
	U/l	247	210	284	18.50	37.00	AMP optimised to IFCC 25°C
	U/l	367	312	422	27.50	55.00	AMP non-optimised 37°C
	U/l	286	243	329	21.50	43.00	AMP non-optimised 30°C
	U/l	235	199	271	18.00	36.00	AMP non-optimised 25°C
	U/l	351	298	404	26.50	53.00	Colorimetric 37°C
	U/l	273	232	314	20.50	41.00	Colorimetric 30°C
	U/l	224	190	258	17.00	34.00	Colorimetric 25°C



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ALT (GPT)	U/l	123	99	147	12.00	24.00	Colorimetric 37°C
	U/l	91	73	109	9.00	18.00	Colorimetric 30°C
	U/l	69	56	82	6.50	13.00	Colorimetric 25°C
	U/l	135	108	162	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	137	110	164	13.50	27.00	Tris buffer with P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer with P5P 30°C
	U/l	77	62	92	7.50	15.00	Tris buffer with P5P 25°C
	U/l	127	102	152	12.50	25.00	Tris buffer without P5P 37°C
	U/l	94	75	113	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer without P5P 25°C
	U/l	120	96	144	12.00	24.00	Phosphate buffer DGKC 37°C
	U/l	89	71	107	9.00	18.00	Phosphate buffer DGKC 30°C
	U/l	68	54	82	7.00	14.00	Phosphate buffer DGKC 25°C
Amylase Pancreatic	U/l	254	216	292	19.00	38.00	Immuno-inhibition EPS substrate 37°C
	U/l	247	210	284	18.50	37.00	Roche EPS Liquid 37°C
	U/l	292	248	336	22.00	44.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	286	243	329	21.50	43.00	Siemens - blocked pNPG7 37°C
	U/l	312	266	358	23.00	46.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	276	235	317	20.50	41.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	276	234	318	21.00	42.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	182	155	209	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	275	234	316	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	332	282	382	25.00	50.00	Siemens 2-chloro-pNPG3 37°C
	U/l	292	248	336	22.00	44.00	Beckman Coulter - blocked pNPG7 37°C

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Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	307	261	353	23.00	46.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	271	230	312	20.50	41.00	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	237	201	273	18.00	36.00	Randox Lyo. Ethylidene pNPG7 37°C
Apolipoprotein A-1	g/l	0.93	0.77	1.10	0.08	0.17	Immunoturbidimetric
	mg/dl	93.4	76.6	110	8.40	16.80	
Apolipoprotein B	g/l	0.72	0.59	0.85	0.07	0.13	Immunoturbidimetric
	mg/dl	72.0	59.0	85.0	6.50	13.00	
Acid Phosphatase (Total)	U/l	40.8	27.3	54.3	6.75	13.50	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Colorimetric 37°C
	U/l	91	73	109	9.00	18.00	Colorimetric 30°C
	U/l	64	51	77	6.50	13.00	Colorimetric 25°C
	U/l	175	140	210	17.50	35.00	Ortho Vitros Microslide visible slide 37°C
	U/l	173	138	208	17.50	35.00	Tris buffer with P5P 37°C
	U/l	117	93	141	12.00	24.00	Tris buffer with P5P 30°C
	U/l	82	66	98	8.00	16.00	Tris buffer with P5P 25°C
	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C	
Bile Acids	µmol/l	43.0	34.4	51.6	4.30	8.60	5th Generation Colorimetric
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Colorimetric
	mmol/l	15.8	12.5	19.1	1.65	3.30	Ortho Vitros Microslide Systems
	mmol/l	14.0	11.1	16.9	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	31.2	24.7	37.7	3.25	6.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	µmol/l	33.7	26.6	40.8	3.55	7.10	Diazo with Sulphanilic Acid
	mg/dl	1.97	1.56	2.38	0.21	0.41	

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Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Bilirubin Direct	µmol/l	33.0	26.1	39.9	3.45	6.90	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.93	1.53	2.33	0.20	0.40		
	µmol/l	32.6	25.7	39.5	3.45	6.90	Oxidation to Biliverdin/Vanadate	
	mg/dl	1.91	1.50	2.32	0.21	0.41		
Bilirubin Total	µmol/l	35.2	27.8	42.6	3.70	7.40	Modified Jendrassik	
	mg/dl	2.06	1.63	2.49	0.22	0.43		
	µmol/l	85.3	67.4	103	8.95	17.90	Vitros 250/500/700/950 Total Bilirubin	
	mg/dl	4.99	3.94	6.04	0.53	1.05		
Bilirubin Total	µmol/l	92.2	72.9	112	9.65	19.30	Diazo with Dichloroaniline (DCA)	
	mg/dl	5.39	4.26	6.52	0.57	1.13		
	µmol/l	88.5	69.9	107	9.30	18.60	Diazo with Sulphanilic Acid	
	mg/dl	5.18	4.09	6.27	0.55	1.09		
	µmol/l	82.1	64.8	99.4	8.65	17.30	Dichlorophenyl Diazonium (DPD)	
	mg/dl	4.80	3.79	5.81	0.51	1.01		
	µmol/l	90.5	71.5	110	9.50	19.00	Nitrobenzenediazonium salt	
	mg/dl	5.29	4.18	6.40	0.56	1.11		
	µmol/l	84.4	66.7	102	8.85	17.70	Diazonium ion	
	mg/dl	4.94	3.90	5.98	0.52	1.04		
	µmol/l	99.8	78.8	121	10.50	21.00	Oxidation to Biliverdin/Vanadate	
	mg/dl	5.84	4.61	7.07	0.62	1.23		
	µmol/l	99.5	78.6	120	10.45	20.90	Modified Jendrassik	
	mg/dl	5.82	4.60	7.04	0.61	1.22		
	Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
		mg/dl	12.7	11.5	13.9	0.60	1.20	

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Analyte	unit	Target	low	high	1SD	2SD	methods	
Calcium	mmol/l	3.15	2.83	3.47	0.16	0.32	Ortho Vitros Microslide Systems	
	mg/dl	12.6	11.3	13.9	0.65	1.30		
	mmol/l	3.12	2.81	3.43	0.16	0.31	Ion selective electrode	
	mg/dl	12.5	11.3	13.7	0.60	1.20		
	mmol/l	3.16	2.84	3.48	0.16	0.32	Arsenazo III	
	mg/dl	12.7	11.4	14.0	0.65	1.30		
	mmol/l	3.17	2.86	3.48	0.16	0.31	NM-BAPTA	
	mg/dl	12.7	11.5	13.9	0.60	1.20		
Cholesterol	mmol/l	7.00	6.09	7.91	0.46	0.91	Ortho Vitros Microslide Systems	
	mg/dl	270	235	305	17.50	35.00		
	mmol/l	7.28	6.34	8.22	0.47	0.94	Cholesterol Oxidase - Abell Kendall	
	mg/dl	281	245	317	18.00	36.00		
	mmol/l	7.40	6.44	8.36	0.48	0.96	Cholesterol Oxidase - IDMS	
	mg/dl	286	249	323	18.50	37.00		
	Chloride	mmol/l	119	110	128	4.50	9.00	Colorimetric
		mmol/l	114	104	124	5.00	10.00	Ortho Vitros Microslide Systems
mmol/l		111	102	120	4.50	9.00	ISE indirect	
mmol/l		111	102	120	4.50	9.00	ISE direct	
Cholinesterase	U/l	5664	4531	6797	566.50	1133.00	Colorimetric Butyrylthiocholine 37°C	
CK Total	U/l	438	359	517	39.50	79.00	Ortho Vitros Microslide Systems 37°C	
	U/l	506	415	597	45.50	91.00	CK-NAC serum start (DGKC) 37°C	
	U/l	317	260	374	28.50	57.00	CK-NAC serum start (DGKC) 30°C	
	U/l	215	176	254	19.50	39.00	CK-NAC serum start (DGKC) 25°C	

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	515	422	608	46.50	93.00	CK-NAC substrate start (DGKC) 37°C
	U/l	322	264	380	29.00	58.00	CK-NAC substrate start (DGKC) 30°C
	U/l	219	179	259	20.00	40.00	CK-NAC substrate start (DGKC) 25°C
	U/l	503	413	593	45.00	90.00	CK-NAC (IFCC) 37°C
	U/l	315	259	371	28.00	56.00	CK-NAC (IFCC) 30°C
	U/l	214	176	252	19.00	38.00	CK-NAC (IFCC) 25°C
Copper	µmol/l	27.3	21.9	32.7	2.70	5.40	Atomic absorption
	µg/dl	174	139	209	17.50	35.00	
	µmol/l	26.5	21.2	31.8	2.65	5.30	Colorimetric
	µg/dl	169	135	203	17.00	34.00	
Cortisol	nmol/l	985	739	1231	123.00	246.00	Roche Cobas 6000/8000
	µg/dl	35.5	26.6	44.4	4.45	8.90	
Creatinine	µmol/l	361	289	433	36.00	72.00	Alkaline picrate with deproteinization
	mg/dl	4.08	3.27	4.89	0.41	0.81	
	µmol/l	358	286	430	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.05	3.23	4.87	0.41	0.82	
	µmol/l	375	300	450	37.50	75.00	Enzymatic UV method
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	373	299	447	37.00	74.00	Creatinine PAP method
	mg/dl	4.21	3.38	5.04	0.42	0.83	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	363	290	436	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.10	3.28	4.92	0.41	0.82	
µmol/l	355	284	426	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.01	3.21	4.81	0.40	0.80		

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Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	375	300	450	37.50	75.00	Vitros IDMS Traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	363	290	436	36.50	73.00	IDMS traceable
	mg/dl	4.10	3.28	4.92	0.41	0.82	
D-3-Hydroxybutyrate	mmol/l	1.15	0.98	1.32	0.09	0.17	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	3.62	2.90	4.34	0.36	0.72	Immunoturbidimetric
	ng/ml	2.83	2.26	3.40	0.29	0.57	
Folate	nmol/l	6.89	5.24	8.54	0.83	1.65	Roche Cobas 6000/8000
	ng/ml	3.04	2.31	3.77	0.37	0.73	
Free T4	pmol/l	49.4	37.0	61.8	6.20	12.40	Abbott Architect
	ng/dl	3.85	2.89	4.81	0.48	0.96	
	pg/ml	38.5	28.9	48.1	4.80	9.60	Abbott Architect
	pmol/l	66.6	50.0	83.2	8.30	16.60	Siemens Centaur XP/XPT/Classic
	ng/dl	5.19	3.90	6.48	0.65	1.29	
	pg/ml	51.9	39.0	64.8	6.45	12.90	Siemens Centaur XP/XPT/Classic
	pmol/l	65.7	49.3	82.1	8.20	16.40	Beckman Dxl800
	ng/dl	5.12	3.85	6.39	0.64	1.27	
	pg/ml	51.2	38.5	63.9	6.35	12.70	Beckman Dxl800
	pmol/l	91.7	68.8	115	11.45	22.90	Vitros ECi
	ng/dl	7.15	5.37	8.93	0.89	1.78	
	pg/ml	71.5	53.7	89.3	8.90	17.80	Vitros ECi
	pmol/l	73.1	54.9	91.3	9.10	18.20	Roche Cobas 4000/E411
	ng/dl	5.70	4.28	7.12	0.71	1.42	
pg/ml	57.0	42.8	71.2	7.10	14.20	Roche Cobas 4000/E411	

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Free T4	pmol/l	75.0	56.2	93.8	9.40	18.80	Roche Cobas e601/602
	ng/dl	5.85	4.38	7.32	0.74	1.47	
	pg/ml	58.5	43.8	73.2	7.35	14.70	Roche Cobas e601/602
	pmol/l	71.9	53.9	89.9	9.00	18.00	Biomerieux Vidas FT4N Kit
	ng/dl	5.61	4.20	7.02	0.71	1.41	
	pg/ml	56.1	42.0	70.2	7.05	14.10	Biomerieux Vidas FT4N Kit
	pmol/l	79.9	59.9	99.9	10.00	20.00	Roche Cobas e402/e801
	ng/dl	6.23	4.67	7.79	0.78	1.56	
Gentamicin	µmol/l	20.6	16.5	24.7	2.05	4.10	Immunturbidimetric
	µg/ml	9.85	7.89	11.8	0.98	1.96	
gamma-GT	U/l	174	148	200	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	117	157	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	91	123	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	212	180	244	16.00	32.00	Ortho Vitros Microslide Systems 37°C
	U/l	160	136	184	12.00	24.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	126	107	145	9.50	19.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	99	84	114	7.50	15.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	183	155	211	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	144	122	166	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	113	96	130	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	200	170	230	15.00	30.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	158	134	182	12.00	24.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	123	105	141	9.00	18.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	31	24	38	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
	U/l	24	18	30	3.00	6.00	Triethanolamine buffer 50 mmol 30°C
	U/l	19	15	23	2.00	4.00	Triethanolamine buffer 50 mmol 25°C

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	14.6	12.4	16.8	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	263	223	303	20.00	40.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
alpha-HBDH	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
	U/l	452	357	547	47.50	95.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	341	270	412	35.50	71.00	Oxobutyrate < 10 mmol/l 30°C
HDL - Cholesterol	U/l	256	202	310	27.00	54.00	Oxobutyrate < 10 mmol/l 25°C
	mmol/l	2.61	2.21	3.01	0.20	0.40	Direct HDL PPD
	mg/dl	101	85.3	117	7.85	15.70	
HDL - Cholesterol	mmol/l	2.57	2.18	2.96	0.20	0.39	Direct HDL Immunoseparation
	mg/dl	99.2	84.1	114	7.55	15.10	
HDL - Cholesterol	mmol/l	2.38	2.02	2.74	0.18	0.36	Vitros Magnetic HDL
	mg/dl	91.9	78.0	106	6.95	13.90	
HDL - Cholesterol	mmol/l	3.05	2.59	3.51	0.23	0.46	Direct HDL PEGME
	mg/dl	118	100	136	9.00	18.00	
HDL - Cholesterol	mmol/l	2.50	2.13	2.87	0.19	0.37	Direct Clearance Method
	mg/dl	96.5	82.2	111	7.15	14.30	
HDL - Cholesterol	mmol/l	2.46	2.09	2.83	0.19	0.37	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	95.0	80.7	109	7.15	14.30	
HDL - Cholesterol	mmol/l	2.56	2.18	2.94	0.19	0.38	HDL - Ultra
	mg/dl	98.8	84.1	114	7.35	14.70	

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	3.07	2.61	3.53	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	119	101	137	9.00	18.00	
Immunoglobulin A	g/l	1.80	1.35	2.25	0.23	0.45	Immunoturbidimetric
	mg/dl	180	135	225	22.50	45.00	
Immunoglobulin G	g/l	6.28	5.15	7.41	0.57	1.13	Immunoturbidimetric
	mg/dl	628	515	741	56.50	113.00	
Immunoglobulin M	g/l	0.60	0.48	0.73	0.06	0.12	Immunoturbidimetric
	mg/dl	60.4	48.3	72.5	6.05	12.10	
Iron	µmol/l	37.7	30.9	44.5	3.40	6.80	Colorimetric with ppt.
	µg/dl	211	173	249	19.00	38.00	
	µmol/l	37.9	31.1	44.7	3.40	6.80	Colorimetric without ppt.
	µg/dl	212	174	250	19.00	38.00	
	µmol/l	35.2	28.9	41.5	3.15	6.30	Ortho Vitros Microslide Systems
	µg/dl	197	162	232	17.50	35.00	
Lactate	mmol/l	5.84	4.79	6.89	0.53	1.05	Colorimetric Lactate Oxidase
	mg/dl	52.6	43.2	62.0	4.70	9.40	
	mmol/l	5.28	4.33	6.23	0.48	0.95	Ortho Vitros Microslide Systems
	mg/dl	47.6	39.0	56.2	4.30	8.60	
	mmol/l	5.70	4.67	6.73	0.52	1.03	Enzymatic Electrode
	mg/dl	51.4	42.1	60.7	4.65	9.30	
LD (LDH)	U/l	401	341	461	30.00	60.00	L->P 37°C
	U/l	290	246	334	22.00	44.00	L->P 30°C
	U/l	203	173	233	15.00	30.00	L->P 25°C
	U/l	884	751	1017	66.50	133.00	P->L Scandinavian & Dutch 37°C
	U/l	638	542	734	48.00	96.00	P->L Scandinavian & Dutch 30°C
	U/l	448	381	515	33.50	67.00	P->L Scandinavian & Dutch 25°C

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	790	671	909	59.50	119.00	P->L German methods 37°C
	U/l	570	484	656	43.00	86.00	P->L German methods 30°C
	U/l	401	340	462	30.50	61.00	P->L German methods 25°C
	U/l	785	667	903	59.00	118.00	P->L SFBC 37°C
	U/l	567	482	652	42.50	85.00	P->L SFBC 30°C
	U/l	398	338	458	30.00	60.00	P->L SFBC 25°C
	U/l	409	348	470	30.50	61.00	L->P IFCC 37°C
	U/l	295	251	339	22.00	44.00	L->P IFCC 30°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	436	370	502	33.00	66.00	Ortho Vitros IFCC Traceable 37°C
	U/l	58	47	69	5.50	11.00	Other Colorimetric 37°C
	U/l	542	434	650	54.00	108.00	Ortho Vitros Microslide Systems 37°C
	U/l	61	49	73	6.00	12.00	Roche Colorimetric 37°C
Lithium	U/l	71	57	85	7.00	14.00	Randox Colorimetric 37°C
	mmol/l	1.97	1.73	2.21	0.12	0.24	Ion selective electrode
	mg/dl	1.37	1.20	1.54	0.09	0.17	
	mmol/l	1.90	1.68	2.12	0.11	0.22	Spectrophotometric
mg/dl	1.32	1.17	1.47	0.08	0.15		
Magnesium	mmol/l	1.71	1.50	1.92	0.11	0.21	Arsenazo III
	mg/dl	4.16	3.65	4.67	0.26	0.51	
	mmol/l	1.79	1.58	2.00	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.35	3.84	4.86	0.26	0.51	
	mmol/l	1.76	1.55	1.97	0.11	0.21	Calmagite
	mg/dl	4.28	3.77	4.79	0.26	0.51	

METHOD		ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)						
Lot. No. 1212UE Cat. No. HE1532 / HS2611								
Size 20 x 5ml / 5 x 5ml Expiry 2025-08-28		Range						
Analyte	unit	Target	low	high	1SD	2SD	methods	
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Xylidyl Blue	
	mg/dl	4.25	3.74	4.76	0.26	0.51		
	mmol/l	1.77	1.56	1.98	0.11	0.21	Methylthymol blue	
	mg/dl	4.30	3.79	4.81	0.26	0.51		
	mmol/l	1.73	1.52	1.94	0.11	0.21	Chlorphosphonazo III	
	mg/dl	4.20	3.69	4.71	0.26	0.51		
	mmol/l	1.73	1.52	1.94	0.11	0.21	Enzymatic	
	mg/dl	4.20	3.69	4.71	0.26	0.51		
	NEFA	mmol/l	0.51	0.41	0.61	0.05	0.10	Colorimetric
	Osmolality	mOsm/kg	342	274	410	34.00	68.00	Calculated
mOsm/kg		372	298	446	37.00	74.00	Freezing point depression	
Paracetamol	mmol/l	0.60	0.48	0.71	0.06	0.12	Gravimetric	
	mg/l	90.0	72.0	108	9.00	18.00		
Phosphate Inorganic	mmol/l	2.33	1.98	2.68	0.18	0.35	Ortho Vitros Microslide Systems	
	mg/dl	7.22	6.14	8.30	0.54	1.08		
	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate enzymatic	
	mg/dl	7.25	6.17	8.33	0.54	1.08		
	mmol/l	2.33	1.98	2.68	0.18	0.35	Phosphomolybdate UV	
	mg/dl	7.22	6.14	8.30	0.54	1.08		
	Potassium	mmol/l	6.04	5.56	6.52	0.24	0.48	Ortho Vitros Microslide Systems
		mmol/l	5.95	5.48	6.42	0.24	0.47	ISE method - direct
mmol/l		6.08	5.59	6.57	0.25	0.49	ISE method - indirect	
mmol/l		6.23	5.73	6.73	0.25	0.50	Enzymatic	
Protein Total	g/l	47.8	38.3	57.3	4.75	9.50	Ortho Vitros Microslide Systems	
	g/dl	4.78	3.83	5.73	0.48	0.95		

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	45.9	36.7	55.1	4.60	9.20	Biuret reaction end point
	g/dl	4.59	3.67	5.51	0.46	0.92	
	g/l	45.3	36.2	54.4	4.55	9.10	Biuret reaction kinetic
	g/dl	4.53	3.62	5.44	0.46	0.91	
PSA Total	ng/ml =	16.6	12.4	20.8	2.10	4.20	Siemens Centaur XP/XPT/Classic
	ng/ml =	16.4	12.3	20.5	2.05	4.10	Abbott Architect
	ng/ml =	18.6	14.0	23.2	2.30	4.60	Cobas E411
	ng/ml =	19.3	14.5	24.1	2.40	4.80	Roche Cobas 6000/8000
Salicylate	mmol/l	0.87	0.70	1.04	0.09	0.17	Gravimetric
	mg/dl	12.0	9.59	14.4	1.21	2.41	
Sodium	mmol/l	153	145	161	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	154	147	161	3.50	7.00	ISE method - direct
	mmol/l	156	148	164	4.00	8.00	ISE method - indirect
	mmol/l	157	149	165	4.00	8.00	Enzymatic
Theophylline	µmol/l	139	111	166	13.85	27.70	Gravimetric
	µg/ml	25.0	20.0	30.0	2.50	5.00	
Thyroid Stimulating Hormone	µU/ml =	1.14	0.91	1.37	0.11	0.23	Abbott Architect
	µU/ml =	1.44	1.15	1.73	0.15	0.29	bioMerieux VIDAS TSH
	µU/ml =	1.63	1.30	1.96	0.17	0.33	Roche Cobas 4000/E411
	µU/ml =	1.63	1.30	1.96	0.17	0.33	Roche Cobas e601/602
	µU/ml =	1.29	1.03	1.55	0.13	0.26	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.32	1.06	1.58	0.13	0.26	Beckman Dxl 600/800 Access (3rd IS)
	µU/ml =	1.57	1.26	1.88	0.16	0.31	Roche Cobas e402/e801
TIBC	µmol/l	38.8	30.7	46.9	4.05	8.10	Removal of excess free iron
	µg/dl	217	172	262	22.50	45.00	

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	μmol/l	41.3	32.6	50.0	4.35	8.70	FE+UIBC(saturation with iron)
	μg/dl	231	182	280	24.50	49.00	
	μmol/l	46.0	36.4	55.6	4.80	9.60	Direct Colorimetric
	μg/dl	257	203	311	27.00	54.00	
	μmol/l	42.3	33.4	51.2	4.45	8.90	Calculated from Transferrin
	μg/dl	236	187	285	24.50	49.00	
Tobramycin	μmol/l	15.6	12.5	18.7	1.55	3.10	Gravimetric
	μg/ml	7.30	5.85	8.75	0.73	1.45	
Total T3	nmol/l	2.92	2.19	3.65	0.37	0.73	Abbott Architect
	ng/ml	1.90	1.43	2.37	0.24	0.47	
	ng/dl	190	143	237	23.50	47.00	Abbott Architect
	nmol/l	3.78	2.83	4.73	0.48	0.95	Roche Cobas 4000/E411
	ng/ml	2.46	1.84	3.08	0.31	0.62	
	ng/dl	246	184	308	31.00	62.00	Roche Cobas 4000/E411
	nmol/l	3.71	2.78	4.64	0.47	0.93	Roche Cobas e601/602
	ng/ml	2.42	1.81	3.03	0.31	0.61	
Total T4	ng/dl	242	181	303	30.50	61.00	Roche Cobas e601/602
	nmol/l	231	173	289	29.00	58.00	Abbott Architect
	μg/dl	18.0	13.5	22.5	2.25	4.50	
	ng/ml	180	135	225	22.50	45.00	Abbott Architect
	nmol/l	214	161	267	26.50	53.00	Siemens Immulite 2000/2500
	μg/dl	16.7	12.6	20.8	2.05	4.10	
	ng/ml	167	126	208	20.50	41.00	Siemens Immulite 2000/2500

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	207	156	258	25.50	51.00	Roche Cobas 4000/E411
	µg/dl	16.1	12.2	20.0	1.95	3.90	
	ng/ml	161	122	200	19.50	39.00	Roche Cobas 4000/E411
	nmol/l	200	150	250	25.00	50.00	Roche Cobas e601/602
	µg/dl	15.6	11.7	19.5	1.95	3.90	
	ng/ml	156	117	195	19.50	39.00	Roche Cobas e601/602
	nmol/l	189	142	236	23.50	47.00	Microgenics DRI assay
	µg/dl	14.7	11.1	18.3	1.80	3.60	
Transferrin	ng/ml	147	111	183	18.00	36.00	Microgenics DRI assay
	g/l	1.66	1.33	1.99	0.17	0.33	Immunoturbidimetric
Triglycerides	mg/dl	166	133	199	16.50	33.00	
	mmol/l	3.02	2.54	3.50	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	267	225	309	21.00	42.00	
	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	265	222	308	21.50	43.00	
	mmol/l	3.02	2.53	3.51	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	267	224	310	21.50	43.00	
	mmol/l	2.83	2.37	3.29	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	250	210	290	20.00	40.00	
	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	266	223	309	21.50	43.00	
	mmol/l	3.45	2.90	4.00	0.28	0.55	Ortho Vitros Microslide Systems
mg/dl	305	257	353	24.00	48.00		
UIBC	µmol/l	9.00	7.38	10.6	0.81	1.62	TIBC - FE
	µg/dl	50.3	41.3	59.3	4.50	9.00	

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.84	7.68	10.0	0.58	1.16	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.37	8.16	10.6	0.61	1.21	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	8.16	10.6	0.61	1.21	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.39	8.16	10.6	0.62	1.23	
mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	9.26	8.05	10.5	0.61	1.21		
Urea	mmol/l	18.2	15.4	21.0	1.40	2.80	Ortho Vitros Microslide Systems
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	19.5	16.5	22.5	1.50	3.00	Urease end point
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	
mmol/l	19.3	16.4	22.2	1.45	2.90	Urease - hypochlorite	
mg/dl	116	98.6	133	8.70	17.40		
Vitamin B12	pmol/l	233	186	280	23.50	47.00	Roche Cobas 6000/8000
	pg/ml	316	252	380	32.00	64.00	
Zinc	µmol/l	34.8	27.8	41.8	3.50	7.00	Colorimetric with deproteinisation
	µg/dl	227	182	272	22.50	45.00	

**METHOD (Elec.)**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-1-globulin		8.2	6.2	10.2	0.98	1.97	% of total Protein (Beckman Capillary)
alpha-2-globulin		10.0	7.6	12.4	1.20	2.40	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		59.1	53.2	65.0	2.95	5.90	% of total Protein (Beckman Capillary)
beta-globulin		12.2	9.3	15.1	1.47	2.93	% of total Protein (Beckman Capillary)
gamma-globulin		10.5	8.0	13.0	1.26	2.52	% of total Protein (Beckman Capillary)

Abbott Alinity/ Architect c/ci Svstems®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.6	25.2	34.0	2.20	4.40	Bromocresol Green
	g/dl	2.96	2.52	3.40	0.22	0.44	
	g/l	29.3	24.9	33.7	2.20	4.40	Bromocresol Purple
	g/dl	2.93	2.49	3.37	0.22	0.44	
Alkaline Phosphatase	U/l	369	313	425	28.00	56.00	AMP optimised to IFCC 37°C
	U/l	365	310	420	27.50	55.00	AMP non-optimised 37°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	251	213	289	19.00	38.00	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	306	260	352	23.00	46.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	343	292	394	25.50	51.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	133	106	160	13.50	27.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	45.3	36.3	54.3	4.50	9.00	Enzymatic Colorimetric
Bicarbonate	mmol/l	11.9	9.41	14.4	1.25	2.49	Enzymatic
Bilirubin Direct	µmol/l	33.4	26.4	40.4	3.50	7.00	Diazo with Sulphanilic Acid
	mg/dl	1.95	1.54	2.36	0.21	0.41	
	µmol/l	33.1	26.2	40.0	3.45	6.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.94	1.53	2.35	0.21	0.41	
Bilirubin Total	µmol/l	91.9	72.6	111	9.65	19.30	Diazo with Dichloroaniline (DCA)
	mg/dl	5.38	4.25	6.51	0.57	1.13	
	µmol/l	93.0	73.5	113	9.75	19.50	Diazo with Sulphanilic Acid
	mg/dl	5.44	4.30	6.58	0.57	1.14	


Abbott Alinity/ Architect c/ci Svstems®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	91.6	72.4	111	9.60	19.20	Diazonium ion
	mg/dl	5.36	4.24	6.48	0.56	1.12	
Calcium	mmol/l	3.12	2.81	3.43	0.16	0.31	Arsenazo III
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Cholesterol	mmol/l	7.21	6.28	8.14	0.47	0.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	278	242	314	18.00	36.00	
	mmol/l	7.36	6.40	8.32	0.48	0.96	Cholesterol Oxidase - IDMS
	mg/dl	284	247	321	18.50	37.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	6249	4999	7499	625.00	1250.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	509	417	601	46.00	92.00	CK-NAC serum start (DGKC) 37°C
	U/l	512	420	604	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	518	425	611	46.50	93.00	Abbott CK-NAC (IFCC) 37°C
Creatinine	µmol/l	378	303	453	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.27	3.42	5.12	0.43	0.85	
	µmol/l	367	293	441	37.00	74.00	Enzymatic UV method
	mg/dl	4.15	3.31	4.99	0.42	0.84	
	µmol/l	371	297	445	37.00	74.00	Creatinine PAP method
	mg/dl	4.19	3.36	5.02	0.42	0.83	
gamma-GT	U/l	177	151	203	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	176	150	202	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
HDL - Cholesterol	mmol/l	2.61	2.22	3.00	0.20	0.39	Direct HDL PPD
	mg/dl	101	85.7	116	7.65	15.30	


Abbott Alinity/ Architect c/ci Svstems®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	2.58	2.20	2.96	0.19	0.38	Direct Clearance Method
	mg/dl	99.6	84.9	114	7.35	14.70	
	mmol/l	2.51	2.13	2.89	0.19	0.38	HDL - Ultra
	mg/dl	96.9	82.2	112	7.35	14.70	
Iron	µmol/l	39.2	32.2	46.2	3.50	7.00	Colorimetric with ppt.
	µg/dl	219	180	258	19.50	39.00	
	µmol/l	38.2	31.4	45.0	3.40	6.80	Colorimetric without ppt.
	µg/dl	214	176	252	19.00	38.00	
Lactate	mmol/l	6.06	4.97	7.15	0.55	1.09	Colorimetric Lactate Oxidase
	mg/dl	54.6	44.8	64.4	4.90	9.80	
LD (LDH)	U/l	400	340	460	30.00	60.00	L->P 37°C
	U/l	396	336	456	30.00	60.00	L->P IFCC 37°C
Lipase	U/l	55	44	66	5.50	11.00	Other Colorimetric 37°C
Lithium	mmol/l	1.91	1.68	2.14	0.12	0.23	Spectrophotometric
	mg/dl	1.33	1.17	1.49	0.08	0.16	
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Arsenazo III
	mg/dl	4.13	3.65	4.61	0.24	0.48	
	mmol/l	1.72	1.52	1.92	0.10	0.20	Enzymatic
	mg/dl	4.18	3.69	4.67	0.25	0.49	
Osmolality	mOsm/kg	368	294	442	37.00	74.00	Calculated
Phosphate Inorganic	mmol/l	2.29	1.94	2.64	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.10	6.01	8.19	0.55	1.09	
	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.07	6.01	8.13	0.53	1.06	
Potassium	mmol/l	6.06	5.57	6.55	0.25	0.49	ISE method - indirect


Abbott Alinity/ Architect c/ci Svstems®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	47.2	37.8	56.6	4.70	9.40	Biuret reaction end point
	g/dl	4.72	3.78	5.66	0.47	0.94	
	g/l	47.3	37.8	56.8	4.75	9.50	Biuret reaction kinetic
	g/dl	4.73	3.78	5.68	0.48	0.95	
Sodium	mmol/l	155	148	162	3.50	7.00	ISE method - indirect
TIBC	μmol/l	43.2	34.2	52.2	4.50	9.00	FE+UIBC(saturation with iron)
	μg/dl	241	191	291	25.00	50.00	
	μmol/l	42.5	33.6	51.4	4.45	8.90	Calculated from Transferrin
	μg/dl	238	188	288	25.00	50.00	
Triglycerides	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	224	308	21.00	42.00	
	mmol/l	3.01	2.53	3.49	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	266	224	308	21.00	42.00	
Urea	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	266	223	309	21.50	43.00	
	μmol/l	4.42	3.62	5.22	0.40	0.80	Direct Colorimetric
	μg/dl	24.7	20.2	29.2	2.25	4.50	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	8.10	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
Urea	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease end point
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease kinetic
	mg/dl	119	102	136	8.50	17.00	

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

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	

**ABX Pentra 400®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
ALT (GPT)	U/l	139	112	166	13.50	27.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	32.7	25.8	39.6	3.45	6.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.91	1.51	2.31	0.20	0.40	
Cholesterol	mmol/l	7.68	6.68	8.68	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	258	334	19.00	38.00	
Creatinine	µmol/l	367	293	441	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.15	3.31	4.99	0.42	0.84	
gamma-GT	U/l	183	155	211	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
Lactate	mmol/l	5.54	4.54	6.54	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	49.9	40.9	58.9	4.50	9.00	
Protein Total	g/l	47.3	37.8	56.8	4.75	9.50	Biuret reaction end point
	g/dl	4.73	3.78	5.68	0.48	0.95	
Triglycerides	mmol/l	3.06	2.57	3.55	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	271	227	315	22.00	44.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.05	10.5	0.61	1.21	

**ABX Pentra 400®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	18.7	15.9	21.5	1.40	2.80	Urease kinetic
	mg/dl	112	95.6	128	8.20	16.40	
	mmol/l	18.7	15.9	21.5	1.40	2.80	BUN
	mg/dl	52.5	44.6	60.4	3.95	7.90	



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Green
	g/dl	2.87	2.44	3.30	0.22	0.43	
	g/l	29.4	25.0	33.8	2.20	4.40	Bromocresol Purple
	g/dl	2.94	2.50	3.38	0.22	0.44	
Alkaline Phosphatase	U/l	429	365	493	32.00	64.00	AMP optimised to IFCC 37°C
	U/l	396	337	455	29.50	59.00	Beckman (Extinction Coefficient) 37°C
ALT (GPT)	U/l	128	102	154	13.00	26.00	Beckman (Extinction Coefficient) 37°C
	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
Amylase Total	U/l	271	230	312	20.50	41.00	Beckman (Extinction Coefficient) 37°C
	U/l	292	248	336	22.00	44.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	281	239	323	21.00	42.00	Other 2-chloro-pNPG3 37°C
AST (GOT)	U/l	134	107	161	13.50	27.00	Beckman (Extinction Coefficient) 37°C
	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.1	12.0	18.2	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	27.4	21.6	33.2	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Bilirubin Total	µmol/l	96.8	76.5	117	10.15	20.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.66	4.48	6.84	0.59	1.18	
	µmol/l	92.3	72.9	112	9.70	19.40	DPD (Beckman AU)
	mg/dl	5.40	4.26	6.54	0.57	1.14	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Arsenazo III
	mg/dl	12.7	11.5	13.9	0.60	1.20	



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	3.15	2.84	3.46	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.6	11.4	13.8	0.60	1.20	
Cholesterol	mmol/l	7.40	6.44	8.36	0.48	0.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	286	249	323	18.50	37.00	
	mmol/l	7.66	6.66	8.66	0.50	1.00	Cholesterol Oxidase - IDMS
	mg/dl	296	257	335	19.50	39.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholinesterase	U/l	5083	4066	6100	508.50	1017.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	522	428	616	47.00	94.00	Beckman (Extinction Coefficient) 37°C
	U/l	544	446	642	49.00	98.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	344	275	413	34.50	69.00	Alkaline picrate no deproteinization
	mg/dl	3.89	3.11	4.67	0.39	0.78	
	µmol/l	382	306	458	38.00	76.00	Enzymatic UV method
	mg/dl	4.32	3.46	5.18	0.43	0.86	
	µmol/l	361	289	433	36.00	72.00	IDMS traceable
	mg/dl	4.08	3.27	4.89	0.41	0.81	
	µmol/l	346	277	415	34.50	69.00	Jaffe rate blanked
	mg/dl	3.91	3.13	4.69	0.39	0.78	
gamma-GT	U/l	187	159	215	14.00	28.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	185	157	213	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	32	25	39	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	2.71	2.30	3.12	0.21	0.41	Direct Clearance Method
	mg/dl	105	88.8	121	8.10	16.20	
	mmol/l	2.57	2.18	2.96	0.20	0.39	Direct HDL Immunoseparation
	mg/dl	99.2	84.1	114	7.55	15.10	
Iron	mmol/l	2.86	2.43	3.29	0.22	0.43	HDL - Ultra
	mg/dl	110	93.8	126	8.10	16.20	
	µmol/l	38.5	31.6	45.4	3.45	6.90	Colorimetric with ppt.
	µg/dl	215	177	253	19.00	38.00	
Lactate	µmol/l	38.6	31.7	45.5	3.45	6.90	Colorimetric without ppt.
	µg/dl	216	177	255	19.50	39.00	
	mmol/l	5.73	4.70	6.76	0.52	1.03	Colorimetric Lactate Oxidase
	mg/dl	51.6	42.3	60.9	4.65	9.30	
LD (LDH)	U/l	371	315	427	28.00	56.00	L to P Beckman (Extinction Coeff) 37°C
	U/l	406	345	467	30.50	61.00	L->P IFCC 37°C
	U/l	882	750	1014	66.00	132.00	P->L Scandinavian & Dutch 37°C
	U/l	392	333	451	29.50	59.00	L->P 37°C
Lipase	U/l	59	47	71	6.00	12.00	Other Colorimetric 37°C
Lithium	mmol/l	1.90	1.67	2.13	0.12	0.23	Spectrophotometric
	mg/dl	1.32	1.16	1.48	0.08	0.16	
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Xylidyl Blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.37	2.01	2.73	0.18	0.36	Beckman PHOSm (365nm)
	mg/dl	7.35	6.23	8.47	0.56	1.12	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	2.35	2.00	2.70	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.29	6.20	8.38	0.55	1.09	
Potassium	mmol/l	6.04	5.56	6.52	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.7	36.6	54.8	4.55	9.10	Biuret reaction end point
	g/dl	4.57	3.66	5.48	0.46	0.91	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - indirect
TIBC	µmol/l	43.5	34.4	52.6	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	243	192	294	25.50	51.00	
Triglycerides	mmol/l	3.02	2.54	3.50	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	267	225	309	21.00	42.00	
	mmol/l	3.04	2.55	3.53	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	269	226	312	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	8.38	10.9	0.63	1.25	
	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.64	8.38	10.9	0.63	1.26	
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease end point
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Purple
	g/dl	2.90	2.46	3.34	0.22	0.44	
Alkaline Phosphatase	U/l	387	329	445	29.00	58.00	AMP optimised to IFCC 37°C
Amylase Total	U/l	298	253	343	22.50	45.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Beckman Mod. IFCC Ref. without P5P 37°C
Calcium	mmol/l	3.12	2.81	3.43	0.16	0.31	Ion selective electrode
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Creatinine	µmol/l	382	305	459	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.32	3.45	5.19	0.44	0.87	
Glucose	mmol/l	15.0	12.8	17.2	1.10	2.20	Glucose oxidase
	mg/dl	270	231	309	19.50	39.00	
HDL - Cholesterol	mmol/l	2.74	2.32	3.16	0.21	0.42	HDL - Ultra
	mg/dl	106	89.6	122	8.20	16.40	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Calmagite
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Phosphate Inorganic	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.32	6.23	8.41	0.55	1.09	
Potassium	mmol/l	6.06	5.58	6.54	0.24	0.48	ISE method - indirect
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.07	2.57	3.57	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	272	227	317	22.50	45.00	

**Beckman DxC600/800®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.06	10.5	0.60	1.20	


COBAS INTEGRA®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.9	27.1	36.7	2.40	4.80	Bromocresol Green
	g/dl	3.19	2.71	3.67	0.24	0.48	
	g/l	28.2	24.0	32.4	2.10	4.20	Turbidimetric Assays
	g/dl	2.82	2.40	3.24	0.21	0.42	
Alkaline Phosphatase	U/l	352	300	404	26.00	52.00	Roche Integra AMP buffer 37°C
	U/l	274	234	314	20.00	40.00	Roche Integra AMP buffer 30°C
	U/l	225	192	258	16.50	33.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	97	145	12.00	24.00	Tris buffer without P5P 37°C
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 30°C
	U/l	68	55	81	6.50	13.00	Tris buffer without P5P 25°C
Amylase Total	U/l	280	238	322	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	278	236	320	21.00	42.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	282	239	325	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	36.3	28.7	43.9	3.80	7.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.12	1.68	2.56	0.22	0.44	
	µmol/l	35.4	28.0	42.8	3.70	7.40	Diazo with Sulphanilic Acid
	mg/dl	2.07	1.64	2.50	0.22	0.43	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	35.0	27.6	42.4	3.70	7.40	Roche DPD JG standardised
	mg/dl	2.05	1.61	2.49	0.22	0.44	
Bilirubin Total	µmol/l	84.8	67.0	103	8.90	17.80	Diazo with Sulphanilic Acid
	mg/dl	4.96	3.92	6.00	0.52	1.04	
	µmol/l	83.9	66.3	102	8.80	17.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.91	3.88	5.94	0.52	1.03	
Calcium	µmol/l	85.0	67.2	103	8.90	17.80	Diazonium ion
	mg/dl	4.97	3.93	6.01	0.52	1.04	
	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
		mg/dl	12.7	11.5	13.9	0.60	
Cholesterol	mmol/l	3.18	2.86	3.50	0.16	0.32	NM-BAPTA
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	7.31	6.36	8.26	0.48	0.95	Cholesterol Oxidase - Abell Kendall
		mg/dl	282	245	319	18.50	
mg/dl	7.31	6.36	8.26	0.48	0.95	Cholesterol Oxidase - IDMS	
	282	245	319	18.50	37.00		
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
CK Total	U/l	494	405	583	44.50	89.00	CK-NAC (IFCC) 37°C
	U/l	309	254	364	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	210	172	248	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	360	288	432	36.00	72.00	Alkaline picrate with deproteinization
	mg/dl	4.07	3.25	4.89	0.41	0.82	
	µmol/l	350	280	420	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.96	3.16	4.76	0.40	0.80	
	µmol/l	374	299	449	37.50	75.00	Enzymatic UV method
	mg/dl	4.23	3.38	5.08	0.43	0.85	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Creatinine	µmol/l	370	296	444	37.00	74.00	Roche Creatinine Plus	
	mg/dl	4.18	3.34	5.02	0.42	0.84		
	µmol/l	357	285	429	36.00	72.00	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	4.03	3.22	4.84	0.41	0.81		
	µmol/l	352	281	423	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)	
	mg/dl	3.98	3.18	4.78	0.40	0.80		
	gamma-GT	U/l	167	142	192	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	132	112	152	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l		103	88	118	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
	U/l	187	159	215	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
	U/l	147	125	169	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
	U/l	115	98	132	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase	
	mg/dl	281	240	322	20.50	41.00		
HDL - Cholesterol	mmol/l	3.15	2.68	3.62	0.24	0.47	Direct HDL Roche 4th Generation	
	mg/dl	122	103	141	9.50	19.00		
Iron	µmol/l	38.2	31.3	45.1	3.45	6.90	Colorimetric with ppt.	
	µg/dl	214	175	253	19.50	39.00		
	µmol/l	38.6	31.7	45.5	3.45	6.90	Colorimetric without ppt.	
	µg/dl	216	177	255	19.50	39.00		
Lactate	mmol/l	5.82	4.77	6.87	0.53	1.05	Colorimetric Lactate Oxidase	
	mg/dl	52.4	43.0	61.8	4.70	9.40		
LD (LDH)	U/l	418	355	481	31.50	63.00	L->P IFCC 37°C	
	U/l	302	256	348	23.00	46.00	L->P IFCC 30°C	
	U/l	212	180	244	16.00	32.00	L->P IFCC 25°C	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	58	47	69	5.50	11.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.91	1.68	2.14	0.12	0.23	Ion selective electrode
	mg/dl	1.33	1.17	1.49	0.08	0.16	
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Xylidyl Blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	mmol/l	1.71	1.51	1.91	0.10	0.20	Chlorphosphonazo III
	mg/dl	4.16	3.67	4.65	0.25	0.49	
Phosphate Inorganic	mmol/l	2.41	2.05	2.77	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.47	6.36	8.58	0.56	1.11	
	mmol/l	2.40	2.04	2.76	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.44	6.32	8.56	0.56	1.12	
Potassium	mmol/l	6.08	5.59	6.57	0.25	0.49	ISE method - indirect
Protein Total	g/l	43.9	35.1	52.7	4.40	8.80	Biuret reaction end point
	g/dl	4.39	3.51	5.27	0.44	0.88	
Sodium	mmol/l	154	147	161	3.50	7.00	ISE method - indirect
TIBC	µmol/l	40.5	32.0	49.0	4.25	8.50	FE+UIBC(saturation with iron)
	µg/dl	226	179	273	23.50	47.00	
Triglycerides	mmol/l	3.04	2.55	3.53	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	269	226	312	21.50	43.00	
	mmol/l	2.96	2.49	3.43	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	262	220	304	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	8.28	10.8	0.63	1.25	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	8.23	10.7	0.62	1.23	

**COBAS INTEGRA®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.53	8.28	10.8	0.63	1.25	
Urea	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	18.9	16.1	21.7	1.40	2.80	BUN
	mg/dl	53.0	45.1	60.9	3.95	7.90	


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

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.1	24.7	33.5	2.20	4.40	Bromocresol Green
	g/dl	2.91	2.47	3.35	0.22	0.44	
Alkaline Phosphatase	U/l	385	327	443	29.00	58.00	AMP optimised to IFCC 37°C
	U/l	300	255	345	22.50	45.00	AMP optimised to IFCC 30°C
	U/l	246	209	283	18.50	37.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	107	85	129	11.00	22.00	Tris buffer without P5P 30°C
	U/l	81	65	97	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	88.3	69.7	107	9.30	18.60	Diazo with Sulphanilic Acid
	mg/dl	5.17	4.08	6.26	0.55	1.09	
	µmol/l	90.5	71.5	110	9.50	19.00	Nitrobenzenediazonium salt
	mg/dl	5.29	4.18	6.40	0.56	1.11	
Calcium	mmol/l	3.28	2.95	3.61	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.8	14.4	0.65	1.30	
Cholesterol	mmol/l	7.25	6.31	8.19	0.47	0.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	244	316	18.00	36.00	
CK Total	U/l	535	438	632	48.50	97.00	CK-NAC (IFCC) 37°C
	U/l	335	274	396	30.50	61.00	CK-NAC (IFCC) 30°C
	U/l	227	186	268	20.50	41.00	CK-NAC (IFCC) 25°C

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

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	373	298	448	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.21	3.37	5.05	0.42	0.84	
gamma-GT	U/l	179	152	206	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	120	162	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	94	126	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	3.18	2.70	3.66	0.24	0.48	Direct HDL PEGME
	mg/dl	123	104	142	9.50	19.00	
Iron	µmol/l	39.3	32.3	46.3	3.50	7.00	Colorimetric without ppt.
	µg/dl	220	181	259	19.50	39.00	
Magnesium	mmol/l	1.73	1.53	1.93	0.10	0.20	Xylidyl Blue
	mg/dl	4.20	3.72	4.68	0.24	0.48	
Phosphate Inorganic	mmol/l	2.37	2.01	2.73	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.35	6.23	8.47	0.56	1.12	
Potassium	mmol/l	5.96	5.48	6.44	0.24	0.48	ISE method - direct
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction end point
	g/dl	4.75	3.80	5.70	0.48	0.95	
Sodium	mmol/l	151	144	158	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	3.15	2.64	3.66	0.26	0.51	Lipase/GPO-PAP no correction
	mg/dl	279	234	324	22.50	45.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	



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

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	18.7	15.9	21.5	1.40	2.80	Urease kinetic
	mg/dl	112	95.6	128	8.20	16.40	
	mmol/l	18.7	15.9	21.5	1.40	2.80	BUN
	mg/dl	52.5	44.6	60.4	3.95	7.90	


Ortho VITROS®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.8	25.4	34.2	2.20	4.40	Ortho Vitros Microslide Systems
	g/dl	2.98	2.54	3.42	0.22	0.44	
Alkaline Phosphatase	U/l	283	241	325	21.00	42.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	135	108	162	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	132	105	159	13.50	27.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	182	155	209	13.50	27.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	175	140	210	17.50	35.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	15.8	12.5	19.1	1.65	3.30	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	85.3	67.4	103	8.95	17.90	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.99	3.94	6.04	0.53	1.05	
Bilirubin, Unconjugated Vitros BU	µmol/l	80.5	63.6	97.4	8.45	16.90	BuBc Vitros Slide
	mg/dl	4.71	3.72	5.70	0.50	0.99	
Calcium	mmol/l	3.15	2.83	3.47	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	7.00	6.09	7.91	0.46	0.91	Ortho Vitros Microslide Systems
	mg/dl	270	235	305	17.50	35.00	
Chloride	mmol/l	114	104	124	5.00	10.00	Ortho Vitros Microslide Systems
CK Total	U/l	438	359	517	39.50	79.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	375	300	450	37.50	75.00	Vitros IDMS Traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
Free T4	pmol/l	91.7	68.8	115	11.45	22.90	Vitros ECi
	ng/dl	7.15	5.37	8.93	0.89	1.78	
	pg/ml	71.5	53.7	89.3	8.90	17.80	


Ortho VITROS®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	212	180	244	16.00	32.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	14.6	12.4	16.8	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	263	223	303	20.00	40.00	
HDL - Cholesterol	mmol/l	2.38	2.02	2.74	0.18	0.36	Vitros Magnetic HDL
	mg/dl	91.9	78.0	106	6.95	13.90	
	mmol/l	2.46	2.09	2.83	0.19	0.37	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	95.0	80.7	109	7.15	14.30	
Iron	µmol/l	35.2	28.9	41.5	3.15	6.30	Ortho Vitros Microslide Systems
	µg/dl	197	162	232	17.50	35.00	
Lactate	mmol/l	5.28	4.33	6.23	0.48	0.95	Ortho Vitros Microslide Systems
	mg/dl	47.6	39.0	56.2	4.30	8.60	
LD (LDH)	U/l	436	370	502	33.00	66.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	542	434	650	54.00	108.00	Ortho Vitros Microslide Systems 37°C
Magnesium	mmol/l	1.79	1.58	2.00	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.35	3.84	4.86	0.26	0.51	
Phosphate Inorganic	mmol/l	2.33	1.98	2.68	0.18	0.35	Ortho Vitros Microslide Systems
	mg/dl	7.22	6.14	8.30	0.54	1.08	
Potassium	mmol/l	6.04	5.56	6.52	0.24	0.48	Ortho Vitros Microslide Systems
Protein Total	g/l	47.8	38.3	57.3	4.75	9.50	Ortho Vitros Microslide Systems
	g/dl	4.78	3.83	5.73	0.48	0.95	
Sodium	mmol/l	153	145	161	4.00	8.00	Ortho Vitros Microslide Systems
Triglycerides	mmol/l	3.45	2.90	4.00	0.28	0.55	Ortho Vitros Microslide Systems
	mg/dl	305	257	353	24.00	48.00	

**Ortho VITROS®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.84	7.68	10.0	0.58	1.16	
Urea	mmol/l	18.2	15.4	21.0	1.40	2.80	Ortho Vitros Microslide Systems
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	18.2	15.5	20.9	1.35	2.70	BUN
	mg/dl	51.1	43.4	58.8	3.85	7.70	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.6	26.9	36.3	2.35	4.70	Bromocresol Green
	g/dl	3.16	2.69	3.63	0.24	0.47	
	g/l	27.5	23.4	31.6	2.05	4.10	Turbidimetric Assays
	g/dl	2.75	2.34	3.16	0.21	0.41	
Alkaline Phosphatase	U/l	347	295	399	26.00	52.00	Roche Integra AMP buffer 37°C
	U/l	270	230	310	20.00	40.00	Roche Integra AMP buffer 30°C
	U/l	222	189	255	16.50	33.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	124	99	149	12.50	25.00	Tris buffer without P5P 37°C
	U/l	92	73	111	9.50	19.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	249	211	287	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	277	235	319	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	274	233	315	20.50	41.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	273	232	314	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	43.1	34.5	51.7	4.30	8.60	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.3	11.4	17.2	1.45	2.90	Colorimetric
	mmol/l	13.8	10.9	16.7	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	34.7	27.4	42.0	3.65	7.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.03	1.60	2.46	0.22	0.43	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	34.8	27.5	42.1	3.65	7.30	Diazo with Sulphanilic Acid
	mg/dl	2.04	1.61	2.47	0.22	0.43	
	µmol/l	35.1	27.7	42.5	3.70	7.40	Roche DPD JG standardised
	mg/dl	2.05	1.62	2.48	0.22	0.43	
Bilirubin Total	µmol/l	30.3	23.9	36.7	3.20	6.40	Roche DPD Dumas standardised
	mg/dl	1.77	1.40	2.14	0.19	0.37	
	µmol/l	79.3	62.7	95.9	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.64	3.67	5.61	0.49	0.97	
Bilirubin Total	µmol/l	80.8	63.8	97.8	8.50	17.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.73	3.73	5.73	0.50	1.00	
	µmol/l	80.6	63.7	97.5	8.45	16.90	Diazonium ion
	mg/dl	4.72	3.73	5.71	0.50	0.99	
Calcium	mmol/l	3.17	2.85	3.49	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.18	2.86	3.50	0.16	0.32	NM-BAPTA
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Cholesterol	mmol/l	7.28	6.34	8.22	0.47	0.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	245	317	18.00	36.00	
	mmol/l	7.27	6.33	8.21	0.47	0.94	Cholesterol Oxidase - IDMS
	mg/dl	281	244	318	18.50	37.00	
Chloride	mmol/l	109	100	118	4.50	9.00	ISE indirect
Cholinesterase	U/l	5313	4250	6376	531.50	1063.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	506	415	597	45.50	91.00	CK-NAC substrate start (DGKC) 37°C
	U/l	317	260	374	28.50	57.00	CK-NAC substrate start (DGKC) 30°C
	U/l	215	176	254	19.50	39.00	CK-NAC substrate start (DGKC) 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	496	407	585	44.50	89.00	CK-NAC (IFCC) 37°C
	U/l	310	255	365	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	362	289	435	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.09	3.27	4.91	0.41	0.82	
	µmol/l	376	301	451	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	361	289	433	36.00	72.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.08	3.27	4.89	0.41	0.81	
D-3-Hydroxybutyrate	µmol/l	363	290	436	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.10	3.28	4.92	0.41	0.82	
D-3-Hydroxybutyrate	mmol/l	1.16	0.98	1.34	0.09	0.18	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	74.6	55.9	93.3	9.35	18.70	Roche Cobas e601/602
	ng/dl	5.82	4.36	7.28	0.73	1.46	
	pg/ml	58.2	43.6	72.8	7.30	14.60	Roche Cobas e601/602
gamma-GT	U/l	164	140	188	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	110	148	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	186	158	214	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	147	125	169	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	115	97	133	9.00	18.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	28	22	34	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	22	17	27	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	17	14	20	1.50	3.00	Triethanolamine buffer 50 mmol 25°C

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Hexokinase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	3.07	2.61	3.53	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	119	101	137	9.00	18.00	
Iron	µmol/l	37.1	30.5	43.7	3.30	6.60	Colorimetric with ppt.
	µg/dl	207	170	244	18.50	37.00	
	µmol/l	37.6	30.8	44.4	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.80	4.75	6.85	0.53	1.05	Colorimetric Lactate Oxidase
	mg/dl	52.3	42.8	61.8	4.75	9.50	
LD (LDH)	U/l	409	348	470	30.50	61.00	L->P 37°C
	U/l	295	251	339	22.00	44.00	L->P 30°C
	U/l	207	176	238	15.50	31.00	L->P 25°C
	U/l	415	353	477	31.00	62.00	P->L German methods 37°C
	U/l	300	255	345	22.50	45.00	P->L German methods 30°C
	U/l	210	179	241	15.50	31.00	P->L German methods 25°C
	U/l	413	351	475	31.00	62.00	L->P IFCC 37°C
	U/l	298	253	343	22.50	45.00	L->P IFCC 30°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	61	49	73	6.00	12.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.92	1.69	2.15	0.12	0.23	Spectrophotometric
	mg/dl	1.33	1.17	1.49	0.08	0.16	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Xylidyl Blue
	mg/dl	4.23	3.72	4.74	0.26	0.51	
	mmol/l	1.74	1.53	1.95	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.23	3.72	4.74	0.26	0.51	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Osmolality	mOsm/kg	335	268	402	33.50	67.00	Calculated
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.25	6.17	8.33	0.54	1.08	
	mmol/l	2.32	1.97	2.67	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.19	6.11	8.27	0.54	1.08	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
	g/l	44.9	35.9	53.9	4.50	9.00	Biuret reaction kinetic
	g/dl	4.49	3.59	5.39	0.45	0.90	
PSA Total	ng/ml =	19.3	14.5	24.1	2.40	4.80	Roche Cobas 6000/8000
Sodium	mmol/l	155	148	162	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.63	1.30	1.96	0.17	0.33	Roche Cobas e601/602
TIBC	μmol/l	39.6	31.3	47.9	4.15	8.30	FE+UIBC(saturation with iron)
	μg/dl	221	175	267	23.00	46.00	
	μmol/l	44.6	35.3	53.9	4.65	9.30	Calculated from Transferrin
	μg/dl	249	197	301	26.00	52.00	
Total T3	nmol/l	3.71	2.78	4.64	0.47	0.93	Roche Cobas e601/602
	ng/ml	2.42	1.81	3.03	0.31	0.61	
	ng/dl	242	181	303	30.50	61.00	Roche Cobas e601/602
Triglycerides	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	224	308	21.00	42.00	
	mmol/l	3.01	2.53	3.49	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	266	224	308	21.00	42.00	

**Roche Cobas 6000 c501 e601**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	7.91	10.3	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	7.91	10.3	0.60	1.20	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	32.0	27.2	36.8	2.40	4.80	Bromocresol Green
	g/dl	3.20	2.72	3.68	0.24	0.48	
Alkaline Phosphatase	U/l	356	303	409	26.50	53.00	Roche Integra AMP buffer 37°C
	U/l	277	236	318	20.50	41.00	Roche Integra AMP buffer 30°C
	U/l	227	194	260	16.50	33.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	127	101	153	13.00	26.00	Tris buffer without P5P 37°C
	U/l	94	75	113	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	279	237	321	21.00	42.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	83.1	65.6	101	8.75	17.50	Diazo with Sulphanilic Acid
	mg/dl	4.86	3.84	5.88	0.51	1.02	
	µmol/l	82.1	64.9	99.3	8.60	17.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	3.80	5.80	0.50	1.00	
Calcium	mmol/l	3.16	2.84	3.48	0.16	0.32	NM-BAPTA
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Cholesterol	mmol/l	7.31	6.36	8.26	0.48	0.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	282	245	319	18.50	37.00	
	mmol/l	7.02	6.11	7.93	0.46	0.91	Cholesterol Oxidase - IDMS
	mg/dl	271	236	306	17.50	35.00	



Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	372	298	446	37.00	74.00	Roche Creatinine Plus
	mg/dl	4.20	3.37	5.03	0.42	0.83	
	µmol/l	353	283	423	35.00	70.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.99	3.20	4.78	0.40	0.79	
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.22	2.74	3.70	0.24	0.48	Direct HDL Roche 4th Generation
	mg/dl	124	106	142	9.00	18.00	
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Chlorophosphonazo III
	mg/dl	4.13	3.65	4.61	0.24	0.48	
Phosphate Inorganic	mmol/l	2.37	2.01	2.73	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.35	6.23	8.47	0.56	1.12	
Protein Total	g/l	47.8	38.2	57.4	4.80	9.60	Biuret reaction end point
	g/dl	4.78	3.82	5.74	0.48	0.96	
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	254	213	295	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.92	7.76	10.1	0.58	1.16	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.6	26.8	36.4	2.40	4.80	Bromocresol Green
	g/dl	3.16	2.68	3.64	0.24	0.48	
	g/l	29.3	24.9	33.7	2.20	4.40	Bromocresol Purple
	g/dl	2.93	2.49	3.37	0.22	0.44	
Alkaline Phosphatase	U/l	338	288	388	25.00	50.00	Roche Integra AMP buffer 37°C
	U/l	263	224	302	19.50	39.00	Roche Integra AMP buffer 30°C
	U/l	216	184	248	16.00	32.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	125	100	150	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	249	212	286	18.50	37.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	273	232	314	20.50	41.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	278	236	320	21.00	42.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
	U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	35.2	27.8	42.6	3.70	7.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.06	1.63	2.49	0.22	0.43	
	µmol/l	35.0	27.6	42.4	3.70	7.40	Diazo with Sulphanilic Acid
	mg/dl	2.05	1.61	2.49	0.22	0.44	
	µmol/l	34.4	27.2	41.6	3.60	7.20	Roche DPD JG standardised
	mg/dl	2.01	1.59	2.43	0.21	0.42	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	83.7	66.1	101	8.80	17.60	Diazo with Sulphanilic Acid
	mg/dl	4.90	3.87	5.93	0.52	1.03	
	µmol/l	82.4	65.1	99.7	8.65	17.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.82	3.81	5.83	0.51	1.01	
Calcium	µmol/l	81.2	64.1	98.3	8.55	17.10	Diazonium ion
	mg/dl	4.75	3.75	5.75	0.50	1.00	
	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
		mg/dl	12.8	11.5	14.1	0.65	
Cholesterol	mmol/l	7.35	6.40	8.30	0.48	0.95	Cholesterol Oxidase - Abell Kendall
		mg/dl	284	247	321	18.50	
	mmol/l	7.18	6.25	8.11	0.47	0.93	Cholesterol Oxidase - IDMS
		mg/dl	277	241	313	18.00	
Chloride	mmol/l	109	99.9	118	4.55	9.10	ISE indirect
CK Total	U/l	506	415	597	45.50	91.00	CK-NAC (IFCC) 37°C
	U/l	317	260	374	28.50	57.00	CK-NAC (IFCC) 30°C
	U/l	215	176	254	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	379	303	455	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.28	3.42	5.14	0.43	0.86	
	µmol/l	384	307	461	38.50	77.00	Enzymatic UV method
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	µmol/l	381	305	457	38.00	76.00	Roche Creatinine Plus
	mg/dl	4.31	3.45	5.17	0.43	0.86	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	374	299	449	37.50	75.00	Jaffe rate blanked
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	366	292	440	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.14	3.30	4.98	0.42	0.84	
gamma-GT	U/l	166	141	191	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	131	111	151	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	187	159	215	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	147	125	169	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	115	98	132	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.04	2.58	3.50	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	117	99.6	134	8.70	17.40	
Iron	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric without ppt.
	µg/dl	211	173	249	19.00	38.00	
Lactate	mmol/l	5.93	4.86	7.00	0.54	1.07	Colorimetric Lactate Oxidase
	mg/dl	53.4	43.8	63.0	4.80	9.60	
LD (LDH)	U/l	412	351	473	30.50	61.00	L->P IFCC 37°C
	U/l	297	253	341	22.00	44.00	L->P IFCC 30°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	60	48	72	6.00	12.00	Roche Colorimetric 37°C
	U/l	59	48	70	5.50	11.00	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Xylidyl Blue
	mg/dl	4.25	3.74	4.76	0.26	0.51	
	mmol/l	1.73	1.52	1.94	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.20	3.69	4.71	0.26	0.51	
Phosphate Inorganic	mmol/l	2.32	1.97	2.67	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.19	6.11	8.27	0.54	1.08	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.3	36.3	54.3	4.50	9.00	Biuret reaction end point
	g/dl	4.53	3.63	5.43	0.45	0.90	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
TIBC	µmol/l	40.0	31.6	48.4	4.20	8.40	FE+UIBC(saturation with iron)
	µg/dl	224	177	271	23.50	47.00	
Triglycerides	mmol/l	3.02	2.53	3.51	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	267	224	310	21.50	43.00	
UIBC	µmol/l	3.05	2.50	3.60	0.28	0.55	Direct Colorimetric
	µg/dl	17.0	14.0	20.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.05	10.5	0.61	1.21	
Urea	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease kinetic
	mg/dl	119	102	136	8.50	17.00	
	mmol/l	19.8	16.8	22.8	1.50	3.00	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.7	27.0	36.4	2.35	4.70	Bromocresol Green
	g/dl	3.17	2.70	3.64	0.24	0.47	
	g/l	27.7	23.6	31.8	2.05	4.10	Bromocresol Purple
	g/dl	2.77	2.36	3.18	0.21	0.41	
	g/l	28.9	24.5	33.3	2.20	4.40	Turbidimetric Assays
	g/dl	2.89	2.45	3.33	0.22	0.44	
Alkaline Phosphatase	U/l	340	289	391	25.50	51.00	Roche Integra AMP buffer 37°C
	U/l	265	225	305	20.00	40.00	Roche Integra AMP buffer 30°C
	U/l	217	185	249	16.00	32.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	125	100	150	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	246	209	283	18.50	37.00	Roche EPS Liquid 37°C
Amylase Total	U/l	275	234	316	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
	U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	44.1	35.3	52.9	4.40	8.80	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.1	11.2	17.0	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	36.1	28.5	43.7	3.80	7.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.11	1.67	2.55	0.22	0.44	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	34.1	26.9	41.3	3.60	7.20	Diazo with Sulphanilic Acid
	mg/dl	1.99	1.57	2.41	0.21	0.42	
	µmol/l	35.0	27.6	42.4	3.70	7.40	Roche DPD JG standardised
	mg/dl	2.05	1.61	2.49	0.22	0.44	
Bilirubin Total	µmol/l	28.5	22.5	34.5	3.00	6.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	80.8	63.9	97.7	8.45	16.90	Diazo with Sulphanilic Acid
	mg/dl	4.73	3.74	5.72	0.50	0.99	
Bilirubin Total	µmol/l	81.7	64.5	98.9	8.60	17.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.78	3.77	5.79	0.51	1.01	
	µmol/l	81.1	64.1	98.1	8.50	17.00	Diazonium ion
	mg/dl	4.74	3.75	5.73	0.50	0.99	
Calcium	mmol/l	3.16	2.84	3.48	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.15	2.84	3.46	0.16	0.31	NM-BAPTA
	mg/dl	12.6	11.4	13.8	0.60	1.20	
Cholesterol	mmol/l	7.27	6.32	8.22	0.48	0.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	244	318	18.50	37.00	
	mmol/l	7.29	6.34	8.24	0.48	0.95	Cholesterol Oxidase - IDMS
	mg/dl	281	245	317	18.00	36.00	
Cholinesterase	U/l	5198	4158	6238	520.00	1040.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	497	407	587	45.00	90.00	CK-NAC (IFCC) 37°C
	U/l	311	255	367	28.00	56.00	CK-NAC (IFCC) 30°C
	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	379	303	455	38.00	76.00	Roche Creatinine Plus
	mg/dl	4.28	3.42	5.14	0.43	0.86	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	369	295	443	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.17	3.33	5.01	0.42	0.84	
gamma-GT	U/l	163	138	188	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	85	117	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	182	155	209	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	122	164	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	96	128	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Hexokinase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	3.06	2.60	3.52	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	118	100	136	9.00	18.00	
Iron	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric with ppt.
	µg/dl	206	169	243	18.50	37.00	
	µmol/l	36.1	29.6	42.6	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	165	239	18.50	37.00	
Lactate	mmol/l	5.75	4.71	6.79	0.52	1.04	Colorimetric Lactate Oxidase
	mg/dl	51.8	42.4	61.2	4.70	9.40	
LD (LDH)	U/l	412	351	473	30.50	61.00	L->P IFCC 37°C
	U/l	297	253	341	22.00	44.00	L->P IFCC 30°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	62	50	74	6.00	12.00	
Lithium	mmol/l	1.91	1.68	2.14	0.12	0.23	Spectrophotometric
	mg/dl	1.33	1.17	1.49	0.08	0.16	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Xylidyl Blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.13	6.08	8.18	0.53	1.05	
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
TIBC	μmol/l	40.9	32.3	49.5	4.30	8.60	FE+UIBC(saturation with iron)
	μg/dl	229	181	277	24.00	48.00	
Triglycerides	mmol/l	2.99	2.52	3.46	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	265	223	307	21.00	42.00	
	mmol/l	3.01	2.53	3.49	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	266	224	308	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	7.90	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.09	7.91	10.3	0.59	1.18	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.4	26.7	36.1	2.35	4.70	Bromocresol Green
	g/dl	3.14	2.67	3.61	0.24	0.47	
Alkaline Phosphatase	U/l	562	478	646	42.00	84.00	Diethanolamine buffer DEA 37°C
	U/l	388	330	446	29.00	58.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	292	248	336	22.00	44.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	312	266	358	23.00	46.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	151	121	181	15.00	30.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	34.2	27.0	41.4	3.60	7.20	Diazo with Sulphanilic Acid
	mg/dl	2.00	1.58	2.42	0.21	0.42	
	µmol/l	30.2	23.9	36.5	3.15	6.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.77	1.40	2.14	0.19	0.37	
Bilirubin Total	µmol/l	90.9	71.8	110	9.55	19.10	Diazo with Sulphanilic Acid
	mg/dl	5.32	4.20	6.44	0.56	1.12	
	µmol/l	98.5	77.8	119	10.35	20.70	Oxidation to Biliverdin/Vanadate
	mg/dl	5.76	4.55	6.97	0.61	1.21	
Calcium	mmol/l	3.22	2.90	3.54	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	8.08	7.03	9.13	0.53	1.05	Cholesterol Oxidase - Abell Kendall
	mg/dl	312	271	353	20.50	41.00	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	108	99.8	116	4.10	8.20	ISE direct
CK Total	U/l	559	458	660	50.50	101.00	CK-NAC substrate start (DGKC) 37°C
	U/l	599	491	707	54.00	108.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	325	260	390	32.50	65.00	Alkaline picrate no deproteinization
	mg/dl	3.67	2.94	4.40	0.37	0.73	
	µmol/l	378	303	453	37.50	75.00	Enzymatic UV method
	mg/dl	4.27	3.42	5.12	0.43	0.85	
gamma-GT	U/l	196	166	226	15.00	30.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
Iron	µmol/l	40.1	32.9	47.3	3.60	7.20	Colorimetric without ppt.
	µg/dl	224	184	264	20.00	40.00	
Lactate	mmol/l	5.85	4.80	6.90	0.53	1.05	Colorimetric Lactate Oxidase
	mg/dl	52.7	43.2	62.2	4.75	9.50	
LD (LDH)	U/l	873	742	1004	65.50	131.00	P->L German methods 37°C
	U/l	410	349	471	30.50	61.00	L->P IFCC 37°C
Lipase	U/l	70	56	84	7.00	14.00	Randox Colorimetric 37°C
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Xylidyl Blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.39	2.03	2.75	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.41	6.29	8.53	0.56	1.12	
Potassium	mmol/l	6.00	5.52	6.48	0.24	0.48	ISE method - direct
	mmol/l	6.23	5.73	6.73	0.25	0.50	Enzymatic

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	47.4	37.9	56.9	4.75	9.50	Biuret reaction end point
	g/dl	4.74	3.79	5.69	0.48	0.95	
Sodium	mmol/l	154	147	161	3.50	7.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	Enzymatic
TIBC	µmol/l	46.9	37.1	56.7	4.90	9.80	Direct Colorimetric
	µg/dl	262	207	317	27.50	55.00	
Triglycerides	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	223	309	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.60	0.52	0.68	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.1	8.77	11.4	0.67	1.33	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.61	8.37	10.9	0.62	1.24	
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	Urease kinetic
	mg/dl	115	97.4	133	8.80	17.60	
	mmol/l	19.1	16.2	22.0	1.45	2.90	BUN
	mg/dl	53.6	45.6	61.6	4.00	8.00	


SIEMENS ADVIA 1200/1650/1800/2400®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	30.1	25.6	34.6	2.25	4.50	Bromocresol Green
	g/dl	3.01	2.56	3.46	0.23	0.45	
	g/l	28.3	24.1	32.5	2.10	4.20	Bromocresol Purple
	g/dl	2.83	2.41	3.25	0.21	0.42	
Alkaline Phosphatase	U/l	347	295	399	26.00	52.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	147	117	177	15.00	30.00	Tris buffer without P5P 37°C
Amylase Total	U/l	286	243	329	21.50	43.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	153	122	184	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.2	12.1	18.3	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	32.2	25.5	38.9	3.35	6.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.88	1.49	2.27	0.20	0.39	
Bilirubin Total	µmol/l	99.0	78.2	120	10.40	20.80	Oxidation to Biliverdin/Vanadate
	mg/dl	5.79	4.57	7.01	0.61	1.22	
Calcium	mmol/l	3.22	2.89	3.55	0.17	0.33	Cresolphthalein complexone
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.15	2.84	3.46	0.16	0.31	Arsenazo III
	mg/dl	12.6	11.4	13.8	0.60	1.20	
Cholesterol	mmol/l	7.47	6.50	8.44	0.49	0.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	251	325	18.50	37.00	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
CK Total	U/l	535	439	631	48.00	96.00	CK-NAC (IFCC) 37°C


SIEMENS ADVIA 1200/1650/1800/2400®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	376	301	451	37.50	75.00	Enzymatic UV method
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	359	287	431	36.00	72.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.06	3.24	4.88	0.41	0.82	
gamma-GT	U/l	168	142	194	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.1	12.8	17.4	1.15	2.30	Hexokinase
	mg/dl	272	231	313	20.50	41.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
HDL - Cholesterol	mmol/l	2.17	1.84	2.50	0.17	0.33	Direct Clearance Method
	mg/dl	83.8	71.0	96.6	6.40	12.80	
Iron	µmol/l	38.2	31.3	45.1	3.45	6.90	Colorimetric without ppt.
	µg/dl	214	175	253	19.50	39.00	
Lactate	mmol/l	5.84	4.78	6.90	0.53	1.06	Colorimetric Lactate Oxidase
	mg/dl	52.6	43.1	62.1	4.75	9.50	
LD (LDH)	U/l	798	678	918	60.00	120.00	P->L German methods 37°C
	U/l	408	347	469	30.50	61.00	L->P IFCC 37°C
Lipase	U/l	64	51	77	6.50	13.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.71	1.50	1.92	0.11	0.21	Xylidyl Blue
	mg/dl	4.16	3.65	4.67	0.26	0.51	
Phosphate Inorganic	mmol/l	2.42	2.06	2.78	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.50	6.39	8.61	0.56	1.11	
Potassium	mmol/l	6.16	5.66	6.66	0.25	0.50	ISE method - indirect
Protein Total	g/l	46.0	36.8	55.2	4.60	9.20	Biuret reaction end point
	g/dl	4.60	3.68	5.52	0.46	0.92	

**SIEMENS ADVIA 1200/1650/1800/2400®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	157	150	164	3.50	7.00	ISE method - indirect
TIBC	µmol/l	41.1	32.4	49.8	4.35	8.70	Calculated from Transferrin
	µg/dl	230	181	279	24.50	49.00	
Triglycerides	mmol/l	3.11	2.61	3.61	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	275	231	319	22.00	44.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	8.23	10.7	0.62	1.23	
Urea	mmol/l	20.3	17.2	23.4	1.55	3.10	Urease kinetic
	mg/dl	122	103	141	9.50	19.00	
	mmol/l	20.3	17.3	23.3	1.50	3.00	BUN
	mg/dl	57.0	48.5	65.5	4.25	8.50	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	30.3	25.7	34.9	2.30	4.60	Bromocresol Green
	g/dl	3.03	2.57	3.49	0.23	0.46	
	g/l	28.2	23.9	32.5	2.15	4.30	Bromocresol Purple
	g/dl	2.82	2.39	3.25	0.22	0.43	
Alkaline Phosphatase	U/l	346	294	398	26.00	52.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
Amylase Total	U/l	305	260	350	22.50	45.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.7	12.5	18.9	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	34.8	27.5	42.1	3.65	7.30	Oxidation to Biliverdin/Vanadate
	mg/dl	2.04	1.61	2.47	0.22	0.43	
Bilirubin Total	µmol/l	101	79.5	123	10.75	21.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.91	4.65	7.17	0.63	1.26	
Calcium	mmol/l	3.24	2.92	3.56	0.16	0.32	Cresolphthalein complexone
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.18	2.87	3.49	0.16	0.31	Arsenazo III
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Cholesterol	mmol/l	7.48	6.50	8.46	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	251	327	19.00	38.00	
	mmol/l	7.55	6.57	8.53	0.49	0.98	Cholesterol Oxidase - IDMS
	mg/dl	291	254	328	18.50	37.00	

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
CK Total	U/l	508	416	600	46.00	92.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	356	285	427	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	4.02	3.22	4.82	0.40	0.80	
	μmol/l	358	286	430	36.00	72.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.05	3.23	4.87	0.41	0.82	
gamma-GT	U/l	165	140	190	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	12.7	17.3	1.15	2.30	Hexokinase
	mg/dl	270	229	311	20.50	41.00	
	mmol/l	15.1	12.9	17.3	1.10	2.20	Glucose oxidase
	mg/dl	272	232	312	20.00	40.00	
HDL - Cholesterol	mmol/l	2.40	2.04	2.76	0.18	0.36	Direct Clearance Method
	mg/dl	92.6	78.7	107	6.95	13.90	
Iron	μmol/l	38.0	31.2	44.8	3.40	6.80	Colorimetric without ppt.
	μg/dl	212	174	250	19.00	38.00	
Lactate	mmol/l	6.15	5.04	7.26	0.56	1.11	Colorimetric Lactate Oxidase
	mg/dl	55.4	45.4	65.4	5.00	10.00	
LD (LDH)	U/l	397	338	456	29.50	59.00	L->P IFCC 37°C
Lipase	U/l	61	49	73	6.00	12.00	Other Colorimetric 37°C
Lithium	mmol/l	1.89	1.66	2.12	0.12	0.23	Spectrophotometric
	mg/dl	1.31	1.15	1.47	0.08	0.16	
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Xylidyl Blue
	mg/dl	4.13	3.65	4.61	0.24	0.48	
Phosphate Inorganic	mmol/l	2.44	2.07	2.81	0.19	0.37	Phosphomolybdate UV
	mg/dl	7.56	6.42	8.70	0.57	1.14	

**Siemens Atellica Solution****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	5.94	5.46	6.42	0.24	0.48	ISE method - indirect
Protein Total	g/l	44.7	35.8	53.6	4.45	8.90	Biuret reaction end point
	g/dl	4.47	3.58	5.36	0.45	0.89	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
TIBC	µmol/l	47.6	37.6	57.6	5.00	10.00	Direct Colorimetric
	µg/dl	266	210	322	28.00	56.00	
Triglycerides	mmol/l	3.18	2.67	3.69	0.26	0.51	Lipase/GPO-PAP no correction
	mg/dl	281	236	326	22.50	45.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.49	8.27	10.7	0.61	1.22	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	BUN
	mg/dl	56.4	47.9	64.9	4.25	8.50	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.0	24.7	33.3	2.15	4.30	Bromocresol Purple
	g/dl	2.90	2.47	3.33	0.22	0.43	
Alkaline Phosphatase	U/l	345	293	397	26.00	52.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	145	116	174	14.50	29.00	Tris buffer with P5P 37°C
	U/l	137	110	164	13.50	27.00	Tris buffer with P5P NVKC 37°C
	U/l	141	113	169	14.00	28.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	332	282	382	25.00	50.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	167	134	200	16.50	33.00	Tris buffer with P5P 37°C
	U/l	168	135	201	16.50	33.00	Tris buffer with P5P NVKC 37°C
	U/l	166	132	200	17.00	34.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	22.5	17.8	27.2	2.35	4.70	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.32	1.04	1.60	0.14	0.28	
Bilirubin Total	µmol/l	90.1	71.2	109	9.45	18.90	Diazo with Sulphanilic Acid
	mg/dl	5.27	4.17	6.37	0.55	1.10	
Calcium	mmol/l	3.13	2.82	3.44	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Cholesterol	mmol/l	7.03	6.12	7.94	0.46	0.91	Dimension-Siemens reagents
	mg/dl	271	236	306	17.50	35.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
CK Total	U/l	486	398	574	44.00	88.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	380	304	456	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.29	3.44	5.14	0.43	0.85	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	375	300	450	37.50	75.00	Creatinine PAP method
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	383	307	459	38.00	76.00	Jaffe rate blanked
	mg/dl	4.33	3.47	5.19	0.43	0.86	
gamma-GT	U/l	194	165	223	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	209	178	240	15.50	31.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.03	2.58	3.48	0.23	0.45	Direct HDL PEGME
	mg/dl	117	99.6	134	8.70	17.40	
Iron	µmol/l	36.3	29.8	42.8	3.25	6.50	Colorimetric without ppt.
	µg/dl	203	167	239	18.00	36.00	
LD (LDH)	U/l	400	340	460	30.00	60.00	L->P IFCC 37°C
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Methylthymol blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.43	2.07	2.79	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.53	6.42	8.64	0.56	1.11	
	mmol/l	2.38	2.02	2.74	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.38	6.26	8.50	0.56	1.12	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	47.6	38.1	57.1	4.75	9.50	Biuret reaction end point
	g/dl	4.76	3.81	5.71	0.48	0.95	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.97	2.50	3.44	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	263	221	305	21.00	42.00	

**SIEMENS DIMENSION EXL®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1212UE Cat. No. HE1532 / HS2611

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

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	2.98	2.50	3.46	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	264	221	307	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.17	7.98	10.4	0.60	1.19	
Urea	mmol/l	20.2	17.2	23.2	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.2	17.2	23.2	1.50	3.00	BUN
	mg/dl	56.7	48.2	65.2	4.25	8.50	