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

CAT. NO.	HN1530	**GTIN:**	05055273203783	**SIZE:**	20 x 5ml
CAT. NO.	HS2611	**GTIN:**	05055273203813	**SIZE:**	5 x 5ml
LOT NO.	1561UN	**EXPIRY:**	2025-11-28		

INTENDED USE

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

DEVICE DESCRIPTION

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

SAFETY PRECAUTIONS AND WARNINGS

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

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

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

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

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

LIMITATIONS

For Total & Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25µl - 30µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation Total and Prostatic Acid Phosphatase is stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at –18°C to –24°C.
Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.
Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
GLDH is stable for 2 days at 2-8°C.
NEFA is stable for 1 day at +2°C to +8°C.
Total PSA is stable for 4 days at +2°C to +8°C, or 28 days in aliquots frozen at –18°C to –24°C.
Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components.
Different lot numbers of this control should not be interchanged, as the values assigned to the controls vary from lot to lot.
The control should not be used as a calibration material.
Due to the zinc content in some batches of rubber stoppers, the QC and calibrator material should be aliquoted into polypropylene tubes and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

1. Carefully reconstitute each vial of lyophilised serum with exactly 5ml of distilled water at +15°C to +25°C. Close the bottle and allow to stand for 30 minutes before use. Ensure contents are completely dissolved by swirling gently. Avoid formation of foam. Do not shake.

2. Refer to the Control section of the individual analyser application.

3. Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

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

MATERIALS REQUIRED BUT NOT PROVIDED
Volumetric pipette

ASSIGNED VALUES
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 ±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.

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
	g/l	41.8	35.6	48.0	3.10	6.20	Bromocresol Purple
	g/dl	4.18	3.56	4.80	0.31	0.62	
	g/l	41.0	34.9	47.1	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.10	3.49	4.71	0.31	0.61	
	g/l	41.3	35.1	47.5	3.10	6.20	Turbidimetric Assays
	g/dl	4.13	3.51	4.75	0.31	0.62	
Alkaline Phosphatase	U/l	185	157	213	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	268	228	308	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	209	178	240	15.50	31.00	Diethanolamine buffer DEA 30°C
	U/l	171	146	196	12.50	25.00	Diethanolamine buffer DEA 25°C
	U/l	214	182	246	16.00	32.00	AMP optimised to IFCC 37°C
	U/l	167	142	192	12.50	25.00	AMP optimised to IFCC 30°C
	U/l	137	116	158	10.50	21.00	AMP optimised to IFCC 25°C
	U/l	213	181	245	16.00	32.00	AMP non-optimised 37°C
	U/l	166	141	191	12.50	25.00	AMP non-optimised 30°C
	U/l	136	116	156	10.00	20.00	AMP non-optimised 25°C
	U/l	206	175	237	15.50	31.00	Colorimetric 37°C
	U/l	160	136	184	12.00	24.00	Colorimetric 30°C
	U/l	132	112	152	10.00	20.00	Colorimetric 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	41	32	50	4.50	9.00	Colorimetric 37°C
	U/l	30	24	36	3.00	6.00	Colorimetric 30°C
	U/l	23	18	28	2.50	5.00	Colorimetric 25°C
	U/l	44	35	53	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer with P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer with P5P 25°C
	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 30°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 25°C
	U/l	41	33	49	4.00	8.00	Phosphate buffer DGKC 37°C
	U/l	30	24	36	3.00	6.00	Phosphate buffer DGKC 30°C
	U/l	23	19	27	2.00	4.00	Phosphate buffer DGKC 25°C
	U/l	41	32	50	4.50	9.00	Tris buffer with P5P NVKC 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer with P5P NVKC 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer with P5P NVKC 25°C
	U/l	39	31	47	4.00	8.00	Tris buffer SCE 37°C
	U/l	29	23	35	3.00	6.00	Tris buffer SCE 30°C
	U/l	22	17	27	2.50	5.00	Tris buffer SCE 25°C
	U/l	44	35	53	4.50	9.00	Ortho Vitros MicroSlide visible 37°C
Amylase Pancreatic	U/l	68	58	78	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	66	56	76	5.00	10.00	Roche EPS Liquid 37°C
	U/l	76	65	87	5.50	11.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	pNP Maltotrioside substrates 37°C
	U/l	94	80	108	7.00	14.00	Siemens - blocked pNPG7 37°C

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	74	63	85	5.50	11.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	88	75	101	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	69	59	79	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	88	75	101	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	88	74	102	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	96	82	110	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
	U/l	91	77	105	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	90	76	104	7.00	14.00	I.L. 2-chloro-pNPG3 37°C
	U/l	99	84	114	7.50	15.00	Abbott Architect IFCC Cal. 37°C
	U/l	95	81	109	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	86	73	99	6.50	13.00	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	87	74	100	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
Apolipoprotein A-1	g/l	1.20	0.98	1.42	0.11	0.22	Immunoturbidimetric
	mg/dl	120	98.4	142	10.80	21.60	
Apolipoprotein B	g/l	0.53	0.43	0.62	0.05	0.10	Immunoturbidimetric
	mg/dl	52.9	43.4	62.4	4.75	9.50	
Acid Phosphatase (Total)	U/l	19.3	12.9	25.7	3.20	6.40	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	32	25	39	3.50	7.00	Colorimetric 37°C
	U/l	22	17	27	2.50	5.00	Colorimetric 30°C
	U/l	15	12	18	1.50	3.00	Colorimetric 25°C
	U/l	51	41	61	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
	U/l	45	36	54	4.50	9.00	Tris buffer with P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer with P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer with P5P 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
	U/l	33	27	39	3.00	6.00	Phosphate buffer DGKC 37°C
	U/l	22	18	26	2.00	4.00	Phosphate buffer DGKC 30°C
	U/l	16	13	19	1.50	3.00	Phosphate buffer DGKC 25°C
	U/l	32	26	38	3.00	6.00	Tris buffer with P5P NVKC 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer with P5P NVKC 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer with P5P NVKC 25°C
	U/l	33	27	39	3.00	6.00	Tris buffer SCE 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer SCE 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	26.9	21.5	32.3	2.70	5.40	4th Generation Colorimetric
	µmol/l	24.7	19.8	29.6	2.45	4.90	5th Generation Colorimetric
Bicarbonate	mmol/l	12.1	9.60	14.6	1.25	2.50	Colorimetric
	mmol/l	13.2	10.4	16.0	1.40	2.80	Ortho Vitros Microslide Systems
	mmol/l	12.4	9.80	15.0	1.30	2.60	Differential rate pH change
	mmol/l	12.8	10.1	15.5	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.6	22.2	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
	µmol/l	17.2	13.6	20.8	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.796	1.22	0.11	0.21	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.09	0.860	1.32	0.12	0.23	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	17.1	13.5	20.7	1.80	3.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	µmol/l	13.9	11.0	16.8	1.45	2.90	Modified Jendrassik
	mg/dl	0.813	0.644	0.982	0.08	0.17	
Bilirubin Total	µmol/l	22.0	17.4	26.6	2.30	4.60	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.29	1.02	1.56	0.14	0.27	
	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.61	1.27	1.95	0.17	0.34	
	µmol/l	28.2	22.3	34.1	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.65	1.30	2.00	0.18	0.35	
	µmol/l	26.8	21.2	32.4	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	26.0	20.5	31.5	2.75	5.50	Nitrobenzenediazonium salt
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	26.1	20.6	31.6	2.75	5.50	Diazonium ion
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	µmol/l	29.5	23.3	35.7	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.73	1.36	2.10	0.19	0.37	
	µmol/l	31.5	24.9	38.1	3.30	6.60	Modified Jendrassik
	mg/dl	1.84	1.46	2.22	0.19	0.38	
Calcium	mmol/l	2.16	1.95	2.37	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.66	7.82	9.50	0.42	0.84	
	mmol/l	2.24	2.01	2.47	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	8.98	8.06	9.90	0.46	0.92	
	mmol/l	2.22	2.00	2.44	0.11	0.22	Ion selective electrode
	mg/dl	8.90	8.02	9.78	0.44	0.88	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.26	2.03	2.49	0.12	0.23	Methylthymol blue
	mg/dl	9.06	8.14	9.98	0.46	0.92	
	mmol/l	2.22	2.00	2.44	0.11	0.22	Arsenazo III
	mg/dl	8.90	8.02	9.78	0.44	0.88	
	mmol/l	2.13	1.92	2.34	0.11	0.21	Phosphonazo
	mg/dl	8.54	7.70	9.38	0.42	0.84	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	1.02	0.92	1.12	0.05	0.10	Ionised calcium
	mg/dl	4.09	3.68	4.50	0.21	0.41	
Cholesterol	mmol/l	4.10	3.57	4.63	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	158	138	178	10.00	20.00	
	mmol/l	4.08	3.55	4.61	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	158	138	178	10.00	20.00	
	mmol/l	4.14	3.61	4.67	0.27	0.53	Cholesterol Dehydrogenase
	mg/dl	160	139	181	10.50	21.00	
Chloride	mmol/l	99.2	91.3	107	3.95	7.90	Colorimetric
	mmol/l	96.9	89.1	105	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	95.1	87.5	103	3.80	7.60	ISE indirect
	mmol/l	97.0	89.3	105	3.85	7.70	ISE direct
Cholinesterase	U/l	4838	3870	5806	484.00	968.00	Colorimetric Benzoylcholine 37°C
	U/l	5071	4057	6085	507.00	1014.00	Colorimetric Butyrylthiocholine 37°C

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Cholinesterase	U/l	4784	3827	5741	478.50	957.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	205	168	242	18.50	37.00	Ortho Vitros Microslide Systems 37°C
	U/l	215	176	254	19.50	39.00	CK-NAC serum start (DGKC) 37°C
	U/l	135	110	160	12.50	25.00	CK-NAC serum start (DGKC) 30°C
	U/l	91	75	107	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	U/l	213	175	251	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	133	110	156	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC substrate start (DGKC) 25°C
	U/l	213	175	251	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	110	156	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC (IFCC) 25°C
	U/l	229	187	271	21.00	42.00	Monothioglycerol 37°C
	U/l	143	117	169	13.00	26.00	Monothioglycerol 30°C
	U/l	97	79	115	9.00	18.00	Monothioglycerol 25°C
	U/l	214	175	253	19.50	39.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	134	110	158	12.00	24.00	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	91	74	108	8.50	17.00	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	16.7	13.4	20.0	1.65	3.30	Atomic absorption
	µg/dl	106	85.2	127	10.40	20.80	
	µmol/l	16.4	13.1	19.7	1.65	3.30	Colorimetric
	µg/dl	104	83.3	125	10.35	20.70	
Cortisol	nmol/l	471	353	589	59.00	118.00	Roche Cobas e402/e801
	µg/dl	17.0	12.7	21.3	2.15	4.30	
Creatinine	µmol/l	135	108	162	13.50	27.00	Alkaline picrate with deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	137	110	164	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.55	1.24	1.86	0.16	0.31	
	µmol/l	138	110	166	14.00	28.00	Enzymatic UV method
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	138	110	166	14.00	28.00	Creatinine PAP method
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	136	109	163	13.50	27.00	Jaffe rate blanked
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	135	108	162	13.50	27.00	Vitros IDMS Traceable
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	137	109	165	14.00	28.00	IDMS traceable
	mg/dl	1.55	1.23	1.87	0.16	0.32	
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.81	1.45	2.17	0.18	0.36	Immunoturbidimetric
	ng/ml	1.41	1.13	1.69	0.14	0.28	
Folate	nmol/l	21.2	16.1	26.2	2.53	5.06	Roche Cobas e402/e801
	ng/ml	9.33	7.10	11.6	1.12	2.23	
Free T4	pmol/l	14.9	11.2	18.6	1.85	3.70	Abbott Architect
	ng/dl	1.16	0.874	1.45	0.14	0.29	
	pg/ml	11.6	8.74	14.5	1.43	2.86	Abbott Architect
	pmol/l	16.6	12.5	20.7	2.05	4.10	Siemens Centaur XP/XPT/Classic
	ng/dl	1.29	0.975	1.61	0.16	0.32	
	pg/ml	12.9	9.75	16.1	1.58	3.15	Siemens Centaur XP/XPT/Classic

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RANDOX

METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	19.2	14.4	24.0	2.40	4.80	Siemens Immulite 2000/2500
	ng/dl	1.50	1.12	1.88	0.19	0.38	
	pg/ml	15.0	11.2	18.8	1.90	3.80	Siemens Immulite 2000/2500
	pmol/l	20.8	15.6	26.0	2.60	5.20	Siemens Immulite 1000
	ng/dl	1.62	1.22	2.02	0.20	0.40	
	pg/ml	16.2	12.2	20.2	2.00	4.00	Siemens Immulite 1000
	pmol/l	15.4	11.5	19.3	1.95	3.90	Beckman DxI800
	ng/dl	1.20	0.897	1.50	0.15	0.30	
	pg/ml	12.0	8.97	15.0	1.52	3.03	Beckman DxI800
	pmol/l	20.3	15.2	25.4	2.55	5.10	Roche Elecsys
	ng/dl	1.58	1.19	1.97	0.20	0.39	
	pg/ml	15.8	11.9	19.7	1.95	3.90	Roche Elecsys
	pmol/l	15.6	11.7	19.5	1.95	3.90	Beckman Access
	ng/dl	1.22	0.913	1.53	0.15	0.31	
	pg/ml	12.2	9.13	15.3	1.54	3.07	Beckman Access
	pmol/l	21.7	16.3	27.1	2.70	5.40	Tosoh Series
	ng/dl	1.69	1.27	2.11	0.21	0.42	
	pg/ml	16.9	12.7	21.1	2.10	4.20	Tosoh Series
	pmol/l	30.5	22.9	38.1	3.80	7.60	Vitros ECi
	ng/dl	2.38	1.79	2.97	0.30	0.59	
	pg/ml	23.8	17.9	29.7	2.95	5.90	Vitros ECi
	pmol/l	19.7	14.8	24.6	2.45	4.90	Roche Cobas 4000/E411
	ng/dl	1.54	1.15	1.93	0.20	0.39	
	pg/ml	15.4	11.5	19.3	1.95	3.90	Roche Cobas 4000/E411

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	19.9	14.9	24.9	2.50	5.00	Roche Cobas e601/602
	ng/dl	1.55	1.16	1.94	0.20	0.39	
	pg/ml	15.5	11.6	19.4	1.95	3.90	Roche Cobas e601/602
	pmol/l	15.1	11.4	18.8	1.85	3.70	Monobind Inc. ELISA / CLIA
	ng/dl	1.18	0.889	1.47	0.15	0.29	
	pg/ml	11.8	8.89	14.7	1.46	2.91	Monobind Inc. ELISA / CLIA
	pmol/l	18.4	13.8	23.0	2.30	4.60	Biomerieux Vidas FT4N Kit
	ng/dl	1.44	1.08	1.80	0.18	0.36	
	pg/ml	14.4	10.8	18.0	1.80	3.60	Biomerieux Vidas FT4N Kit
	pmol/l	17.5	13.2	21.8	2.15	4.30	Siemens Dimension Exl LOCI
	ng/dl	1.37	1.03	1.71	0.17	0.34	
	pg/ml	13.7	10.3	17.1	1.70	3.40	Siemens Dimension Exl LOCI
	pmol/l	18.1	13.5	22.7	2.30	4.60	Siemens Centaur CP
	ng/dl	1.41	1.05	1.77	0.18	0.36	
	pg/ml	14.1	10.5	17.7	1.80	3.60	Siemens Centaur CP
	pmol/l	19.5	14.6	24.4	2.45	4.90	Roche Cobas e402/e801
	ng/dl	1.52	1.14	1.90	0.19	0.38	
	pg/ml	15.2	11.4	19.0	1.90	3.80	Roche Cobas e402/e801
	pmol/l	17.0	12.7	21.3	2.15	4.30	Siemens Atellica IM
	ng/dl	1.33	0.991	1.67	0.17	0.34	
	pg/ml	13.3	9.91	16.7	1.70	3.39	Siemens Atellica IM
Gentamicin	µmol/l	7.11	5.69	8.53	0.71	1.42	Gravimetric
	µg/ml	3.40	2.72	4.08	0.34	0.68	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	64	54	74	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	49	42	56	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	30	26	34	2.00	4.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	56	48	64	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	44	38	50	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	35	30	40	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	112	94.8	129	8.60	17.20	
	mmol/l	6.19	5.26	7.12	0.47	0.93	Glucose dehydrogenase
	mg/dl	112	94.8	129	8.60	17.20	
	mmol/l	6.20	5.27	7.13	0.47	0.93	Hexokinase
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	6.07	5.16	6.98	0.46	0.91	Oxygen electrode
	mg/dl	109	93.0	125	8.00	16.00	
	mmol/l	6.17	5.24	7.10	0.47	0.93	Glucose oxidase
	mg/dl	111	94.4	128	8.30	16.60	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-HBDH	U/l	218	172	264	23.00	46.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	165	130	200	17.50	35.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	123	97	149	13.00	26.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.51	1.28	1.74	0.12	0.23	Direct HDL PPD
	mg/dl	58.3	49.4	67.2	4.45	8.90	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	54.8	46.7	62.9	4.05	8.10	
	mmol/l	1.49	1.27	1.71	0.11	0.22	Vitros Magnetic HDL
	mg/dl	57.5	49.0	66.0	4.25	8.50	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Direct HDL PEGME
	mg/dl	54.8	46.7	62.9	4.05	8.10	
	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct Clearance Method
	mg/dl	50.6	42.8	58.4	3.90	7.80	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Vitros 5.1 FS microtip assay
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.47	1.25	1.69	0.11	0.22	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	56.7	48.3	65.1	4.20	8.40	
	mmol/l	1.48	1.25	1.71	0.12	0.23	HDL - Ultra
	mg/dl	57.1	48.3	65.9	4.40	8.80	
	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	63.7	54.0	73.4	4.85	9.70	
Immunoglobulin A	g/l	1.87	1.40	2.34	0.24	0.47	Immunoturbidimetric
	mg/dl	187	140	234	23.5	47.0	
Immunoglobulin G	g/l	6.62	5.43	7.81	0.60	1.19	Immunoturbidimetric
	mg/dl	662	543	781	59.5	119	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Immunoglobulin M	g/l	0.850	0.680	1.02	0.09	0.17	Immunoturbidimetric
	mg/dl	85.0	68.0	102	8.50	17.0	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric with ppt.
	µg/dl	107	87.8	126	9.60	19.20	
	µmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.3	128	9.85	19.70	
	µmol/l	19.6	16.1	23.1	1.75	3.50	Ortho Vitros Microslide Systems
	µg/dl	110	90.0	130	10.00	20.00	
Lactate	mmol/l	1.54	1.26	1.82	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	13.9	11.4	16.4	1.25	2.50	
	mmol/l	1.42	1.17	1.67	0.13	0.25	Ortho Vitros Microslide Systems
	mg/dl	12.8	10.5	15.1	1.15	2.30	
	mmol/l	1.58	1.30	1.86	0.14	0.28	Ion selective electrode
	mg/dl	14.2	11.7	16.7	1.25	2.50	
	mmol/l	1.50	1.23	1.77	0.14	0.27	UV LDH
	mg/dl	13.5	11.1	15.9	1.20	2.40	
LD (LDH)	U/l	206	175	237	15.50	31.00	L->P 37°C
	U/l	149	126	172	11.50	23.00	L->P 30°C
	U/l	104	89	119	7.50	15.00	L->P 25°C
	U/l	438	372	504	33.00	66.00	P->L Scandinavian & Dutch 37°C
	U/l	316	269	363	23.50	47.00	P->L Scandinavian & Dutch 30°C
	U/l	222	189	255	16.50	33.00	P->L Scandinavian & Dutch 25°C
	U/l	423	359	487	32.00	64.00	P->L German methods 37°C
	U/l	305	259	351	23.00	46.00	P->L German methods 30°C
	U/l	214	182	246	16.00	32.00	P->L German methods 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	417	354	480	31.50	63.00	P->L SFBC 37°C
	U/l	301	256	346	22.50	45.00	P->L SFBC 30°C
	U/l	211	179	243	16.00	32.00	P->L SFBC 25°C
	U/l	213	181	245	16.00	32.00	L->P IFCC 37°C
	U/l	154	131	177	11.50	23.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
	U/l	238	202	274	18.00	36.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	38	30	46	4.00	8.00	Other Colorimetric 37°C
	U/l	252	202	302	25.00	50.00	Ortho Vitros Microslide Systems 37°C
	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
	U/l	34	27	41	3.50	7.00	Roche Turbidimetric with colipase 37°C
	U/l	41	33	49	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.15	1.01	1.29	0.07	0.14	Ortho Vitros Microslide Systems
	mg/dl	0.799	0.701	0.897	0.05	0.10	
	mmol/l	0.99	0.87	1.11	0.06	0.12	Flame photometry
	mg/dl	0.685	0.603	0.767	0.04	0.08	
	mmol/l	0.98	0.86	1.09	0.06	0.12	Ion selective electrode
	mg/dl	0.678	0.596	0.760	0.04	0.08	
	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.612	0.776	0.04	0.08	
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Arsenazo III
	mg/dl	2.15	1.89	2.41	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Atomic absorption
	mg/dl	2.24	1.97	2.51	0.14	0.27	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Calmagite
	mg/dl	2.19	1.92	2.46	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Methylthymol blue
	mg/dl	2.26	1.99	2.53	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.97	2.49	0.13	0.26	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Enzymatic
	mg/dl	2.19	1.92	2.46	0.14	0.27	
NEFA	mmol/l	1.44	1.15	1.73	0.15	0.29	Colorimetric
Osmolality	mOsm/kg	296	236	356	30.00	60.00	Calculated
	mOsm/kg	304	243	365	30.50	61.00	Freezing point depression
Paracetamol	mmol/l	0.09	0.07	0.10	0.01	0.02	Gravimetric
	mg/l	13.0	10.4	15.6	1.30	2.60	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.31	3.66	4.96	0.33	0.65	
	mmol/l	1.36	1.16	1.56	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.22	3.60	4.84	0.31	0.62	
	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	0.33	0.65	
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	Ortho Vitros Microslide Systems
	mmol/l	4.25	3.91	4.59	0.17	0.34	Enzymatic
	mmol/l	3.94	3.62	4.26	0.16	0.32	Flame photometry

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - direct
	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
	mmol/l	3.89	3.58	4.20	0.16	0.31	Colorimetric
Protein Total	g/l	57.9	46.4	69.4	5.75	11.50	Ortho Vitros Microslide Systems
	g/dl	5.79	4.64	6.94	0.58	1.15	
	g/l	57.7	46.1	69.3	5.80	11.60	Biuret reaction end point
	g/dl	5.77	4.61	6.93	0.58	1.16	
	g/l	57.2	45.8	68.6	5.70	11.40	Biuret reaction kinetic
	g/dl	5.72	4.58	6.86	0.57	1.14	
PSA Total	ng/ml =	8.89	6.67	11.1	1.11	2.22	Tosoh Series
	ng/ml =	11.1	8.33	13.9	1.39	2.77	Siemens Immulite 1000
	ng/ml =	12.0	8.98	15.0	1.51	3.02	Beckman Access standardised to Hybritech
	ng/ml =	11.6	8.69	14.5	1.46	2.91	bioMerieux VIDAS TPSA
	ng/ml =	10.9	8.20	13.6	1.35	2.70	Siemens Centaur XP/XPT/Classic
	ng/ml =	10.1	7.56	12.6	1.27	2.54	Siemens Immulite 2000 1st Generation
	ng/ml =	10.3	7.72	12.9	1.29	2.58	Abbott Architect
	ng/ml =	11.6	8.71	14.5	1.45	2.89	Cobas E411
	ng/ml =	11.5	8.62	14.4	1.44	2.88	Roche Cobas 6000/8000
	ng/ml =	10.7	7.99	13.4	1.36	2.71	Ortho Vitros 3600/5600/ECi PSA II
	ng/ml =	11.7	8.79	14.6	1.46	2.91	Beckman DXI standardised to Hybritech
Salicylate	mmol/l	0.43	0.35	0.52	0.04	0.09	Gravimetric
	mg/dl	5.99	4.79	7.19	0.60	1.20	
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	147	140	154	3.50	7.00	Enzymatic
	mmol/l	139	132	146	3.50	7.00	Flame photometry

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - direct
	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
	mmol/l	140	133	147	3.50	7.00	Colorimetric
Theophylline	µmol/l	28.3	22.6	34.0	2.85	5.70	Gravimetric
	µg/ml	5.10	4.07	6.13	0.52	1.03	
Thyroid Stimulating Hormone	µU/ml =	0.97	0.77	1.16	0.10	0.19	Abbott Architect
	µU/ml =	1.20	0.96	1.44	0.12	0.24	bioMerieux VIDAS TSH
	µU/ml =	1.19	0.95	1.43	0.12	0.24	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.25	1.00	1.50	0.13	0.25	Siemens Immulite 2000/2500
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Siemens Immulite 1000
	µU/ml =	1.42	1.14	1.70	0.14	0.28	Roche Elecsys
	µU/ml =	1.17	0.94	1.40	0.12	0.23	Beckman Access Fast TSH
	µU/ml =	1.13	0.90	1.36	0.11	0.23	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.15	0.92	1.38	0.12	0.23	Tosoh Series
	µU/ml =	1.05	0.84	1.26	0.10	0.21	Vitros ECi
	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Cobas 4000/E411
	µU/ml =	1.40	1.12	1.68	0.14	0.28	Roche Cobas e601/602
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Monobind Inc. ELISA / CLIA
	µU/ml =	1.08	0.86	1.30	0.11	0.22	Siemens Centaur CP
	µU/ml =	1.12	0.90	1.34	0.11	0.22	Beckman DxI 600/800 Access (3rd IS)
	µU/ml =	1.34	1.07	1.61	0.14	0.27	Roche Cobas e402/e801
	µU/ml =	1.19	0.95	1.43	0.12	0.24	Siemens Atellica IM
TIBC	µmol/l	46.9	37.1	56.7	4.90	9.80	Ortho Vitros Microslide Systems
	µg/dl	262	207	317	27.50	55.00	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	37.4	29.6	45.2	3.90	7.80	Removal of excess free iron
	µg/dl	209	165	253	22.00	44.00	
	µmol/l	38.8	30.7	46.9	4.05	8.10	FE+UIBC(saturation with iron)
	µg/dl	217	172	262	22.50	45.00	
	µmol/l	41.4	32.7	50.1	4.35	8.70	Direct Colorimetric
	µg/dl	231	183	279	24.00	48.00	
	µmol/l	41.1	32.4	49.8	4.35	8.70	Calculated from Transferrin
	µg/dl	230	181	279	24.50	49.00	
	µmol/l	49.8	39.3	60.3	5.25	10.50	Randox Direct
	µg/dl	278	220	336	29.00	58.00	
Tobramycin	µmol/l	6.30	5.04	7.56	0.63	1.26	Gravimetric
	µg/ml	2.95	2.36	3.54	0.30	0.59	
Total T3	nmol/l	1.61	1.21	2.01	0.20	0.40	Abbott Architect
	ng/ml	1.05	0.788	1.31	0.13	0.26	
	ng/dl	105	78.8	131	13.10	26.20	Abbott Architect
	nmol/l	1.77	1.33	2.21	0.22	0.44	BioMerieux Vidas
	ng/ml	1.15	0.866	1.43	0.14	0.28	
	ng/dl	115	86.6	143	14.20	28.40	BioMerieux Vidas
	nmol/l	2.04	1.53	2.55	0.26	0.51	Siemens Centaur XP/XPT/Classic
	ng/ml	1.33	0.996	1.66	0.17	0.33	
	ng/dl	133	99.6	166	16.70	33.40	Siemens Centaur XP/XPT/Classic
	nmol/l	1.39	1.04	1.74	0.18	0.35	Siemens Immulite 2000/2500
	ng/ml	0.905	0.677	1.13	0.11	0.23	
	ng/dl	90.5	67.7	113	11.40	22.80	Siemens Immulite 2000/2500
	nmol/l	2.01	1.51	2.51	0.25	0.50	Beckman DxI800
	ng/ml	1.31	0.983	1.64	0.16	0.33	
	ng/dl	131	98.3	164	16.35	32.70	Beckman DxI800

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Total T3	nmol/l	1.95	1.46	2.44	0.25	0.49	Beckman Access
	ng/ml	1.27	0.950	1.59	0.16	0.32	
	ng/dl	127	95.0	159	16.00	32.00	Beckman Access
	nmol/l	1.78	1.33	2.23	0.23	0.45	Tosoh Series
	ng/ml	1.16	0.866	1.45	0.15	0.29	
	ng/dl	116	86.6	145	14.70	29.40	Tosoh Series
	nmol/l	2.32	1.74	2.90	0.29	0.58	Vitros ECi
	ng/ml	1.51	1.13	1.89	0.19	0.38	
	ng/dl	151	113	189	19.00	38.00	Vitros ECi
	nmol/l	1.89	1.42	2.36	0.24	0.47	Roche Cobas 4000/E411
	ng/ml	1.23	0.924	1.54	0.15	0.31	
	ng/dl	123	92.4	154	15.30	30.60	Roche Cobas 4000/E411
	nmol/l	1.94	1.45	2.43	0.25	0.49	Roche Cobas e601/602
	ng/ml	1.26	0.944	1.58	0.16	0.32	
	ng/dl	126	94.4	158	15.80	31.60	Roche Cobas e601/602
	nmol/l	1.84	1.38	2.30	0.23	0.46	Siemens Centaur CP
	ng/ml	1.20	0.898	1.50	0.15	0.30	
	ng/dl	120	89.8	150	15.10	30.20	Siemens Centaur CP
	nmol/l	2.06	1.55	2.57	0.26	0.51	Roche Cobas e402/e801
	ng/ml	1.34	1.01	1.67	0.17	0.33	
	ng/dl	134	101	167	16.50	33.00	Roche Cobas e402/e801
Total T4	nmol/l	83.7	62.8	105	10.45	20.90	Abbott Architect
	µg/dl	6.53	4.90	8.16	0.82	1.63	
	ng/ml	65.3	49.0	81.6	8.15	16.30	Abbott Architect

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	79.4	59.5	99.3	9.95	19.90	BioMerieux Vidas
	µg/dl	6.19	4.64	7.74	0.78	1.55	
	ng/ml	61.9	46.4	77.4	7.75	15.50	BioMerieux Vidas
	nmol/l	81.4	61.1	102	10.15	20.30	Siemens Centaur XP/XPT/Classic
	µg/dl	6.35	4.77	7.93	0.79	1.58	
	ng/ml	63.5	47.7	79.3	7.90	15.80	Siemens Centaur XP/XPT/Classic
	nmol/l	91.0	68.2	114	11.40	22.80	Siemens Immulite 2000/2500
	µg/dl	7.10	5.32	8.88	0.89	1.78	
	ng/ml	71.0	53.2	88.8	8.90	17.80	Siemens Immulite 2000/2500
	nmol/l	76.2	57.1	95.3	9.55	19.10	Beckman DxI800
	µg/dl	5.94	4.45	7.43	0.75	1.49	
	ng/ml	59.4	44.5	74.3	7.45	14.90	Beckman DxI800
	nmol/l	87.4	65.5	109	10.95	21.90	Roche Elecsys
	µg/dl	6.82	5.11	8.53	0.86	1.71	
	ng/ml	68.2	51.1	85.3	8.55	17.10	Roche Elecsys
	nmol/l	81.9	61.4	102	10.25	20.50	Beckman Access
	µg/dl	6.39	4.79	7.99	0.80	1.60	
	ng/ml	63.9	47.9	79.9	8.00	16.00	Beckman Access
	nmol/l	86.3	64.7	108	10.80	21.60	Tosoh Series
	µg/dl	6.73	5.05	8.41	0.84	1.68	
	ng/ml	67.3	50.5	84.1	8.40	16.80	Tosoh Series
	nmol/l	78.7	59.0	98.4	9.85	19.70	Vitros ECi
	µg/dl	6.14	4.60	7.68	0.77	1.54	
	ng/ml	61.4	46.0	76.8	7.70	15.40	Vitros ECi

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	84.7	63.5	106	10.60	21.20	Roche Cobas 4000/E411
	µg/dl	6.61	4.95	8.27	0.83	1.66	
	ng/ml	66.1	49.5	82.7	8.30	16.60	Roche Cobas 4000/E411
	nmol/l	81.8	61.3	102	10.25	20.50	Roche Cobas e601/602
	µg/dl	6.38	4.78	7.98	0.80	1.60	
	ng/ml	63.8	47.8	79.8	8.00	16.00	Roche Cobas e601/602
	nmol/l	86.9	65.2	109	10.85	21.70	Monobind Inc. ELISA / CLIA
	µg/dl	6.78	5.09	8.47	0.85	1.69	
	ng/ml	67.8	50.9	84.7	8.45	16.90	Monobind Inc. ELISA / CLIA
	nmol/l	82.4	61.8	103	10.30	20.60	Siemens Centaur CP
	µg/dl	6.43	4.82	8.04	0.81	1.61	
	ng/ml	64.3	48.2	80.4	8.05	16.10	Siemens Centaur CP
	nmol/l	83.3	62.5	104	10.40	20.80	Roche Cobas e402/e801
	µg/dl	6.50	4.88	8.12	0.81	1.62	
	ng/ml	65.0	48.8	81.2	8.10	16.20	Roche Cobas e402/e801
Transferrin	g/l	1.85	1.48	2.22	0.19	0.37	Immunoturbidimetric
	mg/dl	185	148	222	18.50	37.00	
Triglycerides	mmol/l	1.11	0.94	1.28	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.8	114	7.70	15.40	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	82.9	115	8.10	16.20	
	mmol/l	1.11	0.94	1.28	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	98.2	82.8	114	7.70	15.40	
	mmol/l	1.13	0.95	1.32	0.09	0.19	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	100	83.6	116	8.20	16.40	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	99.1	83.3	115	7.90	15.80	
	mmol/l	1.28	1.08	1.48	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	113	95.6	130	8.70	17.40	
UIBC	µmol/l	19.8	16.2	23.4	1.80	3.60	Direct Colorimetric
	µg/dl	111	90.6	131	10.20	20.40	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Reduction methods
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.12	6.64	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.05	5.99	8.11	0.53	1.06	Ortho Vitros Microslide Systems
	mg/dl	42.4	36.0	48.8	3.20	6.40	
	mmol/l	7.46	6.34	8.58	0.56	1.12	Urease end point
	mg/dl	44.8	38.1	51.5	3.35	6.70	
	mmol/l	7.48	6.36	8.60	0.56	1.12	Urease kinetic
	mg/dl	45.0	38.2	51.8	3.40	6.80	

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METHOD

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.38	6.28	8.48	0.55	1.10	Urease hypochlorite
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.48	6.36	8.60	0.56	1.12	BUN
	mg/dl	21.0	17.9	24.1	1.55	3.10	
Vitamin B12	pmol/l	415	332	498	41.57	83.13	Roche Cobas e402/e801
	pg/ml	563	450	676	56.50	113.00	
Zinc	µmol/l	20.4	16.3	24.5	2.05	4.10	Colorimetric with deproteinisation
	µg/dl	133	106	160	13.50	27.00	
	µmol/l	20.2	16.2	24.2	2.00	4.00	Colorimetric without deprot.
	µg/dl	132	106	158	13.00	26.00	

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METHOD (Elec.)

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-1-globulin		5.4	4.1	6.7	0.65	1.30	% of total Protein (Beckman Capillary)
alpha-2-globulin		7.8	5.9	9.7	0.94	1.87	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		66.5	59.9	73.1	3.30	6.60	% of total Protein (Beckman Capillary)
beta-globulin		10.2	7.8	12.7	1.23	2.45	% of total Protein (Beckman Capillary)
gamma-globulin		10.1	7.7	12.5	1.21	2.42	% of total Protein (Beckman Capillary)

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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.5	34.4	46.6	3.05	6.10	Bromocresol Green
	g/dl	4.05	3.44	4.66	0.31	0.61	
	g/l	41.9	35.6	48.2	3.15	6.30	Bromocresol Purple
	g/dl	4.19	3.56	4.82	0.32	0.63	
Alkaline Phosphatase	U/l	213	181	245	16.00	32.00	Diethanolamine buffer DEA 37°C
	U/l	206	175	237	15.50	31.00	AMP optimised to IFCC 37°C
	U/l	203	173	233	15.00	30.00	AMP non-optimised 37°C
	U/l	202	172	232	15.00	30.00	Colorimetric 37°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	100	85	115	7.50	15.00	Abbott Architect IFCC Cal. 37°C
	U/l	96	81	111	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	24.1	19.3	28.9	2.40	4.80	Enzymatic Colorimetric
Bicarbonate	mmol/l	11.9	9.44	14.4	1.23	2.46	Enzymatic
Bilirubin Direct	µmol/l	18.8	14.9	22.7	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.10	0.872	1.33	0.11	0.23	
	µmol/l	19.1	15.1	23.1	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.12	0.883	1.36	0.12	0.24	
	µmol/l	19.1	15.1	23.1	2.00	4.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.12	0.883	1.36	0.12	0.24	

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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	28.3	22.3	34.3	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	1.30	2.02	0.18	0.36	
	µmol/l	26.9	21.2	32.6	2.85	5.70	Diazonium ion
	mg/dl	1.57	1.24	1.90	0.17	0.33	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
	mmol/l	2.16	1.95	2.37	0.11	0.21	Arsenazo III
	mg/dl	8.66	7.82	9.50	0.42	0.84	
Cholesterol	mmol/l	4.10	3.56	4.64	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	158	137	179	10.50	21.00	
	mmol/l	4.14	3.60	4.68	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Dehydrogenase
	mg/dl	157	136	178	10.50	21.00	
Chloride	mmol/l	97.2	89.5	105	3.85	7.70	ISE indirect
Cholinesterase	U/l	5968	4774	7162	597.00	1194.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	210	172	248	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	213	175	251	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	213	174	252	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	217	178	256	19.50	39.00	Abbott CK-NAC (IFCC) 37°C
Copper	µmol/l	12.5	10.0	15.0	1.25	2.50	Colorimetric
	µg/dl	79.5	63.6	95.4	7.95	15.90	

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	138	111	165	13.50	27.00	Alkaline picrate with deproteinization
	mg/dl	1.56	1.25	1.87	0.16	0.31	
	µmol/l	138	110	166	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	137	109	165	14.00	28.00	Enzymatic UV method
	mg/dl	1.55	1.23	1.87	0.16	0.32	
	µmol/l	133	107	159	13.00	26.00	Jaffe rate blanked
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	µmol/l	137	110	164	13.50	27.00	IDMS traceable
	mg/dl	1.55	1.24	1.86	0.16	0.31	
Free T4	pmol/l	14.9	11.1	18.7	1.90	3.80	Abbott Architect
	ng/dl	1.16	0.866	1.45	0.15	0.29	
	pg/ml	11.6	8.66	14.5	1.47	2.94	Abbott Architect
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	51	44	58	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	52	44	60	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.07	5.16	6.98	0.46	0.91	Hexokinase
	mg/dl	109	93.0	125	8.00	16.00	
	mmol/l	6.06	5.15	6.97	0.46	0.91	Glucose oxidase
	mg/dl	109	92.8	125	8.10	16.20	
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL PPD
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL Immunoseparation
	mg/dl	56.4	47.9	64.9	4.25	8.50	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct Clearance Method
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.47	1.25	1.69	0.11	0.22	HDL - Ultra
	mg/dl	56.7	48.3	65.1	4.20	8.40	
Iron	µmol/l	19.8	16.3	23.3	1.75	3.50	Colorimetric with ppt.
	µg/dl	111	91.1	131	9.95	19.90	
	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	90.6	131	10.20	20.40	
Lactate	mmol/l	1.62	1.33	1.91	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.6	12.0	17.2	1.30	2.60	
LD (LDH)	U/l	204	174	234	15.00	30.00	L->P 37°C
	U/l	204	173	235	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	39	31	47	4.00	8.00	Other Colorimetric 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.612	0.776	0.04	0.08	
Magnesium	mmol/l	0.88	0.78	0.99	0.05	0.11	Arsenazo III
	mg/dl	2.14	1.88	2.40	0.13	0.26	
	mmol/l	0.89	0.78	1.00	0.05	0.11	Enzymatic
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Osmolality	mOsm/kg	304	243	365	30.50	61.00	Calculated
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	
	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	57.9	46.3	69.5	5.80	11.60	Biuret reaction end point
	g/dl	5.79	4.63	6.95	0.58	1.16	
	g/l	58.2	46.5	69.9	5.85	11.70	Biuret reaction kinetic
	g/dl	5.82	4.65	6.99	0.59	1.17	
PSA Total	ng/ml =	9.90	7.42	12.4	1.24	2.48	Abbott Architect
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	37.5	29.7	45.3	3.90	7.80	FE+UIBC(saturation with iron)
	µg/dl	210	166	254	22.00	44.00	
	µmol/l	40.2	31.8	48.6	4.20	8.40	Calculated from Transferrin
	µg/dl	225	178	272	23.50	47.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.3	111	7.65	15.30	
	mmol/l	1.10	0.93	1.27	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	80.4	111	7.60	15.20	
UIBC	µmol/l	18.0	14.8	21.2	1.60	3.20	Direct Colorimetric
	µg/dl	101	82.7	119	9.15	18.30	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.14	6.66	0.38	0.76	
Urea	mmol/l	7.52	6.39	8.65	0.57	1.13	Urease end point
	mg/dl	45.2	38.4	52.0	3.40	6.80	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.38	6.27	8.49	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	
Zinc	µmol/l	20.5	16.4	24.6	2.05	4.10	Colorimetric without deprot.
	µg/dl	134	107	161	13.50	27.00	

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ABX Pentra 400®

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	39.2	33.3	45.1	2.95	5.90	Bromocresol Green
	g/dl	3.92	3.33	4.51	0.30	0.59	
Alkaline Phosphatase	U/l	206	175	237	15.50	31.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	19.5	15.4	23.6	2.05	4.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.14	0.901	1.38	0.12	0.24	
Bilirubin Total	µmol/l	29.3	23.1	35.5	3.10	6.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Arsenazo III
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Cholesterol	mmol/l	4.22	3.68	4.76	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	163	142	184	10.50	21.00	
Chloride	mmol/l	97.4	89.6	105	3.90	7.80	ISE direct
CK Total	U/l	208	170	246	19.00	38.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	138	111	165	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.56	1.25	1.87	0.16	0.31	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.15	5.23	7.07	0.46	0.92	Hexokinase
	mg/dl	111	94.2	128	8.40	16.80	
	mmol/l	6.37	5.41	7.33	0.48	0.96	Glucose oxidase
	mg/dl	115	97.5	133	8.75	17.50	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.44	1.22	1.66	0.11	0.22	Direct HDL PPD
	mg/dl	55.6	47.1	64.1	4.25	8.50	
	mmol/l	1.42	1.21	1.63	0.11	0.21	HDL - Ultra
	mg/dl	54.8	46.7	62.9	4.05	8.10	
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
LD (LDH)	U/l	212	180	244	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	31	25	37	3.00	6.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.88	0.78	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.14	1.89	2.39	0.13	0.25	
Phosphate Inorganic	mmol/l	1.49	1.27	1.71	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.62	3.94	5.30	0.34	0.68	
Potassium	mmol/l	3.88	3.57	4.19	0.16	0.31	ISE method - direct
Protein Total	g/l	57.6	46.1	69.1	5.75	11.50	Biuret reaction end point
	g/dl	5.76	4.61	6.91	0.58	1.15	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.8	117	8.10	16.20	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
Urea	mmol/l	7.00	5.95	8.05	0.53	1.05	Urease kinetic
	mg/dl	42.1	35.8	48.4	3.15	6.30	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.00	5.95	8.05	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	

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Beckman Coulter AU Series®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	39.3	33.4	45.2	2.95	5.90	Bromocresol Green
	g/dl	3.93	3.34	4.52	0.30	0.59	
	g/l	39.0	33.2	44.8	2.90	5.80	Bromocresol Purple
	g/dl	3.90	3.32	4.48	0.29	0.58	
Alkaline Phosphatase	U/l	230	196	264	17.00	34.00	Beckman (Extinction Coefficient) 37°C
	U/l	237	201	273	18.00	36.00	AMP optimised to IFCC 37°C
	U/l	228	194	262	17.00	34.00	AMP non-optimised 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
	U/l	38	30	46	4.00	8.00	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	61	52	70	4.50	9.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	pNP Maltotrioside substrates 37°C
	U/l	89	76	102	6.50	13.00	Other - blocked pNPG7 37°C
	U/l	91	77	105	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	86	73	99	6.50	13.00	Other 2-chloro-pNPG3 37°C
	U/l	87	74	100	6.50	13.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	33	26	40	3.50	7.00	Beckman (Extinction Coefficient) 37°C
Bile Acids	µmol/l	23.6	18.9	28.3	2.35	4.70	Enzymatic Colorimetric
Bicarbonate	mmol/l	12.8	10.2	15.4	1.30	2.60	Enzymatic
Bilirubin Direct	µmol/l	18.5	14.6	22.4	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.854	1.31	0.11	0.23	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	18.7	14.8	22.6	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.09	0.866	1.31	0.11	0.22	
Bilirubin Total	µmol/l	30.4	24.0	36.8	3.20	6.40	DPD (Beckman AU)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
	µmol/l	30.5	24.1	36.9	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	1.41	2.15	0.19	0.37	
	µmol/l	30.4	24.0	36.8	3.20	6.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
	µmol/l	30.4	24.0	36.8	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.78	1.40	2.16	0.19	0.38	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.24	2.02	2.46	0.11	0.22	Ion selective electrode
	mg/dl	8.98	8.10	9.86	0.44	0.88	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Arsenazo III
	mg/dl	8.94	8.06	9.82	0.44	0.88	
Cholesterol	mmol/l	4.24	3.69	4.79	0.28	0.55	Cholesterol Dehydrogenase
	mg/dl	164	142	186	11.00	22.00	
	mmol/l	4.14	3.60	4.68	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.21	3.66	4.76	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	163	141	185	11.00	22.00	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	95.1	87.5	103	3.80	7.60	ISE indirect
Cholinesterase	U/l	4912	3930	5894	491.00	982.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	223	183	263	20.00	40.00	Beckman CK-NAC (Extinction Coeff) 37°C
	U/l	229	188	270	20.50	41.00	CK-NAC (IFCC) 37°C
	U/l	230	189	271	20.50	41.00	Monothioglycerol 37°C
Copper	µmol/l	15.0	12.0	18.0	1.50	3.00	Colorimetric
	µg/dl	95.4	76.3	115	9.55	19.10	
Creatinine	µmol/l	136	109	163	13.50	27.00	Alkaline picrate with deproteinization
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	137	110	164	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.55	1.24	1.86	0.16	0.31	
	µmol/l	132	106	158	13.00	26.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	138	110	166	14.00	28.00	Jaffe rate blanked
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	136	109	163	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	141	113	169	14.00	28.00	Enzymatic UV method
	mg/dl	1.59	1.28	1.90	0.16	0.31	
	µmol/l	134	107	161	13.50	27.00	IDMS traceable
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	142	114	170	14.00	28.00	Creatinine PAP method
	mg/dl	1.60	1.29	1.91	0.16	0.31	
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.34	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	53	45	61	4.00	8.00	Beckman Szasz (Extinction Coeff) 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	52	44	60	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	54	46	62	4.00	8.00	Gamma glutamyl-4-nitroanilide 37°C
GLDH	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.26	5.32	7.20	0.47	0.94	GOD/02-Beckman method
	mg/dl	113	95.9	130	8.55	17.10	
	mmol/l	6.22	5.29	7.15	0.47	0.93	Glucose dehydrogenase
	mg/dl	112	95.3	129	8.35	16.70	
	mmol/l	6.32	5.37	7.27	0.48	0.95	Hexokinase
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	6.31	5.36	7.26	0.48	0.95	Glucose oxidase
	mg/dl	114	96.6	131	8.70	17.40	
HDL - Cholesterol	mmol/l	1.45	1.23	1.67	0.11	0.22	Direct HDL Immunoseparation
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.44	1.22	1.66	0.11	0.22	Direct HDL PEGME
	mg/dl	55.6	47.1	64.1	4.25	8.50	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct Clearance Method
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Direct HDL PPD
	mg/dl	57.1	48.6	65.6	4.25	8.50	
	mmol/l	1.48	1.26	1.70	0.11	0.22	HDL - Ultra
	mg/dl	57.1	48.6	65.6	4.25	8.50	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric with ppt.
	µg/dl	108	88.9	127	9.55	19.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.48	1.21	1.75	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.3	10.9	15.7	1.20	2.40	
LD (LDH)	U/l	213	181	245	16.00	32.00	L to P Beckman (Extinction Coeff) 37°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 37°C
	U/l	203	173	233	15.00	30.00	L->P 37°C
	U/l	451	383	519	34.00	68.00	P->L Scandinavian & Dutch 37°C
	U/l	454	386	522	34.00	68.00	P->L German methods 37°C
Lipase	U/l	37	30	44	3.50	7.00	Other Turbidimetric with colipase 37°C
	U/l	37	30	44	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	0.98	0.86	1.09	0.06	0.12	Spectrophotometric
	mg/dl	0.677	0.596	0.758	0.04	0.08	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Calmagite
	mg/dl	2.22	1.95	2.49	0.14	0.27	
Osmolality	mOsm/kg	306	245	367	30.50	61.00	Calculated
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Beckman PHOSm (365nm)
	mg/dl	4.19	3.57	4.81	0.31	0.62	
	mmol/l	1.32	1.12	1.52	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.09	3.47	4.71	0.31	0.62	
	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	57.1	45.7	68.5	5.70	11.40	Biuret reaction end point
	g/dl	5.71	4.57	6.85	0.57	1.14	
	g/l	57.1	45.7	68.5	5.70	11.40	Biuret reaction kinetic
	g/dl	5.71	4.57	6.85	0.57	1.14	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	42.4	33.5	51.3	4.45	8.90	Direct Colorimetric
	µg/dl	237	187	287	25.00	50.00	
	µmol/l	42.2	33.3	51.1	4.45	8.90	FE+UIBC(saturation with iron)
	µg/dl	236	186	286	25.00	50.00	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.5	114	7.85	15.70	
	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	96.5	81.1	112	7.70	15.40	
	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GK UV no correction
	mg/dl	97.4	81.8	113	7.80	15.60	
	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	97.4	81.8	113	7.80	15.60	
UIBC	µmol/l	23.9	19.6	28.2	2.15	4.30	Calculated
	µg/dl	134	110	158	12.00	24.00	
	µmol/l	23.1	18.9	27.3	2.10	4.20	Direct Colorimetric
	µg/dl	129	106	152	11.50	23.00	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase 293nm UV
	mg/dl	6.01	5.22	6.80	0.40	0.79	
Urea	mmol/l	7.56	6.43	8.69	0.57	1.13	Beckman-Conductivity
	mg/dl	45.4	38.6	52.2	3.40	6.80	
	mmol/l	7.83	6.66	9.00	0.59	1.17	Urease end point
	mg/dl	47.1	40.0	54.2	3.55	7.10	
	mmol/l	7.60	6.46	8.74	0.57	1.14	Urease kinetic
	mg/dl	45.7	38.8	52.6	3.45	6.90	
	mmol/l	7.60	6.46	8.74	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	
Zinc	µmol/l	21.2	17.0	25.4	2.10	4.20	Colorimetric with deproteinisation
	µg/dl	138	111	165	13.50	27.00	
	µmol/l	19.1	15.3	22.9	1.90	3.80	Colorimetric without deprot.
	µg/dl	125	99.9	150	12.55	25.10	

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Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.2	35.9	48.5	3.15	6.30	Bromocresol Purple
	g/dl	4.22	3.59	4.85	0.32	0.63	
Alkaline Phosphatase	U/l	214	182	246	16.00	32.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
	U/l	40	32	48	4.00	8.00	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 37°C
	U/l	32	25	39	3.50	7.00	Beckman Mod. IFCC Ref. without P5P 37°C
Bicarbonate	mmol/l	12.0	9.52	14.5	1.24	2.48	Differential rate pH change
Bilirubin Total	µmol/l	30.2	23.9	36.5	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.77	1.40	2.14	0.19	0.37	
Calcium	mmol/l	2.18	1.97	2.39	0.11	0.21	Ion selective electrode
	mg/dl	8.74	7.90	9.58	0.42	0.84	
Cholesterol	mmol/l	4.17	3.63	4.71	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	140	182	10.50	21.00	
Chloride	mmol/l	95.3	87.6	103	3.85	7.70	ISE indirect
Cholinesterase	U/l	5040	4032	6048	504.00	1008.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	228	187	269	20.50	41.00	Monothioglycerol 37°C
Creatinine	µmol/l	138	111	165	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.56	1.25	1.87	0.16	0.31	
	µmol/l	137	110	164	13.50	27.00	IDMS traceable
	mg/dl	1.55	1.24	1.86	0.16	0.31	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.12	5.20	7.04	0.46	0.92	Hexokinase
	mg/dl	110	93.7	126	8.15	16.30	
HDL - Cholesterol	mmol/l	1.49	1.26	1.72	0.12	0.23	Direct HDL PPD
	mg/dl	57.5	48.6	66.4	4.45	8.90	
	mmol/l	1.53	1.30	1.76	0.12	0.23	HDL - Ultra
	mg/dl	59.1	50.2	68.0	4.45	8.90	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.53	1.26	1.80	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.8	11.4	16.2	1.20	2.40	
LD (LDH)	U/l	178	152	204	13.00	26.00	L->P 37°C
Lipase	U/l	38	31	45	3.50	7.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Calmagite
	mg/dl	2.21	1.95	2.47	0.13	0.26	
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.1	46.5	69.7	5.80	11.60	Biuret reaction end point
	g/dl	5.81	4.65	6.97	0.58	1.16	
	g/l	56.8	45.4	68.2	5.70	11.40	Biuret reaction kinetic
	g/dl	5.68	4.54	6.82	0.57	1.14	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	83.7	116	8.15	16.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.18	1.00	1.37	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	104	88.1	120	7.95	15.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	
Urea	mmol/l	7.82	6.65	8.99	0.59	1.17	Urease kinetic
	mg/dl	47.0	40.0	54.0	3.50	7.00	
	mmol/l	7.82	6.65	8.99	0.59	1.17	BUN
	mg/dl	21.9	18.6	25.2	1.65	3.30	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	13.2	10.4	16.0	1.40	2.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.772	0.608	0.936	0.08	0.16	
Bilirubin Total	µmol/l	23.4	18.5	28.3	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.37	1.08	1.66	0.15	0.29	
Calcium	mmol/l	2.26	2.03	2.49	0.12	0.23	Arsenazo III
	mg/dl	9.06	8.14	9.98	0.46	0.92	
Cholesterol	mmol/l	4.14	3.60	4.68	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.28	3.72	4.84	0.28	0.56	Cholesterol Oxidase - IDMS
	mg/dl	165	144	186	10.50	21.00	
Creatinine	µmol/l	136	109	163	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked
	mg/dl	1.53	1.22	1.84	0.16	0.31	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Glucose oxidase
	mg/dl	112	95.1	129	8.45	16.90	
Protein Total	g/l	58.5	46.8	70.2	5.85	11.70	Biuret reaction end point
	g/dl	5.85	4.68	7.02	0.59	1.17	
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.95	5.17	6.73	0.39	0.78	
Urea	mmol/l	6.84	5.82	7.86	0.51	1.02	Urease end point
	mg/dl	41.1	35.0	47.2	3.05	6.10	
	mmol/l	7.31	6.22	8.40	0.55	1.09	Urease kinetic
	mg/dl	43.9	37.4	50.4	3.25	6.50	
	mmol/l	7.31	6.21	8.41	0.55	1.10	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.7	35.4	48.0	3.15	6.30	Bromocresol Green
	g/dl	4.17	3.54	4.80	0.32	0.63	
Alkaline Phosphatase	U/l	237	201	273	18.00	36.00	Diethanolamine buffer DEA 37°C
	U/l	185	157	213	14.00	28.00	Diethanolamine buffer DEA 30°C
	U/l	151	128	174	11.50	23.00	Diethanolamine buffer DEA 25°C
	U/l	213	181	245	16.00	32.00	AMP optimised to IFCC 37°C
	U/l	166	141	191	12.50	25.00	AMP optimised to IFCC 30°C
	U/l	136	116	156	10.00	20.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	45	36	54	4.50	9.00	Tris buffer without P5P 37°C
	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 30°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Cholesterol	mmol/l	4.09	3.56	4.62	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	158	137	179	10.50	21.00	
	mmol/l	4.35	3.79	4.91	0.28	0.56	Cholesterol Oxidase - IDMS
	mg/dl	168	146	190	11.00	22.00	
Creatinine	µmol/l	129	104	154	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.18	1.74	0.14	0.28	
	µmol/l	133	106	160	13.50	27.00	Jaffe rate blanked
	mg/dl	1.50	1.20	1.80	0.15	0.30	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.14	5.22	7.06	0.46	0.92	Glucose oxidase
	mg/dl	111	94.1	128	8.45	16.90	
LD (LDH)	U/l	444	377	511	33.50	67.00	P->L German methods 37°C
	U/l	321	272	370	24.50	49.00	P->L German methods 30°C
	U/l	225	191	259	17.00	34.00	P->L German methods 25°C
Protein Total	g/l	57.6	46.1	69.1	5.75	11.50	Biuret reaction end point
	g/dl	5.76	4.61	6.91	0.58	1.15	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.51	4.80	6.22	0.36	0.71	
Urea	mmol/l	7.13	6.06	8.20	0.54	1.07	Urease end point
	mg/dl	42.9	36.4	49.4	3.25	6.50	
	mmol/l	6.96	5.92	8.00	0.52	1.04	Urease kinetic
	mg/dl	41.8	35.6	48.0	3.10	6.20	
	mmol/l	6.96	5.92	8.00	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.3	34.2	46.4	3.05	6.10	Bromocresol Green
	g/dl	4.03	3.42	4.64	0.31	0.61	
Alkaline Phosphatase	U/l	315	268	362	23.50	47.00	Diethanolamine buffer DEA 37°C
	U/l	245	209	281	18.00	36.00	Diethanolamine buffer DEA 30°C
	U/l	201	171	231	15.00	30.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	41	32	50	4.50	9.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	16	12	20	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.7	14.0	21.4	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.04	0.819	1.26	0.11	0.22	
Bilirubin Total	µmol/l	28.5	22.5	34.5	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	25.1	19.9	30.3	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	mmol/l	2.18	1.97	2.39	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.74	7.90	9.58	0.42	0.84	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.25	2.02	2.48	0.12	0.23	Arsenazo III
	mg/dl	9.02	8.10	9.94	0.46	0.92	
Cholesterol	mmol/l	4.14	3.60	4.68	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	160	139	181	10.50	21.00	
	mmol/l	4.26	3.71	4.81	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	164	143	185	10.50	21.00	
Chloride	mmol/l	98.2	90.3	106	3.95	7.90	Colorimetric
	mmol/l	97.1	89.3	105	3.90	7.80	ISE direct
Cholinesterase	U/l	4883	3906	5860	488.50	977.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	230	188	272	21.00	42.00	CK-NAC substrate start (DGKC) 37°C
	U/l	144	118	170	13.00	26.00	CK-NAC substrate start (DGKC) 30°C
	U/l	98	80	116	9.00	18.00	CK-NAC substrate start (DGKC) 25°C
	U/l	226	186	266	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	141	116	166	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	96	79	113	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	140	112	168	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.58	1.27	1.89	0.16	0.31	
	µmol/l	138	110	166	14.00	28.00	Jaffe rate blanked
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.53	1.22	1.84	0.16	0.31	
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	34	46	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.17	5.24	7.10	0.47	0.93	Glucose oxidase
	mg/dl	111	94.4	128	8.30	16.60	
HDL - Cholesterol	mmol/l	1.39	1.18	1.60	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	53.7	45.5	61.9	4.10	8.20	
Iron	µmol/l	19.9	16.3	23.5	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	91.1	131	9.95	19.90	
LD (LDH)	U/l	388	330	446	29.00	58.00	P->L German methods 37°C
	U/l	280	238	322	21.00	42.00	P->L German methods 30°C
	U/l	197	167	227	15.00	30.00	P->L German methods 25°C
	U/l	416	353	479	31.50	63.00	P->L SFBC 37°C
	U/l	300	255	345	22.50	45.00	P->L SFBC 30°C
	U/l	211	179	243	16.00	32.00	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - direct
Protein Total	g/l	60.6	48.4	72.8	6.10	12.20	Biuret reaction end point
	g/dl	6.06	4.84	7.28	0.61	1.22	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.4	114	7.90	15.80	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.65	6.51	8.79	0.57	1.14	Urease kinetic
	mg/dl	46.0	39.1	52.9	3.45	6.90	
	mmol/l	7.65	6.50	8.80	0.58	1.15	BUN
	mg/dl	21.5	18.3	24.7	1.60	3.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.0	36.6	49.4	3.20	6.40	Bromocresol Green
	g/dl	4.30	3.66	4.94	0.32	0.64	
	g/l	43.9	37.3	50.5	3.30	6.60	Turbidimetric Assays
	g/dl	4.39	3.73	5.05	0.33	0.66	
Alkaline Phosphatase	U/l	199	169	229	15.00	30.00	Roche Integra AMP buffer 37°C
	U/l	155	132	178	11.50	23.00	Roche Integra AMP buffer 30°C
	U/l	127	108	146	9.50	19.00	Roche Integra AMP buffer 25°C
	U/l	199	169	229	15.00	30.00	AMP optimised to IFCC 37°C
	U/l	155	132	178	11.50	23.00	AMP optimised to IFCC 30°C
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 25°C
	U/l	195	166	224	14.50	29.00	Colorimetric 37°C
	U/l	152	129	175	11.50	23.00	Colorimetric 30°C
	U/l	125	106	144	9.50	19.00	Colorimetric 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	69	58	80	5.50	11.00	Roche EPS Liquid 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	pNP Maltotrioside substrates 37°C
	U/l	90	77	103	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 30°C
	U/l	14	11	17	1.50	3.00	Tris buffer without P5P 25°C

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	12.7	10.1	15.3	1.30	2.60	Enzymatic
Bilirubin Direct	µmol/l	18.3	14.5	22.1	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.07	0.848	1.29	0.11	0.22	
	µmol/l	18.4	14.5	22.3	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	17.9	14.2	21.6	1.85	3.70	Roche DPD JG standardised
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	18.5	14.6	22.4	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Roche DPD Doumas standardised
	mg/dl	1.09	0.860	1.32	0.12	0.23	
Bilirubin Total	µmol/l	25.9	20.5	31.3	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	26.4	20.9	31.9	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	µmol/l	26.0	20.6	31.4	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	1.21	1.83	0.16	0.31	
	µmol/l	26.3	20.7	31.9	2.80	5.60	Diazonium ion
	mg/dl	1.54	1.21	1.87	0.17	0.33	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.78	7.90	9.66	0.44	0.88	
	mmol/l	2.18	1.97	2.39	0.11	0.21	Arsenazo III
	mg/dl	8.74	7.90	9.58	0.42	0.84	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.02	3.50	4.54	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	135	175	10.00	20.00	
	mmol/l	4.03	3.51	4.55	0.26	0.52	Cholesterol Oxidase - IDMS
	mg/dl	156	135	177	10.50	21.00	
Chloride	mmol/l	96.3	88.6	104	3.85	7.70	ISE indirect
Cholinesterase	U/l	4898	3918	5878	490.00	980.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	216	177	255	19.50	39.00	CK-NAC serum start (DGKC) 37°C
	U/l	135	111	159	12.00	24.00	CK-NAC serum start (DGKC) 30°C
	U/l	92	75	109	8.50	17.00	CK-NAC serum start (DGKC) 25°C
	U/l	221	181	261	20.00	40.00	CK-NAC substrate start (DGKC) 37°C
	U/l	138	113	163	12.50	25.00	CK-NAC substrate start (DGKC) 30°C
	U/l	94	77	111	8.50	17.00	CK-NAC substrate start (DGKC) 25°C
	U/l	216	177	255	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	135	111	159	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	92	75	109	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	136	109	163	13.50	27.00	Alkaline picrate with deproteinization
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	136	109	163	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	136	109	163	13.50	27.00	Jaffe rate blanked
	mg/dl	1.54	1.23	1.85	0.16	0.31	

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RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	134	107	161	13.50	27.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	IDMS traceable
	mg/dl	1.50	1.20	1.80	0.15	0.30	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	26	36	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.33	5.38	7.28	0.48	0.95	Hexokinase
	mg/dl	114	96.9	131	8.55	17.10	
	mmol/l	6.35	5.40	7.30	0.48	0.95	Glucose oxidase
	mg/dl	114	97.3	131	8.35	16.70	
HDL - Cholesterol	mmol/l	1.70	1.45	1.95	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	65.6	56.0	75.2	4.80	9.60	
Iron	µmol/l	19.2	15.8	22.6	1.70	3.40	Colorimetric with ppt.
	µg/dl	107	88.3	126	9.35	18.70	
	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	90.6	131	10.20	20.40	
Lactate	mmol/l	1.58	1.29	1.87	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.2	11.6	16.8	1.30	2.60	
LD (LDH)	U/l	220	187	253	16.50	33.00	L->P 37°C
	U/l	159	135	183	12.00	24.00	L->P 30°C
	U/l	112	95	129	8.50	17.00	L->P 25°C

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	221	188	254	16.50	33.00	L->P IFCC 37°C
	U/l	160	136	184	12.00	24.00	L->P IFCC 30°C
	U/l	112	95	129	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	34	27	41	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	0.99	0.87	1.11	0.06	0.12	Ion selective electrode
	mg/dl	0.690	0.606	0.774	0.04	0.08	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.23	1.96	2.50	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.22	1.96	2.48	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.37	3.72	5.02	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	55.5	44.4	66.6	5.55	11.10	Biuret reaction end point
	g/dl	5.55	4.44	6.66	0.56	1.11	
	g/l	56.0	44.8	67.2	5.60	11.20	Biuret reaction kinetic
	g/dl	5.60	4.48	6.72	0.56	1.12	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	38.5	30.4	46.6	4.05	8.10	FE+UIBC(saturation with iron)
	µg/dl	215	170	260	22.50	45.00	
Triglycerides	mmol/l	1.16	0.97	1.35	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	85.8	120	8.60	17.20	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	103	86.4	120	8.30	16.60	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.14	0.95	1.33	0.09	0.19	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	101	84.4	118	8.30	16.60	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	102	85.8	118	8.10	16.20	
UIBC	µmol/l	19.1	15.7	22.5	1.70	3.40	Direct Colorimetric
	µg/dl	107	87.8	126	9.60	19.20	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.16	6.66	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.95	5.17	6.73	0.39	0.78	
Urea	mmol/l	7.18	6.10	8.26	0.54	1.08	Urease end point
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.22	6.14	8.30	0.54	1.08	Urease kinetic
	mg/dl	43.4	36.9	49.9	3.25	6.50	
	mmol/l	7.22	6.14	8.30	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	13.4	10.6	16.2	1.40	2.80	Diazo with Sulphanilic Acid
	mg/dl	0.784	0.620	0.948	0.08	0.16	
Calcium	mmol/l	2.22	2.00	2.44	0.11	0.22	Arsenazo III
	mg/dl	8.90	8.02	9.78	0.44	0.88	
Cholesterol	mmol/l	4.05	3.52	4.58	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	136	176	10.00	20.00	
	mmol/l	4.32	3.76	4.88	0.28	0.56	Cholesterol Oxidase - IDMS
	mg/dl	167	145	189	11.00	22.00	
Creatinine	µmol/l	138	110	166	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	138	110	166	14.00	28.00	Creatinine PAP method
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
Glucose	mmol/l	6.10	5.19	7.01	0.46	0.91	Hexokinase
	mg/dl	110	93.5	127	8.25	16.50	
	mmol/l	6.26	5.32	7.20	0.47	0.94	Glucose oxidase
	mg/dl	113	95.9	130	8.55	17.10	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric without ppt.
	µg/dl	101	82.7	119	9.15	18.30	
LD (LDH)	U/l	215	182	248	16.50	33.00	L->P IFCC 37°C
Magnesium	mmol/l	0.83	0.73	0.92	0.05	0.10	Xylidyl Blue
	mg/dl	2.00	1.76	2.24	0.12	0.24	
Protein Total	g/l	56.1	44.9	67.3	5.60	11.20	Biuret reaction end point
	g/dl	5.61	4.49	6.73	0.56	1.12	
Triglycerides	mmol/l	1.14	0.95	1.33	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	101	84.4	118	8.30	16.60	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.1	115	8.00	16.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	5.21	6.75	0.39	0.77	
Urea	mmol/l	7.43	6.32	8.54	0.56	1.11	Urease kinetic
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.43	6.32	8.54	0.56	1.11	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.5	34.5	46.5	3.00	6.00	Bromocresol Green
	g/dl	4.05	3.45	4.65	0.30	0.60	
Alkaline Phosphatase	U/l	214	182	246	16.00	32.00	AMP optimised to IFCC 37°C
	U/l	167	142	192	12.50	25.00	AMP optimised to IFCC 30°C
	U/l	137	116	158	10.50	21.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	88	75	101	6.50	13.00	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 30°C
	U/l	14	11	17	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	12.3	9.75	14.9	1.28	2.55	Diazo with Sulphanilic Acid
	mg/dl	0.720	0.570	0.870	0.08	0.15	
Bilirubin Total	µmol/l	28.5	22.5	34.5	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	27.9	22.1	33.7	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
Calcium	mmol/l	2.16	1.94	2.38	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.66	7.78	9.54	0.44	0.88	
	mmol/l	2.17	1.95	2.39	0.11	0.22	Arsenazo III
	mg/dl	8.70	7.82	9.58	0.44	0.88	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Cholesterol	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	136	178	10.50	21.00	
Chloride	mmol/l	93.5	86.0	101	3.75	7.50	ISE indirect
Cholinesterase	U/l	5008	4006	6010	501.00	1002.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	231	189	273	21.00	42.00	CK-NAC (IFCC) 37°C
	U/l	145	118	172	13.50	27.00	CK-NAC (IFCC) 30°C
	U/l	98	80	116	9.00	18.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	137	110	164	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.55	1.24	1.86	0.16	0.31	
	µmol/l	137	110	164	13.50	27.00	Creatinine PAP method
	mg/dl	1.55	1.24	1.86	0.16	0.31	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	49	42	56	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	26	34	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.32	5.37	7.27	0.48	0.95	Glucose oxidase
	mg/dl	114	96.8	131	8.60	17.20	
HDL - Cholesterol	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	48.6	41.3	55.9	3.65	7.30	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
LD (LDH)	U/l	417	354	480	31.50	63.00	P->L German methods 37°C
	U/l	301	256	346	22.50	45.00	P->L German methods 30°C
	U/l	211	179	243	16.00	32.00	P->L German methods 25°C

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	34	27	41	3.50	7.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Enzymatic
	mg/dl	2.25	1.98	2.52	0.14	0.27	
Phosphate Inorganic	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	
Potassium	mmol/l	4.09	3.76	4.42	0.17	0.33	ISE method - indirect
Protein Total	g/l	56.8	45.5	68.1	5.65	11.30	Biuret reaction end point
	g/dl	5.68	4.55	6.81	0.57	1.13	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	103	86.5	120	8.25	16.50	
	mmol/l	1.16	0.97	1.35	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	103	86.2	120	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.56	6.42	8.70	0.57	1.14	Urease kinetic
	mg/dl	45.4	38.6	52.2	3.40	6.80	
	mmol/l	7.56	6.43	8.69	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	39.7	33.7	45.7	3.00	6.00	Bromocresol Green
	g/dl	3.97	3.37	4.57	0.30	0.60	
Alkaline Phosphatase	U/l	207	176	238	15.50	31.00	AMP optimised to IFCC 37°C
	U/l	161	137	185	12.00	24.00	AMP optimised to IFCC 30°C
	U/l	132	112	152	10.00	20.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	23.7	19.0	28.4	2.35	4.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	15.5	12.3	18.7	1.60	3.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.907	0.720	1.09	0.09	0.19	
	µmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.00	0.790	1.21	0.11	0.21	
Bilirubin Total	µmol/l	23.4	18.5	28.3	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.37	1.08	1.66	0.15	0.29	
	µmol/l	25.7	20.3	31.1	2.70	5.40	Nitrobenzenediazonium salt
	mg/dl	1.50	1.19	1.81	0.16	0.31	
Calcium	mmol/l	2.22	1.99	2.45	0.12	0.23	Arsenazo III
	mg/dl	8.90	7.98	9.82	0.46	0.92	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.08	3.55	4.61	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
	mmol/l	4.27	3.72	4.82	0.28	0.55	Cholesterol Oxidase - IDMS
	mg/dl	165	144	186	10.50	21.00	
	mmol/l	4.06	3.54	4.58	0.26	0.52	Cholesterol Dehydrogenase
	mg/dl	157	137	177	10.00	20.00	
Chloride	mmol/l	99.4	91.4	107	4.00	8.00	ISE direct
CK Total	U/l	221	181	261	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	138	113	163	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	94	77	111	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	139	111	167	14.00	28.00	Enzymatic UV method
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	138	111	165	13.50	27.00	Creatinine PAP method
	mg/dl	1.56	1.25	1.87	0.16	0.31	
	µmol/l	140	112	168	14.00	28.00	Jaffe rate blanked
	mg/dl	1.58	1.27	1.89	0.16	0.31	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.60	5.61	7.59	0.50	0.99	Hexokinase
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	6.18	5.26	7.10	0.46	0.92	Glucose oxidase
	mg/dl	111	94.8	127	8.10	16.20	
HDL - Cholesterol	mmol/l	1.49	1.26	1.72	0.12	0.23	Direct HDL Immunoseparation
	mg/dl	57.5	48.6	66.4	4.45	8.90	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.56	1.32	1.80	0.12	0.24	Direct HDL PEGME
	mg/dl	60.2	51.0	69.4	4.60	9.20	
	mmol/l	1.57	1.33	1.81	0.12	0.24	Direct Clearance Method
	mg/dl	60.6	51.3	69.9	4.65	9.30	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
LD (LDH)	U/l	232	197	267	17.50	35.00	L->P IFCC 37°C
	U/l	168	142	194	13.00	26.00	L->P IFCC 30°C
	U/l	118	100	136	9.00	18.00	L->P IFCC 25°C
Magnesium	mmol/l	0.95	0.84	1.07	0.06	0.12	Xylidyl Blue
	mg/dl	2.32	2.04	2.60	0.14	0.28	
Phosphate Inorganic	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.56	3.88	5.24	0.34	0.68	
	mmol/l	1.38	1.17	1.59	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.28	3.63	4.93	0.33	0.65	
Potassium	mmol/l	3.88	3.57	4.19	0.16	0.31	ISE method - direct
Protein Total	g/l	57.5	46.0	69.0	5.75	11.50	Biuret reaction end point
	g/dl	5.75	4.60	6.90	0.58	1.15	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.3	116	7.85	15.70	
	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/Glycerol Dehydrogenase
	mg/dl	104	86.9	121	8.55	17.10	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.98	5.21	6.75	0.39	0.77	

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

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.96	5.19	6.73	0.39	0.77	
Urea	mmol/l	7.71	6.55	8.87	0.58	1.16	Urease end point
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	7.51	6.38	8.64	0.57	1.13	Urease kinetic
	mg/dl	45.1	38.3	51.9	3.40	6.80	
	mmol/l	7.51	6.38	8.64	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.0	34.9	47.1	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.10	3.49	4.71	0.31	0.61	
Alkaline Phosphatase	U/l	185	157	213	14.00	28.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	44	35	53	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	44	35	53	4.50	9.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	69	59	79	5.00	10.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	13.2	10.4	16.0	1.40	2.80	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	22.0	17.4	26.6	2.30	4.60	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.29	1.02	1.56	0.14	0.27	
Calcium	mmol/l	2.24	2.01	2.47	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	8.98	8.06	9.90	0.46	0.92	
Cholesterol	mmol/l	4.10	3.57	4.63	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	158	138	178	10.00	20.00	
Chloride	mmol/l	96.9	89.1	105	3.90	7.80	Ortho Vitros Microslide Systems
Cholinesterase	U/l	4784	3827	5741	478.50	957.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	205	168	242	18.50	37.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	134	107	161	13.50	27.00	Vitros DT60/DT60 II/DTSC II
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	135	108	162	13.50	27.00	Vitros IDMS Traceable
	mg/dl	1.53	1.22	1.84	0.16	0.31	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	30.5	22.9	38.1	3.80	7.60	Vitros ECi
	ng/dl	2.38	1.79	2.97	0.30	0.59	
	pg/ml	23.8	17.9	29.7	2.95	5.90	Vitros ECi
gamma-GT	U/l	64	54	74	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	112	94.8	129	8.60	17.20	
HDL - Cholesterol	mmol/l	1.49	1.27	1.71	0.11	0.22	Vitros Magnetic HDL
	mg/dl	57.5	49.0	66.0	4.25	8.50	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Vitros 5.1 FS microtip assay
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.47	1.25	1.69	0.11	0.22	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	56.7	48.3	65.1	4.20	8.40	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Ortho Vitros Microslide Systems
	µg/dl	110	90.0	130	10.00	20.00	
Lactate	mmol/l	1.42	1.17	1.67	0.13	0.25	Ortho Vitros Microslide Systems
	mg/dl	12.8	10.5	15.1	1.15	2.30	
LD (LDH)	U/l	238	202	274	18.00	36.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	252	202	302	25.00	50.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.15	1.01	1.29	0.07	0.14	Ortho Vitros Microslide Systems
	mg/dl	0.799	0.701	0.897	0.05	0.10	
Magnesium	mmol/l	0.91	0.80	1.02	0.06	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.22	1.95	2.49	0.14	0.27	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.31	3.66	4.96	0.33	0.65	
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	Ortho Vitros Microslide Systems

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	57.9	46.4	69.4	5.75	11.50	Ortho Vitros Microslide Systems
	g/dl	5.79	4.64	6.94	0.58	1.15	
PSA Total	ng/ml =	10.7	7.99	13.4	1.36	2.71	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.05	0.84	1.26	0.10	0.21	Vitros ECi
TIBC	µmol/l	46.9	37.1	56.7	4.90	9.80	Ortho Vitros Microslide Systems
	µg/dl	262	207	317	27.50	55.00	
Total T3	nmol/l	2.32	1.74	2.90	0.29	0.58	Vitros ECi
	ng/ml	1.51	1.13	1.89	0.19	0.38	
	ng/dl	151	113	189	19.00	38.00	Vitros ECi
Total T4	nmol/l	78.7	59.0	98.4	9.85	19.70	Vitros ECi
	µg/dl	6.14	4.60	7.68	0.77	1.54	
	ng/ml	61.4	46.0	76.8	7.70	15.40	Vitros ECi
Triglycerides	mmol/l	1.28	1.08	1.48	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	113	95.6	130	8.70	17.40	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.61	4.89	6.33	0.36	0.72	
Urea	mmol/l	7.05	5.99	8.11	0.53	1.06	Ortho Vitros Microslide Systems
	mg/dl	42.4	36.0	48.8	3.20	6.40	
	mmol/l	7.05	5.99	8.11	0.53	1.06	BUN
	mg/dl	19.8	16.8	22.8	1.50	3.00	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.6	34.5	46.7	3.05	6.10	Bromocresol Green
	g/dl	4.06	3.45	4.67	0.31	0.61	
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer without P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.9	14.2	21.6	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
Bilirubin Total	µmol/l	32.4	25.6	39.2	3.40	6.80	Diazo with Sulphanilic Acid
	mg/dl	1.90	1.50	2.30	0.20	0.40	
	µmol/l	27.5	21.8	33.2	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	29.4	23.2	35.6	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.72	1.36	2.08	0.18	0.36	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.18	3.63	4.73	0.28	0.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	161	140	182	10.50	21.00	
CK Total	U/l	213	174	252	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC (IFCC) 25°C

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	136	109	163	13.50	27.00	Jaffe rate blanked
	mg/dl	1.54	1.23	1.85	0.16	0.31	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	26	36	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Glucose oxidase
	mg/dl	112	95.1	129	8.45	16.90	
HDL - Cholesterol	mmol/l	1.38	1.17	1.59	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	53.3	45.2	61.4	4.05	8.10	
	mmol/l	1.30	1.10	1.50	0.10	0.20	Direct Clearance Method
	mg/dl	50.2	42.5	57.9	3.85	7.70	
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
LD (LDH)	U/l	432	368	496	32.00	64.00	P->L German methods 37°C
	U/l	312	266	358	23.00	46.00	P->L German methods 30°C
	U/l	219	187	251	16.00	32.00	P->L German methods 25°C
Magnesium	mmol/l	0.93	0.81	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	1.30	1.11	1.49	0.10	0.19	Phosphomolybdate UV
	mg/dl	4.03	3.44	4.62	0.30	0.59	
Protein Total	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction end point
	g/dl	5.84	4.67	7.01	0.59	1.17	
Triglycerides	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.8	110	7.45	14.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	5.07	6.59	0.38	0.76	
Urea	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.53	6.40	8.66	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.4	36.1	48.7	3.15	6.30	Bromocresol Green
	g/dl	4.24	3.61	4.87	0.32	0.63	
	g/l	41.9	35.6	48.2	3.15	6.30	Bromocresol Purple
	g/dl	4.19	3.56	4.82	0.32	0.63	
	g/l	41.1	35.0	47.2	3.05	6.10	Turbidimetric Assays
	g/dl	4.11	3.50	4.72	0.31	0.61	
Alkaline Phosphatase	U/l	199	169	229	15.00	30.00	Roche Integra AMP buffer 37°C
	U/l	155	132	178	11.50	23.00	Roche Integra AMP buffer 30°C
	U/l	127	108	146	9.50	19.00	Roche Integra AMP buffer 25°C
	U/l	198	169	227	14.50	29.00	AMP optimised to IFCC 37°C
	U/l	154	132	176	11.00	22.00	AMP optimised to IFCC 30°C
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 25°C
	U/l	202	172	232	15.00	30.00	Colorimetric 37°C
	U/l	157	134	180	11.50	23.00	Colorimetric 30°C
	U/l	129	110	148	9.50	19.00	Colorimetric 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	87	74	100	6.50	13.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C

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Amylase Total	U/l	87	74	100	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	87	74	100	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	23.3	18.6	28.0	2.35	4.70	Enzymatic Colorimetric
Bicarbonate	mmol/l	12.0	9.50	14.5	1.25	2.50	Colorimetric
	mmol/l	12.2	9.71	14.7	1.25	2.49	Enzymatic
Bilirubin Direct	µmol/l	18.6	14.7	22.5	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.09	0.860	1.32	0.12	0.23	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.09	0.860	1.32	0.12	0.23	
	µmol/l	18.9	14.9	22.9	2.00	4.00	Roche DPD JG standardised
	mg/dl	1.11	0.872	1.35	0.12	0.24	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.09	0.860	1.32	0.12	0.23	
	µmol/l	17.3	13.7	20.9	1.80	3.60	Roche DPD Doumas standardised
	mg/dl	1.01	0.801	1.22	0.10	0.21	
Bilirubin Total	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.48	1.17	1.79	0.16	0.31	
	µmol/l	25.7	20.3	31.1	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	µmol/l	25.8	20.4	31.2	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.51	1.19	1.83	0.16	0.32	

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	25.9	20.5	31.3	2.70	5.40	Nitrobenzenediazonium salt
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	25.8	20.4	31.2	2.70	5.40	Diazonium ion
	mg/dl	1.51	1.19	1.83	0.16	0.32	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.22	1.99	2.45	0.12	0.23	Arsenazo III
	mg/dl	8.90	7.98	9.82	0.46	0.92	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.05	3.52	4.58	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	136	176	10.00	20.00	
	mmol/l	4.04	3.51	4.57	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	156	135	177	10.50	21.00	
	mmol/l	4.01	3.49	4.53	0.26	0.52	Cholesterol Dehydrogenase
	mg/dl	155	135	175	10.00	20.00	
Chloride	mmol/l	92.4	85.0	99.8	3.70	7.40	ISE indirect
Cholinesterase	U/l	4761	3809	5713	476.00	952.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC serum start (DGKC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	U/l	208	170	246	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	130	106	154	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	212	173	251	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	133	108	158	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Copper	µmol/l	14.8	11.9	17.7	1.45	2.90	Colorimetric
	µg/dl	94.1	75.7	113	9.20	18.40	
Creatinine	µmol/l	139	111	167	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	141	113	169	14.00	28.00	Enzymatic UV method
	mg/dl	1.59	1.28	1.90	0.16	0.31	
	µmol/l	144	115	173	14.50	29.00	Creatinine PAP method
	mg/dl	1.63	1.30	1.96	0.17	0.33	
	µmol/l	142	113	171	14.50	29.00	Roche Creatinine Plus
	mg/dl	1.60	1.28	1.92	0.16	0.32	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	138	110	166	14.00	28.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	142	114	170	14.00	28.00	IDMS traceable
	mg/dl	1.60	1.29	1.91	0.16	0.31	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	19.7	14.8	24.6	2.45	4.90	Roche Cobas e601/602
	ng/dl	1.54	1.15	1.93	0.20	0.39	
	pg/ml	15.4	11.5	19.3	1.95	3.90	Roche Cobas e601/602
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	37	32	42	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	29	25	33	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	41	35	47	3.00	6.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	32	27	37	2.50	5.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	52	45	59	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	28	36	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.21	5.27	7.15	0.47	0.94	Glucose dehydrogenase
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	6.15	5.23	7.07	0.46	0.92	Hexokinase
	mg/dl	111	94.2	128	8.40	16.80	
	mmol/l	6.09	5.18	7.00	0.46	0.91	Glucose oxidase
	mg/dl	110	93.3	127	8.35	16.70	
HDL - Cholesterol	mmol/l	1.60	1.36	1.84	0.12	0.24	Direct HDL Immunoseparation
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL PEGME
	mg/dl	62.5	53.3	71.7	4.60	9.20	
	mmol/l	1.65	1.41	1.89	0.12	0.24	Direct HDL Roche 4th Generation
	mg/dl	63.7	54.4	73.0	4.65	9.30	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Colorimetric with ppt.
	µg/dl	110	90.0	130	10.00	20.00	
	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	216	184	248	16.00	32.00	L->P 37°C
	U/l	156	133	179	11.50	23.00	L->P 30°C
	U/l	110	93	127	8.50	17.00	L->P 25°C
	U/l	216	184	248	16.00	32.00	L->P IFCC 37°C
	U/l	156	133	179	11.50	23.00	L->P IFCC 30°C
	U/l	110	93	127	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	35	28	42	3.50	7.00	Other Colorimetric 37°C
	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
	U/l	34	28	40	3.00	6.00	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	0.99	0.87	1.11	0.06	0.12	Ion selective electrode
	mg/dl	0.689	0.606	0.772	0.04	0.08	
	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.612	0.776	0.04	0.08	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Arsenazo III
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Atomic absorption
	mg/dl	2.23	1.97	2.49	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.89	0.79	1.00	0.05	0.11	Methylthymol blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Enzymatic
	mg/dl	2.23	1.96	2.50	0.14	0.27	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	294	235	353	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.25	3.60	4.90	0.33	0.65	
	mmol/l	1.36	1.16	1.56	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.22	3.60	4.84	0.31	0.62	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	ISE method - indirect
Protein Total	g/l	57.4	45.9	68.9	5.75	11.50	Biuret reaction end point
	g/dl	5.74	4.59	6.89	0.58	1.15	
	g/l	57.0	45.6	68.4	5.70	11.40	Biuret reaction kinetic
	g/dl	5.70	4.56	6.84	0.57	1.14	
PSA Total	ng/ml =	11.3	8.45	14.2	1.43	2.85	Roche Cobas 6000/8000
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.40	1.12	1.68	0.14	0.28	Roche Cobas e601/602
TIBC	µmol/l	38.2	30.2	46.2	4.00	8.00	FE+UIBC(saturation with iron)
	µg/dl	214	169	259	22.50	45.00	
	µmol/l	37.0	29.2	44.8	3.90	7.80	Direct Colorimetric
	µg/dl	207	163	251	22.00	44.00	
	µmol/l	44.3	35.0	53.6	4.65	9.30	Calculated from Transferrin
	µg/dl	248	196	300	26.00	52.00	
Total T3	nmol/l	1.90	1.43	2.37	0.24	0.47	Roche Cobas e601/602
	ng/ml	1.24	0.931	1.55	0.15	0.31	
	ng/dl	124	93.1	155	15.45	30.90	Roche Cobas e601/602
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.9	117	8.05	16.10	

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Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	102	85.1	119	8.45	16.90	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.9	116	8.05	16.10	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	100	84.3	116	7.85	15.70	
	mmol/l	1.14	0.96	1.33	0.09	0.19	Lipase/Glycerol Dehydrogenase
	mg/dl	101	84.5	118	8.25	16.50	
UIBC	µmol/l	18.8	15.4	22.2	1.70	3.40	Direct Colorimetric
	µg/dl	105	86.1	124	9.45	18.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.73	4.99	6.47	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.73	4.97	6.49	0.38	0.76	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.75	4.99	6.51	0.38	0.76	
Urea	mmol/l	7.39	6.28	8.50	0.56	1.11	Urease end point
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.48	6.36	8.60	0.56	1.12	Urease kinetic
	mg/dl	45.0	38.2	51.8	3.40	6.80	
	mmol/l	7.48	6.36	8.60	0.56	1.12	BUN
	mg/dl	21.0	17.9	24.1	1.55	3.10	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.8	36.4	49.2	3.20	6.40	Bromocresol Green
	g/dl	4.28	3.64	4.92	0.32	0.64	
Alkaline Phosphatase	U/l	200	170	230	15.00	30.00	Roche Integra AMP buffer 37°C
	U/l	156	132	180	12.00	24.00	Roche Integra AMP buffer 30°C
	U/l	128	109	147	9.50	19.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	16	26	2.50	5.00	Tris buffer without P5P 25°C
Amylase Total	U/l	91	78	104	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.0	14.2	21.8	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	17.6	13.9	21.3	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.03	0.813	1.25	0.11	0.22	
	µmol/l	17.6	13.9	21.3	1.85	3.70	Roche DPD JG standardised
	mg/dl	1.03	0.813	1.25	0.11	0.22	
	µmol/l	16.7	13.2	20.2	1.75	3.50	Diazo with Dichloroaniline (DCA)
	mg/dl	0.977	0.772	1.18	0.10	0.21	

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	25.9	20.5	31.3	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	25.8	20.4	31.2	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.51	1.19	1.83	0.16	0.32	
	µmol/l	26.4	20.9	31.9	2.75	5.50	Diazonium ion
	mg/dl	1.54	1.22	1.86	0.16	0.32	
Calcium	mmol/l	2.16	1.95	2.37	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.66	7.82	9.50	0.42	0.84	
	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.18	1.97	2.39	0.11	0.21	NM-BAPTA
	mg/dl	8.74	7.90	9.58	0.42	0.84	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
	mmol/l	3.88	3.38	4.38	0.25	0.50	Cholesterol Oxidase - IDMS
	mg/dl	150	130	170	10.00	20.00	
Chloride	mmol/l	97.7	89.9	106	3.90	7.80	ISE indirect
CK Total	U/l	213	175	251	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	110	156	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	134	107	161	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	134	107	161	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	Jaffe rate blanked
	mg/dl	1.50	1.20	1.80	0.15	0.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.28	5.34	7.22	0.47	0.94	Hexokinase
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	6.25	5.31	7.19	0.47	0.94	Glucose oxidase
	mg/dl	113	95.7	130	8.65	17.30	
HDL - Cholesterol	mmol/l	1.67	1.42	1.92	0.13	0.25	Direct HDL PEGME
	mg/dl	64.5	54.8	74.2	4.85	9.70	
	mmol/l	1.66	1.41	1.91	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	64.1	54.4	73.8	4.85	9.70	
Iron	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	90.6	131	10.20	20.40	
LD (LDH)	U/l	217	184	250	16.50	33.00	L->P IFCC 37°C
	U/l	157	133	181	12.00	24.00	L->P IFCC 30°C
	U/l	110	93	127	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	33	27	39	3.00	6.00	Roche Colorimetric 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.16	1.90	2.42	0.13	0.26	
	mmol/l	0.93	0.81	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.25	1.98	2.52	0.14	0.27	
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.95	3.63	4.27	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.1	46.5	69.7	5.80	11.60	Biuret reaction end point
	g/dl	5.81	4.65	6.97	0.58	1.16	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.3	119	8.35	16.70	
	mmol/l	1.15	0.97	1.34	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	102	85.4	119	8.30	16.60	
	mmol/l	1.17	0.99	1.36	0.09	0.19	Lipase/Glycerol Dehydrogenase
	mg/dl	104	87.2	121	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.80	5.06	6.54	0.37	0.74	
Urea	mmol/l	7.35	6.24	8.46	0.56	1.11	Urease end point
	mg/dl	44.2	37.5	50.9	3.35	6.70	
	mmol/l	7.16	6.09	8.23	0.54	1.07	Urease kinetic
	mg/dl	43.0	36.6	49.4	3.20	6.40	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.16	6.09	8.23	0.54	1.07	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.3	35.9	48.7	3.20	6.40	Bromocresol Green
	g/dl	4.23	3.59	4.87	0.32	0.64	
	g/l	41.7	35.5	47.9	3.10	6.20	Bromocresol Purple
	g/dl	4.17	3.55	4.79	0.31	0.62	
	g/l	42.0	35.7	48.3	3.15	6.30	Turbidimetric Assays
	g/dl	4.20	3.57	4.83	0.32	0.63	
Alkaline Phosphatase	U/l	196	167	225	14.50	29.00	Roche Integra AMP buffer 37°C
	U/l	153	130	176	11.50	23.00	Roche Integra AMP buffer 30°C
	U/l	125	107	143	9.00	18.00	Roche Integra AMP buffer 25°C
	U/l	192	163	221	14.50	29.00	AMP optimised to IFCC 37°C
	U/l	150	127	173	11.50	23.00	AMP optimised to IFCC 30°C
	U/l	123	104	142	9.50	19.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	88	74	102	7.00	14.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	88	75	101	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	87	74	100	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	11.9	9.45	14.4	1.23	2.45	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	18.7	14.8	22.6	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.09	0.866	1.31	0.11	0.22	
	µmol/l	17.9	14.2	21.6	1.85	3.70	Roche DPD JG standardised
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	17.5	13.8	21.2	1.85	3.70	Roche DPD Doumas standardised
	mg/dl	1.02	0.807	1.23	0.11	0.21	
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	25.9	20.5	31.3	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	26.0	20.5	31.5	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	26.0	20.5	31.5	2.75	5.50	Diazonium ion
	mg/dl	1.52	1.20	1.84	0.16	0.32	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.78	7.90	9.66	0.44	0.88	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Arsenazo III
	mg/dl	8.94	8.06	9.82	0.44	0.88	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.05	3.52	4.58	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	136	176	10.00	20.00	
	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	157	136	178	10.50	21.00	
	mmol/l	3.92	3.41	4.43	0.26	0.51	Cholesterol Dehydrogenase
	mg/dl	151	132	170	9.50	19.00	
Chloride	mmol/l	92.8	85.3	100	3.75	7.50	ISE indirect
Cholinesterase	U/l	4656	3725	5587	465.50	931.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	213	174	252	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	139	111	167	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	140	112	168	14.00	28.00	Enzymatic UV method
	mg/dl	1.58	1.27	1.89	0.16	0.31	
	µmol/l	139	112	166	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.57	1.27	1.87	0.15	0.30	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.57	1.25	1.89	0.16	0.32	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	26	34	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	51	43	59	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	40	34	46	3.00	6.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	6.18	5.25	7.11	0.47	0.93	Hexokinase
	mg/dl	111	94.6	127	8.20	16.40	
	mmol/l	6.22	5.29	7.15	0.47	0.93	Glucose oxidase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.68	1.43	1.93	0.13	0.25	Direct HDL PPD
	mg/dl	64.8	55.2	74.4	4.80	9.60	
	mmol/l	1.60	1.36	1.84	0.12	0.24	Direct HDL PEGME
	mg/dl	61.8	52.5	71.1	4.65	9.30	
	mmol/l	1.61	1.37	1.85	0.12	0.24	Direct Clearance Method
	mg/dl	62.1	52.9	71.3	4.60	9.20	
	mmol/l	1.64	1.39	1.89	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	63.3	53.7	72.9	4.80	9.60	
Iron	µmol/l	19.8	16.3	23.3	1.75	3.50	Colorimetric with ppt.
	µg/dl	111	91.1	131	9.95	19.90	
	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	219	186	252	16.50	33.00	L->P 37°C
	U/l	158	134	182	12.00	24.00	L->P 30°C
	U/l	111	94	128	8.50	17.00	L->P 25°C
	U/l	377	320	434	28.50	57.00	P->L German methods 37°C
	U/l	272	231	313	20.50	41.00	P->L German methods 30°C
	U/l	191	162	220	14.50	29.00	P->L German methods 25°C
	U/l	215	183	247	16.00	32.00	L->P IFCC 37°C
	U/l	155	132	178	11.50	23.00	L->P IFCC 30°C
	U/l	109	93	125	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	34	28	40	3.00	6.00	Roche Colorimetric 37°C
	U/l	34	27	41	3.50	7.00	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.611	0.777	0.04	0.08	
Magnesium	mmol/l	0.91	0.80	1.02	0.06	0.11	Atomic absorption
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
Osmolality	mOsm/kg	303	243	363	30.00	60.00	Calculated
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	

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RANDOX

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	0.33	0.65	
Potassium	mmol/l	4.05	3.73	4.37	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.3	45.9	68.7	5.70	11.40	Biuret reaction end point
	g/dl	5.73	4.59	6.87	0.57	1.14	
	g/l	58.1	46.5	69.7	5.80	11.60	Biuret reaction kinetic
	g/dl	5.81	4.65	6.97	0.58	1.16	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	38.6	30.5	46.7	4.05	8.10	FE+UIBC(saturation with iron)
	µg/dl	216	170	262	23.00	46.00	
	µmol/l	38.5	30.4	46.6	4.05	8.10	Direct Colorimetric
	µg/dl	215	170	260	22.50	45.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	84.1	116	7.95	15.90	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	98.2	82.5	114	7.85	15.70	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	102	85.7	118	8.15	16.30	
UIBC	µmol/l	19.8	16.3	23.3	1.75	3.50	Direct Colorimetric
	µg/dl	111	91.1	131	9.95	19.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	5.06	6.54	0.37	0.74	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.78	5.02	6.54	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	5.07	6.59	0.38	0.76	
Urea	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease end point
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.55	6.42	8.68	0.57	1.13	Urease kinetic
	mg/dl	45.4	38.6	52.2	3.40	6.80	
	mmol/l	7.55	6.42	8.68	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Green
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	194	165	223	14.50	29.00	Roche Integra AMP buffer 37°C
	U/l	151	129	173	11.00	22.00	Roche Integra AMP buffer 30°C
	U/l	124	105	143	9.50	19.00	Roche Integra AMP buffer 25°C
	U/l	191	162	220	14.50	29.00	Colorimetric 37°C
	U/l	149	126	172	11.50	23.00	Colorimetric 30°C
	U/l	122	104	140	9.00	18.00	Colorimetric 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	67	57	77	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	91	77	105	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.5	14.6	22.4	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
	µmol/l	18.9	14.9	22.9	2.00	4.00	Roche DPD JG standardised
	mg/dl	1.11	0.872	1.35	0.12	0.24	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	16.0	12.7	19.3	1.65	3.30	Roche DPD Doumas standardised
	mg/dl	0.936	0.743	1.13	0.10	0.19	
Bilirubin Total	µmol/l	25.6	20.2	31.0	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.50	1.18	1.82	0.16	0.32	
	µmol/l	25.5	20.1	30.9	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	1.18	1.80	0.16	0.31	
	µmol/l	25.4	20.1	30.7	2.65	5.30	Diazonium ion
	mg/dl	1.49	1.18	1.80	0.16	0.31	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.19	1.97	2.41	0.11	0.22	NM-BAPTA
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Cholesterol	mmol/l	4.04	3.52	4.56	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	136	176	10.00	20.00	
	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase - IDMS
	mg/dl	157	137	177	10.00	20.00	
Chloride	mmol/l	93.5	86.0	101	3.75	7.50	ISE indirect
Cholinesterase	U/l	4751	3801	5701	475.00	950.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	214	176	252	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	134	110	158	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	91	75	107	8.00	16.00	CK-NAC (IFCC) 25°C

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	145	116	174	14.50	29.00	Roche Creatinine Plus
	mg/dl	1.64	1.31	1.97	0.17	0.33	
	µmol/l	139	111	167	14.00	28.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	142	113	171	14.50	29.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.60	1.28	1.92	0.16	0.32	
	µmol/l	141	113	169	14.00	28.00	IDMS traceable
	mg/dl	1.59	1.28	1.90	0.16	0.31	
gamma-GT	U/l	51	44	58	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	35	45	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	45	59	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	28	36	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.20	5.27	7.13	0.47	0.93	Hexokinase
	mg/dl	112	95.0	129	8.50	17.00	
HDL - Cholesterol	mmol/l	1.64	1.39	1.89	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	63.3	53.7	72.9	4.80	9.60	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.56	1.28	1.84	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.5	16.7	1.30	2.60	
LD (LDH)	U/l	216	184	248	16.00	32.00	L->P IFCC 37°C
	U/l	156	133	179	11.50	23.00	L->P IFCC 30°C
	U/l	110	93	127	8.50	17.00	L->P IFCC 25°C

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.626	0.804	0.04	0.09	
Magnesium	mmol/l	0.94	0.82	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.27	2.00	2.54	0.14	0.27	
	mmol/l	0.94	0.83	1.06	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.29	2.02	2.56	0.14	0.27	
Osmolality	mOsm/kg	297	238	356	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.36	1.15	1.57	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.22	3.57	4.87	0.33	0.65	
Potassium	mmol/l	4.04	3.71	4.37	0.17	0.33	ISE method - indirect
Protein Total	g/l	57.2	45.8	68.6	5.70	11.40	Biuret reaction end point
	g/dl	5.72	4.58	6.86	0.57	1.14	
	g/l	56.6	45.2	68.0	5.70	11.40	Biuret reaction kinetic
	g/dl	5.66	4.52	6.80	0.57	1.14	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	38.6	30.5	46.7	4.05	8.10	FE+UIBC(saturation with iron)
	µg/dl	216	170	262	23.00	46.00	
	µmol/l	37.7	29.8	45.6	3.95	7.90	Direct Colorimetric
	µg/dl	211	167	255	22.00	44.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	101	84.6	117	8.20	16.40	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.5	115	7.80	15.60	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	100	84.3	116	7.85	15.70	
	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	100	84.3	116	7.85	15.70	
UIBC	µmol/l	19.5	16.0	23.0	1.75	3.50	Direct Colorimetric
	µg/dl	109	89.4	129	9.80	19.60	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.96	6.46	0.38	0.75	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	
Urea	mmol/l	7.41	6.30	8.52	0.56	1.11	Urease kinetic
	mg/dl	44.5	37.9	51.1	3.30	6.60	
	mmol/l	7.41	6.30	8.52	0.56	1.11	BUN
	mg/dl	20.8	17.7	23.9	1.55	3.10	

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RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.5	35.2	47.8	3.15	6.30	Bromocresol Green
	g/dl	4.15	3.52	4.78	0.32	0.63	
Alkaline Phosphatase	U/l	316	268	364	24.00	48.00	Diethanolamine buffer DEA 37°C
	U/l	211	179	243	16.00	32.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	76	65	87	5.50	11.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	98	84	112	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	24.7	19.8	29.6	2.45	4.90	5th Generation Colorimetric
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	16.4	12.9	19.9	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.959	0.755	1.16	0.10	0.20	
	µmol/l	16.0	12.7	19.3	1.65	3.30	Oxidation to Biliverdin/Vanadate
	mg/dl	0.936	0.743	1.13	0.10	0.19	
Bilirubin Total	µmol/l	30.3	24.0	36.6	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.77	1.40	2.14	0.19	0.37	
	µmol/l	28.9	22.8	35.0	3.05	6.10	Oxidation to Biliverdin/Vanadate
	mg/dl	1.69	1.33	2.05	0.18	0.36	
Calcium	mmol/l	2.28	2.06	2.50	0.11	0.22	Arsenazo III
	mg/dl	9.14	8.26	10.0	0.44	0.88	
Cholesterol	mmol/l	4.28	3.73	4.83	0.28	0.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	165	144	186	10.50	21.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	94.3	86.7	102	3.80	7.60	ISE direct
CK Total	U/l	234	192	276	21.00	42.00	CK-NAC substrate start (DGKC) 37°C
	U/l	235	193	277	21.00	42.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	137	110	164	13.50	27.00	Enzymatic UV method
	mg/dl	1.55	1.24	1.86	0.16	0.31	
gamma-GT	U/l	56	47	65	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.33	5.38	7.28	0.48	0.95	Hexokinase
	mg/dl	114	96.9	131	8.55	17.10	
	mmol/l	6.52	5.54	7.50	0.49	0.98	Glucose oxidase
	mg/dl	117	99.8	134	8.60	17.20	
Iron	µmol/l	19.6	16.0	23.2	1.80	3.60	Colorimetric without ppt.
	µg/dl	110	89.4	131	10.30	20.60	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	428	364	492	32.00	64.00	P->L German methods 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	41	33	49	4.00	8.00	Randox Colorimetric 37°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.31	3.66	4.96	0.33	0.65	
Potassium	mmol/l	4.25	3.91	4.59	0.17	0.34	Enzymatic

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	3.95	3.64	4.26	0.16	0.31	ISE method - direct
Protein Total	g/l	59.0	47.2	70.8	5.90	11.80	Biuret reaction end point
	g/dl	5.90	4.72	7.08	0.59	1.18	
Sodium	mmol/l	147	140	154	3.50	7.00	Enzymatic
	mmol/l	140	133	147	3.50	7.00	ISE method - direct
TIBC	µmol/l	49.8	39.3	60.3	5.25	10.50	Direct Colorimetric
	µg/dl	278	220	336	29.00	58.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.01	5.22	6.80	0.40	0.79	
Urea	mmol/l	7.73	6.57	8.89	0.58	1.16	Urease kinetic
	mg/dl	46.5	39.5	53.5	3.50	7.00	
	mmol/l	7.73	6.57	8.89	0.58	1.16	BUN
	mg/dl	21.7	18.4	25.0	1.65	3.30	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.3	34.3	46.3	3.00	6.00	Bromocresol Green
	g/dl	4.03	3.43	4.63	0.30	0.60	
Alkaline Phosphatase	U/l	197	168	226	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	44	36	52	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	70	60	80	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	91	77	105	7.00	14.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	23.0	18.4	27.6	2.30	4.60	Enzymatic Colorimetric
Bicarbonate	mmol/l	13.7	10.9	16.5	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	16.9	13.4	20.4	1.75	3.50	Oxidation to Biliverdin/Vanadate
	mg/dl	0.989	0.784	1.19	0.10	0.21	
Bilirubin Total	µmol/l	30.1	23.7	36.5	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	29.8	23.6	36.0	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.74	1.38	2.10	0.18	0.36	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Arsenazo III
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Cholesterol	mmol/l	4.09	3.56	4.62	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	158	137	179	10.50	21.00	
	mmol/l	4.16	3.62	4.70	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	161	140	182	10.50	21.00	

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	97.1	89.3	105	3.90	7.80	ISE indirect
CK Total	U/l	224	184	264	20.00	40.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	137	109	165	14.00	28.00	Enzymatic UV method
	mg/dl	1.55	1.23	1.87	0.16	0.32	
	µmol/l	139	112	166	13.50	27.00	Creatinine PAP method
	mg/dl	1.57	1.27	1.87	0.15	0.30	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	138	110	166	14.00	28.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	133	106	160	13.50	27.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.50	1.20	1.80	0.15	0.30	
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	48	41	55	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.05	5.14	6.96	0.46	0.91	Hexokinase
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	6.14	5.22	7.06	0.46	0.92	Glucose oxidase
	mg/dl	111	94.1	128	8.45	16.90	
HDL - Cholesterol	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.22	1.03	1.41	0.10	0.19	Direct Clearance Method
	mg/dl	47.1	39.8	54.4	3.65	7.30	
Iron	µmol/l	18.8	15.4	22.2	1.70	3.40	Colorimetric without ppt.
	µg/dl	105	86.1	124	9.45	18.90	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.41	1.16	1.66	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.7	10.5	14.9	1.10	2.20	
LD (LDH)	U/l	212	180	244	16.00	32.00	L->P 37°C
	U/l	424	360	488	32.00	64.00	P->L German methods 37°C
	U/l	216	183	249	16.50	33.00	L->P IFCC 37°C
Lipase	U/l	41	33	49	4.00	8.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.19	1.63	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.37	3.69	5.05	0.34	0.68	
Potassium	mmol/l	4.03	3.71	4.35	0.16	0.32	ISE method - indirect
Protein Total	g/l	56.8	45.4	68.2	5.70	11.40	Biuret reaction end point
	g/dl	5.68	4.54	6.82	0.57	1.14	
Sodium	mmol/l	144	136	152	4.00	8.00	ISE method - indirect
TIBC	µmol/l	48.6	38.4	58.8	5.10	10.20	FE+UIBC(saturation with iron)
	µg/dl	272	215	329	28.50	57.00	
	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	1.15	0.97	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.4	119	8.30	16.60	
	mmol/l	1.16	0.97	1.35	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	103	86.1	120	8.45	16.90	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.86	5.09	6.63	0.39	0.77	
Urea	mmol/l	7.88	6.70	9.06	0.59	1.18	Urease end point
	mg/dl	47.4	40.3	54.5	3.55	7.10	
	mmol/l	7.83	6.66	9.00	0.59	1.17	Urease kinetic
	mg/dl	47.1	40.0	54.2	3.55	7.10	
	mmol/l	7.83	6.66	9.00	0.59	1.17	BUN
	mg/dl	22.0	18.7	25.3	1.65	3.30	

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Siemens Atellica Solution

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.4	34.3	46.5	3.05	6.10	Bromocresol Green
	g/dl	4.04	3.43	4.65	0.31	0.61	
	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Purple
	g/dl	4.12	3.50	4.74	0.31	0.62	
Alkaline Phosphatase	U/l	198	168	228	15.00	30.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	44	35	53	4.50	9.00	Tris buffer without P5P 37°C
	U/l	44	35	53	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	73	62	84	5.50	11.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	97	82	112	7.50	15.00	Siemens - blocked pNPG7 37°C
	U/l	96	82	110	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	34	28	40	3.00	6.00	Tris buffer without P5P 37°C
	U/l	35	28	42	3.50	7.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bile Acids	µmol/l	21.4	17.1	25.7	2.15	4.30	Enzymatic Colorimetric
Bicarbonate	mmol/l	13.6	10.8	16.4	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	17.2	13.6	20.8	1.80	3.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.01	0.796	1.22	0.11	0.21	
Bilirubin Total	µmol/l	29.8	23.6	36.0	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.74	1.38	2.10	0.18	0.36	
Calcium	mmol/l	2.15	1.94	2.36	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.62	7.78	9.46	0.42	0.84	
	mmol/l	2.25	2.03	2.47	0.11	0.22	Arsenazo III
	mg/dl	9.02	8.14	9.90	0.44	0.88	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
	mmol/l	4.15	3.61	4.69	0.27	0.54	Cholesterol Oxidase - IDMS
	mg/dl	160	139	181	10.50	21.00	
Chloride	mmol/l	98.1	90.2	106	3.95	7.90	ISE indirect
Cholinesterase	U/l	6079	4863	7295	608.00	1216.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	215	176	254	19.50	39.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	138	110	166	14.00	28.00	Alkaline picrate no deproteinization
	mg/dl	1.56	1.24	1.88	0.16	0.32	
	µmol/l	139	111	167	14.00	28.00	Enzymatic UV method
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	141	113	169	14.00	28.00	Creatinine PAP method
	mg/dl	1.59	1.28	1.90	0.16	0.31	
	µmol/l	137	110	164	13.50	27.00	Jaffe rate blanked
	mg/dl	1.55	1.24	1.86	0.16	0.31	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.53	1.22	1.84	0.16	0.31	
Free T4	pmol/l	17.0	12.7	21.3	2.15	4.30	Siemens Atellica IM
	ng/dl	1.33	0.991	1.67	0.17	0.34	
	pg/ml	13.3	9.91	16.7	1.70	3.39	Siemens Atellica IM
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	49	42	56	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.11	5.19	7.03	0.46	0.92	Hexokinase
	mg/dl	110	93.5	127	8.25	16.50	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.16	5.24	7.08	0.46	0.92	Glucose oxidase
	mg/dl	111	94.4	128	8.30	16.60	
HDL - Cholesterol	mmol/l	1.33	1.13	1.53	0.10	0.20	Direct HDL PPD
	mg/dl	51.3	43.6	59.0	3.85	7.70	
	mmol/l	1.25	1.07	1.43	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	48.3	41.3	55.3	3.50	7.00	
	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct Clearance Method
	mg/dl	48.6	41.3	55.9	3.65	7.30	
Iron	µmol/l	18.9	15.5	22.3	1.70	3.40	Colorimetric with ppt.
	µg/dl	106	86.6	125	9.70	19.40	
	µmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric without ppt.
	µg/dl	106	87.2	125	9.40	18.80	
Lactate	mmol/l	1.38	1.13	1.63	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.4	10.2	14.6	1.10	2.20	
LD (LDH)	U/l	209	178	240	15.50	31.00	L->P 37°C
	U/l	212	180	244	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	39	31	47	4.00	8.00	Other Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
	mg/dl	0.708	0.622	0.794	0.04	0.09	
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.87	0.77	0.97	0.05	0.10	Methylthymol blue
	mg/dl	2.11	1.86	2.36	0.13	0.25	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	3.86	3.55	4.17	0.16	0.31	ISE method - indirect
Protein Total	g/l	57.1	45.7	68.5	5.70	11.40	Biuret reaction end point
	g/dl	5.71	4.57	6.85	0.57	1.14	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.19	0.95	1.43	0.12	0.24	Siemens Atellica IM
TIBC	µmol/l	48.2	38.0	58.4	5.10	10.20	Direct Colorimetric
	µg/dl	269	212	326	28.50	57.00	
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	106	89.4	123	8.30	16.60	
	mmol/l	1.19	1.00	1.38	0.10	0.19	L/G Kinase EP. no correction
	mg/dl	105	88.1	122	8.45	16.90	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.91	5.14	6.68	0.39	0.77	
Urea	mmol/l	7.80	6.63	8.97	0.59	1.17	Urease end point
	mg/dl	46.9	39.8	54.0	3.55	7.10	
	mmol/l	7.90	6.72	9.08	0.59	1.18	Urease kinetic
	mg/dl	47.5	40.4	54.6	3.55	7.10	
	mmol/l	8.09	6.87	9.31	0.61	1.22	Urease hypochlorite
	mg/dl	48.6	41.3	55.9	3.65	7.30	
	mmol/l	7.90	6.72	9.08	0.59	1.18	BUN
	mg/dl	22.2	18.9	25.5	1.65	3.30	

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SIEMENS DIMENSION EXL®

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Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Green
	g/dl	4.20	3.57	4.83	0.32	0.63	
	g/l	42.3	35.9	48.7	3.20	6.40	Bromocresol Purple
	g/dl	4.23	3.59	4.87	0.32	0.64	
Alkaline Phosphatase	U/l	193	164	222	14.50	29.00	Siemens Dimension AMP buffer 37°C
	U/l	196	167	225	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	48	38	58	5.00	10.00	Tris buffer with P5P 37°C
	U/l	48	38	58	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	95	81	109	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	96	81	111	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	96	82	110	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	49	39	59	5.00	10.00	Tris buffer with P5P 37°C
	U/l	50	40	60	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	14.2	11.2	17.2	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	13.3	10.5	16.1	1.40	2.80	Diazo with Sulphanilic Acid
	mg/dl	0.778	0.614	0.942	0.08	0.16	
	µmol/l	12.5	9.84	15.2	1.33	2.66	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.731	0.576	0.886	0.08	0.16	
Bilirubin Total	µmol/l	27.4	21.7	33.1	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.27	1.93	0.17	0.33	
Calcium	mmol/l	2.10	1.89	2.31	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.42	7.58	9.26	0.42	0.84	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	3.84	3.34	4.34	0.25	0.50	Cholesterol Oxidase - Abell Kendall
	mg/dl	148	129	167	9.50	19.00	
	mmol/l	3.86	3.36	4.36	0.25	0.50	Dimension-Siemens reagents
	mg/dl	149	130	168	9.50	19.00	
Chloride	mmol/l	96.5	88.8	104	3.85	7.70	ISE indirect
Cholinesterase	U/l	8831	7065	10000	883.00	1766.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	145	116	174	14.50	29.00	Alkaline picrate with deproteinization
	mg/dl	1.64	1.31	1.97	0.17	0.33	
	µmol/l	145	116	174	14.50	29.00	Alkaline picrate no deproteinization
	mg/dl	1.64	1.31	1.97	0.17	0.33	
	µmol/l	139	112	166	13.50	27.00	Enzymatic UV method
	mg/dl	1.57	1.27	1.87	0.15	0.30	
	µmol/l	141	113	169	14.00	28.00	Creatinine PAP method
	mg/dl	1.59	1.28	1.90	0.16	0.31	
	µmol/l	146	116	176	15.00	30.00	Jaffe rate blanked
	mg/dl	1.65	1.31	1.99	0.17	0.34	
	µmol/l	139	111	167	14.00	28.00	IDMS traceable
	mg/dl	1.57	1.25	1.89	0.16	0.32	
Free T4	pmol/l	17.5	13.2	21.8	2.15	4.30	Siemens Dimension ExI LOCI
	ng/dl	1.37	1.03	1.71	0.17	0.34	
	pg/ml	13.7	10.3	17.1	1.70	3.40	Siemens Dimension ExI LOCI
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	66	56	76	5.00	10.00	Siemens Dimension (non IFCC) 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.25	5.31	7.19	0.47	0.94	Hexokinase
	mg/dl	113	95.7	130	8.65	17.30	
HDL - Cholesterol	mmol/l	1.62	1.37	1.87	0.13	0.25	Direct HDL PPD
	mg/dl	62.5	52.9	72.1	4.80	9.60	
	mmol/l	1.59	1.35	1.83	0.12	0.24	Direct HDL PEGME
	mg/dl	61.4	52.1	70.7	4.65	9.30	
	mmol/l	1.56	1.32	1.80	0.12	0.24	Direct Clearance Method
	mg/dl	60.2	51.0	69.4	4.60	9.20	
Iron	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric with ppt.
	µg/dl	103	85.0	121	9.00	18.00	
	µmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	84.4	122	9.30	18.60	
Lactate	mmol/l	1.56	1.28	1.84	0.14	0.28	UV LDH
	mg/dl	14.1	11.5	16.7	1.30	2.60	
LD (LDH)	U/l	208	177	239	15.50	31.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	39	31	47	4.00	8.00	Other Colorimetric 37°C
	U/l	136	109	163	13.50	27.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.20	1.93	2.47	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Methylthymol blue
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Osmolality	mOsm/kg	291	232	350	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.43	1.21	1.65	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.43	3.75	5.11	0.34	0.68	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	1.44	1.22	1.66	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.46	3.78	5.14	0.34	0.68	
Potassium	mmol/l	3.95	3.64	4.26	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Biuret reaction end point
	g/dl	5.95	4.76	7.14	0.60	1.19	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	37.6	29.7	45.5	3.95	7.90	Removal of excess free iron
	µg/dl	210	166	254	22.00	44.00	
	µmol/l	36.7	29.0	44.4	3.85	7.70	FE+UIBC(saturation with iron)
	µg/dl	205	162	248	21.50	43.00	
	µmol/l	36.8	29.0	44.6	3.90	7.80	Direct Colorimetric
	µg/dl	206	162	250	22.00	44.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.7	110	7.50	15.00	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	99.1	83.5	115	7.80	15.60	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	5.07	6.63	0.39	0.78	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.80	5.04	6.56	0.38	0.76	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.51	6.38	8.64	0.57	1.13	Urease end point
	mg/dl	45.1	38.3	51.9	3.40	6.80	
	mmol/l	7.61	6.47	8.75	0.57	1.14	Urease kinetic
	mg/dl	45.7	38.9	52.5	3.40	6.80	
	mmol/l	7.61	6.47	8.75	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.8	36.3	49.3	3.25	6.50	Bromocresol Green
	g/dl	4.28	3.63	4.93	0.33	0.65	
	g/l	42.3	35.9	48.7	3.20	6.40	Bromocresol Purple
	g/dl	4.23	3.59	4.87	0.32	0.64	
Alkaline Phosphatase	U/l	193	164	222	14.50	29.00	Siemens Dimension AMP buffer 37°C
	U/l	194	165	223	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	49	39	59	5.00	10.00	Tris buffer with P5P 37°C
	U/l	49	39	59	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	97	82	112	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	50	40	60	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	14.3	11.3	17.3	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	12.4	9.76	15.0	1.32	2.64	Diazo with Sulphanilic Acid
	mg/dl	0.725	0.571	0.879	0.08	0.15	
	µmol/l	12.6	9.95	15.3	1.33	2.65	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.737	0.582	0.892	0.08	0.16	
Bilirubin Total	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.27	1.95	0.17	0.34	
Calcium	mmol/l	2.12	1.91	2.33	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.50	7.66	9.34	0.42	0.84	
	mmol/l	2.06	1.85	2.27	0.11	0.21	Arsenazo III
	mg/dl	8.26	7.41	9.11	0.43	0.85	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	3.87	3.37	4.37	0.25	0.50	Cholesterol Oxidase - Abell Kendall
	mg/dl	149	130	168	9.50	19.00	
	mmol/l	3.85	3.35	4.35	0.25	0.50	Dimension-Siemens reagents
	mg/dl	149	129	169	10.00	20.00	
Chloride	mmol/l	96.1	88.5	104	3.80	7.60	ISE indirect
Cholinesterase	U/l	9020	7216	10824	902.00	1804.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	144	115	173	14.50	29.00	Alkaline picrate no deproteinization
	mg/dl	1.63	1.30	1.96	0.17	0.33	
	µmol/l	137	109	165	14.00	28.00	Creatinine PAP method
	mg/dl	1.55	1.23	1.87	0.16	0.32	
	µmol/l	145	116	174	14.50	29.00	Jaffe rate blanked
	mg/dl	1.64	1.31	1.97	0.17	0.33	
	µmol/l	143	114	172	14.50	29.00	IDMS traceable
	mg/dl	1.62	1.29	1.95	0.17	0.33	
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	64	54	74	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.36	5.40	7.32	0.48	0.96	Glucose dehydrogenase
	mg/dl	115	97.3	133	8.85	17.70	
	mmol/l	6.27	5.33	7.21	0.47	0.94	Hexokinase
	mg/dl	113	96.0	130	8.50	17.00	
	mmol/l	6.41	5.45	7.37	0.48	0.96	Glucose oxidase
	mg/dl	116	98.2	134	8.90	17.80	
HDL - Cholesterol	mmol/l	1.60	1.36	1.84	0.12	0.24	Direct HDL PPD
	mg/dl	61.8	52.5	71.1	4.65	9.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.57	1.34	1.80	0.12	0.23	Direct HDL PEGME
	mg/dl	60.6	51.7	69.5	4.45	8.90	
	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct Clearance Method
	mg/dl	63.7	54.0	73.4	4.85	9.70	
Iron	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric with ppt.
	µg/dl	103	85.0	121	9.00	18.00	
	µmol/l	18.6	15.2	22.0	1.70	3.40	Colorimetric without ppt.
	µg/dl	104	85.0	123	9.50	19.00	
Lactate	mmol/l	1.46	1.19	1.73	0.14	0.27	UV LDH
	mg/dl	13.2	10.7	15.7	1.25	2.50	
LD (LDH)	U/l	217	184	250	16.50	33.00	L->P 37°C
	U/l	212	180	244	16.00	32.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	209	177	241	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	134	107	161	13.50	27.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Methylthymol blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.31	3.66	4.96	0.33	0.65	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.2	47.3	71.1	5.95	11.90	Biuret reaction end point
	g/dl	5.92	4.73	7.11	0.60	1.19	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	36.6	28.9	44.3	3.85	7.70	Removal of excess free iron
	µg/dl	205	162	248	21.50	43.00	
	µmol/l	38.4	30.4	46.4	4.00	8.00	FE+UIBC(saturation with iron)
	µg/dl	215	170	260	22.50	45.00	
	µmol/l	37.5	29.7	45.3	3.90	7.80	Direct Colorimetric
	µg/dl	210	166	254	22.00	44.00	
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.6	110	7.55	15.10	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.4	110	7.65	15.30	
	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	80.4	111	7.60	15.20	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	5.02	6.50	0.37	0.74	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	5.09	6.63	0.39	0.77	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.80	5.04	6.56	0.38	0.76	
Urea	mmol/l	7.57	6.44	8.70	0.57	1.13	Urease end point
	mg/dl	45.5	38.7	52.3	3.40	6.80	
	mmol/l	7.59	6.46	8.72	0.57	1.13	Urease kinetic
	mg/dl	45.6	38.8	52.4	3.40	6.80	
	mmol/l	7.59	6.45	8.73	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	46	36	56	5.00	10.00	Tris buffer with P5P 37°C
Amylase Total	U/l	96	81	111	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
Bilirubin Direct	µmol/l	13.4	10.6	16.2	1.40	2.80	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.784	0.620	0.948	0.08	0.16	
Bilirubin Total	µmol/l	28.4	22.5	34.3	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.32	2.00	0.17	0.34	
Calcium	mmol/l	2.17	1.95	2.39	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.70	7.82	9.58	0.44	0.88	
CK Total	U/l	209	171	247	19.00	38.00	CK-NAC (IFCC) 37°C
gamma-GT	U/l	65	55	75	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.18	5.26	7.10	0.46	0.92	Hexokinase
	mg/dl	111	94.8	127	8.10	16.20	
LD (LDH)	U/l	212	180	244	16.00	32.00	L->P IFCC 37°C
Lipase	U/l	119	96	142	11.50	23.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.95	0.84	1.06	0.06	0.11	Methylthymol blue
	mg/dl	2.31	2.03	2.59	0.14	0.28	
Phosphate Inorganic	mmol/l	1.32	1.13	1.51	0.10	0.19	Phosphomolybdate UV
	mg/dl	4.09	3.50	4.68	0.30	0.59	
Protein Total	g/l	60.6	48.5	72.7	6.05	12.10	Biuret reaction end point
	g/dl	6.06	4.85	7.27	0.61	1.21	
Triglycerides	mmol/l	1.19	1.00	1.38	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	105	88.4	122	8.30	16.60	

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RANDOX

SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.53	6.40	8.66	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

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RANDOX

URIT 8000 Series

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.5	35.3	47.7	3.10	6.20	Bromocresol Green
	g/dl	4.15	3.53	4.77	0.31	0.62	
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 30°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	28.7	22.7	34.7	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Cholesterol	mmol/l	4.03	3.51	4.55	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	135	177	10.50	21.00	
Creatinine	µmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.23	5.29	7.17	0.47	0.94	Glucose oxidase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.30	1.11	1.49	0.10	0.19	Direct Clearance Method
	mg/dl	50.2	42.8	57.6	3.70	7.40	

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Lot. No. 1561UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2025-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	56.7	45.3	68.1	5.70	11.40	Biuret reaction end point
	g/dl	5.67	4.53	6.81	0.57	1.14	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	
Urea	mmol/l	7.71	6.56	8.86	0.58	1.15	Urease kinetic
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	7.71	6.55	8.87	0.58	1.16	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	

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