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

CAT. NO.	HE1532	**GTIN:**	05055273203608	**SIZE:**	20 x 5ml
CAT. NO.	HS2611	**GTIN:**	05055273203813	**SIZE:**	5 x 5ml
LOT NO.	1264UE	**EXPIRY:**	2026-01-28		

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

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

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

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

Health and Safety Data Sheets are available on request.

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

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

LIMITATIONS
For Total & Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25µl - 30µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation Total and Prostatic Acid Phosphatase is stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at –18°C to –24°C.
Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.
Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
GLDH is stable for 2 days at +2°C to +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 3 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED
Volumetric pipette

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

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

With each batch, a control range is provided for individual parameters and each parameter method. The control range is equivalent to the assigned mean ±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 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.0	26.4	35.6	2.30	4.60	Bromocresol Green
	g/dl	3.10	2.64	3.56	0.23	0.46	
	g/l	29.2	24.8	33.6	2.20	4.40	Bromocresol Purple
	g/dl	2.92	2.48	3.36	0.22	0.44	
	g/l	30.6	26.0	35.2	2.30	4.60	Ortho Vitros Microslide Systems
	g/dl	3.06	2.60	3.52	0.23	0.46	
	g/l	28.1	23.9	32.3	2.10	4.20	Turbidimetric Assays
	g/dl	2.81	2.39	3.23	0.21	0.42	
Alkaline Phosphatase	U/l	281	239	323	21.00	42.00	Ortho Vitros Microslide Systems 37°C
	U/l	510	433	587	38.50	77.00	Diethanolamine buffer DEA 37°C
	U/l	397	337	457	30.00	60.00	Diethanolamine buffer DEA 30°C
	U/l	326	277	375	24.50	49.00	Diethanolamine buffer DEA 25°C
	U/l	353	300	406	26.50	53.00	AMP optimised to IFCC 37°C
	U/l	275	234	316	20.50	41.00	AMP optimised to IFCC 30°C
	U/l	226	192	260	17.00	34.00	AMP optimised to IFCC 25°C
	U/l	337	286	388	25.50	51.00	AMP non-optimised 37°C
	U/l	263	223	303	20.00	40.00	AMP non-optimised 30°C
	U/l	215	183	247	16.00	32.00	AMP non-optimised 25°C
	U/l	326	277	375	24.50	49.00	Colorimetric 37°C
	U/l	254	216	292	19.00	38.00	Colorimetric 30°C
	U/l	208	177	239	15.50	31.00	Colorimetric 25°C

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	136	109	163	13.50	27.00	Colorimetric 37°C
	U/l	101	81	121	10.00	20.00	Colorimetric 30°C
	U/l	77	61	93	8.00	16.00	Colorimetric 25°C
	U/l	140	112	168	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	145	116	174	14.50	29.00	Tris buffer with P5P 37°C
	U/l	107	86	128	10.50	21.00	Tris buffer with P5P 30°C
	U/l	82	65	99	8.50	17.00	Tris buffer with P5P 25°C
	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	100	80	120	10.00	20.00	Tris buffer without P5P 30°C
	U/l	76	61	91	7.50	15.00	Tris buffer without P5P 25°C
	U/l	141	112	170	14.50	29.00	Ortho Vitros MicroSlide visible 37°C
Amylase Pancreatic	U/l	270	229	311	20.50	41.00	Immunoinhibition EPS substrate 37°C
	U/l	266	226	306	20.00	40.00	Roche EPS Liquid 37°C
	U/l	302	257	347	22.50	45.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	314	266	362	24.00	48.00	Siemens - blocked pNPG7 37°C
	U/l	250	213	287	18.50	37.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	333	283	383	25.00	50.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	295	251	339	22.00	44.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	296	252	340	22.00	44.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	194	165	223	14.50	29.00	Ortho Vitros Microslide Systems 37°C
	U/l	293	249	337	22.00	44.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	294	250	338	22.00	44.00	Roche liquid stable pNPG7 37°C
	U/l	357	304	410	26.50	53.00	Siemens 2-chloro-pNPG3 37°C
	U/l	310	264	356	23.00	46.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	307	261	353	23.00	46.00	Beckman Synchron AMY7 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Amylase Total	U/l	331	281	381	25.00	50.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	376	319	433	28.50	57.00	Abbott Architect IFCC Cal. 37°C
	U/l	295	250	340	22.50	45.00	Beckman CNPG3 (Extinction Coeff) 37°C
Apolipoprotein A-1	g/l	1.12	0.92	1.32	0.10	0.20	Immunoturbidimetric
	mg/dl	112	91.8	132	10.10	20.20	
Apolipoprotein B	g/l	0.64	0.53	0.76	0.06	0.12	Immunoturbidimetric
	mg/dl	64.2	52.6	75.8	5.80	11.60	
Acid Phosphatase (Total)	U/l	48.5	32.5	64.5	8.00	16.00	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	179	143	215	18.00	36.00	Ortho Vitros Microslide visible slide 37°C
	U/l	175	140	210	17.50	35.00	Tris buffer with P5P 37°C
	U/l	118	95	141	11.50	23.00	Tris buffer with P5P 30°C
	U/l	83	67	99	8.00	16.00	Tris buffer with P5P 25°C
	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	44.1	35.3	52.9	4.40	8.80	4th Generation Colorimetric
	µmol/l	44.0	35.2	52.8	4.40	8.80	5th Generation Colorimetric
Bicarbonate	mmol/l	16.6	13.2	20.0	1.70	3.40	Colorimetric
	mmol/l	18.4	14.6	22.2	1.90	3.80	Ortho Vitros Microslide Systems
	mmol/l	17.1	13.6	20.6	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	29.9	23.6	36.2	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.75	1.38	2.12	0.19	0.37	
	µmol/l	31.8	25.1	38.5	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.86	1.47	2.25	0.20	0.39	
	µmol/l	32.2	25.4	39.0	3.40	6.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.88	1.49	2.27	0.20	0.39	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	30.7	24.3	37.1	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	34.7	27.4	42.0	3.65	7.30	Modified Jendrassik
	mg/dl	2.03	1.60	2.46	0.22	0.43	
Bilirubin Total	µmol/l	81.4	64.3	98.5	8.55	17.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	92.3	72.9	112	9.70	19.40	Diazo with Dichloroaniline (DCA)
	mg/dl	5.40	4.26	6.54	0.57	1.14	
	µmol/l	87.1	68.8	105	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.10	4.02	6.18	0.54	1.08	
	µmol/l	81.4	64.3	98.5	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	90.6	71.5	110	9.55	19.10	Nitrobenzenediazonium salt
	mg/dl	5.30	4.18	6.42	0.56	1.12	
	µmol/l	85.3	67.4	103	8.95	17.90	Diazonium ion
	mg/dl	4.99	3.94	6.04	0.53	1.05	
	µmol/l	97.7	77.2	118	10.25	20.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.72	4.52	6.92	0.60	1.20	
	µmol/l	98.8	78.1	120	10.35	20.70	Modified Jendrassik
	mg/dl	5.78	4.57	6.99	0.61	1.21	
Calcium	mmol/l	3.28	2.95	3.61	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.1	11.8	14.4	0.65	1.30	
	mmol/l	3.17	2.85	3.49	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.7	11.4	14.0	0.65	1.30	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	30.7	24.3	37.1	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	34.7	27.4	42.0	3.65	7.30	Modified Jendrassik
	mg/dl	2.03	1.60	2.46	0.22	0.43	
Bilirubin Total	µmol/l	81.4	64.3	98.5	8.55	17.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	92.3	72.9	112	9.70	19.40	Diazo with Dichloroaniline (DCA)
	mg/dl	5.40	4.26	6.54	0.57	1.14	
	µmol/l	87.1	68.8	105	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.10	4.02	6.18	0.54	1.08	
	µmol/l	81.4	64.3	98.5	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	90.6	71.5	110	9.55	19.10	Nitrobenzenediazonium salt
	mg/dl	5.30	4.18	6.42	0.56	1.12	
	µmol/l	85.3	67.4	103	8.95	17.90	Diazonium ion
	mg/dl	4.99	3.94	6.04	0.53	1.05	
	µmol/l	97.7	77.2	118	10.25	20.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.72	4.52	6.92	0.60	1.20	
	µmol/l	98.8	78.1	120	10.35	20.70	Modified Jendrassik
	mg/dl	5.78	4.57	6.99	0.61	1.21	
Calcium	mmol/l	3.28	2.95	3.61	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.1	11.8	14.4	0.65	1.30	
	mmol/l	3.17	2.85	3.49	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.7	11.4	14.0	0.65	1.30	

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Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.21	2.89	3.53	0.16	0.32	Ion selective electrode
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.25	2.92	3.58	0.17	0.33	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.27	2.95	3.59	0.16	0.32	NM-BAPTA
	mg/dl	13.1	11.8	14.4	0.65	1.30	
	mmol/l	1.03	0.93	1.13	0.05	0.10	Ionised calcium
	mg/dl	4.13	3.72	4.54	0.21	0.41	
Cholesterol	mmol/l	7.43	6.46	8.40	0.49	0.97	Ortho Vitros Microslide Systems
	mg/dl	287	249	325	19.00	38.00	
	mmol/l	7.79	6.78	8.80	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	301	262	340	19.50	39.00	
	mmol/l	7.87	6.85	8.89	0.51	1.02	Cholesterol Oxidase - IDMS
	mg/dl	304	264	344	20.00	40.00	
	mmol/l	7.89	6.87	8.91	0.51	1.02	Cholesterol Dehydrogenase
	mg/dl	305	265	345	20.00	40.00	
Chloride	mmol/l	115	105	125	5.00	10.00	Ortho Vitros Microslide Systems
	mmol/l	112	103	121	4.50	9.00	ISE indirect
	mmol/l	113	104	122	4.50	9.00	ISE direct
Cholinesterase	U/l	5766	4613	6919	576.50	1153.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	421	346	496	37.50	75.00	Ortho Vitros Microslide Systems 37°C
	U/l	535	439	631	48.00	96.00	CK-NAC serum start (DGKC) 37°C
	U/l	335	275	395	30.00	60.00	CK-NAC serum start (DGKC) 30°C
	U/l	227	187	267	20.00	40.00	CK-NAC serum start (DGKC) 25°C
	U/l	540	443	637	48.50	97.00	CK-NAC substrate start (DGKC) 37°C
	U/l	338	277	399	30.50	61.00	CK-NAC substrate start (DGKC) 30°C
	U/l	230	188	272	21.00	42.00	CK-NAC substrate start (DGKC) 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	523	429	617	47.00	94.00	CK-NAC (IFCC) 37°C
	U/l	327	269	385	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	222	182	262	20.00	40.00	CK-NAC (IFCC) 25°C
Copper	µmol/l	25.7	20.6	30.8	2.55	5.10	Atomic absorption
	µg/dl	163	131	195	16.00	32.00	
	µmol/l	25.5	20.4	30.6	2.55	5.10	Colorimetric
	µg/dl	162	130	194	16.00	32.00	
Cortisol	nmol/l	1027	770	1284	128.50	257.00	Roche Cobas e402/e801
	µg/dl	37.0	27.7	46.3	4.65	9.30	
Creatinine	µmol/l	363	290	436	36.50	73.00	Alkaline picrate with deproteinization
	mg/dl	4.10	3.28	4.92	0.41	0.82	
	µmol/l	361	289	433	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.08	3.27	4.89	0.41	0.81	
	µmol/l	376	301	451	37.50	75.00	Enzymatic UV method
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	374	299	449	37.50	75.00	Creatinine PAP method
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	364	291	437	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.11	3.29	4.93	0.41	0.82	
	µmol/l	360	288	432	36.00	72.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.07	3.25	4.89	0.41	0.82	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	375	300	450	37.50	75.00	Vitros IDMS Traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	364	292	436	36.00	72.00	IDMS traceable
	mg/dl	4.11	3.30	4.92	0.41	0.81	
D-3-Hydroxybutyrate	mmol/l	1.16	0.99	1.33	0.09	0.17	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	4.16	3.33	4.99	0.42	0.83	Immunoturbidimetric
	ng/ml	3.25	2.60	3.90	0.33	0.65	
Folate	nmol/l	7.64	5.81	9.47	0.92	1.83	Roche Cobas e402/e801
	ng/ml	3.37	2.56	4.18	0.41	0.81	
Free T4	pmol/l	48.4	36.3	60.5	6.05	12.10	Abbott Architect
	ng/dl	3.78	2.83	4.73	0.48	0.95	
	pg/ml	37.8	28.3	47.3	4.75	9.50	Abbott Architect
	pmol/l	66.2	49.6	82.8	8.30	16.60	Siemens Centaur XP/XPT/Classic
	ng/dl	5.16	3.87	6.45	0.65	1.29	
	pg/ml	51.6	38.7	64.5	6.45	12.90	Siemens Centaur XP/XPT/Classic
	pmol/l	69.6	52.2	87.0	8.70	17.40	Roche Cobas 4000/E411
	ng/dl	5.43	4.07	6.79	0.68	1.36	
	pg/ml	54.3	40.7	67.9	6.80	13.60	Roche Cobas 4000/E411
	pmol/l	75.1	56.3	93.9	9.40	18.80	Roche Cobas e601/602
	ng/dl	5.86	4.39	7.33	0.74	1.47	
	pg/ml	58.6	43.9	73.3	7.35	14.70	Roche Cobas e601/602
	pmol/l	70.0	52.5	87.5	8.75	17.50	Biomerieux Vidas FT4N Kit
	ng/dl	5.46	4.10	6.82	0.68	1.36	
	pg/ml	54.6	41.0	68.2	6.80	13.60	Biomerieux Vidas FT4N Kit
	pmol/l	75.8	56.8	94.8	9.50	19.00	Roche Cobas e402/e801
	ng/dl	5.91	4.43	7.39	0.74	1.48	
	pg/ml	59.1	44.3	73.9	7.40	14.80	Roche Cobas e402/e801

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RANDOX

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Gentamicin	µmol/l	19.0	15.2	22.8	1.90	3.80	Gravimetric
	µg/ml	9.08	7.27	10.9	0.91	1.81	
gamma-GT	U/l	157	133	181	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	124	105	143	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	82	112	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	193	164	222	14.50	29.00	Ortho Vitros Microslide Systems 37°C
	U/l	162	138	186	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	109	147	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	100	85	115	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	172	146	198	13.00	26.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	115	157	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	106	90	122	8.00	16.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	30	24	36	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	23	18	28	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	19	15	23	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.9	12.7	17.1	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	268	229	307	19.50	39.00	
	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose oxidase
	mg/dl	283	241	325	21.00	42.00	
alpha-HBDH	U/l	430	340	520	45.0	90.0	Oxobutyrate < 10 mmol/l 37°C
	U/l	325	257	393	34.0	68.0	Oxobutyrate < 10 mmol/l 30°C
	U/l	243	192	294	25.5	51.0	Oxobutyrate < 10 mmol/l 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	2.60	2.21	2.99	0.20	0.39	Direct HDL PPD
	mg/dl	100	85.3	115	7.35	14.70	
	mmol/l	2.72	2.31	3.13	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	105	89.2	121	7.90	15.80	
	mmol/l	2.37	2.01	2.73	0.18	0.36	Vitros Magnetic HDL
	mg/dl	91.5	77.6	105	6.95	13.90	
	mmol/l	2.92	2.48	3.36	0.22	0.44	Direct HDL PEGME
	mg/dl	113	95.7	130	8.65	17.30	
	mmol/l	2.52	2.14	2.90	0.19	0.38	Direct Clearance Method
	mg/dl	97.3	82.6	112	7.35	14.70	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	
	mmol/l	2.54	2.16	2.92	0.19	0.38	HDL - Ultra
	mg/dl	98.0	83.4	113	7.30	14.60	
	mmol/l	3.15	2.68	3.62	0.24	0.47	Direct HDL Roche 4th Generation
	mg/dl	122	103	141	9.50	19.00	
Immunoglobulin A	g/l	2.08	1.56	2.60	0.26	0.52	Immunoturbidimetric
	mg/dl	208	156	260	26.0	52.0	
Immunoglobulin G	g/l	6.41	5.26	7.56	0.58	1.15	Immunoturbidimetric
	mg/dl	641	526	756	57.5	115	
Immunoglobulin M	g/l	1.04	0.832	1.25	0.10	0.21	Immunoturbidimetric
	mg/dl	104	83.2	125	10.4	20.8	
Iron	µmol/l	37.7	30.9	44.5	3.40	6.80	Colorimetric with ppt.
	µg/dl	211	173	249	19.00	38.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Iron	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric without ppt.
	µg/dl	211	173	249	19.00	38.00	
	µmol/l	35.6	29.2	42.0	3.20	6.40	Ortho Vitros Microslide Systems
	µg/dl	199	163	235	18.00	36.00	
Lactate	mmol/l	5.42	4.44	6.40	0.49	0.98	Ion selective electrode
	mg/dl	48.8	40.0	57.6	4.40	8.80	
	mmol/l	5.56	4.56	6.56	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.1	41.1	59.1	4.50	9.00	
	mmol/l	5.20	4.26	6.14	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	46.9	38.4	55.4	4.25	8.50	
	mmol/l	5.39	4.42	6.36	0.49	0.97	Enzymatic Electrode
	mg/dl	48.6	39.8	57.4	4.40	8.80	
LD (LDH)	U/l	391	333	449	29.00	58.00	L->P 37°C
	U/l	282	240	324	21.00	42.00	L->P 30°C
	U/l	198	169	227	14.50	29.00	L->P 25°C
	U/l	868	738	998	65.00	130.00	P->L Scandinavian & Dutch 37°C
	U/l	627	533	721	47.00	94.00	P->L Scandinavian & Dutch 30°C
	U/l	440	374	506	33.00	66.00	P->L Scandinavian & Dutch 25°C
	U/l	803	682	924	60.50	121.00	P->L German methods 37°C
	U/l	580	492	668	44.00	88.00	P->L German methods 30°C
	U/l	407	346	468	30.50	61.00	P->L German methods 25°C
	U/l	800	680	920	60.00	120.00	P->L SFBC 37°C
	U/l	578	491	665	43.50	87.00	P->L SFBC 30°C
	U/l	406	345	467	30.50	61.00	P->L SFBC 25°C
	U/l	406	345	467	30.50	61.00	L->P IFCC 37°C
	U/l	293	249	337	22.00	44.00	L->P IFCC 30°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
LD (LDH)	U/l	430	366	494	32.00	64.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	68	55	81	6.50	13.00	Other Colorimetric 37°C
	U/l	717	575	859	71.00	142.00	Ortho Vitros Microslide Systems 37°C
	U/l	73	58	88	7.50	15.00	Roche Colorimetric 37°C
	U/l	92	74	110	9.00	18.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.05	1.81	2.29	0.12	0.24	Ion selective electrode
	mg/dl	1.42	1.26	1.58	0.08	0.16	
	mmol/l	1.97	1.74	2.20	0.12	0.23	Spectrophotometric
	mg/dl	1.37	1.21	1.53	0.08	0.16	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Arsenazo III
	mg/dl	4.23	3.72	4.74	0.26	0.51	
	mmol/l	1.77	1.56	1.98	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.30	3.79	4.81	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Calmagite
	mg/dl	4.25	3.74	4.76	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Xylidyl Blue
	mg/dl	4.25	3.74	4.76	0.26	0.51	
	mmol/l	1.81	1.60	2.02	0.11	0.21	Methylthymol blue
	mg/dl	4.40	3.89	4.91	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.25	3.74	4.76	0.26	0.51	
	mmol/l	1.73	1.53	1.93	0.10	0.20	Enzymatic
	mg/dl	4.20	3.72	4.68	0.24	0.48	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
NEFA	mmol/l	0.43	0.34	0.52	0.04	0.09	Colorimetric
Osmolality	mOsm/kg	357	285	429	36.00	72.00	Calculated
	mOsm/kg	380	304	456	38.00	76.00	Freezing point depression
Paracetamol	mmol/l	0.59	0.48	0.71	0.06	0.12	Gravimetric
	mg/l	90.0	72.0	108	9.00	18.00	
Phosphate Inorganic	mmol/l	2.31	1.96	2.66	0.18	0.35	Ortho Vitros Microslide Systems
	mg/dl	7.16	6.08	8.24	0.54	1.08	
	mmol/l	2.30	1.95	2.65	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.13	6.05	8.21	0.54	1.08	
	mmol/l	2.33	1.98	2.68	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.22	6.14	8.30	0.54	1.08	
Potassium	mmol/l	6.17	5.68	6.66	0.25	0.49	Ortho Vitros Microslide Systems
	mmol/l	6.14	5.65	6.63	0.25	0.49	ISE method - direct
	mmol/l	6.23	5.73	6.73	0.25	0.50	ISE method - indirect
	mmol/l	6.36	5.85	6.87	0.26	0.51	Enzymatic
Protein Total	g/l	48.8	39.0	58.6	4.90	9.80	Ortho Vitros Microslide Systems
	g/dl	4.88	3.90	5.86	0.49	0.98	
	g/l	46.8	37.4	56.2	4.70	9.40	Biuret reaction end point
	g/dl	4.68	3.74	5.62	0.47	0.94	
	g/l	46.8	37.4	56.2	4.70	9.40	Biuret reaction kinetic
	g/dl	4.68	3.74	5.62	0.47	0.94	
PSA Total	ng/ml =	27.3	20.5	34.1	3.40	6.80	Beckman Access standardised to Hybritech
	ng/ml =	27.6	20.7	34.5	3.45	6.90	bioMerieux VIDAS TPSA
	ng/ml =	26.5	19.9	33.1	3.30	6.60	Siemens Centaur XP/XPT/Classic
	ng/ml =	22.0	16.5	27.5	2.75	5.50	Abbott Architect

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	25.9	19.4	32.4	3.25	6.50	Cobas E411
	ng/ml =	27.3	20.5	34.1	3.40	6.80	Roche Cobas 6000/8000
Salicylate	mmol/l	0.87	0.70	1.04	0.09	0.17	Gravimetric
	mg/dl	12.0	9.59	14.4	1.21	2.41	
Sodium	mmol/l	157	150	164	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
	mmol/l	163	155	171	4.00	8.00	Enzymatic
Theophylline	µmol/l	139	111	166	13.85	27.70	Gravimetric
	µg/ml	25.0	20.0	30.0	2.50	5.00	
Thyroid Stimulating Hormone	µU/ml =	1.09	0.87	1.31	0.11	0.22	Abbott Architect
	µU/ml =	1.35	1.08	1.62	0.14	0.27	bioMerieux VIDAS TSH
	µU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Cobas 4000/E411
	µU/ml =	1.50	1.20	1.80	0.15	0.30	Roche Cobas e601/602
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.46	1.17	1.75	0.15	0.29	Roche Cobas e402/e801
TIBC	µmol/l	40.1	31.6	48.6	4.25	8.50	Removal of excess free iron
	µg/dl	224	177	271	23.50	47.00	
	µmol/l	41.5	32.8	50.2	4.35	8.70	FE+UIBC(saturation with iron)
	µg/dl	232	183	281	24.50	49.00	
	µmol/l	44.1	34.8	53.4	4.65	9.30	Direct Colorimetric
	µg/dl	247	195	299	26.00	52.00	
	µmol/l	42.9	33.9	51.9	4.50	9.00	Calculated from Transferrin
	µg/dl	240	190	290	25.00	50.00	
	µmol/l	50.2	39.7	60.7	5.25	10.50	Randox Direct
	µg/dl	281	222	340	29.50	59.00	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Tobramycin	µmol/l	15.6	12.5	18.7	1.55	3.10	Gravimetric
	µg/ml	7.30	5.85	8.75	0.73	1.45	
Total T3	nmol/l	2.85	2.14	3.56	0.36	0.71	Abbott Architect
	ng/ml	1.86	1.39	2.33	0.24	0.47	
	ng/dl	186	139	233	23.50	47.00	Abbott Architect
	nmol/l	4.02	3.01	5.03	0.51	1.01	Roche Cobas 4000/E411
	ng/ml	2.62	1.96	3.28	0.33	0.66	
	ng/dl	262	196	328	33.00	66.00	Roche Cobas 4000/E411
	nmol/l	3.90	2.93	4.87	0.49	0.97	Roche Cobas e402/e801
	ng/ml	2.54	1.91	3.17	0.32	0.63	
	ng/dl	254	191	317	31.50	63.00	Roche Cobas e402/e801
Total T4	nmol/l	225	169	281	28.00	56.00	Abbott Architect
	µg/dl	17.6	13.2	22.0	2.20	4.40	
	ng/ml	176	132	220	22.00	44.00	Abbott Architect
	nmol/l	213	160	266	26.50	53.00	Siemens Immulite 2000/2500
	µg/dl	16.6	12.5	20.7	2.05	4.10	
	ng/ml	166	125	207	20.50	41.00	Siemens Immulite 2000/2500
	nmol/l	202	152	252	25.00	50.00	Roche Cobas 4000/E411
	µg/dl	15.8	11.9	19.7	1.95	3.90	
	ng/ml	158	119	197	19.50	39.00	Roche Cobas 4000/E411
	nmol/l	197	148	246	24.50	49.00	Roche Cobas e601/602
	µg/dl	15.4	11.5	19.3	1.95	3.90	
	ng/ml	154	115	193	19.50	39.00	Roche Cobas e601/602
	nmol/l	191	144	238	23.50	47.00	Microgenics DRI assay
	µg/dl	14.9	11.2	18.6	1.85	3.70	
	ng/ml	149	112	186	18.50	37.00	Microgenics DRI assay

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	207	155	259	26.00	52.00	Roche Cobas e402/e801
	µg/dl	16.1	12.1	20.1	2.00	4.00	
	ng/ml	161	121	201	20.00	40.00	Roche Cobas e402/e801
Transferrin	g/l	1.76	1.41	2.11	0.18	0.35	Immunoturbidimetric
	mg/dl	176	141	211	17.50	35.00	
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	255	214	296	20.50	41.00	
	mmol/l	2.87	2.41	3.33	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	254	213	295	20.50	41.00	
	mmol/l	2.84	2.39	3.29	0.23	0.45	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	251	212	290	19.50	39.00	
	mmol/l	2.82	2.37	3.27	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	250	210	290	20.00	40.00	
	mmol/l	3.28	2.75	3.81	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	290	243	337	23.50	47.00	
UIBC	µmol/l	6.30	5.17	7.43	0.57	1.13	TIBC - FE
	µg/dl	35.2	28.9	41.5	3.15	6.30	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.04	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.95	7.78	10.1	0.59	1.17	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.41	8.18	10.6	0.62	1.23	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	8.16	10.6	0.61	1.21	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.39	8.16	10.6	0.62	1.23	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	8.06	10.5	0.61	1.21	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Ortho Vitros Microslide Systems
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	Urease end point
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	Urease kinetic
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	BUN
	mg/dl	58.1	49.4	66.8	4.35	8.70	
	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease - hypochlorite
	mg/dl	120	102	138	9.00	18.00	
Vitamin B12	pmol/l	237	190	284	23.50	47.00	Roche Cobas e402/e801
	pg/ml	321	257	385	32.00	64.00	
Zinc	µmol/l	36.2	29.0	43.4	3.60	7.20	Colorimetric with deproteinisation
	µg/dl	236	189	283	23.50	47.00	
	µmol/l	35.7	28.6	42.8	3.55	7.10	Colorimetric without deprot.
	µg/dl	233	187	279	23.00	46.00	

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METHOD (Elec.)

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-1-globulin		7.8	5.93	9.67	0.94	1.87	% of total Protein (Beckman Capillary)
alpha-2-globulin		10.5	7.98	13.0	1.26	2.52	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		56.7	51.1	62.3	2.80	5.60	% of total Protein (Beckman Capillary)
beta-globulin		13.4	10.2	16.6	1.60	3.20	% of total Protein (Beckman Capillary)
gamma-globulin		11.6	8.82	14.4	1.39	2.78	% of total Protein (Beckman Capillary)

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Purple
	g/dl	2.99	2.54	3.44	0.23	0.45	
Alkaline Phosphatase	U/l	335	285	385	25.00	50.00	AMP optimised to IFCC 37°C
	U/l	336	286	386	25.00	50.00	AMP non-optimised 37°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	270	229	311	20.50	41.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	329	280	378	24.50	49.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	376	319	433	28.50	57.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	132	105	159	13.50	27.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	44.1	35.3	52.9	4.40	8.80	Enzymatic Colorimetric
Bicarbonate	mmol/l	16.0	12.7	19.3	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	31.9	25.2	38.6	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.87	1.47	2.27	0.20	0.40	
	µmol/l	32.4	25.6	39.2	3.40	6.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.90	1.50	2.30	0.20	0.40	
Bilirubin Total	µmol/l	92.7	73.2	112	9.75	19.50	Diazo with Dichloroaniline (DCA)
	mg/dl	5.42	4.28	6.56	0.57	1.14	
	µmol/l	93.1	73.6	113	9.75	19.50	Diazo with Sulphanilic Acid
	mg/dl	5.45	4.31	6.59	0.57	1.14	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	91.2	72.1	110	9.55	19.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.34	4.22	6.46	0.56	1.12	
	µmol/l	91.9	72.6	111	9.65	19.30	Diazonium ion
	mg/dl	5.38	4.25	6.51	0.57	1.13	
Calcium	mmol/l	3.21	2.89	3.53	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	7.78	6.77	8.79	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	300	261	339	19.50	39.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	6347	5078	7616	634.50	1269.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	536	440	632	48.00	96.00	CK-NAC substrate start (DGKC) 37°C
	U/l	535	439	631	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	545	447	643	49.00	98.00	Abbott CK-NAC (IFCC) 37°C
Copper	µmol/l	19.6	15.7	23.5	1.95	3.90	Colorimetric
	µg/dl	125	99.9	150	12.55	25.10	
Creatinine	µmol/l	380	304	456	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	384	307	461	38.50	77.00	Enzymatic UV method
	mg/dl	4.34	3.47	5.21	0.44	0.87	
gamma-GT	U/l	157	134	180	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	158	134	182	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.55	2.17	2.93	0.19	0.38	Direct HDL PPD
	mg/dl	98.4	83.8	113	7.30	14.60	
	mmol/l	2.54	2.16	2.92	0.19	0.38	Direct Clearance Method
	mg/dl	98.0	83.4	113	7.30	14.60	
	mmol/l	2.52	2.14	2.90	0.19	0.38	HDL - Ultra
	mg/dl	97.3	82.6	112	7.35	14.70	
Iron	µmol/l	39.6	32.5	46.7	3.55	7.10	Colorimetric with ppt.
	µg/dl	221	182	260	19.50	39.00	
	µmol/l	39.0	32.0	46.0	3.50	7.00	Colorimetric without ppt.
	µg/dl	218	179	257	19.50	39.00	
Lactate	mmol/l	5.90	4.84	6.96	0.53	1.06	Colorimetric Lactate Oxidase
	mg/dl	53.2	43.6	62.8	4.80	9.60	
LD (LDH)	U/l	393	334	452	29.50	59.00	L->P 37°C
	U/l	393	334	452	29.50	59.00	L->P IFCC 37°C
Lipase	U/l	63	50	76	6.50	13.00	Other Colorimetric 37°C
Lithium	mmol/l	1.98	1.74	2.22	0.12	0.24	Spectrophotometric
	mg/dl	1.37	1.21	1.53	0.08	0.16	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Arsenazo III
	mg/dl	4.23	3.72	4.74	0.26	0.51	
	mmol/l	1.73	1.52	1.94	0.11	0.21	Enzymatic
	mg/dl	4.20	3.69	4.71	0.26	0.51	
Osmolality	mOsm/kg	364	291	437	36.50	73.00	Calculated
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.10	6.05	8.15	0.53	1.05	
	mmol/l	2.31	1.96	2.66	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.16	6.08	8.24	0.54	1.08	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.22	5.72	6.72	0.25	0.50	ISE method - indirect
Protein Total	g/l	48.7	38.9	58.5	4.90	9.80	Biuret reaction end point
	g/dl	4.87	3.89	5.85	0.49	0.98	
	g/l	48.5	38.8	58.2	4.85	9.70	Biuret reaction kinetic
	g/dl	4.85	3.88	5.82	0.49	0.97	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	43.6	34.4	52.8	4.60	9.20	FE+UIBC(saturation with iron)
	µg/dl	244	192	296	26.00	52.00	
	µmol/l	42.7	33.7	51.7	4.50	9.00	Calculated from Transferrin
	µg/dl	239	188	290	25.50	51.00	
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.84	2.39	3.29	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	251	212	290	19.50	39.00	
UIBC	µmol/l	4.41	3.61	5.21	0.40	0.80	Direct Colorimetric
	µg/dl	24.7	20.2	29.2	2.25	4.50	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.37	8.16	10.6	0.61	1.21	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	8.15	10.6	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	8.10	10.5	0.61	1.21	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	21.1	17.9	24.3	1.60	3.20	Urease kinetic
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	21.1	17.9	24.3	1.60	3.20	BUN
	mg/dl	59.2	50.3	68.1	4.45	8.90	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.4	25.0	33.8	2.20	4.40	Bromocresol Green
	g/dl	2.94	2.50	3.38	0.22	0.44	
Alkaline Phosphatase	U/l	393	334	452	29.50	59.00	AMP optimised to IFCC 37°C
	U/l	527	448	606	39.50	79.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	142	114	170	14.00	28.00	Beckman (Extinction Coefficient) 37°C
	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
Amylase Total	U/l	295	251	339	22.00	44.00	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	310	264	356	23.00	46.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	306	260	352	23.00	46.00	Other 2-chloro-pNPG3 37°C
AST (GOT)	U/l	140	112	168	14.00	28.00	Beckman (Extinction Coefficient) 37°C
	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	42.4	33.9	50.9	4.25	8.50	Enzymatic Colorimetric
Bicarbonate	mmol/l	18.3	14.5	22.1	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	24.5	19.4	29.6	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Bilirubin Total	µmol/l	91.2	72.0	110	9.60	19.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.34	4.21	6.47	0.57	1.13	
	µmol/l	90.3	71.3	109	9.50	19.00	DPD (Beckman AU)
	mg/dl	5.28	4.17	6.39	0.56	1.11	
Calcium	mmol/l	3.27	2.94	3.60	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.8	14.4	0.65	1.30	

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Calcium	mmol/l	3.29	2.96	3.62	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.85	6.83	8.87	0.51	1.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	303	264	342	19.50	39.00	
	mmol/l	8.12	7.06	9.18	0.53	1.06	Cholesterol Oxidase - IDMS
	mg/dl	313	273	353	20.00	40.00	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholinesterase	U/l	5177	4142	6212	517.50	1035.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	546	448	644	49.00	98.00	Beckman CK-NAC (Extinction Coeff) 37°C
	U/l	555	455	655	50.00	100.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	351	281	421	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.97	3.18	4.76	0.40	0.79	
	µmol/l	382	306	458	38.00	76.00	Enzymatic UV method
	mg/dl	4.32	3.46	5.18	0.43	0.86	
	µmol/l	364	291	437	36.50	73.00	IDMS traceable
	mg/dl	4.11	3.29	4.93	0.41	0.82	
	µmol/l	354	283	425	35.50	71.00	Jaffe rate blanked
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	359	287	431	36.00	72.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.06	3.24	4.88	0.41	0.82	
gamma-GT	U/l	162	138	186	12.00	24.00	Beckman Szasz (Extinction Coeff) 37°C
	U/l	165	140	190	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	165	140	190	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	32	25	39	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	2.69	2.29	3.09	0.20	0.40	Direct Clearance Method
	mg/dl	104	88.4	120	7.80	15.60	
	mmol/l	2.73	2.32	3.14	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	105	89.6	120	7.70	15.40	
	mmol/l	2.67	2.27	3.07	0.20	0.40	Direct HDL PPD
	mg/dl	103	87.6	118	7.70	15.40	
	mmol/l	2.66	2.26	3.06	0.20	0.40	HDL - Ultra
	mg/dl	103	87.2	119	7.90	15.80	
Iron	µmol/l	38.9	31.9	45.9	3.50	7.00	Colorimetric with ppt.
	µg/dl	217	178	256	19.50	39.00	
	µmol/l	38.4	31.5	45.3	3.45	6.90	Colorimetric without ppt.
	µg/dl	215	176	254	19.50	39.00	
Lactate	mmol/l	5.33	4.37	6.29	0.48	0.96	Colorimetric Lactate Oxidase
	mg/dl	48.0	39.4	56.6	4.30	8.60	
LD (LDH)	U/l	371	315	427	28.00	56.00	L to P Beckman (Extinction Coeff) 37°C
	U/l	402	342	462	30.00	60.00	L->P IFCC 37°C
	U/l	382	325	439	28.50	57.00	L->P 37°C
	U/l	874	743	1005	65.50	131.00	P->L Scandinavian & Dutch 37°C
Lipase	U/l	69	55	83	7.00	14.00	Other Colorimetric 37°C
Lithium	mmol/l	1.99	1.75	2.23	0.12	0.24	Spectrophotometric
	mg/dl	1.38	1.22	1.54	0.08	0.16	
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Xylidyl Blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	

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RANDOX

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	354	283	425	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.35	2.00	2.70	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.29	6.20	8.38	0.55	1.09	
Potassium	mmol/l	6.18	5.69	6.67	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.4	37.1	55.7	4.65	9.30	Biuret reaction end point
	g/dl	4.64	3.71	5.57	0.47	0.93	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.0	33.2	50.8	4.40	8.80	Direct Colorimetric
	µg/dl	235	186	284	24.50	49.00	
	µmol/l	43.7	34.5	52.9	4.60	9.20	FE+UIBC(saturation with iron)
	µg/dl	244	193	295	25.50	51.00	
Triglycerides	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/GK UV no correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	255	214	296	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.61	8.37	10.9	0.62	1.24	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.63	8.38	10.9	0.63	1.25	
Urea	mmol/l	20.7	17.6	23.8	1.55	3.10	Urease end point
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.9	17.8	24.0	1.55	3.10	Urease kinetic
	mg/dl	126	107	145	9.50	19.00	
	mmol/l	20.9	17.8	24.0	1.55	3.10	BUN
	mg/dl	58.7	49.9	67.5	4.40	8.80	

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Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Albumin	g/l	31.2	26.5	35.9	2.35	4.70	Bromocresol Purple
	g/dl	3.12	2.65	3.59	0.24	0.47	
Amylase Total	U/l	313	266	360	23.50	47.00	Beckman Synchron AMY7 37°C
Bilirubin Total	µmol/l	88.5	69.9	107	9.30	18.60	Diazo with Sulphanilic Acid
	mg/dl	5.18	4.09	6.27	0.55	1.09	
Calcium	mmol/l	3.20	2.88	3.52	0.16	0.32	Ion selective electrode
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	8.04	6.99	9.09	0.52	1.05	Cholesterol Oxidase - Abell Kendall
	mg/dl	310	270	350	20.00	40.00	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Creatinine	µmol/l	363	290	436	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.10	3.28	4.92	0.41	0.82	
Glucose	mmol/l	15.2	13.0	17.4	1.10	2.20	Glucose oxidase
	mg/dl	274	234	314	20.00	40.00	
Magnesium	mmol/l	1.73	1.52	1.94	0.11	0.21	Calmagite
	mg/dl	4.20	3.69	4.71	0.26	0.51	
Potassium	mmol/l	6.13	5.64	6.62	0.25	0.49	ISE method - indirect
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	7.95	10.3	0.59	1.17	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	32.3	27.5	37.1	2.40	4.80	Bromocresol Green
	g/dl	3.23	2.75	3.71	0.24	0.48	
	g/l	27.1	23.0	31.2	2.05	4.10	Turbidimetric Assays
	g/dl	2.71	2.30	3.12	0.21	0.41	
Alkaline Phosphatase	U/l	331	281	381	25.00	50.00	Roche Integra AMP buffer 37°C
	U/l	258	219	297	19.50	39.00	Roche Integra AMP buffer 30°C
	U/l	212	180	244	16.00	32.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	130	104	156	13.00	26.00	Tris buffer without P5P 37°C
	U/l	96	77	115	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25°C
Amylase Total	U/l	284	242	326	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	300	255	345	22.50	45.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	302	257	347	22.50	45.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	133	106	160	13.50	27.00	Tris buffer without P5P 37°C
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 30°C
	U/l	63	50	76	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	33.2	26.3	40.1	3.45	6.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.94	1.54	2.34	0.20	0.40	
	µmol/l	33.4	26.4	40.4	3.50	7.00	Diazo with Sulphanilic Acid
	mg/dl	1.95	1.54	2.36	0.21	0.41	
	µmol/l	33.9	26.8	41.0	3.55	7.10	Roche DPD JG standardised
	mg/dl	1.98	1.57	2.39	0.21	0.41	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	83.8	66.2	101	8.80	17.60	Diazo with Sulphanilic Acid
	mg/dl	4.90	3.87	5.93	0.52	1.03	
	µmol/l	83.3	65.8	101	8.75	17.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.87	3.85	5.89	0.51	1.02	
	µmol/l	87.8	69.3	106	9.25	18.50	Diazonium ion
	mg/dl	5.14	4.05	6.23	0.55	1.09	
Calcium	mmol/l	3.29	2.96	3.62	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.2	11.9	14.5	0.65	1.30	
	mmol/l	3.28	2.96	3.60	0.16	0.32	NM-BAPTA
	mg/dl	13.1	11.9	14.3	0.60	1.20	
Cholesterol	mmol/l	7.79	6.78	8.80	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	301	262	340	19.50	39.00	
	mmol/l	7.71	6.70	8.72	0.51	1.01	Cholesterol Oxidase - IDMS
	mg/dl	298	259	337	19.50	39.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
CK Total	U/l	514	421	607	46.50	93.00	CK-NAC (IFCC) 37°C
	U/l	322	264	380	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	218	179	257	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	362	289	435	36.50	73.00	Alkaline picrate with deproteinization
	mg/dl	4.09	3.27	4.91	0.41	0.82	
	µmol/l	362	290	434	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.09	3.28	4.90	0.41	0.81	
	µmol/l	377	301	453	38.00	76.00	Roche Creatinine Plus
	mg/dl	4.26	3.40	5.12	0.43	0.86	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	360	288	432	36.00	72.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.07	3.25	4.89	0.41	0.82	
	µmol/l	355	284	426	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.01	3.21	4.81	0.40	0.80	
gamma-GT	U/l	152	129	175	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	120	102	138	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	94	80	108	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	3.24	2.75	3.73	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	125	106	144	9.50	19.00	
Iron	µmol/l	38.1	31.2	45.0	3.45	6.90	Colorimetric with ppt.
	µg/dl	213	174	252	19.50	39.00	
	µmol/l	38.5	31.5	45.5	3.50	7.00	Colorimetric without ppt.
	µg/dl	215	176	254	19.50	39.00	
Lactate	mmol/l	5.54	4.54	6.54	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	49.9	40.9	58.9	4.50	9.00	
LD (LDH)	U/l	414	352	476	31.00	62.00	L->P IFCC 37°C
	U/l	299	254	344	22.50	45.00	L->P IFCC 30°C
	U/l	210	178	242	16.00	32.00	L->P IFCC 25°C
Lipase	U/l	70	56	84	7.00	14.00	Roche Colorimetric 37°C

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lithium	mmol/l	1.92	1.69	2.15	0.12	0.23	Ion selective electrode
	mg/dl	1.33	1.17	1.49	0.08	0.16	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Xylidyl Blue
	mg/dl	4.23	3.72	4.74	0.26	0.51	
	mmol/l	1.74	1.53	1.95	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Phosphate Inorganic	mmol/l	2.41	2.05	2.77	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.47	6.36	8.58	0.56	1.11	
	mmol/l	2.38	2.02	2.74	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.38	6.26	8.50	0.56	1.12	
Potassium	mmol/l	6.22	5.72	6.72	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.6	35.7	53.5	4.45	8.90	Biuret reaction end point
	g/dl	4.46	3.57	5.35	0.45	0.89	
	g/l	45.9	36.7	55.1	4.60	9.20	Biuret reaction kinetic
	g/dl	4.59	3.67	5.51	0.46	0.92	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	39.4	31.2	47.6	4.10	8.20	FE+UIBC(saturation with iron)
	µg/dl	220	174	266	23.00	46.00	
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.96	2.49	3.43	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	262	220	304	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	8.33	10.8	0.63	1.25	

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RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	8.25	10.7	0.62	1.23	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.46	8.23	10.7	0.62	1.23	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	BUN
	mg/dl	56.4	47.9	64.9	4.25	8.50	

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RANDOX

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	33.4	28.4	38.4	2.50	5.00	Bromocresol Green
	g/dl	3.34	2.84	3.84	0.25	0.50	
ALT (GPT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	82.5	65.2	99.8	8.65	17.30	Diazo with Sulphanilic Acid
	mg/dl	4.83	3.81	5.85	0.51	1.02	
Calcium	mmol/l	3.13	2.82	3.44	0.16	0.31	Arsenazo III
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Cholesterol	mmol/l	7.82	6.80	8.84	0.51	1.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	302	262	342	20.00	40.00	
Creatinine	µmol/l	377	302	452	37.50	75.00	Creatinine PAP method
	mg/dl	4.26	3.41	5.11	0.43	0.85	
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
Protein Total	g/l	54.2	43.3	65.1	5.45	10.90	Biuret reaction end point
	g/dl	5.42	4.33	6.51	0.55	1.09	
Urea	mmol/l	20.3	17.3	23.3	1.50	3.00	Urease kinetic
	mg/dl	122	104	140	9.00	18.00	
	mmol/l	20.3	17.3	23.3	1.50	3.00	BUN
	mg/dl	57.0	48.5	65.5	4.25	8.50	

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

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Green
	g/dl	2.95	2.51	3.39	0.22	0.44	
Alkaline Phosphatase	U/l	352	299	405	26.50	53.00	AMP optimised to IFCC 37°C
	U/l	274	233	315	20.50	41.00	AMP optimised to IFCC 30°C
	U/l	225	191	259	17.00	34.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	151	121	181	15.00	30.00	Tris buffer without P5P 37°C
	U/l	112	90	134	11.00	22.00	Tris buffer without P5P 30°C
	U/l	85	68	102	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	153	123	183	15.00	30.00	Tris buffer without P5P 37°C
	U/l	103	83	123	10.00	20.00	Tris buffer without P5P 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	92.4	73.0	112	9.70	19.40	Diazo with Sulphanilic Acid
	mg/dl	5.41	4.27	6.55	0.57	1.14	
	µmol/l	90.6	71.5	110	9.55	19.10	Nitrobenzenediazonium salt
	mg/dl	5.30	4.18	6.42	0.56	1.12	
Calcium	mmol/l	3.40	3.06	3.74	0.17	0.34	Arsenazo III
	mg/dl	13.6	12.3	14.9	0.65	1.30	
Cholesterol	mmol/l	7.74	6.73	8.75	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	299	260	338	19.50	39.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE direct
CK Total	U/l	513	421	605	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	321	264	378	28.50	57.00	CK-NAC (IFCC) 30°C
	U/l	218	179	257	19.50	39.00	CK-NAC (IFCC) 25°C

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

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	367	294	440	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.15	3.32	4.98	0.42	0.83	
gamma-GT	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	107	145	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	84	114	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.0	12.7	17.3	1.15	2.30	Glucose oxidase
	mg/dl	270	229	311	20.50	41.00	
Iron	µmol/l	39.7	32.6	46.8	3.55	7.10	Colorimetric without ppt.
	µg/dl	222	182	262	20.00	40.00	
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Xylidyl Blue
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Phosphate Inorganic	mmol/l	2.31	1.97	2.65	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.16	6.11	8.21	0.53	1.05	
Potassium	mmol/l	6.09	5.60	6.58	0.25	0.49	ISE method - direct
Protein Total	g/l	48.0	38.4	57.6	4.80	9.60	Biuret reaction end point
	g/dl	4.80	3.84	5.76	0.48	0.96	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.96	2.48	3.44	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	262	219	305	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	8.35	10.8	0.62	1.24	
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	

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

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	

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Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.6	26.0	35.2	2.30	4.60	Ortho Vitros Microslide Systems
	g/dl	3.06	2.60	3.52	0.23	0.46	
Alkaline Phosphatase	U/l	281	239	323	21.00	42.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	140	112	168	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	141	112	170	14.50	29.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	194	165	223	14.50	29.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	179	143	215	18.00	36.00	Ortho Vitros Microslide visible slide 37°C
Bilirubin Total	µmol/l	81.4	64.3	98.5	8.55	17.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.76	3.76	5.76	0.50	1.00	
Bilirubin, Unconjugated Vitros BU	µmol/l	81.9	64.7	99.1	8.60	17.20	BuBc Vitros Slide
	mg/dl	4.79	3.78	5.80	0.51	1.01	
Calcium	mmol/l	3.17	2.85	3.49	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Cholesterol	mmol/l	7.43	6.46	8.40	0.49	0.97	Ortho Vitros Microslide Systems
	mg/dl	287	249	325	19.00	38.00	
Chloride	mmol/l	115	105	125	5.00	10.00	Ortho Vitros Microslide Systems
CK Total	U/l	421	346	496	37.50	75.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	375	300	450	37.50	75.00	Vitros IDMS Traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
gamma-GT	U/l	193	164	222	14.50	29.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	14.9	12.7	17.1	1.10	2.20	Ortho Vitros Microslide Systems
	mg/dl	268	229	307	19.50	39.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.37	2.01	2.73	0.18	0.36	Vitros Magnetic HDL
	mg/dl	91.5	77.6	105	6.95	13.90	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	
Iron	µmol/l	35.6	29.2	42.0	3.20	6.40	Ortho Vitros Microslide Systems
	µg/dl	199	163	235	18.00	36.00	
Lactate	mmol/l	5.20	4.26	6.14	0.47	0.94	Ortho Vitros Microslide Systems
	mg/dl	46.9	38.4	55.4	4.25	8.50	
LD (LDH)	U/l	430	366	494	32.00	64.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	717	575	859	71.00	142.00	Ortho Vitros Microslide Systems 37°C
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.31	1.96	2.66	0.18	0.35	Ortho Vitros Microslide Systems
	mg/dl	7.16	6.08	8.24	0.54	1.08	
Potassium	mmol/l	6.17	5.68	6.66	0.25	0.49	Ortho Vitros Microslide Systems
Protein Total	g/l	48.8	39.0	58.6	4.90	9.80	Ortho Vitros Microslide Systems
	g/dl	4.88	3.90	5.86	0.49	0.98	
Sodium	mmol/l	157	150	164	3.50	7.00	Ortho Vitros Microslide Systems
Triglycerides	mmol/l	3.28	2.75	3.81	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	290	243	337	23.50	47.00	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.04	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.95	7.78	10.1	0.59	1.17	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Ortho Vitros Microslide Systems
	mg/dl	119	101	137	9.00	18.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

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

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	32.0	27.2	36.8	2.40	4.80	Bromocresol Green
	g/dl	3.20	2.72	3.68	0.24	0.48	
	g/l	28.6	24.3	32.9	2.15	4.30	Turbidimetric Assays
	g/dl	2.86	2.43	3.29	0.22	0.43	
Alkaline Phosphatase	U/l	326	277	375	24.50	49.00	Roche Integra AMP buffer 37°C
	U/l	254	216	292	19.00	38.00	Roche Integra AMP buffer 30°C
	U/l	208	177	239	15.50	31.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	131	105	157	13.00	26.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	272	231	313	20.50	41.00	Roche EPS Liquid 37°C
Amylase Total	U/l	292	248	336	22.00	44.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	291	247	335	22.00	44.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	291	248	334	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	72	110	9.50	19.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	41.4	33.1	49.7	4.15	8.30	Enzymatic Colorimetric
Bicarbonate	mmol/l	16.7	13.2	20.2	1.75	3.50	Colorimetric
	mmol/l	16.8	13.3	20.3	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	32.5	25.7	39.3	3.40	6.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.90	1.50	2.30	0.20	0.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	32.9	26.0	39.8	3.45	6.90	Diazo with Sulphanilic Acid
	mg/dl	1.92	1.52	2.32	0.20	0.40	
	µmol/l	32.7	25.8	39.6	3.45	6.90	Roche DPD JG standardised
	mg/dl	1.91	1.51	2.31	0.20	0.40	
	µmol/l	28.6	22.6	34.6	3.00	6.00	Roche DPD Doumas standardised
	mg/dl	1.67	1.32	2.02	0.18	0.35	
Bilirubin Total	µmol/l	79.4	62.7	96.1	8.35	16.70	Diazo with Sulphanilic Acid
	mg/dl	4.64	3.67	5.61	0.49	0.97	
	µmol/l	80.7	63.7	97.7	8.50	17.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.72	3.73	5.71	0.50	0.99	
	µmol/l	80.4	63.5	97.3	8.45	16.90	Diazonium ion
	mg/dl	4.70	3.71	5.69	0.50	0.99	
Calcium	mmol/l	3.24	2.92	3.56	0.16	0.32	Cresolphthalein complexone
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.26	2.94	3.58	0.16	0.32	NM-BAPTA
	mg/dl	13.1	11.8	14.4	0.65	1.30	
Cholesterol	mmol/l	7.79	6.78	8.80	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	301	262	340	19.50	39.00	
	mmol/l	7.84	6.82	8.86	0.51	1.02	Cholesterol Oxidase - IDMS
	mg/dl	303	263	343	20.00	40.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholinesterase	U/l	5403	4322	6484	540.50	1081.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	517	424	610	46.50	93.00	CK-NAC (IFCC) 37°C
	U/l	324	265	383	29.50	59.00	CK-NAC (IFCC) 30°C
	U/l	220	180	260	20.00	40.00	CK-NAC (IFCC) 25°C

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Roche Cobas c303/501/502/503

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	521	427	615	47.00	94.00	Creatinine phosphate substrate Start 37°C
	U/l	326	267	385	29.50	59.00	Creatinine phosphate substrate Start 30°C
	U/l	221	181	261	20.00	40.00	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	373	298	448	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	µmol/l	382	306	458	38.00	76.00	Roche Creatinine Plus
	mg/dl	4.32	3.46	5.18	0.43	0.86	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	370	296	444	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.18	3.34	5.02	0.42	0.84	
D-3-Hydroxybutyrate	mmol/l	1.13	0.96	1.30	0.09	0.17	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	78.6	59.0	98.2	9.80	19.60	Roche Cobas e601/602
	ng/dl	6.13	4.60	7.66	0.77	1.53	
	pg/ml	61.3	46.0	76.6	7.65	15.30	Roche Cobas e601/602
gamma-GT	U/l	147	125	169	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	116	99	133	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	77	105	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	165	140	190	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	110	150	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	86	118	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	28	22	34	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	22	17	27	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	17	14	20	1.50	3.00	Triethanolamine buffer 50 mmol 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	
HDL - Cholesterol	mmol/l	3.13	2.66	3.60	0.24	0.47	Direct HDL Roche 4th Generation
	mg/dl	121	103	139	9.00	18.00	
Iron	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric with ppt.
	µg/dl	211	173	249	19.00	38.00	
	µmol/l	37.4	30.7	44.1	3.35	6.70	Colorimetric without ppt.
	µg/dl	209	172	246	18.50	37.00	
Lactate	mmol/l	5.55	4.55	6.55	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.0	41.0	59.0	4.50	9.00	
LD (LDH)	U/l	411	349	473	31.00	62.00	L->P 37°C
	U/l	297	252	342	22.50	45.00	L->P 30°C
	U/l	208	177	239	15.50	31.00	L->P 25°C
	U/l	711	604	818	53.50	107.00	P->L German methods 37°C
	U/l	513	436	590	38.50	77.00	P->L German methods 30°C
	U/l	360	306	414	27.00	54.00	P->L German methods 25°C
	U/l	411	349	473	31.00	62.00	L->P IFCC 37°C
	U/l	297	252	342	22.50	45.00	L->P IFCC 30°C
	U/l	208	177	239	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	72	58	86	7.00	14.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.97	1.73	2.21	0.12	0.24	Spectrophotometric
	mg/dl	1.37	1.20	1.54	0.09	0.17	
Magnesium	mmol/l	1.76	1.54	1.98	0.11	0.22	Xylidyl Blue
	mg/dl	4.28	3.74	4.82	0.27	0.54	
	mmol/l	1.76	1.54	1.98	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.28	3.74	4.82	0.27	0.54	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	353	283	423	35.00	70.00	Calculated
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.07	6.01	8.13	0.53	1.06	
	mmol/l	2.31	1.97	2.65	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.16	6.11	8.21	0.53	1.05	
Potassium	mmol/l	6.26	5.75	6.77	0.26	0.51	ISE method - indirect
Protein Total	g/l	46.0	36.8	55.2	4.60	9.20	Biuret reaction end point
	g/dl	4.60	3.68	5.52	0.46	0.92	
	g/l	45.8	36.7	54.9	4.55	9.10	Biuret reaction kinetic
	g/dl	4.58	3.67	5.49	0.46	0.91	
PSA Total	ng/ml =	26.0	19.5	32.5	3.25	6.50	Roche Cobas 6000/8000
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.49	1.19	1.79	0.15	0.30	Roche Cobas e601/602
TIBC	µmol/l	39.3	31.0	47.6	4.15	8.30	FE+UIBC(saturation with iron)
	µg/dl	220	173	267	23.50	47.00	
	µmol/l	45.8	36.2	55.4	4.80	9.60	Calculated from Transferrin
	µg/dl	256	202	310	27.00	54.00	
Triglycerides	mmol/l	2.84	2.39	3.29	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	251	212	290	19.50	39.00	
	mmol/l	2.83	2.37	3.29	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	250	210	290	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	7.95	10.3	0.60	1.19	

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Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	7.98	10.3	0.59	1.18	
Urea	mmol/l	20.7	17.6	23.8	1.55	3.10	Urease kinetic
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	BUN
	mg/dl	58.1	49.4	66.8	4.35	8.70	

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RANDOX

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	32.7	27.8	37.6	2.45	4.90	Bromocresol Green
	g/dl	3.27	2.78	3.76	0.25	0.49	
Alkaline Phosphatase	U/l	334	284	384	25.00	50.00	Roche Integra AMP buffer 37°C
	U/l	260	221	299	19.50	39.00	Roche Integra AMP buffer 30°C
	U/l	213	181	245	16.00	32.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	301	256	346	22.50	45.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	34.1	26.9	41.3	3.60	7.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.99	1.57	2.41	0.21	0.42	
	µmol/l	34.2	27.0	41.4	3.60	7.20	Roche DPD JG standardised
	mg/dl	2.00	1.58	2.42	0.21	0.42	
Bilirubin Total	µmol/l	81.9	64.7	99.1	8.60	17.20	Diazo with Sulphanilic Acid
	mg/dl	4.79	3.78	5.80	0.51	1.01	
	µmol/l	82.8	65.4	100	8.70	17.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.84	3.83	5.85	0.51	1.01	
	µmol/l	83.5	66.0	101	8.75	17.50	Diazonium ion
	mg/dl	4.88	3.86	5.90	0.51	1.02	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.29	2.96	3.62	0.17	0.33	NM-BAPTA
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.76	6.75	8.77	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	300	261	339	19.50	39.00	
	mmol/l	7.65	6.65	8.65	0.50	1.00	Cholesterol Oxidase - IDMS
	mg/dl	295	257	333	19.00	38.00	
CK Total	U/l	509	417	601	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	319	261	377	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	216	177	255	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	374	299	449	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.23	3.38	5.08	0.43	0.85	
Glucose	mmol/l	16.1	13.6	18.6	1.25	2.50	Hexokinase
	mg/dl	290	245	335	22.50	45.00	
HDL - Cholesterol	mmol/l	3.28	2.79	3.77	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	127	108	146	9.50	19.00	
LD (LDH)	U/l	404	343	465	30.50	61.00	L->P IFCC 37°C
	U/l	292	248	336	22.00	44.00	L->P IFCC 30°C
	U/l	205	174	236	15.50	31.00	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	2.43	2.07	2.79	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.53	6.42	8.64	0.56	1.11	
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	254	213	295	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	8.33	10.8	0.63	1.25	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	8.15	10.6	0.61	1.22	
	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.73	8.47	11.0	0.63	1.26	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	BUN
	mg/dl	56.4	47.9	64.9	4.25	8.50	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	32.2	27.4	37.0	2.40	4.80	Bromocresol Green
	g/dl	3.22	2.74	3.70	0.24	0.48	
Alkaline Phosphatase	U/l	322	274	370	24.00	48.00	Roche Integra AMP buffer 37°C
	U/l	251	213	289	19.00	38.00	Roche Integra AMP buffer 30°C
	U/l	206	175	237	15.50	31.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	132	106	158	13.00	26.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	74	60	88	7.00	14.00	Tris buffer without P5P 25°C
Amylase Total	U/l	297	252	342	22.50	45.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	298	253	343	22.50	45.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.7	12.5	18.9	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	32.0	25.3	38.7	3.35	6.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.87	1.48	2.26	0.20	0.39	
	µmol/l	32.0	25.3	38.7	3.35	6.70	Roche DPD JG standardised
	mg/dl	1.87	1.48	2.26	0.20	0.39	
Bilirubin Total	µmol/l	80.1	63.3	96.9	8.40	16.80	Diazo with Sulphanilic Acid
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	80.6	63.7	97.5	8.45	16.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.72	3.73	5.71	0.50	0.99	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	81.0	64.0	98.0	8.50	17.00	Diazonium ion
	mg/dl	4.74	3.74	5.74	0.50	1.00	
Calcium	mmol/l	3.31	2.98	3.64	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	11.9	14.7	0.70	1.40	
	mmol/l	3.30	2.97	3.63	0.17	0.33	NM-BAPTA
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.88	6.85	8.91	0.52	1.03	Cholesterol Oxidase - Abell Kendall
	mg/dl	304	264	344	20.00	40.00	
	mmol/l	7.92	6.89	8.95	0.52	1.03	Cholesterol Oxidase - IDMS
	mg/dl	306	266	346	20.00	40.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
CK Total	U/l	526	431	621	47.50	95.00	CK-NAC (IFCC) 37°C
	U/l	329	270	388	29.50	59.00	CK-NAC (IFCC) 30°C
	U/l	224	183	265	20.50	41.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	364	291	437	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.11	3.29	4.93	0.41	0.82	
	µmol/l	387	310	464	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	366	293	439	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.14	3.31	4.97	0.42	0.83	
gamma-GT	U/l	149	127	171	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	100	134	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	92	78	106	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	169	143	195	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	133	113	153	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	88	120	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.6	13.2	18.0	1.20	2.40	Glucose oxidase
	mg/dl	281	238	324	21.50	43.00	
HDL - Cholesterol	mmol/l	3.12	2.65	3.59	0.24	0.47	Direct HDL Roche 4th Generation
	mg/dl	120	102	138	9.00	18.00	
Iron	µmol/l	37.1	30.4	43.8	3.35	6.70	Colorimetric with ppt.
	µg/dl	207	170	244	18.50	37.00	
	µmol/l	37.2	30.5	43.9	3.35	6.70	Colorimetric without ppt.
	µg/dl	208	170	246	19.00	38.00	
Lactate	mmol/l	5.69	4.66	6.72	0.52	1.03	Colorimetric Lactate Oxidase
	mg/dl	51.3	42.0	60.6	4.65	9.30	
LD (LDH)	U/l	413	351	475	31.00	62.00	L->P IFCC 37°C
	U/l	298	253	343	22.50	45.00	L->P IFCC 30°C
	U/l	209	178	240	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	75	60	90	7.50	15.00	Roche Colorimetric 37°C
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Xylidyl Blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
	mmol/l	1.76	1.55	1.97	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.25	6.17	8.33	0.54	1.08	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.27	5.77	6.77	0.25	0.50	ISE method - indirect
Protein Total	g/l	46.4	37.2	55.6	4.60	9.20	Biuret reaction end point
	g/dl	4.64	3.72	5.56	0.46	0.92	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.79	2.35	3.23	0.22	0.44	Lipase/Glycerol Dehydrogenase
	mg/dl	247	208	286	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.39	8.18	10.6	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	8.11	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	8.13	10.6	0.61	1.23	
Urea	mmol/l	21.0	17.9	24.1	1.55	3.10	Urease kinetic
	mg/dl	126	108	144	9.00	18.00	
	mmol/l	21.0	17.9	24.1	1.55	3.10	BUN
	mg/dl	58.9	50.1	67.7	4.40	8.80	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.9	27.1	36.7	2.40	4.80	Bromocresol Green
	g/dl	3.19	2.71	3.67	0.24	0.48	
	g/l	28.3	24.1	32.5	2.10	4.20	Bromocresol Purple
	g/dl	2.83	2.41	3.25	0.21	0.42	
	g/l	30.0	25.5	34.5	2.25	4.50	Turbidimetric Assays
	g/dl	3.00	2.55	3.45	0.23	0.45	
Alkaline Phosphatase	U/l	315	267	363	24.00	48.00	Roche Integra AMP buffer 37°C
	U/l	245	208	282	18.50	37.00	Roche Integra AMP buffer 30°C
	U/l	201	171	231	15.00	30.00	Roche Integra AMP buffer 25°C
	U/l	324	276	372	24.00	48.00	Colorimetric 37°C
	U/l	252	215	289	18.50	37.00	Colorimetric 30°C
	U/l	207	176	238	15.50	31.00	Colorimetric 25°C
ALT (GPT)	U/l	135	108	162	13.50	27.00	Colorimetric 37°C
	U/l	100	80	120	10.00	20.00	Colorimetric 30°C
	U/l	76	61	91	7.50	15.00	Colorimetric 25°C
	U/l	132	106	158	13.00	26.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	74	60	88	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	268	228	308	20.00	40.00	Roche EPS Liquid 37°C
Amylase Total	U/l	294	250	338	22.00	44.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bile Acids	µmol/l	43.7	34.9	52.5	4.40	8.80	Enzymatic Colorimetric
Bicarbonate	mmol/l	16.9	13.4	20.4	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	33.3	26.3	40.3	3.50	7.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.95	1.54	2.36	0.21	0.41	
	µmol/l	33.8	26.7	40.9	3.55	7.10	Diazo with Sulphanilic Acid
	mg/dl	1.98	1.56	2.40	0.21	0.42	
	µmol/l	32.9	26.0	39.8	3.45	6.90	Roche DPD JG standardised
	mg/dl	1.92	1.52	2.32	0.20	0.40	
	µmol/l	26.5	20.9	32.1	2.80	5.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.55	1.22	1.88	0.17	0.33	
Bilirubin Total	µmol/l	81.4	64.3	98.5	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	82.1	64.8	99.4	8.65	17.30	Diazonium ion
	mg/dl	4.80	3.79	5.81	0.51	1.01	
Calcium	mmol/l	3.24	2.92	3.56	0.16	0.32	Cresolphthalein complexone
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.26	2.93	3.59	0.17	0.33	NM-BAPTA
	mg/dl	13.1	11.7	14.5	0.70	1.40	
Cholesterol	mmol/l	7.79	6.78	8.80	0.51	1.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	301	262	340	19.50	39.00	
	mmol/l	7.83	6.81	8.85	0.51	1.02	Cholesterol Oxidase - IDMS
	mg/dl	302	263	341	19.50	39.00	
Chloride	mmol/l	111	103	119	4.00	8.00	ISE indirect

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	517	424	610	46.50	93.00	CK-NAC (IFCC) 37°C
	U/l	324	265	383	29.50	59.00	CK-NAC (IFCC) 30°C
	U/l	220	180	260	20.00	40.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	383	306	460	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	375	300	450	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.24	3.39	5.09	0.43	0.85	
gamma-GT	U/l	143	121	165	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	95	131	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	88	75	101	6.50	13.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	163	138	188	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	109	147	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	85	117	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.12	2.65	3.59	0.24	0.47	Direct HDL Roche 4th Generation
	mg/dl	120	102	138	9.00	18.00	
Iron	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric with ppt.
	µg/dl	205	168	242	18.50	37.00	
	µmol/l	36.1	29.6	42.6	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	165	239	18.50	37.00	
Lactate	mmol/l	5.49	4.50	6.48	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.5	40.5	58.5	4.50	9.00	
LD (LDH)	U/l	407	346	468	30.50	61.00	L->P IFCC 37°C
	U/l	294	250	338	22.00	44.00	L->P IFCC 30°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 25°C

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	74	59	89	7.50	15.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.96	1.72	2.20	0.12	0.24	Spectrophotometric
	mg/dl	1.36	1.19	1.53	0.09	0.17	
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Xylidyl Blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.31	1.96	2.66	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.16	6.08	8.24	0.54	1.08	
Potassium	mmol/l	6.23	5.74	6.72	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Biuret reaction end point
	g/dl	4.56	3.65	5.47	0.46	0.91	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	41.0	32.4	49.6	4.30	8.60	FE+UIBC(saturation with iron)
	µg/dl	229	181	277	24.00	48.00	
Triglycerides	mmol/l	2.84	2.38	3.30	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	251	211	291	20.00	40.00	
	mmol/l	2.83	2.37	3.29	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	250	210	290	20.00	40.00	
UIBC	µmol/l	6.71	5.50	7.92	0.61	1.21	Direct Colorimetric
	µg/dl	37.5	30.7	44.3	3.40	6.80	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.06	7.88	10.2	0.59	1.18	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.6	17.5	23.7	1.55	3.10	Urease kinetic
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	20.6	17.5	23.7	1.55	3.10	BUN
	mg/dl	57.8	49.1	66.5	4.35	8.70	

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RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.4	26.7	36.1	2.35	4.70	Bromocresol Green
	g/dl	3.14	2.67	3.61	0.24	0.47	
Alkaline Phosphatase	U/l	528	449	607	39.50	79.00	Diethanolamine buffer DEA 37°C
	U/l	349	297	401	26.00	52.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	302	257	347	22.50	45.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	333	283	383	25.00	50.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	151	120	182	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.7	15.6	23.8	2.05	4.10	Enzymatic
Bilirubin Direct	µmol/l	30.9	24.4	37.4	3.25	6.50	Diazo with Sulphanilic Acid
	mg/dl	1.81	1.43	2.19	0.19	0.38	
	µmol/l	31.5	24.9	38.1	3.30	6.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.84	1.46	2.22	0.19	0.38	
Bilirubin Total	µmol/l	90.1	71.1	109	9.50	19.00	Diazo with Sulphanilic Acid
	mg/dl	5.27	4.16	6.38	0.56	1.11	
	µmol/l	96.6	76.3	117	10.15	20.30	Oxidation to Biliverdin/Vanadate
	mg/dl	5.65	4.46	6.84	0.60	1.19	
Calcium	mmol/l	3.29	2.96	3.62	0.17	0.33	Arsenazo III
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	8.16	7.10	9.22	0.53	1.06	Cholesterol Oxidase - Abell Kendall
	mg/dl	315	274	356	20.50	41.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	110	101	119	4.50	9.00	ISE direct
CK Total	U/l	573	470	676	51.50	103.00	CK-NAC substrate start (DGKC) 37°C
	U/l	583	478	688	52.50	105.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	310	248	372	31.00	62.00	Alkaline picrate no deproteinization
	mg/dl	3.50	2.80	4.20	0.35	0.70	
	µmol/l	374	299	449	37.50	75.00	Enzymatic UV method
	mg/dl	4.23	3.38	5.08	0.43	0.85	
gamma-GT	U/l	172	146	198	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	
Iron	µmol/l	37.7	30.9	44.5	3.40	6.80	Colorimetric without ppt.
	µg/dl	211	173	249	19.00	38.00	
Lactate	mmol/l	5.50	4.51	6.49	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.6	40.6	58.6	4.50	9.00	
LD (LDH)	U/l	830	705	955	62.50	125.00	P->L German methods 37°C
	U/l	401	341	461	30.00	60.00	L->P IFCC 37°C
Lipase	U/l	90	72	108	9.00	18.00	Randox Colorimetric 37°C
Magnesium	mmol/l	1.80	1.59	2.01	0.11	0.21	Xylidyl Blue
	mg/dl	4.37	3.86	4.88	0.26	0.51	
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.25	6.17	8.33	0.54	1.08	
Potassium	mmol/l	6.16	5.67	6.65	0.25	0.49	ISE method - direct
	mmol/l	6.36	5.85	6.87	0.26	0.51	Enzymatic

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	48.6	38.9	58.3	4.85	9.70	Biuret reaction end point
	g/dl	4.86	3.89	5.83	0.49	0.97	
Sodium	mmol/l	158	151	165	3.50	7.00	ISE method - direct
	mmol/l	163	155	171	4.00	8.00	Enzymatic
TIBC	µmol/l	50.2	39.7	60.7	5.25	10.50	Direct Colorimetric
	µg/dl	281	222	340	29.50	59.00	
Triglycerides	mmol/l	2.86	2.41	3.31	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	253	213	293	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.62	0.54	0.70	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.4	9.06	11.7	0.67	1.34	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.61	8.37	10.9	0.62	1.24	
Urea	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease kinetic
	mg/dl	119	102	136	8.50	17.00	
	mmol/l	19.8	16.8	22.8	1.50	3.00	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.1	25.6	34.6	2.25	4.50	Bromocresol Green
	g/dl	3.01	2.56	3.46	0.23	0.45	
	g/l	28.4	24.1	32.7	2.15	4.30	Bromocresol Purple
	g/dl	2.84	2.41	3.27	0.22	0.43	
Alkaline Phosphatase	U/l	317	269	365	24.00	48.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
Amylase Total	U/l	304	258	350	23.00	46.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	151	121	181	15.00	30.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	44.7	35.8	53.6	4.45	8.90	Enzymatic Colorimetric
Bicarbonate	mmol/l	18.7	14.8	22.6	1.95	3.90	Enzymatic
Bilirubin Direct	µmol/l	30.1	23.7	36.5	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Bilirubin Total	µmol/l	97.4	76.9	118	10.25	20.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.70	4.50	6.90	0.60	1.20	
Calcium	mmol/l	3.34	3.01	3.67	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.4	12.1	14.7	0.65	1.30	
	mmol/l	3.19	2.87	3.51	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	7.86	6.84	8.88	0.51	1.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	303	264	342	19.50	39.00	
Chloride	mmol/l	114	104	124	5.00	10.00	ISE indirect

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	559	459	659	50.00	100.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	373	298	448	37.50	75.00	Enzymatic UV method
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	µmol/l	356	285	427	35.50	71.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.02	3.22	4.82	0.40	0.80	
gamma-GT	U/l	145	123	167	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.1	12.9	17.3	1.10	2.20	Hexokinase
	mg/dl	272	232	312	20.00	40.00	
	mmol/l	15.5	13.1	17.9	1.20	2.40	Glucose oxidase
	mg/dl	279	236	322	21.50	43.00	
HDL - Cholesterol	mmol/l	2.30	1.95	2.65	0.18	0.35	Direct Clearance Method
	mg/dl	88.8	75.3	102	6.75	13.50	
Iron	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.41	4.44	6.38	0.49	0.97	Colorimetric Lactate Oxidase
	mg/dl	48.7	40.0	57.4	4.35	8.70	
LD (LDH)	U/l	826	702	950	62.00	124.00	P->L German methods 37°C
	U/l	404	343	465	30.50	61.00	L->P IFCC 37°C
Lipase	U/l	78	63	93	7.50	15.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Xylidyl Blue
	mg/dl	4.11	3.62	4.60	0.25	0.49	
Phosphate Inorganic	mmol/l	2.39	2.03	2.75	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.41	6.29	8.53	0.56	1.12	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	45.9	36.8	55.0	4.55	9.10	Biuret reaction end point
	g/dl	4.59	3.68	5.50	0.46	0.91	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	40.3	31.9	48.7	4.20	8.40	Calculated from Transferrin
	µg/dl	225	178	272	23.50	47.00	
Triglycerides	mmol/l	2.92	2.46	3.38	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	218	298	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	8.25	10.7	0.62	1.23	
Urea	mmol/l	21.0	17.9	24.1	1.55	3.10	Urease kinetic
	mg/dl	126	108	144	9.00	18.00	
	mmol/l	21.0	17.9	24.1	1.55	3.10	BUN
	mg/dl	58.9	50.1	67.7	4.40	8.80	

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Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
	g/l	28.0	23.8	32.2	2.10	4.20	Bromocresol Purple
	g/dl	2.80	2.38	3.22	0.21	0.42	
Alkaline Phosphatase	U/l	324	276	372	24.00	48.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	158	126	190	16.00	32.00	Tris buffer without P5P 37°C
Amylase Total	U/l	332	282	382	25.00	50.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.7	14.8	22.6	1.95	3.90	Enzymatic
Bilirubin Direct	µmol/l	32.3	25.5	39.1	3.40	6.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.89	1.49	2.29	0.20	0.40	
Bilirubin Total	µmol/l	99.1	78.3	120	10.40	20.80	Oxidation to Biliverdin/Vanadate
	mg/dl	5.80	4.58	7.02	0.61	1.22	
Calcium	mmol/l	3.35	3.02	3.68	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.4	12.1	14.7	0.65	1.30	
	mmol/l	3.26	2.93	3.59	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.7	14.5	0.70	1.40	
Cholesterol	mmol/l	7.99	6.95	9.03	0.52	1.04	Cholesterol Oxidase - Abell Kendall
	mg/dl	308	268	348	20.00	40.00	
	mmol/l	7.97	6.93	9.01	0.52	1.04	Cholesterol Oxidase - IDMS
	mg/dl	308	267	349	20.50	41.00	

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Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	116	106	126	5.00	10.00	ISE indirect
CK Total	U/l	523	429	617	47.00	94.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	354	283	425	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	359	287	431	36.00	72.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.06	3.24	4.88	0.41	0.82	
gamma-GT	U/l	150	128	172	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	2.56	2.17	2.95	0.20	0.39	Direct Clearance Method
	mg/dl	98.8	83.8	114	7.50	15.00	
Iron	µmol/l	38.0	31.1	44.9	3.45	6.90	Colorimetric without ppt.
	µg/dl	212	174	250	19.00	38.00	
LD (LDH)	U/l	399	339	459	30.00	60.00	L->P IFCC 37°C
Lipase	U/l	79	63	95	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	1.96	1.72	2.20	0.12	0.24	Spectrophotometric
	mg/dl	1.36	1.19	1.53	0.09	0.17	
Magnesium	mmol/l	1.73	1.52	1.94	0.11	0.21	Xylidyl Blue
	mg/dl	4.20	3.69	4.71	0.26	0.51	
Phosphate Inorganic	mmol/l	2.41	2.05	2.77	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.47	6.36	8.58	0.56	1.11	
Potassium	mmol/l	6.05	5.57	6.53	0.24	0.48	ISE method - indirect
Protein Total	g/l	46.2	36.9	55.5	4.65	9.30	Biuret reaction end point
	g/dl	4.62	3.69	5.55	0.47	0.93	

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RANDOX

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	46.7	36.9	56.5	4.90	9.80	Direct Colorimetric
	µg/dl	261	206	316	27.50	55.00	
Triglycerides	mmol/l	3.02	2.54	3.50	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	267	225	309	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	8.28	10.8	0.63	1.25	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	8.23	10.7	0.62	1.23	
Urea	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease kinetic
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.8	17.7	23.9	1.55	3.10	BUN
	mg/dl	58.4	49.6	67.2	4.40	8.80	

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RANDOX

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Purple
	g/dl	2.90	2.46	3.34	0.22	0.44	
Alkaline Phosphatase	U/l	318	271	365	23.50	47.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer with P5P 37°C
	U/l	145	116	174	14.50	29.00	Tris buffer with P5P NVKC 37°C
Amylase Total	U/l	357	303	411	27.00	54.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	165	132	198	16.50	33.00	Tris buffer with P5P 37°C
	U/l	167	133	201	17.00	34.00	Tris buffer with P5P NVKC 37°C
	U/l	169	135	203	17.00	34.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	19.5	15.4	23.6	2.05	4.10	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.14	0.901	1.38	0.12	0.24	
Bilirubin Total	µmol/l	88.2	69.7	107	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.16	4.08	6.24	0.54	1.08	
Calcium	mmol/l	3.24	2.92	3.56	0.16	0.32	Cresolphthalein complexone
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	7.38	6.42	8.34	0.48	0.96	Dimension-Siemens reagents
	mg/dl	285	248	322	18.50	37.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
CK Total	U/l	504	413	595	45.50	91.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	380	304	456	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.29	3.44	5.14	0.43	0.85	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1264UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	378	302	454	38.00	76.00	Jaffe rate blanked
	mg/dl	4.27	3.41	5.13	0.43	0.86	
gamma-GT	U/l	172	147	197	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	190	162	218	14.00	28.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.8	13.5	18.1	1.15	2.30	Hexokinase
	mg/dl	285	243	327	21.00	42.00	
HDL - Cholesterol	mmol/l	2.86	2.43	3.29	0.22	0.43	Direct HDL PEGME
	mg/dl	110	93.8	126	8.10	16.20	
Iron	µmol/l	36.1	29.6	42.6	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	165	239	18.50	37.00	
LD (LDH)	U/l	382	324	440	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	224	180	268	22.00	44.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.81	1.60	2.02	0.11	0.21	Methylthymol blue
	mg/dl	4.40	3.89	4.91	0.26	0.51	
Phosphate Inorganic	mmol/l	2.38	2.02	2.74	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.38	6.26	8.50	0.56	1.12	
Potassium	mmol/l	6.23	5.73	6.73	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.7	38.1	57.3	4.80	9.60	Biuret reaction end point
	g/dl	4.77	3.81	5.73	0.48	0.96	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.85	2.40	3.30	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	252	212	292	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	7.98	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.31	8.10	10.5	0.61	1.21	

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	21.3	18.1	24.5	1.60	3.20	Urease kinetic
	mg/dl	128	109	147	9.50	19.00	
	mmol/l	21.3	18.1	24.5	1.60	3.20	BUN
	mg/dl	59.8	50.8	68.8	4.50	9.00	

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