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.	1228UE	**EXPIRY:**	2025-11-28		

INTENDED USE

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

DEVICE DESCRIPTION

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

SAFETY PRECAUTIONS AND WARNINGS

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

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

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

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

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

LIMITATIONS

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

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

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

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. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.4	25.8	35.0	2.30	4.60	Bromocresol Green
	g/dl	3.04	2.58	3.50	0.23	0.46	
	g/l	28.5	24.2	32.8	2.15	4.30	Bromocresol Purple
	g/dl	2.85	2.42	3.28	0.22	0.43	
	g/l	29.3	24.9	33.7	2.20	4.40	Ortho Vitros Microslide Systems
	g/dl	2.93	2.49	3.37	0.22	0.44	
	g/l	30.2	25.7	34.7	2.25	4.50	Turbidimetric Assays
	g/dl	3.02	2.57	3.47	0.23	0.45	
Alkaline Phosphatase	U/l	267	227	307	20.00	40.00	Ortho Vitros Microslide Systems 37°C
	U/l	421	358	484	31.50	63.00	Diethanolamine buffer DEA 37°C
	U/l	328	279	377	24.50	49.00	Diethanolamine buffer DEA 30°C
	U/l	269	229	309	20.00	40.00	Diethanolamine buffer DEA 25°C
	U/l	336	286	386	25.00	50.00	AMP optimised to IFCC 37°C
	U/l	262	223	301	19.50	39.00	AMP optimised to IFCC 30°C
	U/l	215	183	247	16.00	32.00	AMP optimised to IFCC 25°C
	U/l	362	307	417	27.50	55.00	AMP optimised to NVKC/SFBC 37°C
	U/l	282	239	325	21.50	43.00	AMP optimised to NVKC/SFBC 30°C
	U/l	231	196	266	17.50	35.00	AMP optimised to NVKC/SFBC 25°C
	U/l	338	287	389	25.50	51.00	AMP non-optimised 37°C
	U/l	263	224	302	19.50	39.00	AMP non-optimised 30°C
	U/l	216	183	249	16.50	33.00	AMP non-optimised 25°C

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Alkaline Phosphatase	U/l	320	272	368	24.00	48.00	Colorimetric 37°C
	U/l	249	212	286	18.50	37.00	Colorimetric 30°C
	U/l	204	174	234	15.00	30.00	Colorimetric 25°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Colorimetric 37°C
	U/l	102	82	122	10.00	20.00	Colorimetric 30°C
	U/l	78	62	94	8.00	16.00	Colorimetric 25°C
	U/l	137	110	164	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	142	114	170	14.00	28.00	Tris buffer with P5P 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer with P5P 30°C
	U/l	80	64	96	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	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	143	115	171	14.00	28.00	Phosphate buffer DGKC 37°C
	U/l	106	85	127	10.50	21.00	Phosphate buffer DGKC 30°C
	U/l	81	65	97	8.00	16.00	Phosphate buffer DGKC 25°C
	U/l	142	114	170	14.00	28.00	Tris buffer with P5P NVKC 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer with P5P NVKC 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer with P5P NVKC 25°C
	U/l	136	109	163	13.50	27.00	Tris buffer SCE 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer SCE 30°C
	U/l	77	61	93	8.00	16.00	Tris buffer SCE 25°C
	U/l	137	110	164	13.50	27.00	Ortho Vitros MicroSlide visible 37°C
Amylase Pancreatic	U/l	264	225	303	19.50	39.00	Immunoinhibition EPS substrate 37°C
	U/l	258	219	297	19.50	39.00	Roche EPS Liquid 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Pancreatic	U/l	288	245	331	21.50	43.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	308	262	354	23.00	46.00	pNP Maltotrioside substrates 37°C
	U/l	313	266	360	23.50	47.00	Siemens - blocked pNPG7 37°C
	U/l	241	205	277	18.00	36.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	311	264	358	23.50	47.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	345	293	397	26.00	52.00	Siemens - maltopenta/hexaoside 37°C
	U/l	286	243	329	21.50	43.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	188	160	216	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	284	241	327	21.50	43.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	282	240	324	21.00	42.00	Roche liquid stable pNPG7 37°C
	U/l	346	294	398	26.00	52.00	Siemens 2-chloro-pNPG3 37°C
	U/l	317	269	365	24.00	48.00	bioMerieux 2-chloro-pNPG3 37°C
	U/l	304	259	349	22.50	45.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	306	260	352	23.00	46.00	Beckman Synchron AMY7 37°C
	U/l	308	261	355	23.50	47.00	I.L. 2-chloro-pNPG3 37°C
	U/l	339	288	390	25.50	51.00	Abbott Architect IFCC Cal. 37°C
	U/l	323	274	372	24.50	49.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	290	246	334	22.00	44.00	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	284	242	326	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
Apolipoprotein A-1	g/l	1.20	0.98	1.42	0.11	0.22	Immunoturbidimetric
	mg/dl	120	98.4	142	10.80	21.60	
Apolipoprotein B	g/l	0.63	0.52	0.74	0.06	0.11	Immunoturbidimetric
	mg/dl	62.9	51.6	74.2	5.65	11.30	
Acid Phosphatase (Total)	U/l	49.4	33.1	65.7	8.15	16.30	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	152	122	182	15.00	30.00	Colorimetric 37°C
	U/l	103	82	124	10.50	21.00	Colorimetric 30°C
	U/l	72	58	86	7.00	14.00	Colorimetric 25°C

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	195	156	234	19.50	39.00	Ortho Vitros Microslide visible slide 37°C
	U/l	178	142	214	18.00	36.00	Tris buffer with P5P 37°C
	U/l	120	96	144	12.00	24.00	Tris buffer with P5P 30°C
	U/l	85	68	102	8.50	17.00	Tris buffer with P5P 25°C
	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	80	122	10.50	21.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
	U/l	153	122	184	15.50	31.00	Phosphate buffer DGKC 37°C
	U/l	103	82	124	10.50	21.00	Phosphate buffer DGKC 30°C
	U/l	73	58	88	7.50	15.00	Phosphate buffer DGKC 25°C
	U/l	151	121	181	15.00	30.00	Tris buffer with P5P NVKC 37°C
	U/l	102	82	122	10.00	20.00	Tris buffer with P5P NVKC 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer with P5P NVKC 25°C
	U/l	154	123	185	15.50	31.00	Tris buffer SCE 37°C
	U/l	104	83	125	10.50	21.00	Tris buffer SCE 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	41.0	32.8	49.2	4.10	8.20	5th Generation Colorimetric
	µmol/l	41.2	33.0	49.4	4.10	8.20	4th Generation Colorimetric
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Colorimetric
	mmol/l	16.3	12.9	19.7	1.70	3.40	Ortho Vitros Microslide Systems
	mmol/l	15.7	12.4	19.0	1.65	3.30	Differential rate pH change
	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
	mmol/l	15.7	12.5	18.9	1.60	3.20	Manometric

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	26.8	21.2	32.4	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	28.7	22.7	34.7	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	29.8	23.5	36.1	3.15	6.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.74	1.37	2.11	0.19	0.37	
	µmol/l	30.8	24.3	37.3	3.25	6.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	31.5	24.9	38.1	3.30	6.60	Modified Jendrassik
	mg/dl	1.84	1.46	2.22	0.19	0.38	
Bilirubin Total	µmol/l	78.4	62.0	94.8	8.20	16.40	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.59	3.63	5.55	0.48	0.96	
	µmol/l	86.8	68.6	105	9.10	18.20	Diazo with Dichloroaniline (DCA)
	mg/dl	5.08	4.01	6.15	0.54	1.07	
	µmol/l	85.6	67.6	104	9.00	18.00	Diazo with Sulphanilic Acid
	mg/dl	5.01	3.95	6.07	0.53	1.06	
	µmol/l	80.2	63.3	97.1	8.45	16.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	81.6	64.5	98.7	8.55	17.10	Nitrobenzenediazonium salt
	mg/dl	4.77	3.77	5.77	0.50	1.00	
	µmol/l	80.0	63.2	96.8	8.40	16.80	Diazonium ion
	mg/dl	4.68	3.70	5.66	0.49	0.98	
	µmol/l	93.6	73.9	113	9.85	19.70	Oxidation to Biliverdin/Vanadate
	mg/dl	5.48	4.32	6.64	0.58	1.16	
	µmol/l	95.2	75.2	115	10.00	20.00	Modified Jendrassik
	mg/dl	5.57	4.40	6.74	0.59	1.17	

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.32	2.99	3.65	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	0.65	1.30	
	mmol/l	3.29	2.96	3.62	0.17	0.33	Ortho Vitros Microslide Systems
	mg/dl	13.2	11.9	14.5	0.65	1.30	
	mmol/l	3.17	2.86	3.48	0.16	0.31	Ion selective electrode
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	3.35	3.01	3.69	0.17	0.34	Methylthymol blue
	mg/dl	13.4	12.1	14.7	0.65	1.30	
	mmol/l	3.34	3.01	3.67	0.17	0.33	Arsenazo III
	mg/dl	13.4	12.1	14.7	0.65	1.30	
	mmol/l	3.37	3.03	3.71	0.17	0.34	Phosphonazo
	mg/dl	13.5	12.1	14.9	0.70	1.40	
	mmol/l	3.38	3.04	3.72	0.17	0.34	NM-BAPTA
	mg/dl	13.5	12.2	14.8	0.65	1.30	
	mmol/l	1.13	1.02	1.24	0.05	0.11	Ionised calcium
	mg/dl	4.53	4.09	4.97	0.22	0.44	
Cholesterol	mmol/l	7.18	6.25	8.11	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	277	241	313	18.00	36.00	
	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	253	329	19.00	38.00	
	mmol/l	7.61	6.62	8.60	0.50	0.99	Cholesterol Oxidase - IDMS
	mg/dl	294	256	332	19.00	38.00	
	mmol/l	7.61	6.62	8.60	0.50	0.99	Cholesterol Dehydrogenase
	mg/dl	294	256	332	19.00	38.00	

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Chloride	mmol/l	111	102	120	4.50	9.00	Colorimetric
	mmol/l	114	105	123	4.50	9.00	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	5121	4097	6145	512.00	1024.00	Colorimetric Benzoylcholine 37°C
	U/l	5233	4186	6280	523.50	1047.00	Colorimetric Butyrylthiocholine 37°C
	U/l	4821	3857	5785	482.00	964.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	468	383	553	42.50	85.00	Ortho Vitros Microslide Systems 37°C
	U/l	584	479	689	52.50	105.00	CK-NAC serum start (DGKC) 37°C
	U/l	366	300	432	33.00	66.00	CK-NAC serum start (DGKC) 30°C
	U/l	248	204	292	22.00	44.00	CK-NAC serum start (DGKC) 25°C
	U/l	578	474	682	52.00	104.00	CK-NAC substrate start (DGKC) 37°C
	U/l	362	297	427	32.50	65.00	CK-NAC substrate start (DGKC) 30°C
	U/l	246	201	291	22.50	45.00	CK-NAC substrate start (DGKC) 25°C
	U/l	580	475	685	52.50	105.00	CK-NAC (IFCC) 37°C
	U/l	363	297	429	33.00	66.00	CK-NAC (IFCC) 30°C
	U/l	247	202	292	22.50	45.00	CK-NAC (IFCC) 25°C
	U/l	621	509	733	56.00	112.00	Monothioglycerol 37°C
	U/l	389	319	459	35.00	70.00	Monothioglycerol 30°C
	U/l	264	216	312	24.00	48.00	Monothioglycerol 25°C
	U/l	567	465	669	51.00	102.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	355	291	419	32.00	64.00	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	241	198	284	21.50	43.00	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	25.4	20.4	30.4	2.50	5.00	Atomic absorption
	µg/dl	162	130	194	16.00	32.00	

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Copper	µmol/l	25.7	20.6	30.8	2.55	5.10	Colorimetric
	µg/dl	163	131	195	16.00	32.00	
Cortisol	nmol/l	981	736	1226	122.50	245.00	Roche Cobas e402/e801
	µg/dl	35.3	26.5	44.1	4.40	8.80	
Creatinine	µmol/l	394	315	473	39.50	79.00	Alkaline picrate with deproteinization
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	µmol/l	401	321	481	40.00	80.00	Alkaline picrate no deproteinization
	mg/dl	4.53	3.63	5.43	0.45	0.90	
	µmol/l	420	336	504	42.00	84.00	Enzymatic UV method
	mg/dl	4.75	3.80	5.70	0.48	0.95	
	µmol/l	419	335	503	42.00	84.00	Creatinine PAP method
	mg/dl	4.73	3.79	5.67	0.47	0.94	
	µmol/l	387	309	465	39.00	78.00	Jaffe rate blanked
	mg/dl	4.37	3.49	5.25	0.44	0.88	
	µmol/l	415	332	498	41.50	83.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.69	3.75	5.63	0.47	0.94	
	µmol/l	420	336	504	42.00	84.00	Vitros DT60/DT60 II/DTSC II
	mg/dl	4.75	3.80	5.70	0.48	0.95	
	µmol/l	407	326	488	40.50	81.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.60	3.68	5.52	0.46	0.92	
	µmol/l	424	339	509	42.50	85.00	Vitros IDMS Traceable
	mg/dl	4.79	3.83	5.75	0.48	0.96	
	µmol/l	413	330	496	41.50	83.00	IDMS traceable
	mg/dl	4.67	3.73	5.61	0.47	0.94	
D-3-Hydroxybutyrate	mmol/l	1.20	1.02	1.38	0.09	0.18	Tris buffer 100mmol pH 8.5

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RANDOX

METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Digoxin	nmol/l	3.83	3.06	4.60	0.39	0.77	Immunoturbidimetric
	ng/ml	2.99	2.39	3.59	0.30	0.60	
Folate	nmol/l	6.35	4.83	7.87	0.76	1.52	Roche Cobas e402/e801
	ng/ml	2.80	2.13	3.47	0.34	0.67	
Free T4	pmol/l	50.4	37.8	63.0	6.30	12.60	Abbott Architect
	ng/dl	3.93	2.95	4.91	0.49	0.98	
	pg/ml	39.3	29.5	49.1	4.90	9.80	Abbott Architect
	pmol/l	68.0	51.0	85.0	8.50	17.00	Siemens Centaur XP/XPT/Classic
	ng/dl	5.30	3.98	6.62	0.66	1.32	
	pg/ml	53.0	39.8	66.2	6.60	13.20	Siemens Centaur XP/XPT/Classic
	pmol/l	71.0	53.2	88.8	8.90	17.80	Siemens Immulite 2000/2500
	ng/dl	5.54	4.15	6.93	0.70	1.39	
	pg/ml	55.4	41.5	69.3	6.95	13.90	Siemens Immulite 2000/2500
	pmol/l	76.6	57.5	95.7	9.55	19.10	Siemens Immulite 1000
	ng/dl	5.97	4.49	7.45	0.74	1.48	
	pg/ml	59.7	44.9	74.5	7.40	14.80	Siemens Immulite 1000
	pmol/l	64.8	48.6	81.0	8.10	16.20	Beckman DxI800
	ng/dl	5.05	3.79	6.31	0.63	1.26	
	pg/ml	50.5	37.9	63.1	6.30	12.60	Beckman DxI800
	pmol/l	73.9	55.4	92.4	9.25	18.50	Roche Elecsys
	ng/dl	5.76	4.32	7.20	0.72	1.44	
	pg/ml	57.6	43.2	72.0	7.20	14.40	Roche Elecsys
	pmol/l	59.7	44.8	74.6	7.45	14.90	Beckman Access
	ng/dl	4.66	3.49	5.83	0.59	1.17	
	pg/ml	46.6	34.9	58.3	5.85	11.70	Beckman Access

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Free T4	pmol/l	80.7	60.5	101	10.10	20.20	Tosoh Series
	ng/dl	6.29	4.72	7.86	0.79	1.57	
	pg/ml	62.9	47.2	78.6	7.85	15.70	Tosoh Series
	pmol/l	89.6	67.2	112	11.20	22.40	Vitros ECi
	ng/dl	6.99	5.24	8.74	0.88	1.75	
	pg/ml	69.9	52.4	87.4	8.75	17.50	Vitros ECi
	pmol/l	77.7	58.3	97.1	9.70	19.40	Roche Cobas 4000/E411
	ng/dl	6.06	4.55	7.57	0.76	1.51	
	pg/ml	60.6	45.5	75.7	7.55	15.10	Roche Cobas 4000/E411
	pmol/l	80.8	60.6	101	10.10	20.20	Roche Cobas e601/602
	ng/dl	6.30	4.73	7.87	0.79	1.57	
	pg/ml	63.0	47.3	78.7	7.85	15.70	Roche Cobas e601/602
	pmol/l	72.2	54.1	90.3	9.05	18.10	Biomerieux Vidas FT4N Kit
	ng/dl	5.63	4.22	7.04	0.71	1.41	
	pg/ml	56.3	42.2	70.4	7.05	14.10	Biomerieux Vidas FT4N Kit
	pmol/l	86.2	64.6	108	10.80	21.60	Siemens Dimension Exl LOCI
	ng/dl	6.72	5.04	8.40	0.84	1.68	
	pg/ml	67.2	50.4	84.0	8.40	16.80	Siemens Dimension Exl LOCI
	pmol/l	78.9	59.2	98.6	9.85	19.70	Siemens Centaur CP
	ng/dl	6.15	4.62	7.68	0.77	1.53	
	pg/ml	61.5	46.2	76.8	7.65	15.30	Siemens Centaur CP
	pmol/l	58.4	43.8	73.0	7.30	14.60	Mindray CL-2000i
	ng/dl	4.56	3.42	5.70	0.57	1.14	
	pg/ml	45.6	34.2	57.0	5.70	11.40	Mindray CL-2000i
	pmol/l	80.4	60.3	101	10.05	20.10	Roche Cobas e402/e801
	ng/dl	6.27	4.70	7.84	0.79	1.57	
	pg/ml	62.7	47.0	78.4	7.85	15.70	Roche Cobas e402/e801

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	72.2	54.2	90.2	9.00	18.00	Siemens Atellica IM
	ng/dl	5.63	4.23	7.03	0.70	1.40	
	pg/ml	56.3	42.3	70.3	7.00	14.00	Siemens Atellica IM
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	165	141	189	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	130	111	149	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	203	172	234	15.50	31.00	Ortho Vitros Microslide Systems 37°C
	U/l	172	146	198	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	115	157	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	90	122	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	203	173	233	15.00	30.00	Siemens Dimension (non IFCC) 37°C
	U/l	160	136	184	12.00	24.00	Siemens Dimension (non IFCC) 30°C
	U/l	125	107	143	9.00	18.00	Siemens Dimension (non IFCC) 25°C
	U/l	179	152	206	13.50	27.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	141	120	162	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	110	94	126	8.00	16.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	32	25	39	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
	U/l	25	19	31	3.00	6.00	Triethanolamine buffer 50 mmol 30°C
	U/l	20	16	24	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	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose dehydrogenase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Oxygen electrode
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
alpha-HBDH	U/l	424	335	513	44.50	89.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	320	253	387	33.50	67.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	240	190	290	25.00	50.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	2.69	2.29	3.09	0.20	0.40	Direct HDL PPD
	mg/dl	104	88.4	120	7.80	15.60	
	mmol/l	2.53	2.15	2.91	0.19	0.38	Direct HDL Immunoseparation
	mg/dl	97.7	83.0	112	7.35	14.70	
	mmol/l	2.44	2.08	2.80	0.18	0.36	Vitros Magnetic HDL
	mg/dl	94.2	80.3	108	6.95	13.90	
	mmol/l	2.61	2.22	3.00	0.20	0.39	Direct HDL PEGME
	mg/dl	101	85.7	116	7.65	15.30	
	mmol/l	2.44	2.08	2.80	0.18	0.36	Direct Clearance Method
	mg/dl	94.2	80.3	108	6.95	13.90	
	mmol/l	2.50	2.12	2.88	0.19	0.38	Vitros 5.1 FS microtip assay
	mg/dl	96.5	81.8	111	7.35	14.70	
	mmol/l	2.49	2.12	2.86	0.19	0.37	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	96.1	81.8	110	7.15	14.30	

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	2.61	2.22	3.00	0.20	0.39	HDL - Ultra
	mg/dl	101	85.7	116	7.65	15.30	
	mmol/l	3.07	2.61	3.53	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	119	101	137	9.00	18.00	
Immunoglobulin A	g/l	1.96	1.47	2.45	0.25	0.49	Immunoturbidimetric
	mg/dl	196	147	245	24.5	49.0	
Immunoglobulin G	g/l	6.25	5.13	7.37	0.56	1.12	Immunoturbidimetric
	mg/dl	625	513	737	56.0	112	
Immunoglobulin M	g/l	1.05	0.840	1.26	0.11	0.21	Immunoturbidimetric
	mg/dl	105	84.0	126	10.5	21.0	
Iron	µmol/l	36.8	30.1	43.5	3.35	6.70	Colorimetric with ppt.
	µg/dl	206	168	244	19.00	38.00	
	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	
	µmol/l	34.8	28.5	41.1	3.15	6.30	Ortho Vitros Microslide Systems
	µg/dl	195	159	231	18.00	36.00	
Lactate	mmol/l	5.47	4.48	6.46	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.3	40.4	58.2	4.45	8.90	
	mmol/l	5.07	4.16	5.98	0.46	0.91	Ortho Vitros Microslide Systems
	mg/dl	45.7	37.5	53.9	4.10	8.20	
	mmol/l	5.40	4.43	6.37	0.49	0.97	Enzymatic Electrode
	mg/dl	48.7	39.9	57.5	4.40	8.80	
	mmol/l	5.41	4.43	6.39	0.49	0.98	Ion selective electrode
	mg/dl	48.7	39.9	57.5	4.40	8.80	
	mmol/l	5.19	4.26	6.12	0.47	0.93	UV LDH
	mg/dl	46.8	38.4	55.2	4.20	8.40	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
LD (LDH)	U/l	413	351	475	31.00	62.00	Ortho Vitros Microslide Systems 37°C
	U/l	377	321	433	28.00	56.00	L->P 37°C
	U/l	272	232	312	20.00	40.00	L->P 30°C
	U/l	191	163	219	14.00	28.00	L->P 25°C
	U/l	801	681	921	60.00	120.00	P->L Scandinavian & Dutch 37°C
	U/l	578	492	664	43.00	86.00	P->L Scandinavian & Dutch 30°C
	U/l	406	345	467	30.50	61.00	P->L Scandinavian & Dutch 25°C
	U/l	763	649	877	57.00	114.00	P->L German methods 37°C
	U/l	551	469	633	41.00	82.00	P->L German methods 30°C
	U/l	387	329	445	29.00	58.00	P->L German methods 25°C
	U/l	774	658	890	58.00	116.00	P->L SFBC 37°C
	U/l	559	475	643	42.00	84.00	P->L SFBC 30°C
	U/l	392	334	450	29.00	58.00	P->L SFBC 25°C
	U/l	391	332	450	29.50	59.00	L->P IFCC 37°C
	U/l	282	240	324	21.00	42.00	L->P IFCC 30°C
	U/l	198	168	228	15.00	30.00	L->P IFCC 25°C
	U/l	412	350	474	31.00	62.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	70	56	84	7.00	14.00	Other Colorimetric 37°C
	U/l	726	582	870	72.00	144.00	Ortho Vitros Microslide Systems 37°C
	U/l	73	58	88	7.50	15.00	Roche Colorimetric 37°C
	U/l	72	58	86	7.00	14.00	Roche Turbidimetric with colipase 37°C
	U/l	90	72	108	9.00	18.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.43	2.14	2.72	0.15	0.29	Ortho Vitros Microslide Systems
	mg/dl	1.69	1.49	1.89	0.10	0.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lithium	mmol/l	1.90	1.67	2.13	0.12	0.23	Flame photometry
	mg/dl	1.32	1.16	1.48	0.08	0.16	
	mmol/l	2.04	1.80	2.28	0.12	0.24	Ion selective electrode
	mg/dl	1.42	1.25	1.59	0.09	0.17	
	mmol/l	2.01	1.77	2.25	0.12	0.24	Spectrophotometric
	mg/dl	1.40	1.23	1.57	0.09	0.17	
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Arsenazo III
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	mmol/l	1.80	1.58	2.02	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.37	3.84	4.90	0.27	0.53	
	mmol/l	1.77	1.56	1.98	0.11	0.21	Atomic absorption
	mg/dl	4.30	3.79	4.81	0.26	0.51	
	mmol/l	1.72	1.51	1.93	0.11	0.21	Calmagite
	mg/dl	4.18	3.67	4.69	0.26	0.51	
	mmol/l	1.77	1.55	1.99	0.11	0.22	Xylidyl Blue
	mg/dl	4.30	3.77	4.83	0.27	0.53	
	mmol/l	1.82	1.60	2.04	0.11	0.22	Methylthymol blue
	mg/dl	4.42	3.89	4.95	0.27	0.53	
	mmol/l	1.78	1.56	2.00	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.33	3.79	4.87	0.27	0.54	
	mmol/l	1.76	1.55	1.97	0.11	0.21	Enzymatic
	mg/dl	4.28	3.77	4.79	0.26	0.51	
NEFA	mmol/l	0.49	0.39	0.59	0.05	0.10	Colorimetric
Osmolality	mOsm/kg	344	275	413	34.50	69.00	Calculated
	mOsm/kg	378	302	454	38.00	76.00	Freezing point depression

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Paracetamol	mmol/l	0.60	0.48	0.71	0.06	0.12	Gravimetric
	mg/l	90.0	72.0	108	9.00	18.00	
Phosphate Inorganic	mmol/l	2.32	1.97	2.67	0.18	0.35	Ortho Vitros Microslide Systems
	mg/dl	7.19	6.11	8.27	0.54	1.08	
	mmol/l	2.36	2.00	2.72	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.32	6.20	8.44	0.56	1.12	
	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.32	6.23	8.41	0.55	1.09	
Potassium	mmol/l	6.05	5.56	6.54	0.25	0.49	Ortho Vitros Microslide Systems
	mmol/l	6.07	5.58	6.56	0.25	0.49	Enzymatic
	mmol/l	5.89	5.42	6.36	0.24	0.47	Flame photometry
	mmol/l	5.98	5.51	6.45	0.24	0.47	ISE method - direct
	mmol/l	6.11	5.63	6.59	0.24	0.48	ISE method - indirect
	mmol/l	5.61	5.16	6.06	0.23	0.45	Colorimetric
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Ortho Vitros Microslide Systems
	g/dl	4.75	3.80	5.70	0.48	0.95	
	g/l	47.0	37.6	56.4	4.70	9.40	Biuret reaction end point
	g/dl	4.70	3.76	5.64	0.47	0.94	
	g/l	46.1	36.9	55.3	4.60	9.20	Biuret reaction kinetic
	g/dl	4.61	3.69	5.53	0.46	0.92	
PSA Total	ng/ml =	18.5	13.8	23.2	2.35	4.70	Tosoh Series
	ng/ml =	24.3	18.3	30.3	3.00	6.00	Siemens Immulite 1000
	ng/ml =	24.5	18.4	30.6	3.05	6.10	Beckman Access standardised to Hybritech
	ng/ml =	25.0	18.8	31.2	3.10	6.20	bioMerieux VIDAS TPSA
	ng/ml =	22.8	17.1	28.5	2.85	5.70	Siemens Centaur XP/XPT/Classic

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	23.6	17.7	29.5	2.95	5.90	Siemens Immulite 2000 1st Generation
	ng/ml =	20.3	15.2	25.4	2.55	5.10	Abbott Architect
	ng/ml =	23.0	17.2	28.8	2.90	5.80	Ortho Vitros ECi
	ng/ml =	23.7	17.8	29.6	2.95	5.90	Siemens Dimension
	ng/ml =	24.4	18.3	30.5	3.05	6.10	Cobas E411
	ng/ml =	24.4	18.3	30.5	3.05	6.10	Roche Cobas 6000/8000
	ng/ml =	22.9	17.2	28.6	2.85	5.70	Ortho Vitros 3600/5600/ECi PSA II
	ng/ml =	23.9	17.9	29.9	3.00	6.00	Beckman DXI standardised to Hybritech
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	155	148	162	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	161	153	169	4.00	8.00	Enzymatic
	mmol/l	155	147	163	4.00	8.00	Flame photometry
	mmol/l	155	147	163	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
	mmol/l	151	144	158	3.50	7.00	Colorimetric
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 =	1.07	0.86	1.28	0.11	0.21	Abbott Architect
	µU/ml =	1.36	1.08	1.64	0.14	0.28	bioMerieux VIDAS TSH
	µU/ml =	1.37	1.10	1.64	0.14	0.27	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.31	1.05	1.57	0.13	0.26	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.42	1.14	1.70	0.14	0.28	Siemens Immulite 2000/2500
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Siemens Immulite 1000
	µU/ml =	1.54	1.23	1.85	0.16	0.31	Roche Elecsys

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Thyroid Stimulating Hormone	µU/ml =	1.29	1.04	1.54	0.13	0.25	Beckman Access Fast TSH
	µU/ml =	1.30	1.04	1.56	0.13	0.26	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.31	1.05	1.57	0.13	0.26	Tosoh Series
	µU/ml =	1.25	1.00	1.50	0.13	0.25	Vitros ECi
	µU/ml =	1.57	1.25	1.89	0.16	0.32	Roche Cobas 4000/E411
	µU/ml =	1.55	1.24	1.86	0.16	0.31	Roche Cobas e601/602
	µU/ml =	1.27	1.02	1.52	0.13	0.25	Monobind Inc. ELISA / CLIA
	µU/ml =	1.30	1.04	1.56	0.13	0.26	Beckman DxI 600/800 Access (3rd IS)
	µU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Cobas e402/e801
	µU/ml =	1.28	1.02	1.54	0.13	0.26	Siemens Atellica IM
TIBC	µmol/l	36.6	28.9	44.3	3.85	7.70	Ortho Vitros Microslide Systems
	µg/dl	205	162	248	21.50	43.00	
	µmol/l	38.4	30.3	46.5	4.05	8.10	Removal of excess free iron
	µg/dl	215	169	261	23.00	46.00	
	µmol/l	41.1	32.4	49.8	4.35	8.70	FE+UIBC(saturation with iron)
	µg/dl	230	181	279	24.50	49.00	
	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	39.3	31.0	47.6	4.15	8.30	Calculated from Transferrin
	µg/dl	220	173	267	23.50	47.00	
	µmol/l	48.1	38.0	58.2	5.05	10.10	Randox Direct
	µg/dl	269	212	326	28.50	57.00	
Tobramycin	µmol/l	15.6	12.5	18.7	1.55	3.10	Gravimetric
	µg/ml	7.30	5.85	8.75	0.73	1.45	
Total T3	nmol/l	2.87	2.15	3.59	0.36	0.72	Abbott Architect
	ng/ml	1.87	1.40	2.34	0.24	0.47	
	ng/dl	187	140	234	23.50	47.00	Abbott Architect

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	3.56	2.67	4.45	0.45	0.89	BioMerieux Vidas
	ng/ml	2.32	1.74	2.90	0.29	0.58	
	ng/dl	232	174	290	29.00	58.00	BioMerieux Vidas
	nmol/l	4.11	3.08	5.14	0.52	1.03	Siemens Centaur XP/XPT/Classic
	ng/ml	2.68	2.01	3.35	0.34	0.67	
	ng/dl	268	201	335	33.50	67.00	Siemens Centaur XP/XPT/Classic
	nmol/l	3.65	2.74	4.56	0.46	0.91	Siemens Immulite 2000/2500
	ng/ml	2.38	1.78	2.98	0.30	0.60	
	ng/dl	238	178	298	30.00	60.00	Siemens Immulite 2000/2500
	nmol/l	3.48	2.61	4.35	0.44	0.87	Siemens Immulite 1000
	ng/ml	2.27	1.70	2.84	0.29	0.57	
	ng/dl	227	170	284	28.50	57.00	Siemens Immulite 1000
	nmol/l	3.51	2.63	4.39	0.44	0.88	Beckman DxI800
	ng/ml	2.29	1.71	2.87	0.29	0.58	
	ng/dl	229	171	287	29.00	58.00	Beckman DxI800
	nmol/l	4.01	3.01	5.01	0.50	1.00	Roche Elecsys
	ng/ml	2.61	1.96	3.26	0.33	0.65	
	ng/dl	261	196	326	32.50	65.00	Roche Elecsys
	nmol/l	3.51	2.63	4.39	0.44	0.88	Beckman Access
	ng/ml	2.29	1.71	2.87	0.29	0.58	
	ng/dl	229	171	287	29.00	58.00	Beckman Access
	nmol/l	3.10	2.32	3.88	0.39	0.78	Tosoh Series
	ng/ml	2.02	1.51	2.53	0.26	0.51	
	ng/dl	202	151	253	25.50	51.00	Tosoh Series

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	4.93	3.69	6.17	0.62	1.24	Vitros ECi
	ng/ml	3.21	2.40	4.02	0.41	0.81	
	ng/dl	321	240	402	40.50	81.00	Vitros ECi
	nmol/l	3.93	2.95	4.91	0.49	0.98	Roche Cobas 4000/E411
	ng/ml	2.56	1.92	3.20	0.32	0.64	
	ng/dl	256	192	320	32.00	64.00	Roche Cobas 4000/E411
	nmol/l	3.88	2.91	4.85	0.49	0.97	Roche Cobas e601/602
	ng/ml	2.53	1.89	3.17	0.32	0.64	
	ng/dl	253	189	317	32.00	64.00	Roche Cobas e601/602
	nmol/l	3.69	2.77	4.61	0.46	0.92	Monobind Inc. ELISA / CLIA
	ng/ml	2.40	1.80	3.00	0.30	0.60	
	ng/dl	240	180	300	30.00	60.00	Monobind Inc. ELISA / CLIA
	nmol/l	4.07	3.06	5.08	0.51	1.01	Siemens Atellica IM
	ng/ml	2.65	1.99	3.31	0.33	0.66	
	ng/dl	265	199	331	33.00	66.00	Siemens Atellica IM
	nmol/l	4.22	3.16	5.28	0.53	1.06	Roche Cobas e402/e801
	ng/ml	2.75	2.06	3.44	0.35	0.69	
	ng/dl	275	206	344	34.50	69.00	Roche Cobas e402/e801
Total T4	nmol/l	235	176	294	29.50	59.00	Abbott Architect
	µg/dl	18.3	13.7	22.9	2.30	4.60	
	ng/ml	183	137	229	23.00	46.00	Abbott Architect
	nmol/l	219	164	274	27.50	55.00	BioMerieux Vidas
	µg/dl	17.1	12.8	21.4	2.15	4.30	
	ng/ml	171	128	214	21.50	43.00	BioMerieux Vidas

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Total T4	nmol/l	239	179	299	30.00	60.00	Siemens Centaur XP/XPT/Classic
	µg/dl	18.6	14.0	23.2	2.30	4.60	
	ng/ml	186	140	232	23.00	46.00	Siemens Centaur XP/XPT/Classic
	nmol/l	207	155	259	26.00	52.00	Siemens Immulite 2000/2500
	µg/dl	16.1	12.1	20.1	2.00	4.00	
	ng/ml	161	121	201	20.00	40.00	Siemens Immulite 2000/2500
	nmol/l	220	165	275	27.50	55.00	Siemens Immulite 1000
	µg/dl	17.2	12.9	21.5	2.15	4.30	
	ng/ml	172	129	215	21.50	43.00	Siemens Immulite 1000
	nmol/l	260	195	325	32.50	65.00	Beckman DxI800
	µg/dl	20.3	15.2	25.4	2.55	5.10	
	ng/ml	203	152	254	25.50	51.00	Beckman DxI800
	nmol/l	209	156	262	26.50	53.00	Roche Elecsys
	µg/dl	16.3	12.2	20.4	2.05	4.10	
	ng/ml	163	122	204	20.50	41.00	Roche Elecsys
	nmol/l	255	191	319	32.00	64.00	Beckman Access
	µg/dl	19.9	14.9	24.9	2.50	5.00	
	ng/ml	199	149	249	25.00	50.00	Beckman Access
	nmol/l	232	174	290	29.00	58.00	Vitros ECi
	µg/dl	18.1	13.6	22.6	2.25	4.50	
	ng/ml	181	136	226	22.50	45.00	Vitros ECi
	nmol/l	203	152	254	25.50	51.00	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	214	160	268	27.00	54.00	Roche Cobas e601/602
	µg/dl	16.7	12.5	20.9	2.10	4.20	
	ng/ml	167	125	209	21.00	42.00	Roche Cobas e601/602

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	203	152	254	25.50	51.00	Monobind Inc. ELISA / CLIA
	µg/dl	15.8	11.9	19.7	1.95	3.90	
	ng/ml	158	119	197	19.50	39.00	Monobind Inc. ELISA / CLIA
	nmol/l	260	195	325	32.50	65.00	Siemens Centaur CP
	µg/dl	20.3	15.2	25.4	2.55	5.10	
	ng/ml	203	152	254	25.50	51.00	Siemens Centaur CP
	nmol/l	252	189	315	31.50	63.00	Siemens Atellica IM
	µg/dl	19.7	14.7	24.7	2.50	5.00	
	ng/ml	197	147	247	25.00	50.00	Siemens Atellica IM
	nmol/l	220	165	275	27.50	55.00	Roche Cobas e402/e801
	µg/dl	17.2	12.9	21.5	2.15	4.30	
	ng/ml	172	129	215	21.50	43.00	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	2.85	2.39	3.31	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.84	2.38	3.30	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	251	211	291	20.00	40.00	
	mmol/l	2.86	2.40	3.32	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.83	2.38	3.28	0.23	0.45	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	250	211	289	19.50	39.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	252	212	292	20.00	40.00	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	3.29	2.76	3.82	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	291	244	338	23.50	47.00	
UIBC	µmol/l	5.30	4.35	6.25	0.48	0.95	TIBC - FE
	µg/dl	29.6	24.3	34.9	2.65	5.30	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.89	7.73	10.1	0.58	1.16	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.34	8.13	10.6	0.61	1.21	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Reduction methods
	mg/dl	9.49	8.25	10.7	0.62	1.24	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.42	8.20	10.6	0.61	1.22	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.11	10.6	0.62	1.23	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.29	8.08	10.5	0.61	1.21	
	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	19.0	16.2	21.8	1.40	2.80	Ortho Vitros Microslide Systems
	mg/dl	114	97.4	131	8.30	16.60	
	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	20.1	17.0	23.2	1.55	3.10	Urease kinetic
	mg/dl	121	102	140	9.50	19.00	

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METHOD

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.2	16.4	22.0	1.40	2.80	Urease hypochlorite
	mg/dl	115	98.6	131	8.20	16.40	
	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	
Vitamin B12	pmol/l	231	185	277	23.00	46.00	Roche Cobas e402/e801
	pg/ml	313	251	375	31.00	62.00	
Zinc	µmol/l	34.3	27.4	41.2	3.45	6.90	Atomic absorption
	µg/dl	224	179	269	22.50	45.00	
	µmol/l	34.4	27.5	41.3	3.45	6.90	Colorimetric with deproteinisation
	µg/dl	225	180	270	22.50	45.00	
	µmol/l	35.3	28.2	42.4	3.55	7.10	Colorimetric without deprot.
	µg/dl	231	184	278	23.50	47.00	

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METHOD (Elec.)

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
alpha-1-globulin		7.6	5.8	9.4	0.91	1.82	% of total Protein (Beckman Capillary)
alpha-2-globulin		11.4	8.7	14.1	1.37	2.74	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		56.2	50.6	61.8	2.80	5.60	% of total Protein (Beckman Capillary)
beta-globulin		13.3	10.1	16.5	1.60	3.20	% of total Protein (Beckman Capillary)
gamma-globulin		11.5	8.7	14.3	1.38	2.76	% of total Protein (Beckman Capillary)

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			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	
	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Purple
	g/dl	2.87	2.44	3.30	0.22	0.43	
Alkaline Phosphatase	U/l	326	277	375	24.50	49.00	Diethanolamine buffer DEA 37°C
	U/l	322	274	370	24.00	48.00	AMP optimised to IFCC 37°C
	U/l	321	273	369	24.00	48.00	AMP non-optimised 37°C
	U/l	305	259	351	23.00	46.00	Colorimetric 37°C
ALT (GPT)	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	263	224	302	19.50	39.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	336	285	387	25.50	51.00	Abbott Architect IFCC Cal. 37°C
	U/l	325	277	373	24.00	48.00	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	42.2	33.7	50.7	4.25	8.50	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.7	11.7	17.7	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	31.1	24.5	37.7	3.30	6.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.82	1.43	2.21	0.20	0.39	
	µmol/l	31.6	24.9	38.3	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	31.4	24.8	38.0	3.30	6.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.84	1.45	2.23	0.20	0.39	

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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	87.5	69.1	106	9.20	18.40	Diazo with Dichloroaniline (DCA)
	mg/dl	5.12	4.04	6.20	0.54	1.08	
	µmol/l	88.4	69.8	107	9.30	18.60	Diazo with Sulphanilic Acid
	mg/dl	5.17	4.08	6.26	0.55	1.09	
	µmol/l	86.1	68.0	104	9.05	18.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.04	3.98	6.10	0.53	1.06	
	µmol/l	89.0	70.3	108	9.35	18.70	Diazonium ion
	mg/dl	5.21	4.11	6.31	0.55	1.10	
Calcium	mmol/l	3.33	2.99	3.67	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	0.65	1.30	
	mmol/l	3.30	2.97	3.63	0.17	0.33	Arsenazo III
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.49	6.51	8.47	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	251	327	19.00	38.00	
	mmol/l	7.55	6.56	8.54	0.50	0.99	Cholesterol Oxidase - IDMS
	mg/dl	291	253	329	19.00	38.00	
	mmol/l	7.53	6.55	8.51	0.49	0.98	Cholesterol Dehydrogenase
	mg/dl	291	253	329	19.00	38.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	6113	4891	7335	611.00	1222.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	581	477	685	52.00	104.00	CK-NAC serum start (DGKC) 37°C
	U/l	598	490	706	54.00	108.00	CK-NAC substrate start (DGKC) 37°C
	U/l	600	492	708	54.00	108.00	CK-NAC (IFCC) 37°C
	U/l	598	491	705	53.50	107.00	Abbott CK-NAC (IFCC) 37°C
Creatinine	µmol/l	436	349	523	43.50	87.00	Alkaline picrate with deproteinization
	mg/dl	4.93	3.94	5.92	0.50	0.99	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	436	349	523	43.50	87.00	Alkaline picrate no deproteinization
	mg/dl	4.93	3.94	5.92	0.50	0.99	
	µmol/l	427	342	512	42.50	85.00	Enzymatic UV method
	mg/dl	4.83	3.86	5.80	0.49	0.97	
	µmol/l	430	344	516	43.00	86.00	Jaffe rate blanked
	mg/dl	4.86	3.89	5.83	0.49	0.97	
	µmol/l	433	347	519	43.00	86.00	IDMS traceable
	mg/dl	4.89	3.92	5.86	0.49	0.97	
Free T4	pmol/l	51.4	38.6	64.2	6.40	12.80	Abbott Architect
	ng/dl	4.01	3.01	5.01	0.50	1.00	
	pg/ml	40.1	30.1	50.1	5.00	10.00	Abbott Architect
gamma-GT	U/l	171	145	197	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	164	140	188	12.00	24.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	170	144	196	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	171	145	197	13.00	26.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose dehydrogenase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	
	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
HDL - Cholesterol	mmol/l	2.65	2.25	3.05	0.20	0.40	Direct HDL PPD
	mg/dl	102	86.9	117	7.55	15.10	
	mmol/l	2.54	2.16	2.92	0.19	0.38	Direct HDL Immunoseparation
	mg/dl	98.0	83.4	113	7.30	14.60	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.64	2.24	3.04	0.20	0.40	Direct Clearance Method
	mg/dl	102	86.5	118	7.75	15.50	
	mmol/l	2.60	2.21	2.99	0.20	0.39	HDL - Ultra
	mg/dl	100	85.3	115	7.35	14.70	
Iron	µmol/l	38.7	31.8	45.6	3.45	6.90	Colorimetric with ppt.
	µg/dl	216	178	254	19.00	38.00	
	µmol/l	38.1	31.2	45.0	3.45	6.90	Colorimetric without ppt.
	µg/dl	213	174	252	19.50	39.00	
Lactate	mmol/l	5.73	4.70	6.76	0.52	1.03	Colorimetric Lactate Oxidase
	mg/dl	51.6	42.3	60.9	4.65	9.30	
LD (LDH)	U/l	379	322	436	28.50	57.00	L->P 37°C
	U/l	377	321	433	28.00	56.00	L->P IFCC 37°C
Lipase	U/l	65	52	78	6.50	13.00	Other Colorimetric 37°C
Lithium	mmol/l	1.99	1.76	2.22	0.12	0.23	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	Arsenazo III
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Enzymatic
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Osmolality	mOsm/kg	345	276	414	34.50	69.00	Calculated
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.25	6.17	8.33	0.54	1.08	
	mmol/l	2.33	1.98	2.68	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.22	6.14	8.30	0.54	1.08	

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.08	5.59	6.57	0.25	0.49	ISE method - indirect
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction end point
	g/dl	4.75	3.80	5.70	0.48	0.95	
	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction kinetic
	g/dl	4.75	3.80	5.70	0.48	0.95	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.03	0.82	1.24	0.10	0.21	Abbott Architect
TIBC	µmol/l	42.0	33.2	50.8	4.40	8.80	FE+UIBC(saturation with iron)
	µg/dl	235	186	284	24.50	49.00	
	µmol/l	41.0	32.4	49.6	4.30	8.60	Calculated from Transferrin
	µg/dl	229	181	277	24.00	48.00	
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	2.90	2.43	3.37	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	257	215	299	21.00	42.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	216	300	21.00	42.00	
	mmol/l	2.85	2.40	3.30	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	252	212	292	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	8.15	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	0.57	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.53	8.28	10.8	0.63	1.25	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.3	17.3	23.3	1.50	3.00	Urease end point
	mg/dl	122	104	140	9.00	18.00	
	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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ABX Pentra 400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.9	24.6	33.2	2.15	4.30	Bromocresol Green
	g/dl	2.89	2.46	3.32	0.22	0.43	
ALT (GPT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	168	134	202	17.00	34.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.4	22.4	34.4	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.66	1.31	2.01	0.18	0.35	
Bilirubin Total	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	93.7	74.0	113	9.85	19.70	Diazo with Sulphanilic Acid
	mg/dl	5.48	4.33	6.63	0.58	1.15	
Calcium	mmol/l	3.46	3.11	3.81	0.18	0.35	Arsenazo III
	mg/dl	13.9	12.5	15.3	0.70	1.40	
Cholesterol	mmol/l	7.74	6.74	8.74	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	299	260	338	19.50	39.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE direct
CK Total	U/l	578	474	682	52.00	104.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	397	318	476	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.49	3.59	5.39	0.45	0.90	
	µmol/l	391	313	469	39.00	78.00	Jaffe rate blanked
	mg/dl	4.42	3.54	5.30	0.44	0.88	
gamma-GT	U/l	169	144	194	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	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	2.70	2.29	3.11	0.21	0.41	Direct HDL PPD
	mg/dl	104	88.4	120	7.80	15.60	
	mmol/l	2.44	2.08	2.80	0.18	0.36	HDL - Ultra
	mg/dl	94.2	80.3	108	6.95	13.90	
Iron	µmol/l	37.0	30.3	43.7	3.35	6.70	Colorimetric without ppt.
	µg/dl	207	169	245	19.00	38.00	
LD (LDH)	U/l	394	335	453	29.50	59.00	L->P IFCC 37°C
Lipase	U/l	55	44	66	5.50	11.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.69	1.48	1.90	0.11	0.21	Xylidyl Blue
	mg/dl	4.11	3.60	4.62	0.26	0.51	
Phosphate Inorganic	mmol/l	2.59	2.21	2.97	0.19	0.38	Phosphomolybdate UV
	mg/dl	8.03	6.85	9.21	0.59	1.18	
Potassium	mmol/l	5.95	5.47	6.43	0.24	0.48	ISE method - direct
Protein Total	g/l	49.4	39.5	59.3	4.95	9.90	Biuret reaction end point
	g/dl	4.94	3.95	5.93	0.50	0.99	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.82	2.37	3.27	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	250	210	290	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	7.98	10.4	0.60	1.19	

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ABX Pentra 400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.44	8.22	10.7	0.61	1.22	
Urea	mmol/l	18.4	15.7	21.1	1.35	2.70	Urease kinetic
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.4	15.6	21.2	1.40	2.80	BUN
	mg/dl	51.6	43.9	59.3	3.85	7.70	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Green
	g/dl	2.87	2.44	3.30	0.22	0.43	
	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Purple
	g/dl	2.87	2.44	3.30	0.22	0.43	
Alkaline Phosphatase	U/l	354	301	407	26.50	53.00	AMP non-optimised 37°C
	U/l	369	314	424	27.50	55.00	AMP optimised to IFCC 37°C
	U/l	358	304	412	27.00	54.00	Beckman (Extinction Coefficient) 37°C
ALT (GPT)	U/l	131	105	157	13.00	26.00	Beckman (Extinction Coefficient) 37°C
	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	255	217	293	19.00	38.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	288	245	331	21.50	43.00	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	304	258	350	23.00	46.00	Beckman Synchron AMY7 37°C
	U/l	299	254	344	22.50	45.00	Other - blocked pNPG7 37°C
	U/l	298	253	343	22.50	45.00	Other 2-chloro-pNPG3 37°C
	U/l	301	256	346	22.50	45.00	pNP Maltotrioside substrates 37°C
AST (GOT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	41.5	33.2	49.8	4.15	8.30	Enzymatic Colorimetric
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	24.2	19.1	29.3	2.55	5.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	23.4	18.5	28.3	2.45	4.90	Diazo with Sulphanilic Acid
	mg/dl	1.37	1.08	1.66	0.15	0.29	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	23.3	18.4	28.2	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.36	1.08	1.64	0.14	0.28	
Bilirubin Total	µmol/l	87.2	68.9	106	9.15	18.30	Diazo with Dichloroaniline (DCA)
	mg/dl	5.10	4.03	6.17	0.54	1.07	
	µmol/l	85.9	67.9	104	9.00	18.00	Diazo with Sulphanilic Acid
	mg/dl	5.03	3.97	6.09	0.53	1.06	
	µmol/l	87.0	68.7	105	9.15	18.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.09	4.02	6.16	0.54	1.07	
	µmol/l	86.4	68.3	105	9.05	18.10	DPD (Beckman AU)
	mg/dl	5.05	4.00	6.10	0.53	1.05	
	µmol/l	84.7	66.9	103	8.90	17.80	Oxidation to Biliverdin/Vanadate
	mg/dl	4.95	3.91	5.99	0.52	1.04	
Calcium	mmol/l	3.37	3.03	3.71	0.17	0.34	Arsenazo III
	mg/dl	13.5	12.1	14.9	0.70	1.40	
	mmol/l	3.40	3.06	3.74	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.6	12.3	14.9	0.65	1.30	
	mmol/l	3.37	3.03	3.71	0.17	0.34	Ion selective electrode
	mg/dl	13.5	12.1	14.9	0.70	1.40	
Cholesterol	mmol/l	7.82	6.80	8.84	0.51	1.02	Cholesterol Dehydrogenase
	mg/dl	302	262	342	20.00	40.00	
	mmol/l	7.69	6.69	8.69	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	297	258	336	19.50	39.00	
	mmol/l	7.82	6.80	8.84	0.51	1.02	Cholesterol Oxidase - IDMS
	mg/dl	302	262	342	20.00	40.00	

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RANDOX

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholinesterase	U/l	4926	3941	5911	492.50	985.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	612	502	722	55.00	110.00	Beckman CK-NAC (Extinction Coeff) 37°C
	U/l	623	511	735	56.00	112.00	CK-NAC (IFCC) 37°C
	U/l	625	513	737	56.00	112.00	Monothioglycerol 37°C
Creatinine	µmol/l	402	322	482	40.00	80.00	Alkaline picrate no deproteinization
	mg/dl	4.54	3.64	5.44	0.45	0.90	
	µmol/l	391	313	469	39.00	78.00	Alkaline picrate with deproteinization
	mg/dl	4.42	3.54	5.30	0.44	0.88	
	µmol/l	438	350	526	44.00	88.00	Creatinine PAP method
	mg/dl	4.95	3.96	5.94	0.50	0.99	
	µmol/l	421	337	505	42.00	84.00	Enzymatic UV method
	mg/dl	4.76	3.81	5.71	0.48	0.95	
	µmol/l	405	324	486	40.50	81.00	IDMS traceable
	mg/dl	4.58	3.66	5.50	0.46	0.92	
	µmol/l	396	317	475	39.50	79.00	Jaffe rate blanked
	mg/dl	4.47	3.58	5.36	0.45	0.89	
	µmol/l	407	326	488	40.50	81.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.60	3.68	5.52	0.46	0.92	
	µmol/l	405	324	486	40.50	81.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.58	3.66	5.50	0.46	0.92	
D-3-Hydroxybutyrate	mmol/l	1.17	1.00	1.35	0.09	0.18	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	172	146	198	13.00	26.00	Beckman Szasz (Extinction Coeff) 37°C
	U/l	168	143	193	12.50	25.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	172	146	198	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	175	149	201	13.00	26.00	Gamma glutamyl-4-nitroanilide 37°C
GLDH	U/l	30	24	36	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose dehydrogenase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	GOD/02-Beckman method
	mg/dl	290	247	333	21.50	43.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	2.58	2.19	2.97	0.20	0.39	Direct Clearance Method
	mg/dl	99.6	84.5	115	7.55	15.10	
	mmol/l	2.60	2.21	2.99	0.20	0.39	Direct HDL Immunoseparation
	mg/dl	100	85.3	116	7.55	15.10	
	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	2.68	2.28	3.08	0.20	0.40	HDL - Ultra
	mg/dl	103	88.0	118	7.50	15.00	
Iron	µmol/l	37.4	30.7	44.1	3.35	6.70	Colorimetric with ppt.
	µg/dl	209	172	246	18.50	37.00	
	µmol/l	37.1	30.4	43.8	3.35	6.70	Colorimetric without ppt.
	µg/dl	207	170	244	18.50	37.00	
Lactate	mmol/l	5.37	4.40	6.34	0.49	0.97	Colorimetric Lactate Oxidase
	mg/dl	48.4	39.6	57.2	4.40	8.80	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	385	327	443	29.00	58.00	L to P Beckman (Extinction Coeff) 37°C
	U/l	385	327	443	29.00	58.00	L->P IFCC 37°C
	U/l	378	321	435	28.50	57.00	L->P 37°C
	U/l	803	683	923	60.00	120.00	P->L German methods 37°C
	U/l	847	720	974	63.50	127.00	P->L Scandinavian & Dutch 37°C
Lipase	U/l	69	55	83	7.00	14.00	Other Colorimetric 37°C
Lithium	mmol/l	2.02	1.78	2.26	0.12	0.24	Ion selective electrode
	mg/dl	1.40	1.24	1.56	0.08	0.16	
	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	1.78	1.57	1.99	0.11	0.21	Calmagite
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	mmol/l	1.71	1.50	1.92	0.11	0.21	Methylthymol blue
	mg/dl	4.16	3.65	4.67	0.26	0.51	
	mmol/l	1.78	1.57	1.99	0.11	0.21	Xylidyl Blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Osmolality	mOsm/kg	355	284	426	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.35	2.00	2.70	0.18	0.35	Beckman PHOSm (365nm)
	mg/dl	7.29	6.20	8.38	0.55	1.09	
	mmol/l	2.33	1.98	2.68	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.22	6.14	8.30	0.54	1.08	
	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.32	6.23	8.41	0.55	1.09	
Potassium	mmol/l	6.08	5.59	6.57	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.8	36.6	55.0	4.60	9.20	Biuret reaction end point
	g/dl	4.58	3.66	5.50	0.46	0.92	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	46.3	37.0	55.6	4.65	9.30	Biuret reaction kinetic
	g/dl	4.63	3.70	5.56	0.47	0.93	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.7	33.7	51.7	4.50	9.00	Direct Colorimetric
	µg/dl	239	188	290	25.50	51.00	
	µmol/l	42.9	33.9	51.9	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	240	190	290	25.00	50.00	
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	2.73	2.29	3.17	0.22	0.44	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	242	203	281	19.50	39.00	
	mmol/l	2.79	2.34	3.24	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	247	207	287	20.00	40.00	
	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	2.76	2.32	3.20	0.22	0.44	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	244	205	283	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase 293nm UV
	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 no ascorbate oxidase
	mg/dl	9.59	8.35	10.8	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	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	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. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.7	17.6	23.8	1.55	3.10	Beckman-Conductivity
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.3	17.3	23.3	1.50	3.00	Urease end point
	mg/dl	122	104	140	9.00	18.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease kinetic
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
	mg/dl	57.3	48.7	65.9	4.30	8.60	
Zinc	µmol/l	31.6	25.3	37.9	3.15	6.30	Colorimetric with deproteinisation
	µg/dl	206	165	247	20.50	41.00	
	µmol/l	34.1	27.3	40.9	3.40	6.80	Colorimetric without deprot.
	µg/dl	223	178	268	22.50	45.00	

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Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.7	25.2	34.2	2.25	4.50	Bromocresol Purple
	g/dl	2.97	2.52	3.42	0.23	0.45	
Alkaline Phosphatase	U/l	341	289	393	26.00	52.00	AMP optimised to IFCC 37°C
	U/l	330	280	380	25.00	50.00	AMP non-optimised 37°C
ALT (GPT)	U/l	126	101	151	12.50	25.00	Tris buffer without P5P 37°C
	U/l	131	105	157	13.00	26.00	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	318	270	366	24.00	48.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	311	264	358	23.50	47.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	137	110	164	13.50	27.00	Tris buffer without P5P 37°C
	U/l	147	118	176	14.50	29.00	Beckman Mod. IFCC Ref. without P5P 37°C
Bicarbonate	mmol/l	15.3	12.2	18.4	1.55	3.10	Differential rate pH change
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.02	0.807	1.23	0.11	0.21	
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	
Calcium	mmol/l	3.33	2.99	3.67	0.17	0.34	Ion selective electrode
	mg/dl	13.3	12.0	14.6	0.65	1.30	
Cholesterol	mmol/l	7.68	6.68	8.68	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	258	334	19.00	38.00	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholinesterase	U/l	5072	4058	6086	507.00	1014.00	Colorimetric Butyrylthiocholine 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	612	502	722	55.00	110.00	CK-NAC (IFCC) 37°C
	U/l	614	504	724	55.00	110.00	Monothioglycerol 37°C
Creatinine	µmol/l	418	335	501	41.50	83.00	Alkaline picrate no deproteinization
	mg/dl	4.72	3.79	5.65	0.47	0.93	
	µmol/l	423	339	507	42.00	84.00	Jaffe rate blanked
	mg/dl	4.78	3.83	5.73	0.48	0.95	
	µmol/l	429	343	515	43.00	86.00	IDMS traceable
	mg/dl	4.85	3.88	5.82	0.49	0.97	
gamma-GT	U/l	136	115	157	10.50	21.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	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	2.83	2.40	3.26	0.22	0.43	HDL - Ultra
	mg/dl	109	92.6	125	8.20	16.40	
Iron	µmol/l	36.2	29.7	42.7	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	166	238	18.00	36.00	
Lactate	mmol/l	5.25	4.31	6.19	0.47	0.94	Colorimetric Lactate Oxidase
	mg/dl	47.3	38.8	55.8	4.25	8.50	
LD (LDH)	U/l	968	823	1113	72.50	145.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lipase	U/l	66	53	79	6.50	13.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Calmagite
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.40	2.04	2.76	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.44	6.32	8.56	0.56	1.12	

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Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.9	37.5	56.3	4.70	9.40	Biuret reaction end point
	g/dl	4.69	3.75	5.63	0.47	0.94	
	g/l	45.0	36.0	54.0	4.50	9.00	Biuret reaction kinetic
	g/dl	4.50	3.60	5.40	0.45	0.90	
Sodium	mmol/l	157	149	165	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	2.81	2.36	3.26	0.23	0.45	L/G Kinase EP. no correction
	mg/dl	249	209	289	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	9.22	8.03	10.4	0.60	1.19	
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Beckman-Conductivity
	mg/dl	117	99.2	135	8.90	17.80	
	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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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.5	26.7	36.3	2.40	4.80	Bromocresol Green
	g/dl	3.15	2.67	3.63	0.24	0.48	
Alkaline Phosphatase	U/l	344	292	396	26.00	52.00	AMP optimised to IFCC 37°C
	U/l	268	227	309	20.50	41.00	AMP optimised to IFCC 30°C
	U/l	220	187	253	16.50	33.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	142	113	171	14.50	29.00	Tris buffer without P5P 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer without P5P 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
	U/l	105	85	125	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
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	
	µmol/l	82.7	65.3	100	8.70	17.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.84	3.82	5.86	0.51	1.02	
Calcium	mmol/l	3.12	2.81	3.43	0.16	0.31	Arsenazo III
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Cholesterol	mmol/l	7.50	6.52	8.48	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	290	252	328	19.00	38.00	
CK Total	U/l	618	507	729	55.50	111.00	CK-NAC (IFCC) 37°C
	U/l	387	317	457	35.00	70.00	CK-NAC (IFCC) 30°C
	U/l	263	215	311	24.00	48.00	CK-NAC (IFCC) 25°C

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	390	312	468	39.00	78.00	Alkaline picrate no deproteinization
	mg/dl	4.41	3.53	5.29	0.44	0.88	
	µmol/l	403	322	484	40.50	81.00	Jaffe rate blanked
	mg/dl	4.55	3.64	5.46	0.46	0.91	
gamma-GT	U/l	177	150	204	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	118	160	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	93	125	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
HDL - Cholesterol	mmol/l	2.47	2.10	2.84	0.19	0.37	Direct Clearance Method
	mg/dl	95.3	81.1	110	7.10	14.20	
Phosphate Inorganic	mmol/l	2.59	2.20	2.98	0.20	0.39	Phosphomolybdate UV
	mg/dl	8.03	6.82	9.24	0.61	1.21	
Protein Total	g/l	47.8	38.2	57.4	4.80	9.60	Biuret reaction end point
	g/dl	4.78	3.82	5.74	0.48	0.96	
Triglycerides	mmol/l	2.76	2.32	3.20	0.22	0.44	Lipase/GPO-PAP no correction
	mg/dl	244	205	283	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	8.37	10.9	0.62	1.24	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	8.13	10.6	0.61	1.23	
	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.63	8.37	10.9	0.63	1.26	
Urea	mmol/l	17.9	15.2	20.6	1.35	2.70	Urease end point
	mg/dl	108	91.4	125	8.30	16.60	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	18.9	16.1	21.7	1.40	2.80	BUN
	mg/dl	53.0	45.1	60.9	3.95	7.90	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			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	
ALT (GPT)	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37°C
	U/l	110	87	133	11.50	23.00	Tris buffer without P5P 30°C
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37°C
	U/l	108	87	129	10.50	21.00	Tris buffer without P5P 30°C
	U/l	76	61	91	7.50	15.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	84.1	66.4	102	8.85	17.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.92	3.88	5.96	0.52	1.04	
Cholesterol	mmol/l	7.69	6.69	8.69	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	297	258	336	19.50	39.00	
	mmol/l	7.39	6.43	8.35	0.48	0.96	Cholesterol Oxidase - IDMS
	mg/dl	285	248	322	18.50	37.00	
Creatinine	µmol/l	370	296	444	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.18	3.34	5.02	0.42	0.84	
	µmol/l	393	314	472	39.50	79.00	Jaffe rate blanked
	mg/dl	4.44	3.55	5.33	0.45	0.89	
gamma-GT	U/l	178	151	205	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	140	119	161	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	93	127	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
LD (LDH)	U/l	827	703	951	62.00	124.00	P->L German methods 37°C
	U/l	597	508	686	44.50	89.00	P->L German methods 30°C
	U/l	419	356	482	31.50	63.00	P->L German methods 25°C
Phosphate Inorganic	mmol/l	2.53	2.15	2.91	0.19	0.38	Phosphomolybdate UV
	mg/dl	7.84	6.67	9.01	0.59	1.17	
Protein Total	g/l	48.1	38.4	57.8	4.85	9.70	Biuret reaction end point
	g/dl	4.81	3.84	5.78	0.49	0.97	
Triglycerides	mmol/l	2.81	2.36	3.26	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	249	209	289	20.00	40.00	
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	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	8.06	10.5	0.61	1.21	
Urea	mmol/l	18.2	15.5	20.9	1.35	2.70	Urease end point
	mg/dl	109	93.2	125	7.90	15.80	
	mmol/l	19.0	16.2	21.8	1.40	2.80	Urease kinetic
	mg/dl	114	97.4	131	8.30	16.60	
	mmol/l	19.0	16.2	21.8	1.40	2.80	BUN
	mg/dl	53.3	45.3	61.3	4.00	8.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.7	26.1	35.3	2.30	4.60	Bromocresol Green
	g/dl	3.07	2.61	3.53	0.23	0.46	
ALT (GPT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
	U/l	106	84	128	11.00	22.00	Tris buffer without P5P 30°C
	U/l	81	64	98	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	157	125	189	16.00	32.00	Tris buffer without P5P 37°C
	U/l	106	85	127	10.50	21.00	Tris buffer without P5P 30°C
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	28.9	22.8	35.0	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.69	1.33	2.05	0.18	0.36	
Bilirubin Total	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	81.2	64.2	98.2	8.50	17.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.75	3.76	5.74	0.50	0.99	
Calcium	mmol/l	3.33	3.00	3.66	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	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	
Cholesterol	mmol/l	7.51	6.54	8.48	0.49	0.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	290	252	328	19.00	38.00	
	mmol/l	7.57	6.59	8.55	0.49	0.98	Cholesterol Oxidase - IDMS
	mg/dl	292	254	330	19.00	38.00	

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	110	102	118	4.00	8.00	Colorimetric
	mmol/l	111	102	120	4.50	9.00	ISE direct
Cholinesterase	U/l	5033	4026	6040	503.50	1007.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	572	469	675	51.50	103.00	CK-NAC substrate start (DGKC) 37°C
	U/l	358	294	422	32.00	64.00	CK-NAC substrate start (DGKC) 30°C
	U/l	243	199	287	22.00	44.00	CK-NAC substrate start (DGKC) 25°C
	U/l	596	489	703	53.50	107.00	CK-NAC (IFCC) 37°C
	U/l	373	306	440	33.50	67.00	CK-NAC (IFCC) 30°C
	U/l	253	208	298	22.50	45.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	388	310	466	39.00	78.00	Alkaline picrate no deproteinization
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	413	330	496	41.50	83.00	Creatinine PAP method
	mg/dl	4.67	3.73	5.61	0.47	0.94	
	µmol/l	379	303	455	38.00	76.00	Jaffe rate blanked
	mg/dl	4.28	3.42	5.14	0.43	0.86	
	µmol/l	383	306	460	38.50	77.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.33	3.46	5.20	0.44	0.87	
gamma-GT	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	Glucose oxidase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.20	2.72	3.68	0.24	0.48	HDL - Ultra
	mg/dl	124	105	143	9.50	19.00	

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	34.0	27.9	40.1	3.05	6.10	Colorimetric with ppt.
	µg/dl	190	156	224	17.00	34.00	
	µmol/l	34.8	28.6	41.0	3.10	6.20	Colorimetric without ppt.
	µg/dl	195	160	230	17.50	35.00	
LD (LDH)	U/l	702	596	808	53.00	106.00	P->L Scandinavian & Dutch 37°C
	U/l	507	430	584	38.50	77.00	P->L Scandinavian & Dutch 30°C
	U/l	356	302	410	27.00	54.00	P->L Scandinavian & Dutch 25°C
	U/l	706	600	812	53.00	106.00	P->L German methods 37°C
	U/l	510	433	587	38.50	77.00	P->L German methods 30°C
	U/l	358	304	412	27.00	54.00	P->L German methods 25°C
	U/l	737	627	847	55.00	110.00	P->L SFBC 37°C
	U/l	532	453	611	39.50	79.00	P->L SFBC 30°C
	U/l	374	318	430	28.00	56.00	P->L SFBC 25°C
Magnesium	mmol/l	1.92	1.69	2.15	0.12	0.23	Calmagite
	mg/dl	4.67	4.11	5.23	0.28	0.56	
Phosphate Inorganic	mmol/l	2.39	2.04	2.74	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.41	6.32	8.50	0.55	1.09	
Potassium	mmol/l	5.95	5.47	6.43	0.24	0.48	ISE method - direct
Protein Total	g/l	51.1	40.9	61.3	5.10	10.20	Biuret reaction end point
	g/dl	5.11	4.09	6.13	0.51	1.02	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.79	2.34	3.24	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	247	207	287	20.00	40.00	
UIBC	µmol/l	2.40	1.97	2.83	0.22	0.43	Direct Colorimetric
	µg/dl	13.4	11.0	15.8	1.20	2.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	8.23	10.7	0.62	1.23	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	8.18	10.6	0.61	1.21	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.49	8.27	10.7	0.61	1.22	
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.8	27.1	36.5	2.35	4.70	Bromocresol Green
	g/dl	3.18	2.71	3.65	0.24	0.47	
	g/l	31.2	26.6	35.8	2.30	4.60	Turbidimetric Assays
	g/dl	3.12	2.66	3.58	0.23	0.46	
Alkaline Phosphatase	U/l	314	267	361	23.50	47.00	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	314	267	361	23.50	47.00	AMP optimised to IFCC 37°C
	U/l	245	208	282	18.50	37.00	AMP optimised to IFCC 30°C
	U/l	201	171	231	15.00	30.00	AMP optimised to IFCC 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	126	101	151	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	75	111	9.00	18.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	274	233	315	20.50	41.00	Immunoinhibition EPS substrate 37°C
	U/l	265	225	305	20.00	40.00	Roche EPS Liquid 37°C
Amylase Total	U/l	294	250	338	22.00	44.00	pNP Maltotrioside substrates 37°C
	U/l	290	247	333	21.50	43.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	288	245	331	21.50	43.00	Roche liquid stable pNPG7 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	286	243	329	21.50	43.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	56	82	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	30.4	24.0	36.8	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
	µmol/l	30.8	24.4	37.2	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.80	1.43	2.17	0.19	0.37	
	µmol/l	30.7	24.3	37.1	3.20	6.40	Roche DPD JG standardised
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	30.6	24.1	37.1	3.25	6.50	Roche DPD Doumas standardised
	mg/dl	1.79	1.41	2.17	0.19	0.38	
Bilirubin Total	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazo with Dichloroaniline (DCA)
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	79.7	62.9	96.5	8.40	16.80	Diazo with Sulphanilic Acid
	mg/dl	4.66	3.68	5.64	0.49	0.98	
	µmol/l	79.0	62.4	95.6	8.30	16.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	79.6	62.9	96.3	8.35	16.70	Diazonium ion
	mg/dl	4.66	3.68	5.64	0.49	0.98	
Calcium	mmol/l	3.37	3.03	3.71	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.5	12.1	14.9	0.70	1.40	
	mmol/l	3.39	3.05	3.73	0.17	0.34	Arsenazo III
	mg/dl	13.6	12.2	15.0	0.70	1.40	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.37	3.04	3.70	0.17	0.33	NM-BAPTA
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	7.48	6.51	8.45	0.49	0.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	251	327	19.00	38.00	
	mmol/l	7.52	6.54	8.50	0.49	0.98	Cholesterol Oxidase - IDMS
	mg/dl	290	252	328	19.00	38.00	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
Cholinesterase	U/l	5199	4159	6239	520.00	1040.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	574	471	677	51.50	103.00	CK-NAC serum start (DGKC) 37°C
	U/l	359	295	423	32.00	64.00	CK-NAC serum start (DGKC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC serum start (DGKC) 25°C
	U/l	580	475	685	52.50	105.00	CK-NAC substrate start (DGKC) 37°C
	U/l	363	297	429	33.00	66.00	CK-NAC substrate start (DGKC) 30°C
	U/l	247	202	292	22.50	45.00	CK-NAC substrate start (DGKC) 25°C
	U/l	577	473	681	52.00	104.00	CK-NAC (IFCC) 37°C
	U/l	361	296	426	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	245	201	289	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	390	312	468	39.00	78.00	Alkaline picrate with deproteinization
	mg/dl	4.41	3.53	5.29	0.44	0.88	
	µmol/l	410	328	492	41.00	82.00	Alkaline picrate no deproteinization
	mg/dl	4.63	3.71	5.55	0.46	0.92	
	µmol/l	418	334	502	42.00	84.00	Roche Creatinine Plus
	mg/dl	4.72	3.77	5.67	0.48	0.95	
	µmol/l	389	311	467	39.00	78.00	Jaffe rate blanked
	mg/dl	4.40	3.51	5.29	0.45	0.89	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	412	329	495	41.50	83.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.66	3.72	5.60	0.47	0.94	
	µmol/l	407	325	489	41.00	82.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.60	3.67	5.53	0.47	0.93	
	µmol/l	406	324	488	41.00	82.00	IDMS traceable
	mg/dl	4.59	3.66	5.52	0.47	0.93	
gamma-GT	U/l	169	143	195	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	133	113	153	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	88	120	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	138	117	159	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	108	92	124	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.9	13.6	18.2	1.15	2.30	Hexokinase
	mg/dl	287	245	329	21.00	42.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	3.19	2.71	3.67	0.24	0.48	Direct HDL Roche 4th Generation
	mg/dl	123	105	141	9.00	18.00	
Iron	µmol/l	37.9	31.1	44.7	3.40	6.80	Colorimetric with ppt.
	µg/dl	212	174	250	19.00	38.00	
	µmol/l	37.1	30.4	43.8	3.35	6.70	Colorimetric without ppt.
	µg/dl	207	170	244	18.50	37.00	
Lactate	mmol/l	5.44	4.46	6.42	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.0	40.2	57.8	4.40	8.80	
LD (LDH)	U/l	393	334	452	29.50	59.00	L->P 37°C
	U/l	284	241	327	21.50	43.00	L->P 30°C
	U/l	199	169	229	15.00	30.00	L->P 25°C

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	400	340	460	30.00	60.00	L->P IFCC 37°C
	U/l	289	245	333	22.00	44.00	L->P IFCC 30°C
	U/l	203	172	234	15.50	31.00	L->P IFCC 25°C
Lipase	U/l	69	55	83	7.00	14.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.01	1.76	2.26	0.13	0.25	Ion selective electrode
	mg/dl	1.40	1.22	1.58	0.09	0.18	
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Xylidyl Blue
	mg/dl	4.25	3.74	4.76	0.26	0.51	
	mmol/l	1.75	1.54	1.96	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Osmolality	mOsm/kg	356	285	427	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.43	2.06	2.80	0.19	0.37	Phosphomolybdate enzymatic
	mg/dl	7.53	6.39	8.67	0.57	1.14	
	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	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.2	35.4	53.0	4.40	8.80	Biuret reaction end point
	g/dl	4.42	3.54	5.30	0.44	0.88	
	g/l	44.2	35.3	53.1	4.45	8.90	Biuret reaction kinetic
	g/dl	4.42	3.53	5.31	0.45	0.89	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	µmol/l	41.2	32.5	49.9	4.35	8.70	FE+UIBC(saturation with iron)
	µg/dl	230	182	278	24.00	48.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.90	2.43	3.37	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	257	215	299	21.00	42.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.90	2.44	3.36	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	257	216	298	20.50	41.00	
	mmol/l	2.84	2.38	3.30	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	251	211	291	20.00	40.00	
	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	257	216	298	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.51	8.28	10.7	0.62	1.23	
	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.59	8.33	10.9	0.63	1.26	
	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	19.3	16.4	22.2	1.45	2.90	Urease end point
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			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	
Alkaline Phosphatase	U/l	450	383	517	33.50	67.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	139	111	167	14.00	28.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
Calcium	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	
Cholesterol	mmol/l	7.67	6.67	8.67	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	257	335	19.50	39.00	
	mmol/l	7.44	6.48	8.40	0.48	0.96	Cholesterol Oxidase - IDMS
	mg/dl	287	250	324	18.50	37.00	
CK Total	U/l	591	485	697	53.00	106.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	404	323	485	40.50	81.00	Alkaline picrate no deproteinization
	mg/dl	4.57	3.65	5.49	0.46	0.92	
	µmol/l	428	342	514	43.00	86.00	Creatinine PAP method
	mg/dl	4.84	3.86	5.82	0.49	0.98	
	µmol/l	352	282	422	35.00	70.00	Jaffe rate blanked
	mg/dl	3.98	3.19	4.77	0.40	0.79	
gamma-GT	U/l	176	149	203	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	

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Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
Iron	µmol/l	35.0	28.7	41.3	3.15	6.30	Colorimetric without ppt.
	µg/dl	196	160	232	18.00	36.00	
LD (LDH)	U/l	394	334	454	30.00	60.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.49	2.11	2.87	0.19	0.38	Phosphomolybdate UV
	mg/dl	7.72	6.54	8.90	0.59	1.18	
Protein Total	g/l	50.6	40.5	60.7	5.05	10.10	Biuret reaction end point
	g/dl	5.06	4.05	6.07	0.51	1.01	
Triglycerides	mmol/l	2.77	2.33	3.21	0.22	0.44	Lipase/GPO-PAP no correction
	mg/dl	245	206	284	19.50	39.00	
	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	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	8.05	10.4	0.60	1.19	
	mmol/l	0.63	0.55	0.71	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.5	9.17	11.8	0.67	1.33	
	mmol/l	0.61	0.53	0.69	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.3	8.95	11.7	0.68	1.35	
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.2	25.7	34.7	2.25	4.50	Bromocresol Green
	g/dl	3.02	2.57	3.47	0.23	0.45	
Alkaline Phosphatase	U/l	356	303	409	26.50	53.00	Diethanolamine buffer DEA 37°C
	U/l	277	236	318	20.50	41.00	Diethanolamine buffer DEA 30°C
	U/l	227	194	260	16.50	33.00	Diethanolamine buffer DEA 25°C
	U/l	346	294	398	26.00	52.00	AMP optimised to IFCC 37°C
	U/l	270	229	311	20.50	41.00	AMP optimised to IFCC 30°C
	U/l	221	188	254	16.50	33.00	AMP optimised to IFCC 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	306	260	352	23.00	46.00	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	20.1	15.9	24.3	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.18	0.930	1.43	0.13	0.25	
Bilirubin Total	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	83.5	66.0	101	8.75	17.50	Dichlorophenyl Diazonium (DPD)
	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. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Calcium	mmol/l	3.44	3.10	3.78	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.8	12.4	15.2	0.70	1.40	
	mmol/l	3.36	3.02	3.70	0.17	0.34	Arsenazo III
	mg/dl	13.5	12.1	14.9	0.70	1.40	
Cholesterol	mmol/l	7.55	6.57	8.53	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	254	328	18.50	37.00	
Chloride	mmol/l	110	102	118	4.00	8.00	ISE indirect
Cholinesterase	U/l	5243	4195	6291	524.00	1048.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	628	515	741	56.50	113.00	CK-NAC (IFCC) 37°C
	U/l	393	322	464	35.50	71.00	CK-NAC (IFCC) 30°C
	U/l	267	219	315	24.00	48.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	400	320	480	40.00	80.00	Alkaline picrate no deproteinization
	mg/dl	4.52	3.62	5.42	0.45	0.90	
	µmol/l	441	353	529	44.00	88.00	Creatinine PAP method
	mg/dl	4.98	3.99	5.97	0.50	0.99	
	µmol/l	444	355	533	44.50	89.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	5.02	4.01	6.03	0.51	1.01	
gamma-GT	U/l	160	136	184	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	107	145	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	84	114	7.50	15.00	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	15.8	13.5	18.1	1.15	2.30	Glucose oxidase
	mg/dl	285	243	327	21.00	42.00	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.04	1.74	2.34	0.15	0.30	Direct HDL Immunoseparation
	mg/dl	78.7	67.2	90.2	5.75	11.50	
	mmol/l	2.53	2.15	2.91	0.19	0.38	HDL - Ultra
	mg/dl	97.7	83.0	112	7.35	14.70	
Iron	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	
LD (LDH)	U/l	787	669	905	59.00	118.00	P->L Scandinavian & Dutch 37°C
	U/l	568	483	653	42.50	85.00	P->L Scandinavian & Dutch 30°C
	U/l	399	339	459	30.00	60.00	P->L Scandinavian & Dutch 25°C
	U/l	766	651	881	57.50	115.00	P->L German methods 37°C
	U/l	553	470	636	41.50	83.00	P->L German methods 30°C
	U/l	388	330	446	29.00	58.00	P->L German methods 25°C
	U/l	819	696	942	61.50	123.00	P->L SFBC 37°C
	U/l	591	503	679	44.00	88.00	P->L SFBC 30°C
	U/l	415	353	477	31.00	62.00	P->L SFBC 25°C
Lipase	U/l	70	56	84	7.00	14.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.83	1.61	2.05	0.11	0.22	Xylidyl Blue
	mg/dl	4.45	3.91	4.99	0.27	0.54	
	mmol/l	1.82	1.60	2.04	0.11	0.22	Enzymatic
	mg/dl	4.42	3.89	4.95	0.27	0.53	
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	6.10	5.61	6.59	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.9	37.5	56.3	4.70	9.40	Biuret reaction end point
	g/dl	4.69	3.75	5.63	0.47	0.94	

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	2.89	2.43	3.35	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	256	215	297	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.77	7.63	9.91	0.57	1.14	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	8.16	10.6	0.62	1.23	
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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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.0	25.5	34.5	2.25	4.50	Bromocresol Green
	g/dl	3.00	2.55	3.45	0.23	0.45	
Alkaline Phosphatase	U/l	320	272	368	24.00	48.00	AMP optimised to IFCC 37°C
	U/l	249	212	286	18.50	37.00	AMP optimised to IFCC 30°C
	U/l	204	174	234	15.00	30.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer without P5P 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	164	131	197	16.50	33.00	Tris buffer without P5P 37°C
	U/l	111	89	133	11.00	22.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	24.0	19.0	29.0	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.40	1.11	1.69	0.15	0.29	
	µmol/l	24.5	19.4	29.6	2.55	5.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Bilirubin Total	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	
	µmol/l	82.8	65.4	100	8.70	17.40	Nitrobenzenediazonium salt
	mg/dl	4.84	3.83	5.85	0.51	1.01	
Calcium	mmol/l	3.56	3.21	3.91	0.18	0.35	Arsenazo III
	mg/dl	14.3	12.9	15.7	0.70	1.40	

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

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.67	6.67	8.67	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	257	335	19.50	39.00	
	mmol/l	7.48	6.51	8.45	0.49	0.97	Cholesterol Oxidase - IDMS
	mg/dl	289	251	327	19.00	38.00	
Chloride	mmol/l	117	108	126	4.50	9.00	ISE direct
CK Total	U/l	596	489	703	53.50	107.00	CK-NAC (IFCC) 37°C
	U/l	373	306	440	33.50	67.00	CK-NAC (IFCC) 30°C
	U/l	253	208	298	22.50	45.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	370	296	444	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.18	3.34	5.02	0.42	0.84	
	µmol/l	422	338	506	42.00	84.00	Enzymatic UV method
	mg/dl	4.77	3.82	5.72	0.48	0.95	
	µmol/l	419	335	503	42.00	84.00	Creatinine PAP method
	mg/dl	4.73	3.79	5.67	0.47	0.94	
	µmol/l	425	340	510	42.50	85.00	Jaffe rate blanked
	mg/dl	4.80	3.84	5.76	0.48	0.96	
gamma-GT	U/l	166	141	191	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	111	151	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	87	117	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.3	13.8	18.8	1.25	2.50	Hexokinase
	mg/dl	294	249	339	22.50	45.00	
	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	2.90	2.47	3.33	0.22	0.43	Direct HDL PEGME
	mg/dl	112	95.3	129	8.35	16.70	

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

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.98	2.53	3.43	0.23	0.45	Direct Clearance Method
	mg/dl	115	97.7	132	8.65	17.30	
Iron	µmol/l	38.4	31.5	45.3	3.45	6.90	Colorimetric without ppt.
	µg/dl	215	176	254	19.50	39.00	
LD (LDH)	U/l	398	339	457	29.50	59.00	L->P IFCC 37°C
	U/l	287	245	329	21.00	42.00	L->P IFCC 30°C
	U/l	202	172	232	15.00	30.00	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	2.44	2.07	2.81	0.19	0.37	Phosphomolybdate enzymatic
	mg/dl	7.56	6.42	8.70	0.57	1.14	
	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	6.01	5.52	6.50	0.25	0.49	ISE method - direct
Protein Total	g/l	47.8	38.2	57.4	4.80	9.60	Biuret reaction end point
	g/dl	4.78	3.82	5.74	0.48	0.96	
Sodium	mmol/l	154	147	161	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.83	2.37	3.29	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	250	210	290	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.54	8.30	10.8	0.62	1.24	
	mmol/l	0.58	0.51	0.66	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.79	8.52	11.1	0.64	1.27	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	7.98	10.4	0.60	1.19	

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

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	18.8	16.0	21.6	1.40	2.80	Urease end point
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	18.9	16.1	21.7	1.40	2.80	BUN
	mg/dl	53.0	45.1	60.9	3.95	7.90	

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RANDOX

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.3	24.9	33.7	2.20	4.40	Ortho Vitros Microslide Systems
	g/dl	2.93	2.49	3.37	0.22	0.44	
Alkaline Phosphatase	U/l	267	227	307	20.00	40.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	137	110	164	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	137	110	164	13.50	27.00	Ortho Vitros MicroSlide visible 37°C
Amylase Total	U/l	188	160	216	14.00	28.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	195	156	234	19.50	39.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	16.3	12.9	19.7	1.70	3.40	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	78.4	62.0	94.8	8.20	16.40	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.59	3.63	5.55	0.48	0.96	
Bilirubin, Unconjugated Vitros BU	µmol/l	76.9	60.8	93.0	8.05	16.10	BuBc Vitros Slide
	mg/dl	4.50	3.56	5.44	0.47	0.94	
Calcium	mmol/l	3.29	2.96	3.62	0.17	0.33	Ortho Vitros Microslide Systems
	mg/dl	13.2	11.9	14.5	0.65	1.30	
Cholesterol	mmol/l	7.18	6.25	8.11	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	277	241	313	18.00	36.00	
Chloride	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems
Cholinesterase	U/l	4821	3857	5785	482.00	964.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	468	383	553	42.50	85.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	420	336	504	42.00	84.00	Vitros DT60/DT60 II/DTSC II
	mg/dl	4.75	3.80	5.70	0.48	0.95	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	424	339	509	42.50	85.00	Vitros IDMS Traceable
	mg/dl	4.79	3.83	5.75	0.48	0.96	
Free T4	pmol/l	89.6	67.2	112	11.20	22.40	Vitros ECi
	ng/dl	6.99	5.24	8.74	0.88	1.75	
	pg/ml	69.9	52.4	87.4	8.75	17.50	Vitros ECi
gamma-GT	U/l	203	172	234	15.50	31.00	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	
HDL - Cholesterol	mmol/l	2.44	2.08	2.80	0.18	0.36	Vitros Magnetic HDL
	mg/dl	94.2	80.3	108	6.95	13.90	
	mmol/l	2.50	2.12	2.88	0.19	0.38	Vitros 5.1 FS microtip assay
	mg/dl	96.5	81.8	111	7.35	14.70	
	mmol/l	2.49	2.12	2.86	0.19	0.37	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	96.1	81.8	110	7.15	14.30	
Iron	µmol/l	34.8	28.5	41.1	3.15	6.30	Ortho Vitros Microslide Systems
	µg/dl	195	159	231	18.00	36.00	
Lactate	mmol/l	5.07	4.16	5.98	0.46	0.91	Ortho Vitros Microslide Systems
	mg/dl	45.7	37.5	53.9	4.10	8.20	
LD (LDH)	U/l	413	351	475	31.00	62.00	Ortho Vitros Microslide Systems 37°C
	U/l	412	350	474	31.00	62.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	726	582	870	72.00	144.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	2.43	2.14	2.72	0.15	0.29	Ortho Vitros Microslide Systems
	mg/dl	1.69	1.49	1.89	0.10	0.20	
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.37	3.84	4.90	0.27	0.53	

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Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.32	1.97	2.67	0.18	0.35	Ortho Vitros Microslide Systems
	mg/dl	7.19	6.11	8.27	0.54	1.08	
Potassium	mmol/l	6.05	5.56	6.54	0.25	0.49	Ortho Vitros Microslide Systems
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Ortho Vitros Microslide Systems
	g/dl	4.75	3.80	5.70	0.48	0.95	
PSA Total	ng/ml =	23.0	17.2	28.8	2.90	5.80	Ortho Vitros ECi
	ng/ml =	22.9	17.2	28.6	2.85	5.70	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	155	148	162	3.50	7.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.25	1.00	1.50	0.13	0.25	Vitros ECi
TIBC	µmol/l	36.6	28.9	44.3	3.85	7.70	Ortho Vitros Microslide Systems
	µg/dl	205	162	248	21.50	43.00	
Total T3	nmol/l	4.93	3.69	6.17	0.62	1.24	Vitros ECi
	ng/ml	3.21	2.40	4.02	0.41	0.81	
	ng/dl	321	240	402	40.50	81.00	Vitros ECi
Total T4	nmol/l	232	174	290	29.00	58.00	Vitros ECi
	µg/dl	18.1	13.6	22.6	2.25	4.50	
	ng/ml	181	136	226	22.50	45.00	Vitros ECi
Triglycerides	mmol/l	3.29	2.76	3.82	0.27	0.53	Ortho Vitros Microslide Systems
	mg/dl	291	244	338	23.50	47.00	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.89	7.73	10.1	0.58	1.16	
Urea	mmol/l	19.0	16.2	21.8	1.40	2.80	Ortho Vitros Microslide Systems
	mg/dl	114	97.4	131	8.30	16.60	
	mmol/l	19.0	16.2	21.8	1.40	2.80	BUN
	mg/dl	53.3	45.3	61.3	4.00	8.00	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.4	25.9	34.9	2.25	4.50	Bromocresol Green
	g/dl	3.04	2.59	3.49	0.23	0.45	
ALT (GPT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
	U/l	107	86	128	10.50	21.00	Tris buffer without P5P 30°C
	U/l	82	65	99	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
	U/l	105	85	125	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
Bilirubin Direct	µmol/l	32.8	25.9	39.7	3.45	6.90	Diazo with Sulphanilic Acid
	mg/dl	1.92	1.52	2.32	0.20	0.40	
	µmol/l	30.0	23.7	36.3	3.15	6.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Bilirubin Total	µmol/l	94.1	74.3	114	9.90	19.80	Diazo with Sulphanilic Acid
	mg/dl	5.50	4.35	6.65	0.58	1.15	
	µmol/l	87.8	69.4	106	9.20	18.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.14	4.06	6.22	0.54	1.08	
	µmol/l	96.0	75.8	116	10.10	20.20	Oxidation to Biliverdin/Vanadate
	mg/dl	5.62	4.43	6.81	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	7.60	6.61	8.59	0.50	0.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	255	331	19.00	38.00	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	583	478	688	52.50	105.00	CK-NAC (IFCC) 37°C
	U/l	365	299	431	33.00	66.00	CK-NAC (IFCC) 30°C
	U/l	248	203	293	22.50	45.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	371	297	445	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	362	289	435	36.50	73.00	Jaffe rate blanked
	mg/dl	4.09	3.27	4.91	0.41	0.82	
gamma-GT	U/l	167	142	192	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	132	112	152	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	103	88	118	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	176	149	203	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	117	161	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	92	126	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
Iron	µmol/l	39.0	32.0	46.0	3.50	7.00	Colorimetric without ppt.
	µg/dl	218	179	257	19.50	39.00	
LD (LDH)	U/l	761	647	875	57.00	114.00	P->L German methods 37°C
	U/l	549	467	631	41.00	82.00	P->L German methods 30°C
	U/l	386	328	444	29.00	58.00	P->L German methods 25°C
Phosphate Inorganic	mmol/l	2.30	1.95	2.65	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.13	6.05	8.21	0.54	1.08	
Protein Total	g/l	47.3	37.8	56.8	4.75	9.50	Biuret reaction end point
	g/dl	4.73	3.78	5.68	0.48	0.95	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.03	10.4	0.60	1.19	
	mmol/l	0.58	0.50	0.66	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.74	8.47	11.0	0.64	1.27	
Urea	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.7	27.0	36.4	2.35	4.70	Bromocresol Green
	g/dl	3.17	2.70	3.64	0.24	0.47	
	g/l	30.0	25.5	34.5	2.25	4.50	Bromocresol Purple
	g/dl	3.00	2.55	3.45	0.23	0.45	
	g/l	29.3	24.9	33.7	2.20	4.40	Turbidimetric Assays
	g/dl	2.93	2.49	3.37	0.22	0.44	
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	309	263	355	23.00	46.00	AMP optimised to IFCC 37°C
	U/l	241	205	277	18.00	36.00	AMP optimised to IFCC 30°C
	U/l	197	168	226	14.50	29.00	AMP optimised to IFCC 25°C
	U/l	316	268	364	24.00	48.00	Colorimetric 37°C
	U/l	246	209	283	18.50	37.00	Colorimetric 30°C
	U/l	202	171	233	15.50	31.00	Colorimetric 25°C
ALT (GPT)	U/l	128	103	153	12.50	25.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	254	216	292	19.00	38.00	Immunoinhibition EPS substrate 37°C
	U/l	256	218	294	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	281	239	323	21.00	42.00	Randox Liquid Ethylidene pNPG7 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	280	238	322	21.00	42.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	283	241	325	21.00	42.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	281	239	323	21.00	42.00	Roche liquid stable pNPG7 37°C
	U/l	281	239	323	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	38.6	30.9	46.3	3.85	7.70	Enzymatic Colorimetric
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Colorimetric
	mmol/l	14.6	11.6	17.6	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	30.0	23.7	36.3	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	29.9	23.6	36.2	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.75	1.38	2.12	0.19	0.37	
	µmol/l	30.1	23.8	36.4	3.15	6.30	Roche DPD JG standardised
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	30.6	24.2	37.0	3.20	6.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.79	1.42	2.16	0.19	0.37	
	µmol/l	28.0	22.1	33.9	2.95	5.90	Roche DPD Doumas standardised
	mg/dl	1.64	1.29	1.99	0.18	0.35	
Bilirubin Total	µmol/l	76.3	60.3	92.3	8.00	16.00	Diazo with Dichloroaniline (DCA)
	mg/dl	4.46	3.53	5.39	0.47	0.93	
	µmol/l	76.8	60.7	92.9	8.05	16.10	Diazo with Sulphanilic Acid
	mg/dl	4.49	3.55	5.43	0.47	0.94	
	µmol/l	77.1	60.9	93.3	8.10	16.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.51	3.56	5.46	0.48	0.95	

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	76.6	60.5	92.7	8.05	16.10	Nitrobenzenediazonium salt
	mg/dl	4.48	3.54	5.42	0.47	0.94	
	µmol/l	77.1	60.9	93.3	8.10	16.20	Diazonium ion
	mg/dl	4.51	3.56	5.46	0.48	0.95	
Calcium	mmol/l	3.38	3.04	3.72	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.5	12.2	14.8	0.65	1.30	
	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	
	mmol/l	3.38	3.05	3.71	0.17	0.33	NM-BAPTA
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	7.53	6.55	8.51	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	253	329	19.00	38.00	
	mmol/l	7.53	6.55	8.51	0.49	0.98	Cholesterol Oxidase - IDMS
	mg/dl	291	253	329	19.00	38.00	
	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Dehydrogenase
	mg/dl	291	253	329	19.00	38.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholinesterase	U/l	5186	4149	6223	518.50	1037.00	Colorimetric Benzoylcholine 37°C
	U/l	5124	4099	6149	512.50	1025.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	566	464	668	51.00	102.00	CK-NAC serum start (DGKC) 37°C
	U/l	354	290	418	32.00	64.00	CK-NAC serum start (DGKC) 30°C
	U/l	241	197	285	22.00	44.00	CK-NAC serum start (DGKC) 25°C
	U/l	566	464	668	51.00	102.00	CK-NAC substrate start (DGKC) 37°C
	U/l	354	290	418	32.00	64.00	CK-NAC substrate start (DGKC) 30°C
	U/l	241	197	285	22.00	44.00	CK-NAC substrate start (DGKC) 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	573	470	676	51.50	103.00	CK-NAC (IFCC) 37°C
	U/l	359	294	424	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	417	334	500	41.50	83.00	Alkaline picrate no deproteinization
	mg/dl	4.71	3.77	5.65	0.47	0.94	
	µmol/l	436	349	523	43.50	87.00	Enzymatic UV method
	mg/dl	4.93	3.94	5.92	0.50	0.99	
	µmol/l	438	350	526	44.00	88.00	Creatinine PAP method
	mg/dl	4.95	3.96	5.94	0.50	0.99	
	µmol/l	428	343	513	42.50	85.00	Roche Creatinine Plus
	mg/dl	4.84	3.88	5.80	0.48	0.96	
	µmol/l	413	331	495	41.00	82.00	Jaffe rate blanked
	mg/dl	4.67	3.74	5.60	0.47	0.93	
	µmol/l	415	332	498	41.50	83.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.69	3.75	5.63	0.47	0.94	
	µmol/l	411	328	494	41.50	83.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.64	3.71	5.57	0.47	0.93	
	µmol/l	424	339	509	42.50	85.00	IDMS traceable
	mg/dl	4.79	3.83	5.75	0.48	0.96	
D-3-Hydroxybutyrate	mmol/l	1.25	1.06	1.44	0.10	0.19	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	80.5	60.4	101	10.05	20.10	Roche Cobas e601/602
	ng/dl	6.28	4.71	7.85	0.79	1.57	
	pg/ml	62.8	47.1	78.5	7.85	15.70	Roche Cobas e601/602
gamma-GT	U/l	159	135	183	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	106	144	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	98	83	113	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	175	149	201	13.00	26.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	138	117	159	10.50	21.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	108	92	124	8.00	16.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	176	149	203	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	117	161	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	92	126	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose dehydrogenase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	3.02	2.57	3.47	0.23	0.45	Direct HDL Immunoseparation
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	2.96	2.52	3.40	0.22	0.44	Direct HDL PEGME
	mg/dl	114	97.3	131	8.35	16.70	
	mmol/l	3.07	2.61	3.53	0.23	0.46	Direct HDL Roche 4th Generation
	mg/dl	119	101	137	9.00	18.00	
Iron	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric with ppt.
	µg/dl	206	169	243	18.50	37.00	
	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Lactate	mmol/l	5.51	4.51	6.51	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	49.6	40.6	58.6	4.50	9.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	400	340	460	30.00	60.00	L->P 37°C
	U/l	289	245	333	22.00	44.00	L->P 30°C
	U/l	203	172	234	15.50	31.00	L->P 25°C
	U/l	396	337	455	29.50	59.00	L->P IFCC 37°C
	U/l	286	243	329	21.50	43.00	L->P IFCC 30°C
	U/l	201	171	231	15.00	30.00	L->P IFCC 25°C
Lipase	U/l	75	60	90	7.50	15.00	Other Colorimetric 37°C
	U/l	74	59	89	7.50	15.00	Roche Colorimetric 37°C
	U/l	74	59	89	7.50	15.00	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	2.04	1.79	2.29	0.13	0.25	Ion selective electrode
	mg/dl	1.42	1.24	1.60	0.09	0.18	
	mmol/l	2.02	1.78	2.26	0.12	0.24	Spectrophotometric
	mg/dl	1.40	1.24	1.56	0.08	0.16	
Magnesium	mmol/l	1.77	1.55	1.99	0.11	0.22	Arsenazo III
	mg/dl	4.30	3.77	4.83	0.27	0.53	
	mmol/l	1.77	1.56	1.98	0.11	0.21	Atomic absorption
	mg/dl	4.30	3.79	4.81	0.26	0.51	
	mmol/l	1.79	1.57	2.01	0.11	0.22	Xylidyl Blue
	mg/dl	4.35	3.82	4.88	0.27	0.53	
	mmol/l	1.78	1.57	1.99	0.11	0.21	Methylthymol blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	mmol/l	1.79	1.57	2.01	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.35	3.82	4.88	0.27	0.53	
	mmol/l	1.76	1.55	1.97	0.11	0.21	Enzymatic
	mg/dl	4.28	3.77	4.79	0.26	0.51	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	346	276	416	35.00	70.00	Calculated
Phosphate Inorganic	mmol/l	2.35	1.99	2.71	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.29	6.17	8.41	0.56	1.12	
	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	6.16	5.66	6.66	0.25	0.50	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	
	g/l	45.6	36.5	54.7	4.55	9.10	Biuret reaction kinetic
	g/dl	4.56	3.65	5.47	0.46	0.91	
PSA Total	ng/ml =	24.5	18.4	30.6	3.05	6.10	Roche Cobas 6000/8000
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.55	1.24	1.86	0.16	0.31	Roche Cobas e601/602
TIBC	µmol/l	40.7	32.1	49.3	4.30	8.60	FE+UIBC(saturation with iron)
	µg/dl	228	179	277	24.50	49.00	
	µmol/l	39.8	31.4	48.2	4.20	8.40	Direct Colorimetric
	µg/dl	222	176	268	23.00	46.00	
Total T3	nmol/l	3.86	2.90	4.82	0.48	0.96	Roche Cobas e601/602
	ng/ml	2.51	1.89	3.13	0.31	0.62	
	ng/dl	251	189	313	31.00	62.00	Roche Cobas e601/602
Total T4	nmol/l	209	156	262	26.50	53.00	Roche Cobas e601/602
	µg/dl	16.3	12.2	20.4	2.05	4.10	
	ng/ml	163	122	204	20.50	41.00	Roche Cobas e601/602
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	

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	255	214	296	20.50	41.00	
	mmol/l	2.86	2.40	3.32	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	253	212	294	20.50	41.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	252	212	292	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	7.95	10.3	0.59	1.17	
	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	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	7.96	10.3	0.59	1.18	
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	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	
Zinc	µmol/l	32.1	25.6	38.6	3.25	6.50	Colorimetric with deproteinisation
	µg/dl	210	167	253	21.50	43.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.6	26.8	36.4	2.40	4.80	Bromocresol Green
	g/dl	3.16	2.68	3.64	0.24	0.48	
Alkaline Phosphatase	U/l	313	266	360	23.50	47.00	Roche Integra AMP buffer 37°C
	U/l	244	207	281	18.50	37.00	Roche Integra AMP buffer 30°C
	U/l	200	170	230	15.00	30.00	Roche Integra AMP buffer 25°C
	U/l	322	274	370	24.00	48.00	AMP optimised to IFCC 37°C
	U/l	251	213	289	19.00	38.00	AMP optimised to IFCC 30°C
	U/l	206	175	237	15.50	31.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	125	100	150	12.50	25.00	Tris buffer without P5P 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Amylase Total	U/l	286	243	329	21.50	43.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	287	244	330	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	56	82	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	33.1	26.1	40.1	3.50	7.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.94	1.53	2.35	0.21	0.41	
	µmol/l	31.3	24.7	37.9	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	µmol/l	31.2	24.6	37.8	3.30	6.60	Roche DPD JG standardised
	mg/dl	1.83	1.44	2.22	0.20	0.39	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	30.4	24.0	36.8	3.20	6.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.78	1.40	2.16	0.19	0.38	
Bilirubin Total	µmol/l	79.9	63.1	96.7	8.40	16.80	Diazo with Sulphanilic Acid
	mg/dl	4.67	3.69	5.65	0.49	0.98	
	µmol/l	78.6	62.1	95.1	8.25	16.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.60	3.63	5.57	0.49	0.97	
	µmol/l	78.9	62.3	95.5	8.30	16.60	Diazonium ion
	mg/dl	4.62	3.64	5.60	0.49	0.98	
Calcium	mmol/l	3.38	3.04	3.72	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.5	12.2	14.8	0.65	1.30	
	mmol/l	3.36	3.03	3.69	0.17	0.33	Arsenazo III
	mg/dl	13.5	12.1	14.9	0.70	1.40	
	mmol/l	3.35	3.02	3.68	0.17	0.33	NM-BAPTA
	mg/dl	13.4	12.1	14.7	0.65	1.30	
Cholesterol	mmol/l	7.49	6.52	8.46	0.49	0.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	252	326	18.50	37.00	
	mmol/l	7.40	6.44	8.36	0.48	0.96	Cholesterol Oxidase - IDMS
	mg/dl	286	249	323	18.50	37.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE indirect
CK Total	U/l	571	468	674	51.50	103.00	CK-NAC (IFCC) 37°C
	U/l	357	293	421	32.00	64.00	CK-NAC (IFCC) 30°C
	U/l	243	199	287	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	399	320	478	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.51	3.62	5.40	0.45	0.89	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	415	332	498	41.50	83.00	Roche Creatinine Plus
	mg/dl	4.69	3.75	5.63	0.47	0.94	
	µmol/l	413	330	496	41.50	83.00	Jaffe rate blanked
	mg/dl	4.67	3.73	5.61	0.47	0.94	
	µmol/l	401	321	481	40.00	80.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.53	3.63	5.43	0.45	0.90	
	µmol/l	398	318	478	40.00	80.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.50	3.59	5.41	0.46	0.91	
gamma-GT	U/l	164	139	189	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	110	148	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	166	141	191	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	111	151	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	87	117	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	
	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	3.21	2.73	3.69	0.24	0.48	Direct HDL Roche 4th Generation
	mg/dl	124	105	143	9.50	19.00	
Iron	µmol/l	37.1	30.4	43.8	3.35	6.70	Colorimetric without ppt.
	µg/dl	207	170	244	18.50	37.00	
LD (LDH)	U/l	394	335	453	29.50	59.00	L->P IFCC 37°C
	U/l	284	242	326	21.00	42.00	L->P IFCC 30°C
	U/l	200	170	230	15.00	30.00	L->P IFCC 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	68	55	81	6.50	13.00	Roche Colorimetric 37°C
	U/l	72	57	87	7.50	15.00	Roche Turbidimetric with colipase 37°C
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	
	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	2.42	2.06	2.78	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.50	6.39	8.61	0.56	1.11	
	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	6.07	5.58	6.56	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	156	149	163	3.50	7.00	ISE method - indirect
Triglycerides	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	
	mmol/l	2.91	2.45	3.37	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	217	299	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	2.88	2.42	3.34	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	255	214	296	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.26	8.06	10.5	0.60	1.20	
	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	

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.39	8.16	10.6	0.62	1.23	
Urea	mmol/l	19.0	16.2	21.8	1.40	2.80	Urease end point
	mg/dl	114	97.4	131	8.30	16.60	
	mmol/l	19.3	16.4	22.2	1.45	2.90	Urease kinetic
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	19.3	16.4	22.2	1.45	2.90	BUN
	mg/dl	54.2	46.1	62.3	4.05	8.10	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.5	26.8	36.2	2.35	4.70	Bromocresol Green
	g/dl	3.15	2.68	3.62	0.24	0.47	
	g/l	31.5	26.8	36.2	2.35	4.70	Bromocresol Purple
	g/dl	3.15	2.68	3.62	0.24	0.47	
	g/l	31.8	27.0	36.6	2.40	4.80	Turbidimetric Assays
	g/dl	3.18	2.70	3.66	0.24	0.48	
Alkaline Phosphatase	U/l	308	262	354	23.00	46.00	Roche Integra AMP buffer 37°C
	U/l	240	204	276	18.00	36.00	Roche Integra AMP buffer 30°C
	U/l	197	167	227	15.00	30.00	Roche Integra AMP buffer 25°C
	U/l	309	263	355	23.00	46.00	AMP optimised to IFCC 37°C
	U/l	241	205	277	18.00	36.00	AMP optimised to IFCC 30°C
	U/l	197	168	226	14.50	29.00	AMP optimised to IFCC 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 Pancreatic	U/l	272	231	313	20.50	41.00	Immunoinhibition EPS substrate 37°C
	U/l	255	217	293	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	283	240	326	21.50	43.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	282	239	325	21.50	43.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	283	240	326	21.50	43.00	Roche liquid stable pNPG7 37°C
	U/l	284	242	326	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	147	117	177	15.00	30.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	28.4	22.5	34.3	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	1.32	2.00	0.17	0.34	
	µmol/l	29.6	23.4	35.8	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.73	1.37	2.09	0.18	0.36	
	µmol/l	28.2	22.3	34.1	2.95	5.90	Roche DPD JG standardised
	mg/dl	1.65	1.30	2.00	0.18	0.35	
	µmol/l	27.3	21.6	33.0	2.85	5.70	Roche DPD Doumas standardised
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Bilirubin Total	µmol/l	77.8	61.5	94.1	8.15	16.30	Diazo with Dichloroaniline (DCA)
	mg/dl	4.55	3.60	5.50	0.48	0.95	
	µmol/l	77.5	61.3	93.7	8.10	16.20	Diazo with Sulphanilic Acid
	mg/dl	4.53	3.59	5.47	0.47	0.94	
	µmol/l	77.8	61.5	94.1	8.15	16.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.55	3.60	5.50	0.48	0.95	
	µmol/l	78.1	61.7	94.5	8.20	16.40	Diazonium ion
	mg/dl	4.57	3.61	5.53	0.48	0.96	
Calcium	mmol/l	3.39	3.05	3.73	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.6	12.2	15.0	0.70	1.40	
	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	
	mmol/l	3.38	3.04	3.72	0.17	0.34	NM-BAPTA
	mg/dl	13.5	12.2	14.8	0.65	1.30	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	253	329	19.00	38.00	
	mmol/l	7.57	6.58	8.56	0.50	0.99	Cholesterol Oxidase - IDMS
	mg/dl	292	254	330	19.00	38.00	
	mmol/l	7.26	6.32	8.20	0.47	0.94	Cholesterol Dehydrogenase
	mg/dl	280	244	316	18.00	36.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholinesterase	U/l	5037	4030	6044	503.50	1007.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	574	471	677	51.50	103.00	CK-NAC serum start (DGKC) 37°C
	U/l	359	295	423	32.00	64.00	CK-NAC serum start (DGKC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC serum start (DGKC) 25°C
	U/l	580	475	685	52.50	105.00	CK-NAC substrate start (DGKC) 37°C
	U/l	363	297	429	33.00	66.00	CK-NAC substrate start (DGKC) 30°C
	U/l	247	202	292	22.50	45.00	CK-NAC substrate start (DGKC) 25°C
	U/l	575	471	679	52.00	104.00	CK-NAC (IFCC) 37°C
	U/l	360	295	425	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	424	339	509	42.50	85.00	Alkaline picrate no deproteinization
	mg/dl	4.79	3.83	5.75	0.48	0.96	
	µmol/l	429	343	515	43.00	86.00	Enzymatic UV method
	mg/dl	4.85	3.88	5.82	0.49	0.97	
	µmol/l	423	339	507	42.00	84.00	Roche Creatinine Plus
	mg/dl	4.78	3.83	5.73	0.48	0.95	
	µmol/l	418	335	501	41.50	83.00	Jaffe rate blanked
	mg/dl	4.72	3.79	5.65	0.47	0.93	

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Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	420	336	504	42.00	84.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.75	3.80	5.70	0.48	0.95	
	µmol/l	423	339	507	42.00	84.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.78	3.83	5.73	0.48	0.95	
	µmol/l	435	348	522	43.50	87.00	IDMS traceable
	mg/dl	4.92	3.93	5.91	0.50	0.99	
gamma-GT	U/l	164	140	188	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	110	148	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	138	117	159	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	108	92	124	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	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	3.02	2.56	3.48	0.23	0.46	Direct HDL PEGME
	mg/dl	117	98.8	135	9.10	18.20	
	mmol/l	2.99	2.55	3.43	0.22	0.44	Direct Clearance Method
	mg/dl	115	98.4	132	8.30	16.60	
	mmol/l	3.02	2.57	3.47	0.23	0.45	Direct HDL Roche 4th Generation
	mg/dl	117	99.2	135	8.90	17.80	
Iron	µmol/l	36.2	29.7	42.7	3.25	6.50	Colorimetric with ppt.
	µg/dl	202	166	238	18.00	36.00	
	µmol/l	36.4	29.9	42.9	3.25	6.50	Colorimetric without ppt.
	µg/dl	203	167	239	18.00	36.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	5.47	4.49	6.45	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.3	40.5	58.1	4.40	8.80	
LD (LDH)	U/l	391	332	450	29.50	59.00	L->P 37°C
	U/l	282	240	324	21.00	42.00	L->P 30°C
	U/l	198	168	228	15.00	30.00	L->P 25°C
	U/l	393	334	452	29.50	59.00	L->P IFCC 37°C
	U/l	284	241	327	21.50	43.00	L->P IFCC 30°C
	U/l	199	169	229	15.00	30.00	L->P IFCC 25°C
Lipase	U/l	72	58	86	7.00	14.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.08	1.83	2.33	0.13	0.25	Spectrophotometric
	mg/dl	1.44	1.27	1.61	0.09	0.17	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Atomic absorption
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	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	1.77	1.56	1.98	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Osmolality	mOsm/kg	356	285	427	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.32	6.23	8.41	0.55	1.09	
	mmol/l	2.36	2.01	2.71	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.32	6.23	8.41	0.55	1.09	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.7	36.6	54.8	4.55	9.10	Biuret reaction end point
	g/dl	4.57	3.66	5.48	0.46	0.91	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	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	
Sodium	mmol/l	157	150	164	3.50	7.00	ISE method - indirect
TIBC	µmol/l	41.6	32.9	50.3	4.35	8.70	FE+UIBC(saturation with iron)
	µg/dl	233	184	282	24.50	49.00	
	µmol/l	39.4	31.1	47.7	4.15	8.30	Direct Colorimetric
	µg/dl	220	174	266	23.00	46.00	
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	
	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	2.74	2.30	3.18	0.22	0.44	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	242	204	280	19.00	38.00	
	mmol/l	2.83	2.38	3.28	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	250	211	289	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.31	8.10	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	8.08	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	8.06	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.22	8.03	10.4	0.60	1.19	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	20.3	17.2	23.4	1.55	3.10	Urease kinetic
	mg/dl	122	103	141	9.50	19.00	
	mmol/l	20.3	17.3	23.3	1.50	3.00	BUN
	mg/dl	57.0	48.5	65.5	4.25	8.50	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.3	26.6	36.0	2.35	4.70	Bromocresol Green
	g/dl	3.13	2.66	3.60	0.24	0.47	
Alkaline Phosphatase	U/l	302	256	348	23.00	46.00	Roche Integra AMP buffer 37°C
	U/l	235	199	271	18.00	36.00	Roche Integra AMP buffer 30°C
	U/l	193	164	222	14.50	29.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	128	103	153	12.50	25.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	257	218	296	19.50	39.00	Immunoinhibition EPS substrate 37°C
	U/l	253	215	291	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	281	239	323	21.00	42.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	281	239	323	21.00	42.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.9	12.6	19.2	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	30.7	24.2	37.2	3.25	6.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	30.9	24.4	37.4	3.25	6.50	Roche DPD JG standardised
	mg/dl	1.81	1.43	2.19	0.19	0.38	
Bilirubin Total	µmol/l	77.7	61.4	94.0	8.15	16.30	Diazo with Sulphanilic Acid
	mg/dl	4.55	3.59	5.51	0.48	0.96	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	77.3	61.0	93.6	8.15	16.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.52	3.57	5.47	0.48	0.95	
	µmol/l	78.0	61.6	94.4	8.20	16.40	Diazonium ion
	mg/dl	4.56	3.60	5.52	0.48	0.96	
Calcium	mmol/l	3.36	3.02	3.70	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.5	12.1	14.9	0.70	1.40	
	mmol/l	3.37	3.04	3.70	0.17	0.33	NM-BAPTA
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	7.58	6.60	8.56	0.49	0.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	255	331	19.00	38.00	
	mmol/l	7.61	6.62	8.60	0.50	0.99	Cholesterol Oxidase - IDMS
	mg/dl	294	256	332	19.00	38.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholinesterase	U/l	5082	4066	6098	508.00	1016.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	562	461	663	50.50	101.00	CK-NAC substrate start (DGKC) 37°C
	U/l	352	289	415	31.50	63.00	CK-NAC substrate start (DGKC) 30°C
	U/l	239	196	282	21.50	43.00	CK-NAC substrate start (DGKC) 25°C
	U/l	570	467	673	51.50	103.00	CK-NAC (IFCC) 37°C
	U/l	357	292	422	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	242	198	286	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	427	342	512	42.50	85.00	Enzymatic UV method
	mg/dl	4.83	3.86	5.80	0.49	0.97	
	µmol/l	434	347	521	43.50	87.00	Roche Creatinine Plus
	mg/dl	4.90	3.92	5.88	0.49	0.98	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	420	336	504	42.00	84.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.75	3.80	5.70	0.48	0.95	
	µmol/l	422	338	506	42.00	84.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.77	3.82	5.72	0.48	0.95	
	µmol/l	419	335	503	42.00	84.00	IDMS traceable
	mg/dl	4.73	3.79	5.67	0.47	0.94	
gamma-GT	U/l	166	141	191	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	131	111	151	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	174	148	200	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	137	117	157	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	91	123	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	3.01	2.56	3.46	0.23	0.45	Direct HDL Roche 4th Generation
	mg/dl	116	98.8	133	8.60	17.20	
Iron	µmol/l	35.3	29.0	41.6	3.15	6.30	Colorimetric without ppt.
	µg/dl	197	162	232	17.50	35.00	
Lactate	mmol/l	5.34	4.38	6.30	0.48	0.96	Colorimetric Lactate Oxidase
	mg/dl	48.1	39.5	56.7	4.30	8.60	
LD (LDH)	U/l	394	335	453	29.50	59.00	L->P IFCC 37°C
	U/l	284	242	326	21.00	42.00	L->P IFCC 30°C
	U/l	200	170	230	15.00	30.00	L->P IFCC 25°C
Lipase	U/l	74	59	89	7.50	15.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.02	1.78	2.26	0.12	0.24	Spectrophotometric
	mg/dl	1.40	1.24	1.56	0.08	0.16	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.79	1.57	2.01	0.11	0.22	Xylidyl Blue
	mg/dl	4.35	3.82	4.88	0.27	0.53	
	mmol/l	1.79	1.57	2.01	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.35	3.82	4.88	0.27	0.53	
Osmolality	mOsm/kg	343	274	412	34.50	69.00	Calculated
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	6.15	5.66	6.64	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.7	36.5	54.9	4.60	9.20	Biuret reaction end point
	g/dl	4.57	3.65	5.49	0.46	0.92	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µmol/l	39.9	31.5	48.3	4.20	8.40	FE+UIBC(saturation with iron)
	µg/dl	223	176	270	23.50	47.00	
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	
	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	254	213	295	20.50	41.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	255	214	296	20.50	41.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	258	216	300	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	7.86	10.2	0.59	1.18	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.06	7.88	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.04	7.86	10.2	0.59	1.18	
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	20.0	17.0	23.0	1.50	3.00	BUN
	mg/dl	56.1	47.7	64.5	4.20	8.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.9	26.3	35.5	2.30	4.60	Bromocresol Green
	g/dl	3.09	2.63	3.55	0.23	0.46	
Alkaline Phosphatase	U/l	497	422	572	37.50	75.00	Diethanolamine buffer DEA 37°C
	U/l	324	276	372	24.00	48.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	288	245	331	21.50	43.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	317	269	365	24.00	48.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	162	129	195	16.50	33.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	41.0	32.8	49.2	4.10	8.20	5th Generation Colorimetric
Bicarbonate	mmol/l	17.0	13.5	20.5	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	30.0	23.7	36.3	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	29.9	23.7	36.1	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.75	1.39	2.11	0.18	0.36	
Bilirubin Total	µmol/l	89.6	70.7	109	9.45	18.90	Diazo with Sulphanilic Acid
	mg/dl	5.24	4.14	6.34	0.55	1.10	
	µmol/l	92.9	73.4	112	9.75	19.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.43	4.29	6.57	0.57	1.14	
Calcium	mmol/l	3.38	3.04	3.72	0.17	0.34	Arsenazo III
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	8.00	6.96	9.04	0.52	1.04	Cholesterol Oxidase - Abell Kendall
	mg/dl	309	269	349	20.00	40.00	

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RANDOX

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	111	102	120	4.50	9.00	ISE direct
CK Total	U/l	650	533	767	58.50	117.00	CK-NAC substrate start (DGKC) 37°C
	U/l	654	536	772	59.00	118.00	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	421	337	505	42.00	84.00	Enzymatic UV method
	mg/dl	4.76	3.81	5.71	0.48	0.95	
gamma-GT	U/l	179	152	206	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	16.3	13.9	18.7	1.20	2.40	Glucose oxidase
	mg/dl	294	250	338	22.00	44.00	
Iron	µmol/l	37.0	30.3	43.7	3.35	6.70	Colorimetric without ppt.
	µg/dl	207	169	245	19.00	38.00	
Lactate	mmol/l	5.40	4.43	6.37	0.49	0.97	Colorimetric Lactate Oxidase
	mg/dl	48.7	39.9	57.5	4.40	8.80	
LD (LDH)	U/l	804	683	925	60.50	121.00	P->L German methods 37°C
	U/l	392	333	451	29.50	59.00	L->P IFCC 37°C
Lipase	U/l	90	72	108	9.00	18.00	Randox Colorimetric 37°C
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Xylidyl Blue
	mg/dl	4.37	3.84	4.90	0.27	0.53	
Phosphate Inorganic	mmol/l	2.37	2.01	2.73	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.35	6.23	8.47	0.56	1.12	
Potassium	mmol/l	6.07	5.58	6.56	0.25	0.49	Enzymatic

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RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	5.91	5.43	6.39	0.24	0.48	ISE method - direct
Protein Total	g/l	48.1	38.4	57.8	4.85	9.70	Biuret reaction end point
	g/dl	4.81	3.84	5.78	0.49	0.97	
Sodium	mmol/l	161	153	169	4.00	8.00	Enzymatic
	mmol/l	155	148	162	3.50	7.00	ISE method - direct
TIBC	µmol/l	48.1	38.0	58.2	5.05	10.10	Direct Colorimetric
	µg/dl	269	212	326	28.50	57.00	
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	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	
	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.59	8.33	10.9	0.63	1.26	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	
	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. 1228UE Cat. No. HE1532 / HS2611

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

			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	
Alkaline Phosphatase	U/l	303	258	348	22.50	45.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	272	231	313	20.50	41.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	298	253	343	22.50	45.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	161	129	193	16.00	32.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	38.5	30.8	46.2	3.85	7.70	Enzymatic Colorimetric
Bicarbonate	mmol/l	17.3	13.7	20.9	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	29.7	23.5	35.9	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Bilirubin Total	µmol/l	95.6	75.5	116	10.05	20.10	Oxidation to Biliverdin/Vanadate
	mg/dl	5.59	4.42	6.76	0.59	1.17	
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	
Cholesterol	mmol/l	7.63	6.64	8.62	0.50	0.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	256	334	19.50	39.00	
	mmol/l	7.75	6.74	8.76	0.51	1.01	Cholesterol Oxidase - IDMS
	mg/dl	299	260	338	19.50	39.00	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
CK Total	U/l	621	509	733	56.00	112.00	CK-NAC (IFCC) 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Creatinine	µmol/l	395	316	474	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.46	3.57	5.35	0.45	0.89	
	µmol/l	416	333	499	41.50	83.00	Enzymatic UV method
	mg/dl	4.70	3.76	5.64	0.47	0.94	
	µmol/l	425	340	510	42.50	85.00	Creatinine PAP method
	mg/dl	4.80	3.84	5.76	0.48	0.96	
	µmol/l	408	326	490	41.00	82.00	Jaffe rate blanked
	mg/dl	4.61	3.68	5.54	0.47	0.93	
	µmol/l	411	329	493	41.00	82.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.64	3.72	5.56	0.46	0.92	
	µmol/l	414	331	497	41.50	83.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.68	3.74	5.62	0.47	0.94	
gamma-GT	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	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	2.35	2.00	2.70	0.18	0.35	Direct HDL Immunoseparation
	mg/dl	90.7	77.2	104	6.75	13.50	
	mmol/l	2.38	2.02	2.74	0.18	0.36	Direct Clearance Method
	mg/dl	91.9	78.0	106	6.95	13.90	
Iron	µmol/l	37.6	30.8	44.4	3.40	6.80	Colorimetric with ppt.
	µg/dl	210	172	248	19.00	38.00	
	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	5.46	4.47	6.45	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.2	40.3	58.1	4.45	8.90	
LD (LDH)	U/l	387	329	445	29.00	58.00	L->P 37°C
	U/l	780	663	897	58.50	117.00	P->L German methods 37°C
	U/l	390	332	448	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	81	65	97	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	2.11	1.86	2.36	0.13	0.25	Spectrophotometric
	mg/dl	1.47	1.29	1.65	0.09	0.18	
Magnesium	mmol/l	1.73	1.53	1.93	0.10	0.20	Xylidyl Blue
	mg/dl	4.20	3.72	4.68	0.24	0.48	
Phosphate Inorganic	mmol/l	2.41	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	6.19	5.69	6.69	0.25	0.50	ISE method - indirect
Protein Total	g/l	45.9	36.7	55.1	4.60	9.20	Biuret reaction end point
	g/dl	4.59	3.67	5.51	0.46	0.92	
	g/l	45.2	36.1	54.3	4.55	9.10	Biuret reaction kinetic
	g/dl	4.52	3.61	5.43	0.46	0.91	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	46.4	36.7	56.1	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	259	205	313	27.00	54.00	
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	216	300	21.00	42.00	
UIBC	µmol/l	2.03	1.67	2.39	0.18	0.36	Direct Colorimetric
	µg/dl	11.3	9.34	13.3	0.98	1.96	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.39	8.16	10.6	0.62	1.23	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.49	8.25	10.7	0.62	1.24	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	8.15	10.6	0.61	1.22	
Urea	mmol/l	20.2	17.1	23.3	1.55	3.10	Urease end point
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	

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Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.2	25.7	34.7	2.25	4.50	Bromocresol Green
	g/dl	3.02	2.57	3.47	0.23	0.45	
	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Purple
	g/dl	2.87	2.44	3.30	0.22	0.43	
Alkaline Phosphatase	U/l	311	264	358	23.50	47.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	152	122	182	15.00	30.00	Tris buffer without P5P 37°C
	U/l	150	120	180	15.00	30.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	282	240	324	21.00	42.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	320	272	368	24.00	48.00	Siemens - blocked pNPG7 37°C
	U/l	324	275	373	24.50	49.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	167	133	201	17.00	34.00	Tris buffer without P5P 37°C
	U/l	166	133	199	16.50	33.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.5	13.1	19.9	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	31.2	24.7	37.7	3.25	6.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.83	1.44	2.22	0.20	0.39	
Bilirubin Total	µmol/l	94.3	74.5	114	9.90	19.80	Diazo with Sulphanilic Acid
	mg/dl	5.52	4.36	6.68	0.58	1.16	
	µmol/l	96.3	76.1	117	10.10	20.20	Oxidation to Biliverdin/Vanadate
	mg/dl	5.63	4.45	6.81	0.59	1.18	
Calcium	mmol/l	3.45	3.10	3.80	0.18	0.35	Cresolphthalein complexone
	mg/dl	13.8	12.4	15.2	0.70	1.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.38	3.04	3.72	0.17	0.34	Arsenazo III
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	7.63	6.64	8.62	0.50	0.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	256	334	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	116	106	126	5.00	10.00	ISE indirect
Cholinesterase	U/l	6319	5055	7583	632.00	1264.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	581	477	685	52.00	104.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	410	328	492	41.00	82.00	Alkaline picrate no deproteinization
	mg/dl	4.63	3.71	5.55	0.46	0.92	
	µmol/l	425	340	510	42.50	85.00	Enzymatic UV method
	mg/dl	4.80	3.84	5.76	0.48	0.96	
	µmol/l	431	345	517	43.00	86.00	Creatinine PAP method
	mg/dl	4.87	3.90	5.84	0.49	0.97	
	µmol/l	417	333	501	42.00	84.00	Jaffe rate blanked
	mg/dl	4.71	3.76	5.66	0.48	0.95	
	µmol/l	410	328	492	41.00	82.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.63	3.71	5.55	0.46	0.92	
Free T4	pmol/l	72.2	54.2	90.2	9.00	18.00	Siemens Atellica IM
	ng/dl	5.63	4.23	7.03	0.70	1.40	
	pg/ml	56.3	42.3	70.3	7.00	14.00	Siemens Atellica IM
gamma-GT	U/l	159	135	183	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	159	135	183	12.00	24.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	157	133	181	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	15.5	13.2	17.8	1.15	2.30	Glucose oxidase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	2.56	2.18	2.94	0.19	0.38	Direct HDL PPD
	mg/dl	98.8	84.1	114	7.35	14.70	
	mmol/l	2.62	2.23	3.01	0.20	0.39	Direct HDL Immunoseparation
	mg/dl	101	86.1	116	7.45	14.90	
	mmol/l	2.79	2.37	3.21	0.21	0.42	Direct HDL PEGME
	mg/dl	108	91.5	125	8.25	16.50	
	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	37.3	30.6	44.0	3.35	6.70	Colorimetric with ppt.
	µg/dl	209	171	247	19.00	38.00	
	µmol/l	37.1	30.5	43.7	3.30	6.60	Colorimetric without ppt.
	µg/dl	207	170	244	18.50	37.00	
Lactate	mmol/l	5.44	4.46	6.42	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.0	40.2	57.8	4.40	8.80	
LD (LDH)	U/l	389	330	448	29.50	59.00	L->P 37°C
	U/l	384	326	442	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	78	63	93	7.50	15.00	Other Colorimetric 37°C
Lithium	mmol/l	2.00	1.76	2.24	0.12	0.24	Spectrophotometric
	mg/dl	1.39	1.22	1.56	0.09	0.17	
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

Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Methylthymol blue
	mg/dl	4.37	3.84	4.90	0.27	0.53	
Osmolality	mOsm/kg	341	272	410	34.50	69.00	Calculated
Phosphate Inorganic	mmol/l	2.46	2.09	2.83	0.19	0.37	Phosphomolybdate UV
	mg/dl	7.63	6.48	8.78	0.58	1.15	
Potassium	mmol/l	5.97	5.49	6.45	0.24	0.48	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	
	g/l	46.2	36.9	55.5	4.65	9.30	Biuret reaction kinetic
	g/dl	4.62	3.69	5.55	0.47	0.93	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.28	1.02	1.54	0.13	0.26	Siemens Atellica IM
TIBC	µmol/l	46.9	37.1	56.7	4.90	9.80	FE+UIBC(saturation with iron)
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	48.6	38.4	58.8	5.10	10.20	Direct Colorimetric
	µg/dl	272	215	329	28.50	57.00	
Total T3	nmol/l	4.07	3.06	5.08	0.51	1.01	Siemens Atellica IM
	ng/ml	2.65	1.99	3.31	0.33	0.66	
	ng/dl	265	199	331	33.00	66.00	Siemens Atellica IM
Total T4	nmol/l	252	189	315	31.50	63.00	Siemens Atellica IM
	µg/dl	19.7	14.7	24.7	2.50	5.00	
	ng/ml	197	147	247	25.00	50.00	Siemens Atellica IM
Triglycerides	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	224	308	21.00	42.00	
	mmol/l	3.03	2.55	3.51	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	268	226	310	21.00	42.00	

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Siemens Atellica Solution

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.84	2.38	3.30	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	251	211	291	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase catalase 340nm
	mg/dl	9.69	8.43	11.0	0.63	1.26	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	8.28	10.8	0.63	1.25	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	8.20	10.6	0.61	1.22	
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	20.4	17.4	23.4	1.50	3.00	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.9	17.8	24.0	1.55	3.10	Urease hypochlorite
	mg/dl	126	107	145	9.50	19.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
	mg/dl	57.3	48.7	65.9	4.30	8.60	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.3	23.2	31.4	2.05	4.10	Bromocresol Green
	g/dl	2.73	2.32	3.14	0.21	0.41	
	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	306	260	352	23.00	46.00	Siemens Dimension AMP buffer 37°C
	U/l	309	263	355	23.00	46.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer with P5P 37°C
	U/l	148	118	178	15.00	30.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	327	278	376	24.50	49.00	Siemens - blocked pNPG7 37°C
	U/l	341	290	392	25.50	51.00	Siemens - maltopenta/hexaoside 37°C
	U/l	345	294	396	25.50	51.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	184	147	221	18.50	37.00	Tris buffer with P5P 37°C
	U/l	185	148	222	18.50	37.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.1	13.6	20.6	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	17.8	14.1	21.5	1.85	3.70	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.04	0.825	1.26	0.11	0.22	
Bilirubin Total	µmol/l	83.5	66.0	101	8.75	17.50	Diazo with Sulphanilic Acid
	mg/dl	4.88	3.86	5.90	0.51	1.02	
	µmol/l	81.6	64.5	98.7	8.55	17.10	Oxidation to Biliverdin/Vanadate
	mg/dl	4.77	3.77	5.77	0.50	1.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.32	2.99	3.65	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	0.65	1.30	
Cholesterol	mmol/l	7.24	6.30	8.18	0.47	0.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	243	315	18.00	36.00	
	mmol/l	7.24	6.30	8.18	0.47	0.94	Dimension-Siemens reagents
	mg/dl	279	243	315	18.00	36.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	9211	7369	11053	921.00	1842.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	567	465	669	51.00	102.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	425	340	510	42.50	85.00	Alkaline picrate with deproteinization
	mg/dl	4.80	3.84	5.76	0.48	0.96	
	µmol/l	426	341	511	42.50	85.00	Alkaline picrate no deproteinization
	mg/dl	4.81	3.85	5.77	0.48	0.96	
	µmol/l	429	343	515	43.00	86.00	Enzymatic UV method
	mg/dl	4.85	3.88	5.82	0.49	0.97	
	µmol/l	425	340	510	42.50	85.00	Creatinine PAP method
	mg/dl	4.80	3.84	5.76	0.48	0.96	
	µmol/l	433	347	519	43.00	86.00	Jaffe rate blanked
	mg/dl	4.89	3.92	5.86	0.49	0.97	
	µmol/l	427	342	512	42.50	85.00	IDMS traceable
	mg/dl	4.83	3.86	5.80	0.49	0.97	
Free T4	pmol/l	86.2	64.6	108	10.80	21.60	Siemens Dimension Exl LOCI
	ng/dl	6.72	5.04	8.40	0.84	1.68	
	pg/ml	67.2	50.4	84.0	8.40	16.80	Siemens Dimension Exl LOCI

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	183	155	211	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	206	175	237	15.50	31.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Oxygen electrode
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
HDL - Cholesterol	mmol/l	2.94	2.50	3.38	0.22	0.44	Direct HDL PPD
	mg/dl	113	96.5	130	8.25	16.50	
	mmol/l	2.93	2.49	3.37	0.22	0.44	Direct HDL PEGME
	mg/dl	113	96.1	130	8.45	16.90	
Iron	µmol/l	35.2	28.9	41.5	3.15	6.30	Colorimetric with ppt.
	µg/dl	197	162	232	17.50	35.00	
	µmol/l	35.2	28.9	41.5	3.15	6.30	Colorimetric without ppt.
	µg/dl	197	162	232	17.50	35.00	
Lactate	mmol/l	5.21	4.27	6.15	0.47	0.94	UV LDH
	mg/dl	46.9	38.5	55.3	4.20	8.40	
LD (LDH)	U/l	382	324	440	29.00	58.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	387	329	445	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	268	215	321	26.50	53.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.84	1.62	2.06	0.11	0.22	Methylthymol blue
	mg/dl	4.47	3.94	5.00	0.27	0.53	
Osmolality	mOsm/kg	338	271	405	33.50	67.00	Calculated
Phosphate Inorganic	mmol/l	2.40	2.04	2.76	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.44	6.32	8.56	0.56	1.12	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.43	2.07	2.79	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.53	6.42	8.64	0.56	1.11	
Potassium	mmol/l	6.14	5.64	6.64	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.6	38.1	57.1	4.75	9.50	Biuret reaction end point
	g/dl	4.76	3.81	5.71	0.48	0.95	
PSA Total	ng/ml =	23.7	17.8	29.6	2.95	5.90	Siemens Dimension
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.16	0.93	1.39	0.12	0.23	
TIBC	µmol/l	36.7	29.0	44.4	3.85	7.70	Removal of excess free iron
	µg/dl	205	162	248	21.50	43.00	
	µmol/l	36.4	28.8	44.0	3.80	7.60	FE+UIBC(saturation with iron)
	µg/dl	203	161	245	21.00	42.00	
	µmol/l	37.2	29.4	45.0	3.90	7.80	Direct Colorimetric
	µg/dl	208	164	252	22.00	44.00	
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	2.87	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	2.85	2.39	3.31	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	252	212	292	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.29	8.08	10.5	0.61	1.21	
	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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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	8.10	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.29	8.08	10.5	0.61	1.21	
Urea	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	20.6	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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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.2	24.0	32.4	2.10	4.20	Bromocresol Green
	g/dl	2.82	2.40	3.24	0.21	0.42	
	g/l	27.9	23.7	32.1	2.10	4.20	Bromocresol Purple
	g/dl	2.79	2.37	3.21	0.21	0.42	
Alkaline Phosphatase	U/l	306	260	352	23.00	46.00	Siemens Dimension AMP buffer 37°C
	U/l	307	261	353	23.00	46.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer with P5P 37°C
	U/l	149	119	179	15.00	30.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	346	294	398	26.00	52.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	188	150	226	19.00	38.00	Tris buffer with P5P 37°C
	U/l	184	147	221	18.50	37.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.06	0.837	1.28	0.11	0.22	
Bilirubin Total	µmol/l	84.6	66.8	102	8.90	17.80	Diazo with Sulphanilic Acid
	mg/dl	4.95	3.91	5.99	0.52	1.04	
Calcium	mmol/l	3.32	2.99	3.65	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	0.65	1.30	
	mmol/l	3.28	2.95	3.61	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.8	14.4	0.65	1.30	
Cholesterol	mmol/l	7.26	6.32	8.20	0.47	0.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	244	316	18.00	36.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.19	6.26	8.12	0.47	0.93	Dimension-Siemens reagents
	mg/dl	278	242	314	18.00	36.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	9085	7268	10902	908.50	1817.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	565	463	667	51.00	102.00	CK-NAC (IFCC) 37°C
	U/l	560	459	661	50.50	101.00	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	421	337	505	42.00	84.00	Alkaline picrate no deproteinization
	mg/dl	4.76	3.81	5.71	0.48	0.95	
	µmol/l	420	336	504	42.00	84.00	Creatinine PAP method
	mg/dl	4.75	3.80	5.70	0.48	0.95	
	µmol/l	433	346	520	43.50	87.00	Jaffe rate blanked
	mg/dl	4.89	3.91	5.87	0.49	0.98	
	µmol/l	412	330	494	41.00	82.00	IDMS traceable
	mg/dl	4.66	3.73	5.59	0.47	0.93	
gamma-GT	U/l	187	159	215	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	202	172	232	15.00	30.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose dehydrogenase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	2.90	2.46	3.34	0.22	0.44	Direct HDL PPD
	mg/dl	112	95.0	129	8.50	17.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.89	2.45	3.33	0.22	0.44	Direct HDL PEGME
	mg/dl	112	94.6	129	8.70	17.40	
	mmol/l	2.84	2.42	3.26	0.21	0.42	Direct Clearance Method
	mg/dl	110	93.4	127	8.30	16.60	
Iron	µmol/l	35.4	29.0	41.8	3.20	6.40	Colorimetric with ppt.
	µg/dl	198	162	234	18.00	36.00	
	µmol/l	35.2	28.8	41.6	3.20	6.40	Colorimetric without ppt.
	µg/dl	197	161	233	18.00	36.00	
Lactate	mmol/l	5.07	4.16	5.98	0.46	0.91	UV LDH
	mg/dl	45.7	37.5	53.9	4.10	8.20	
LD (LDH)	U/l	384	326	442	29.00	58.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	383	326	440	28.50	57.00	L->P IFCC 37°C
Lipase	U/l	273	219	327	27.00	54.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.80	1.59	2.01	0.11	0.21	Methylthymol blue
	mg/dl	4.37	3.86	4.88	0.26	0.51	
Phosphate Inorganic	mmol/l	2.37	2.01	2.73	0.18	0.36	Phosphomolybdate enzymatic
	mg/dl	7.35	6.23	8.47	0.56	1.12	
	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	6.06	5.58	6.54	0.24	0.48	ISE method - indirect
Protein Total	g/l	47.4	37.9	56.9	4.75	9.50	Biuret reaction end point
	g/dl	4.74	3.79	5.69	0.48	0.95	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	µmol/l	37.3	29.5	45.1	3.90	7.80	Removal of excess free iron
	µg/dl	209	165	253	22.00	44.00	

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RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	37.4	29.5	45.3	3.95	7.90	FE+UIBC(saturation with iron)
	µg/dl	209	165	253	22.00	44.00	
	µmol/l	37.6	29.7	45.5	3.95	7.90	Direct Colorimetric
	µg/dl	210	166	254	22.00	44.00	
Triglycerides	mmol/l	2.81	2.36	3.26	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	249	209	289	20.00	40.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.81	2.36	3.26	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	249	209	289	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.32	8.10	10.5	0.61	1.22	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.03	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.24	8.03	10.5	0.61	1.21	
Urea	mmol/l	22.0	18.7	25.3	1.65	3.30	Urease end point
	mg/dl	132	112	152	10.00	20.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease kinetic
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
	mg/dl	57.3	48.7	65.9	4.30	8.60	

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SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	349	297	401	26.00	52.00	Siemens 2-chloro-pNPG3 37°C
Bilirubin Total	µmol/l	83.6	66.0	101	8.80	17.60	Diazo with Sulphanilic Acid
	mg/dl	4.89	3.86	5.92	0.52	1.03	
Calcium	mmol/l	3.38	3.04	3.72	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.5	12.2	14.8	0.65	1.30	
Cholesterol	mmol/l	6.97	6.06	7.88	0.46	0.91	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	234	304	17.50	35.00	
Chloride	mmol/l	118	108	128	5.00	10.00	ISE indirect
CK Total	U/l	579	475	683	52.00	104.00	CK-NAC (IFCC) 37°C
gamma-GT	U/l	210	178	242	16.00	32.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.2	13.0	17.4	1.10	2.20	Hexokinase
	mg/dl	274	234	314	20.00	40.00	
LD (LDH)	U/l	393	334	452	29.50	59.00	L->P IFCC 37°C
Lipase	U/l	280	225	335	27.50	55.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.82	1.61	2.03	0.11	0.21	Methylthymol blue
	mg/dl	4.42	3.91	4.93	0.26	0.51	
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	6.02	5.54	6.50	0.24	0.48	ISE method - indirect
Protein Total	g/l	48.2	38.5	57.9	4.85	9.70	Biuret reaction end point
	g/dl	4.82	3.85	5.79	0.49	0.97	

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SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	224	308	21.00	42.00	
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	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	
	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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SNIBE Bioassays/BC Analysers

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			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	353	300	406	26.50	53.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	139	111	167	14.00	28.00	Tris buffer without P5P 37°C
Amylase Total	U/l	337	287	387	25.00	50.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	166	133	199	16.50	33.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	39.2	31.4	47.0	3.90	7.80	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	31.0	24.5	37.5	3.25	6.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.81	1.43	2.19	0.19	0.38	
Bilirubin Total	µmol/l	93.7	74.0	113	9.85	19.70	Oxidation to Biliverdin/Vanadate
	mg/dl	5.48	4.33	6.63	0.58	1.15	
Calcium	mmol/l	3.67	3.30	4.04	0.19	0.37	Cresolphthalein complexone
	mg/dl	14.7	13.2	16.2	0.75	1.50	
Cholesterol	mmol/l	7.28	6.33	8.23	0.48	0.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	244	318	18.50	37.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE direct
CK Total	U/l	587	481	693	53.00	106.00	CK-NAC substrate start (DGKC) 37°C
Creatinine	µmol/l	423	338	508	42.50	85.00	Creatinine PAP method
	mg/dl	4.78	3.82	5.74	0.48	0.96	
gamma-GT	U/l	172	146	198	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
alpha-HBDH	U/l	425	336	514	44.50	89.00	Oxobutyrate < 10 mmol/l 37°C
HDL - Cholesterol	mmol/l	2.45	2.08	2.82	0.19	0.37	Direct HDL PPD
	mg/dl	94.6	80.3	109	7.15	14.30	
Iron	µmol/l	35.5	29.1	41.9	3.20	6.40	Colorimetric without ppt.
	µg/dl	198	163	233	17.50	35.00	
Lactate	mmol/l	5.60	4.59	6.61	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.5	41.4	59.6	4.55	9.10	
LD (LDH)	U/l	386	328	444	29.00	58.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.46	2.09	2.83	0.19	0.37	Phosphomolybdate UV
	mg/dl	7.63	6.48	8.78	0.58	1.15	
Potassium	mmol/l	5.93	5.46	6.40	0.24	0.47	ISE method - direct
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	159	151	167	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	3.17	2.67	3.67	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	281	236	326	22.50	45.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.54	8.30	10.8	0.62	1.24	
	mmol/l	0.54	0.47	0.61	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	7.85	10.2	0.58	1.15	
Urea	mmol/l	20.5	17.5	23.5	1.50	3.00	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	

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URIT 8000 Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.7	27.0	36.4	2.35	4.70	Bromocresol Green
	g/dl	3.17	2.70	3.64	0.24	0.47	
Alkaline Phosphatase	U/l	352	299	405	26.50	53.00	AMP optimised to NVKC/SFBC 37°C
	U/l	274	233	315	20.50	41.00	AMP optimised to NVKC/SFBC 30°C
	U/l	225	191	259	17.00	34.00	AMP optimised to NVKC/SFBC 25°C
ALT (GPT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
	U/l	104	83	125	10.50	21.00	Tris buffer without P5P 30°C
	U/l	79	63	95	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	80	122	10.50	21.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.5	69.1	106	9.20	18.40	Diazo with Sulphanilic Acid
	mg/dl	5.12	4.04	6.20	0.54	1.08	
Calcium	mmol/l	3.28	2.95	3.61	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.8	14.4	0.65	1.30	
Cholesterol	mmol/l	7.38	6.42	8.34	0.48	0.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	285	248	322	18.50	37.00	
Creatinine	µmol/l	388	311	465	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.38	3.51	5.25	0.44	0.87	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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URIT 8000 Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1228UE Cat. No. HE1532 / HS2611

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

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	171	145	197	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	114	156	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	89	123	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
Protein Total	g/l	49.7	39.7	59.7	5.00	10.00	Biuret reaction end point
	g/dl	4.97	3.97	5.97	0.50	1.00	
Triglycerides	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	257	216	298	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.90	7.74	10.1	0.58	1.16	
Urea	mmol/l	19.5	16.5	22.5	1.50	3.00	Urease kinetic
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

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