RANDOX 2797 CE

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. 1070UE **EXPIRY:** 2023-01-28

INTENDED USE

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

DEVICE DESCRIPTION

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

SAFETY PRECAUTIONS AND WARNINGS

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

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

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

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

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

LIMITATIONS

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

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
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. This results in an assayed serum with extremely accurate values, which may be confidently used by laboratories to ensure the accuracy of their methods.

If an instrument specific value is not available, refer to the Mean of all Instruments 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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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.3	24.9	33.7	2.20	4.40	Bromocresol Green
	g/dl	2.93	2.49	3.37	0.22	0.44	
	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	
Alkaline Phosphatase	U/l	327	278	376	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	326	277	375	24.50	49.00	AMP non-optimised 37°C
ALT (GPT)	U/l	139	112	166	13.50	27.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	259	220	298	19.50	39.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	322	273	371	24.50	49.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	361	307	415	27.00	54.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	45.6	36.5	54.7	4.55	9.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	18.2	14.5	21.9	1.85	3.70	Enzymatic
Bilirubin Direct	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	27.3	21.6	33.0	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Bilirubin Total	µmol/l	92.2	72.8	112	9.70	19.40	Diazo with Dichloroaniline (DCA)
	mg/dl	5.39	4.26	6.52	0.57	1.13	
	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	

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Bilirubin Total	µmol/l	91.2	72.1	110	9.55	19.10	Diazonium ion
	mg/dl	5.34	4.22	6.46	0.56	1.12	
Calcium	mmol/l	3.21	2.89	3.53	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	7.08	6.16	8.00	0.46	0.92	Cholesterol Oxidase
	mg/dl	273	238	308	17.50	35.00	
Chloride	mmol/l	119	110	128	4.50	9.00	ISE indirect
Cholinesterase	U/l	5885	4708	7062	588.50	1177.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	543	445	641	49.00	98.00	CK-NAC serum start (DGKC) 37°C
Copper	µmol/l	20.9	16.7	25.1	2.10	4.20	Colorimetric
	µg/dl	133	106	160	13.50	27.00	
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	388	310	466	39.00	78.00	Enzymatic UV method
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	388	311	465	38.50	77.00	Jaffe rate blanked
	mg/dl	4.38	3.51	5.25	0.44	0.87	
	µmol/l	396	317	475	39.50	79.00	IDMS traceable
	mg/dl	4.47	3.58	5.36	0.45	0.89	
gamma-GT	U/l	163	139	187	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	162	137	187	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.5	13.1	17.9	1.20	2.40	Hexokinase
	mg/dl	279	236	322	21.50	43.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.99	1.69	2.29	0.15	0.30	Direct HDL PPD
	mg/dl	76.8	65.2	88.4	5.80	11.60	
	mmol/l	2.03	1.72	2.34	0.16	0.31	Direct Clearance Method
	mg/dl	78.4	66.4	90.4	6.00	12.00	
	mmol/l	1.98	1.68	2.28	0.15	0.30	HDL - Ultra
	mg/dl	76.4	64.8	88.0	5.80	11.60	
Iron	µmol/l	38.3	31.4	45.2	3.45	6.90	Colorimetric with ppt.
	µg/dl	214	176	252	19.00	38.00	
	µmol/l	38.9	31.9	45.9	3.50	7.00	Colorimetric without ppt.
	µg/dl	217	178	256	19.50	39.00	
Lactate	mmol/l	5.90	4.84	6.96	0.53	1.06	Colorimetric Lactate Oxidase
	mg/dl	53.2	43.6	62.8	4.80	9.60	
LD (LDH)	U/l	352	299	405	26.50	53.00	L->P 37°C
	U/l	352	299	405	26.50	53.00	L->P IFCC 37°C
Lipase	U/l	55	44	66	5.50	11.00	Other Colorimetric 37°C
Lithium	mmol/l	2.10	1.85	2.35	0.13	0.25	Spectrophotometric
	mg/dl	1.46	1.28	1.64	0.09	0.18	
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	1.76	1.55	1.97	0.11	0.21	Enzymatic
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Osmolality	mOsm/kg	351	280	422	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.17	1.85	2.49	0.16	0.32	Phosphomolybdate enzymatic
	mg/dl	6.73	5.74	7.72	0.50	0.99	
	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.79	5.77	7.81	0.51	1.02	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.03	5.55	6.51	0.24	0.48	ISE method - indirect
Protein Total	g/l	44.9	35.9	53.9	4.50	9.00	Biuret reaction end point
	g/dl	4.49	3.59	5.39	0.45	0.90	
	g/l	44.7	35.8	53.6	4.45	8.90	Biuret reaction kinetic
	g/dl	4.47	3.58	5.36	0.45	0.89	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.8	33.8	51.8	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	239	189	289	25.00	50.00	
	µmol/l	39.9	31.5	48.3	4.20	8.40	Calculated from Transferrin
	µg/dl	223	176	270	23.50	47.00	
Triglycerides	mmol/l	2.95	2.47	3.43	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	259	218	300	20.50	41.00	
UIBC	µmol/l	4.40	3.61	5.19	0.40	0.79	Direct Colorimetric
	µg/dl	24.6	20.2	29.0	2.20	4.40	
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	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	8.16	10.6	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.26	8.06	10.5	0.60	1.20	
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease end point
	mg/dl	118	100	136	9.00	18.00	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.7	23.5	31.9	2.10	4.20	Bromocresol Green
	g/dl	2.77	2.35	3.19	0.21	0.42	
	g/l	28.8	24.5	33.1	2.15	4.30	Bromocresol Purple
	g/dl	2.88	2.45	3.31	0.22	0.43	
Alkaline Phosphatase	U/l	391	333	449	29.00	58.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	142	113	171	14.50	29.00	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	296	252	340	22.00	44.00	pNP Maltotrioside substrates 37°C
	U/l	292	248	336	22.00	44.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	289	246	332	21.50	43.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	158	127	189	15.50	31.00	Tris buffer without P5P 37°C
	U/l	158	127	189	15.50	31.00	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	19.6	15.5	23.7	2.05	4.10	Enzymatic
Bilirubin Direct	µmol/l	21.2	16.8	25.6	2.20	4.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.24	0.983	1.50	0.13	0.26	
	µmol/l	21.9	17.3	26.5	2.30	4.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.28	1.01	1.55	0.14	0.27	
Bilirubin Total	µmol/l	94.7	74.8	115	9.95	19.90	Diazo with Dichloroaniline (DCA)
	mg/dl	5.54	4.38	6.70	0.58	1.16	
	µmol/l	90.2	71.3	109	9.45	18.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.28	4.17	6.39	0.56	1.11	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	89.5	70.7	108	9.40	18.80	DPD (Beckman AU)
	mg/dl	5.24	4.14	6.34	0.55	1.10	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	3.17	2.85	3.49	0.16	0.32	Arsenazo III
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Cholesterol	mmol/l	7.22	6.28	8.16	0.47	0.94	Cholesterol Oxidase
	mg/dl	279	242	316	18.50	37.00	
Chloride	mmol/l	118	109	127	4.50	9.00	ISE indirect
Cholinesterase	U/l	4919	3935	5903	492.00	984.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	545	447	643	49.00	98.00	CK-NAC (IFCC) 37°C
	U/l	530	435	625	47.50	95.00	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	362	289	435	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.09	3.27	4.91	0.41	0.82	
	µmol/l	388	310	466	39.00	78.00	Enzymatic UV method
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	394	315	473	39.50	79.00	Creatinine PAP method
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	µmol/l	363	291	435	36.00	72.00	Jaffe rate blanked
	mg/dl	4.10	3.29	4.91	0.41	0.81	
	µmol/l	362	290	434	36.00	72.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.09	3.28	4.90	0.41	0.81	
	µmol/l	372	298	446	37.00	74.00	IDMS traceable
	mg/dl	4.20	3.37	5.03	0.42	0.83	
D-3-Hydroxybutyrate	mmol/l	1.18	1.00	1.36	0.09	0.18	Tris buffer 100mmol pH 8.5

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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 37°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	165	140	190	12.50	25.00	Beckman Szasz (Extinction Coeff) 37°C
Glucose	mmol/l	15.8	13.5	18.1	1.15	2.30	Glucose dehydrogenase
	mg/dl	285	243	327	21.00	42.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	
	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
alpha-HBDH	U/l	384	304	464	40.00	80.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	290	230	350	30.00	60.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	217	172	262	22.50	45.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	2.22	1.89	2.55	0.17	0.33	Direct HDL Immunoseparation
	mg/dl	85.7	73.0	98.4	6.35	12.70	
	mmol/l	2.07	1.76	2.38	0.16	0.31	Direct Clearance Method
	mg/dl	79.9	67.9	91.9	6.00	12.00	
	mmol/l	2.04	1.73	2.35	0.16	0.31	HDL - Ultra
	mg/dl	78.7	66.8	90.6	5.95	11.90	
Iron	µmol/l	41.3	33.9	48.7	3.70	7.40	Colorimetric with ppt.
	µg/dl	231	190	272	20.50	41.00	
	µmol/l	39.9	32.7	47.1	3.60	7.20	Colorimetric without ppt.
	µg/dl	223	183	263	20.00	40.00	
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	353	300	406	26.50	53.00	L->P 37°C

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RANDOX

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	779	662	896	58.50	117.00	P->L Scandinavian & Dutch 37°C
	U/l	361	307	415	27.00	54.00	L->P IFCC 37°C
	U/l	338	287	389	25.50	51.00	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	59	48	70	5.50	11.00	Other Colorimetric 37°C
	U/l	51	41	61	5.00	10.00	Roche Colorimetric 37°C
	U/l	83	67	99	8.00	16.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.07	1.82	2.32	0.13	0.25	Spectrophotometric
	mg/dl	1.44	1.26	1.62	0.09	0.18	
Magnesium	mmol/l	1.81	1.59	2.03	0.11	0.22	Xylidyl Blue
	mg/dl	4.40	3.86	4.94	0.27	0.54	
Osmolality	mOsm/kg	348	278	418	35.00	70.00	Calculated
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	
Potassium	mmol/l	6.03	5.54	6.52	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.7	35.8	53.6	4.45	8.90	Biuret reaction end point
	g/dl	4.47	3.58	5.36	0.45	0.89	
	g/l	44.7	35.7	53.7	4.50	9.00	Biuret reaction kinetic
	g/dl	4.47	3.57	5.37	0.45	0.90	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	41.0	32.4	49.6	4.30	8.60	FE+UIBC(saturation with iron)
	µg/dl	229	181	277	24.00	48.00	
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	259	218	300	20.50	41.00	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.73	8.47	11.0	0.63	1.26	
	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.69	8.43	11.0	0.63	1.26	
	mmol/l	0.59	0.51	0.66	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.83	8.55	11.1	0.64	1.28	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease end point
	mg/dl	121	103	139	9.00	18.00	
	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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Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Purple
	g/dl	2.95	2.51	3.39	0.22	0.44	
Alkaline Phosphatase	U/l	349	297	401	26.00	52.00	AMP optimised to IFCC 37°C
	U/l	347	295	399	26.00	52.00	AMP non-optimised 37°C
ALT (GPT)	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
	U/l	127	102	152	12.50	25.00	Tris buffer SCE 37°C
Amylase Total	U/l	298	254	342	22.00	44.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
	U/l	139	112	166	13.50	27.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	18.4	14.6	22.2	1.90	3.80	Differential rate pH change
	mmol/l	18.9	15.0	22.8	1.95	3.90	Ion selective electrode
Bilirubin Total	µmol/l	88.6	70.0	107	9.30	18.60	Diazo with Sulphanilic Acid
	mg/dl	5.18	4.10	6.26	0.54	1.08	
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Ion selective electrode
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Cholesterol	mmol/l	7.26	6.31	8.21	0.48	0.95	Cholesterol Oxidase
	mg/dl	280	244	316	18.00	36.00	
Chloride	mmol/l	117	108	126	4.50	9.00	ISE indirect
CK Total	U/l	549	450	648	49.50	99.00	Monothioglycerol 37°C
	U/l	536	440	632	48.00	96.00	Creatinine phosphate substrate Start 37°C
Creatinine	µmol/l	380	304	456	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.29	3.44	5.14	0.43	0.85	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	382	306	458	38.00	76.00	IDMS traceable
	mg/dl	4.32	3.46	5.18	0.43	0.86	
gamma-GT	U/l	133	113	153	10.00	20.00	Gamma glutamyl-4-nitroanilide 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	15.4	13.1	17.7	1.15	2.30	Oxygen electrode
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
HDL - Cholesterol	mmol/l	2.10	1.78	2.42	0.16	0.32	Direct HDL PPD
	mg/dl	81.1	68.7	93.5	6.20	12.40	
	mmol/l	2.08	1.77	2.39	0.16	0.31	HDL - Ultra
	mg/dl	80.3	68.3	92.3	6.00	12.00	
Iron	µmol/l	40.9	33.5	48.3	3.70	7.40	Colorimetric without ppt.
	µg/dl	229	187	271	21.00	42.00	
Lactate	mmol/l	5.16	4.24	6.08	0.46	0.92	Colorimetric Lactate Oxidase
	mg/dl	46.5	38.2	54.8	4.15	8.30	
LD (LDH)	U/l	293	249	337	22.00	44.00	L->P 37°C
	U/l	292	248	336	22.00	44.00	L->P IFCC 37°C
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Calmagite
	mg/dl	4.23	3.72	4.74	0.26	0.51	
Phosphate Inorganic	mmol/l	2.20	1.87	2.53	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.82	5.80	7.84	0.51	1.02	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.2	36.2	54.2	4.50	9.00	Biuret reaction end point
	g/dl	4.52	3.62	5.42	0.45	0.90	
	g/l	44.3	35.4	53.2	4.45	8.90	Biuret reaction kinetic
	g/dl	4.43	3.54	5.32	0.45	0.89	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	265	222	308	21.50	43.00	
	mmol/l	2.94	2.47	3.41	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	260	219	301	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	7.91	10.3	0.59	1.18	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease end point
	mg/dl	121	103	139	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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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.7	25.2	34.2	2.25	4.50	Bromocresol Green
	g/dl	2.97	2.52	3.42	0.23	0.45	
Alkaline Phosphatase	U/l	323	274	372	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	252	213	291	19.50	39.00	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	151	120	182	15.50	31.00	Tris buffer without P5P 37°C
	U/l	112	89	135	11.50	23.00	Tris buffer without P5P 30°C
	U/l	85	68	102	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37°C
	U/l	107	86	128	10.50	21.00	Tris buffer without P5P 30°C
	U/l	76	60	92	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.48	1.17	1.79	0.16	0.31	
Bilirubin Total	µmol/l	87.9	69.4	106	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.14	4.06	6.22	0.54	1.08	
Cholesterol	mmol/l	7.28	6.33	8.23	0.48	0.95	Cholesterol Oxidase
	mg/dl	281	244	318	18.50	37.00	
Creatinine	µmol/l	344	275	413	34.50	69.00	Alkaline picrate no deproteinization
	mg/dl	3.89	3.11	4.67	0.39	0.78	
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	46.6	37.3	55.9	4.65	9.30	Biuret reaction end point
	g/dl	4.66	3.73	5.59	0.47	0.93	
Triglycerides	mmol/l	2.83	2.38	3.28	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	250	211	289	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.97	7.80	10.1	0.59	1.17	
Urea	mmol/l	18.5	15.8	21.2	1.35	2.70	Urease kinetic
	mg/dl	111	95.0	127	8.00	16.00	
	mmol/l	18.5	15.7	21.3	1.40	2.80	BUN
	mg/dl	51.9	44.1	59.7	3.90	7.80	

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Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.4	24.1	32.7	2.15	4.30	Bromocresol Green
	g/dl	2.84	2.41	3.27	0.22	0.43	
ALT (GPT)	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37°C
	U/l	109	87	131	11.00	22.00	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	154	123	185	15.50	31.00	Tris buffer without P5P 37°C
	U/l	104	83	125	10.50	21.00	Tris buffer without P5P 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	81.1	64.0	98.2	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.74	3.74	5.74	0.50	1.00	
Calcium	mmol/l	2.92	2.63	3.21	0.15	0.29	Arsenazo III
	mg/dl	11.7	10.5	12.9	0.60	1.20	
Cholesterol	mmol/l	7.15	6.22	8.08	0.47	0.93	Cholesterol Oxidase
	mg/dl	276	240	312	18.00	36.00	
Creatinine	µmol/l	351	280	422	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	3.97	3.16	4.78	0.41	0.81	
	µmol/l	379	303	455	38.00	76.00	Creatinine PAP method
	mg/dl	4.28	3.42	5.14	0.43	0.86	
	µmol/l	351	280	422	35.50	71.00	Jaffe rate blanked
	mg/dl	3.97	3.16	4.78	0.41	0.81	
Glucose	mmol/l	15.2	13.0	17.4	1.10	2.20	Glucose oxidase
	mg/dl	274	234	314	20.00	40.00	

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Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
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 no ascorbate oxidase
	mg/dl	9.12	7.95	10.3	0.59	1.17	
Urea	mmol/l	18.5	15.8	21.2	1.35	2.70	Urease kinetic
	mg/dl	111	95.0	127	8.00	16.00	
	mmol/l	18.5	15.7	21.3	1.40	2.80	BUN
	mg/dl	51.9	44.1	59.7	3.90	7.80	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			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	
	g/l	27.0	23.0	31.0	2.00	4.00	Turbidimetric Assays
	g/dl	2.70	2.30	3.10	0.20	0.40	
Alkaline Phosphatase	U/l	285	242	328	21.50	43.00	Roche Integra AMP buffer 37°C
	U/l	222	189	255	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	182	155	209	13.50	27.00	Roche Integra AMP buffer 25°C
	U/l	284	241	327	21.50	43.00	AMP optimised to IFCC 37°C
	U/l	221	188	254	16.50	33.00	AMP optimised to IFCC 30°C
	U/l	181	154	208	13.50	27.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	134	108	160	13.00	26.00	Tris buffer without P5P 37°C
	U/l	99	80	118	9.50	19.00	Tris buffer without P5P 30°C
	U/l	75	61	89	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	267	227	307	20.00	40.00	Roche EPS Liquid 37°C
Amylase Total	U/l	285	242	328	21.50	43.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	285	242	328	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.2	14.5	21.9	1.85	3.70	Enzymatic
Bilirubin Direct	µmol/l	30.1	23.7	36.5	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	1.39	2.13	0.19	0.37	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	30.1	23.8	36.4	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	29.8	23.5	36.1	3.15	6.30	Roche JG factored
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Bilirubin Total	µmol/l	79.8	63.0	96.6	8.40	16.80	Diazo with Sulphanilic Acid
	mg/dl	4.67	3.69	5.65	0.49	0.98	
	µmol/l	78.9	62.3	95.5	8.30	16.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.62	3.64	5.60	0.49	0.98	
	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazonium ion
	mg/dl	4.62	3.65	5.59	0.49	0.97	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.21	2.89	3.53	0.16	0.32	NM-BAPTA
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	7.01	6.10	7.92	0.46	0.91	Cholesterol Oxidase
	mg/dl	271	235	307	18.00	36.00	
Chloride	mmol/l	119	110	128	4.50	9.00	ISE indirect
CK Total	U/l	490	402	578	44.00	88.00	CK-NAC (IFCC) 37°C
	U/l	307	252	362	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	208	171	245	18.50	37.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	375	300	450	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	374	299	449	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.23	3.38	5.08	0.43	0.85	

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RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	374	299	449	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	368	294	442	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.16	3.32	5.00	0.42	0.84	
gamma-GT	U/l	154	131	177	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	121	103	139	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	95	81	109	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	2.58	2.19	2.97	0.20	0.39	Direct HDL Roche 3rd generation
	mg/dl	99.6	84.5	115	7.55	15.10	
	mmol/l	2.71	2.31	3.11	0.20	0.40	Direct HDL Roche 4th Generation
	mg/dl	105	89.2	121	7.90	15.80	
Iron	µmol/l	39.6	32.5	46.7	3.55	7.10	Colorimetric with ppt.
	µg/dl	221	182	260	19.50	39.00	
	µmol/l	39.6	32.5	46.7	3.55	7.10	Colorimetric without ppt.
	µg/dl	221	182	260	19.50	39.00	
Lactate	mmol/l	5.66	4.64	6.68	0.51	1.02	Colorimetric Lactate Oxidase
	mg/dl	51.0	41.8	60.2	4.60	9.20	
LD (LDH)	U/l	683	580	786	51.50	103.00	P->L German methods 37°C
	U/l	493	419	567	37.00	74.00	P->L German methods 30°C
	U/l	346	294	398	26.00	52.00	P->L German methods 25°C

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	372	316	428	28.00	56.00	L->P IFCC 37°C
	U/l	269	228	310	20.50	41.00	L->P IFCC 30°C
	U/l	189	160	218	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	54	44	64	5.00	10.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.17	1.91	2.43	0.13	0.26	Ion selective electrode
	mg/dl	1.51	1.33	1.69	0.09	0.18	
Magnesium	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	
	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	
	mmol/l	1.78	1.57	1.99	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.01	5.95	8.07	0.53	1.06	
	mmol/l	2.27	1.93	2.61	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.04	5.98	8.10	0.53	1.06	
Potassium	mmol/l	6.04	5.56	6.52	0.24	0.48	ISE method - indirect
Protein Total	g/l	42.6	34.1	51.1	4.25	8.50	Biuret reaction end point
	g/dl	4.26	3.41	5.11	0.43	0.85	
	g/l	43.7	35.0	52.4	4.35	8.70	Biuret reaction kinetic
	g/dl	4.37	3.50	5.24	0.44	0.87	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	43.4	34.3	52.5	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	243	192	294	25.50	51.00	
Triglycerides	mmol/l	2.95	2.48	3.42	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.97	2.49	3.45	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	263	220	306	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.41	8.20	10.6	0.61	1.21	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	8.23	10.7	0.62	1.23	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.48	8.25	10.7	0.62	1.23	
Urea	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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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			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	434	369	499	32.50	65.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	147	117	177	15.00	30.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	83.9	66.2	102	8.85	17.70	Diazo with Sulphanilic Acid
	mg/dl	4.91	3.87	5.95	0.52	1.04	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Cholesterol	mmol/l	7.19	6.26	8.12	0.47	0.93	Cholesterol Oxidase
	mg/dl	278	242	314	18.00	36.00	
CK Total	U/l	500	410	590	45.00	90.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	375	300	450	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.24	3.39	5.09	0.43	0.85	
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	359	305	413	27.00	54.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.16	1.84	2.48	0.16	0.32	Phosphomolybdate UV
	mg/dl	6.70	5.70	7.70	0.50	1.00	
Protein Total	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	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	217	299	20.50	41.00	
Uric Acid (Urate)	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	
Urea	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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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.2	25.6	34.8	2.30	4.60	Bromocresol Green
	g/dl	3.02	2.56	3.48	0.23	0.46	
Alkaline Phosphatase	U/l	282	240	324	21.00	42.00	Roche Integra AMP buffer 37°C
	U/l	220	187	253	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	180	153	207	13.50	27.00	Roche Integra AMP buffer 25°C
	U/l	362	308	416	27.00	54.00	Randox AMP 37°C
	U/l	282	240	324	21.00	42.00	Randox AMP 30°C
	U/l	231	197	265	17.00	34.00	Randox AMP 25°C
ALT (GPT)	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	305	259	351	23.00	46.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	277	236	318	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	314	267	361	23.50	47.00	Randox Liquid Ethylidene pNPG7 37°C
Acid Phosphatase (Total)	U/l	30.5	20.4	40.6	5.05	10.10	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	162	129	195	16.50	33.00	Tris buffer without P5P 37°C
	U/l	110	87	133	11.50	23.00	Tris buffer without P5P 30°C
	U/l	77	61	93	8.00	16.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	43.2	34.6	51.8	4.30	8.60	5th Generation Colorimetric
Cholesterol	mmol/l	7.00	6.09	7.91	0.46	0.91	Cholesterol Oxidase
	mg/dl	270	235	305	17.50	35.00	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	117	107	127	5.00	10.00	ISE indirect
gamma-GT	U/l	176	150	202	13.00	26.00	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
	U/l	183	156	210	13.50	27.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	144	123	165	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	113	96	130	8.50	17.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 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	
Phosphate Inorganic	mmol/l	2.18	1.85	2.51	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.76	5.74	7.78	0.51	1.02	
Potassium	mmol/l	6.13	5.64	6.62	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Biuret reaction end point
	g/dl	4.55	3.64	5.46	0.46	0.91	
Sodium	mmol/l	163	155	171	4.00	8.00	ISE method - indirect
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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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.3	24.9	33.7	2.20	4.40	Bromocresol Green
	g/dl	2.93	2.49	3.37	0.22	0.44	
Alkaline Phosphatase	U/l	327	278	376	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	255	217	293	19.00	38.00	AMP optimised to IFCC 30°C
	U/l	209	178	240	15.50	31.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	111	89	133	11.00	22.00	Tris buffer without P5P 30°C
	U/l	84	68	100	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	169	135	203	17.00	34.00	Tris buffer without P5P 37°C
	U/l	114	91	137	11.50	23.00	Tris buffer without P5P 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	43.4	34.7	52.1	4.35	8.70	Enzymatic Colorimetric
Bilirubin Total	µmol/l	88.5	69.9	107	9.30	18.60	Nitrobenzenediazonium salt
	mg/dl	5.18	4.09	6.27	0.55	1.09	
Calcium	mmol/l	3.35	3.02	3.68	0.17	0.33	Arsenazo III
	mg/dl	13.4	12.1	14.7	0.65	1.30	
Cholesterol	mmol/l	7.04	6.12	7.96	0.46	0.92	Cholesterol Oxidase
	mg/dl	272	236	308	18.00	36.00	
Chloride	mmol/l	120	110	130	5.00	10.00	ISE direct
CK Total	U/l	519	426	612	46.50	93.00	CK-NAC (IFCC) 37°C
	U/l	325	267	383	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	221	181	261	20.00	40.00	CK-NAC (IFCC) 25°C

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

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	377	302	452	37.50	75.00	Enzymatic UV method
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	391	313	469	39.00	78.00	Creatinine PAP method
	mg/dl	4.42	3.54	5.30	0.44	0.88	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	109	147	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	100	85	115	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
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	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
Iron	µmol/l	38.2	31.3	45.1	3.45	6.90	Colorimetric without ppt.
	µg/dl	214	175	253	19.50	39.00	
LD (LDH)	U/l	670	569	771	50.50	101.00	P->L SFBC 37°C
	U/l	484	411	557	36.50	73.00	P->L SFBC 30°C
	U/l	340	288	392	26.00	52.00	P->L SFBC 25°C
Magnesium	mmol/l	1.66	1.46	1.86	0.10	0.20	Xylidyl Blue
	mg/dl	4.03	3.55	4.51	0.24	0.48	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	5.95	5.47	6.43	0.24	0.48	ISE method - direct
Protein Total	g/l	45.3	36.3	54.3	4.50	9.00	Biuret reaction end point
	g/dl	4.53	3.63	5.43	0.45	0.90	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct

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

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.96	2.49	3.43	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	262	220	304	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	8.35	10.8	0.62	1.24	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	8.22	10.7	0.61	1.22	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.49	8.25	10.7	0.62	1.24	
Urea	mmol/l	18.6	15.8	21.4	1.40	2.80	Urease kinetic
	mg/dl	112	95.0	129	8.50	17.00	
	mmol/l	18.6	15.8	21.4	1.40	2.80	BUN
	mg/dl	52.2	44.4	60.0	3.90	7.80	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.6	25.2	34.0	2.20	4.40	Bromocresol Green
	g/dl	2.96	2.52	3.40	0.22	0.44	
	g/l	28.6	24.3	32.9	2.15	4.30	Bromocresol Purple
	g/dl	2.86	2.43	3.29	0.22	0.43	
	g/l	28.1	23.9	32.3	2.10	4.20	Ortho Vitros Microslide Systems
	g/dl	2.81	2.39	3.23	0.21	0.42	
	g/l	27.2	23.1	31.3	2.05	4.10	Turbidimetric Assays
	g/dl	2.72	2.31	3.13	0.21	0.41	
Alkaline Phosphatase	U/l	245	208	282	18.50	37.00	Ortho Vitros Microslide Systems 37°C
	U/l	495	421	569	37.00	74.00	Diethanolamine buffer DEA 37°C
	U/l	386	328	444	29.00	58.00	Diethanolamine buffer DEA 30°C
	U/l	316	269	363	23.50	47.00	Diethanolamine buffer DEA 25°C
	U/l	342	291	393	25.50	51.00	AMP optimised to IFCC 37°C
	U/l	266	227	305	19.50	39.00	AMP optimised to IFCC 30°C
	U/l	219	186	252	16.50	33.00	AMP optimised to IFCC 25°C
	U/l	331	282	380	24.50	49.00	AMP non-optimised 37°C
	U/l	258	220	296	19.00	38.00	AMP non-optimised 30°C
	U/l	212	180	244	16.00	32.00	AMP non-optimised 25°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Ortho Vitros Microslide Systems 37°C
	U/l	148	118	178	15.00	30.00	Tris buffer with P5P 37°C
	U/l	110	87	133	11.50	23.00	Tris buffer with P5P 30°C
	U/l	83	66	100	8.50	17.00	Tris buffer with P5P 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer without P5P 37°C
	U/l	102	82	122	10.00	20.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
	U/l	128	102	154	13.00	26.00	Tris buffer SCE 37°C
	U/l	95	75	115	10.00	20.00	Tris buffer SCE 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	258	219	297	19.50	39.00	Immunoinhibition EPS substrate 37°C
	U/l	255	217	293	19.00	38.00	Roche EPS Liquid 37°C
	U/l	305	259	351	23.00	46.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	308	262	354	23.00	46.00	pNP Maltotrioside substrates 37°C
	U/l	293	249	337	22.00	44.00	Siemens - blocked pNPG7 37°C
	U/l	234	199	269	17.50	35.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	314	267	361	23.50	47.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	275	234	316	20.50	41.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	314	267	361	23.50	47.00	Siemens - maltopenta/hexaoside 37°C
	U/l	271	230	312	20.50	41.00	Saccharogenic 37°C
	U/l	281	239	323	21.00	42.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	182	154	210	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	271	230	312	20.50	41.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	275	234	316	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	345	293	397	26.00	52.00	Siemens 2-chloro-pNPG3 37°C
	U/l	291	248	334	21.50	43.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	298	253	343	22.50	45.00	Beckman Synchron AMY7 37°C
	U/l	321	273	369	24.00	48.00	Abbott Architect Non-IFCC Cal. 37°C

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	361	307	415	27.00	54.00	Abbott Architect IFCC Cal. 37°C
	U/l	289	246	332	21.50	43.00	Beckman CNPG3 (Extinction Coeff) 37°C
Apolipoprotein A-1	g/l	1.21	0.99	1.43	0.11	0.22	Immunoturbidimetric
	mg/dl	121	99.2	143	10.90	21.80	
Apolipoprotein B	g/l	0.58	0.48	0.69	0.05	0.11	Immunoturbidimetric
	mg/dl	58.2	47.7	68.7	5.25	10.50	
Acid Phosphatase (Total)	U/l	30.5	20.4	40.6	5.05	10.10	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	196	157	235	19.50	39.00	Ortho Vitros Microslide visible slide 37°C
	U/l	198	159	237	19.50	39.00	Tris buffer with P5P 37°C
	U/l	134	107	161	13.50	27.00	Tris buffer with P5P 30°C
	U/l	94	76	112	9.00	18.00	Tris buffer with P5P 25°C
	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
	U/l	140	112	168	14.00	28.00	Tris buffer SCE 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer SCE 30°C
	U/l	67	53	81	7.00	14.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	44.7	35.8	53.6	4.45	8.90	4th Generation Colorimetric
	µmol/l	42.8	34.2	51.4	4.30	8.60	5th Generation Colorimetric
Bicarbonate	mmol/l	19.4	15.4	23.4	2.00	4.00	Colorimetric
	mmol/l	20.5	16.3	24.7	2.10	4.20	Ortho Vitros Microslide Systems
	mmol/l	18.6	14.7	22.5	1.95	3.90	Differential rate pH change
	mmol/l	19.0	15.0	23.0	2.00	4.00	Enzymatic
	mmol/l	19.1	15.1	23.1	2.00	4.00	Ion selective electrode
Bilirubin Direct	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.29	1.99	0.18	0.35	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	27.4	21.7	33.1	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	1.27	1.93	0.17	0.33	
	µmol/l	29.6	23.4	35.8	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.73	1.37	2.09	0.18	0.36	
	µmol/l	28.7	22.7	34.7	3.00	6.00	Modified Jendrassik
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin Total	µmol/l	81.7	64.6	98.8	8.55	17.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.78	3.78	5.78	0.50	1.00	
	µmol/l	97.4	76.9	118	10.25	20.50	Diazo with Dichloroaniline (DCA)
	mg/dl	5.70	4.50	6.90	0.60	1.20	
	µmol/l	86.5	68.3	105	9.10	18.20	Diazo with Sulphanilic Acid
	mg/dl	5.06	4.00	6.12	0.53	1.06	
	µmol/l	81.8	64.6	99.0	8.60	17.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.79	3.78	5.80	0.51	1.01	
	µmol/l	88.5	69.9	107	9.30	18.60	Nitrobenzenediazonium salt
	mg/dl	5.18	4.09	6.27	0.55	1.09	
	µmol/l	84.4	66.6	102	8.90	17.80	Diazonium ion
	mg/dl	4.94	3.90	5.98	0.52	1.04	
	µmol/l	97.7	77.2	118	10.25	20.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.72	4.52	6.92	0.60	1.20	
	µmol/l	96.6	76.3	117	10.15	20.30	Modified Jendrassik
	mg/dl	5.65	4.46	6.84	0.60	1.19	
Calcium	mmol/l	3.20	2.88	3.52	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.15	2.83	3.47	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.6	11.3	13.9	0.65	1.30	
	mmol/l	3.10	2.79	3.41	0.16	0.31	Ion selective electrode
	mg/dl	12.4	11.2	13.6	0.60	1.20	
	mmol/l	3.19	2.87	3.51	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.20	2.88	3.52	0.16	0.32	NM-BAPTA
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	1.09	0.98	1.20	0.05	0.11	Ionised calcium
	mg/dl	4.37	3.93	4.81	0.22	0.44	
Cholesterol	mmol/l	6.68	5.81	7.55	0.44	0.87	Ortho Vitros Microslide Systems
	mg/dl	258	224	292	17.00	34.00	
	mmol/l	7.07	6.15	7.99	0.46	0.92	Cholesterol Oxidase
	mg/dl	273	237	309	18.00	36.00	
Chloride	mmol/l	116	107	125	4.50	9.00	Colorimetric
	mmol/l	119	109	129	5.00	10.00	Ortho Vitros Microslide Systems
	mmol/l	118	109	127	4.50	9.00	ISE indirect
	mmol/l	118	109	127	4.50	9.00	ISE direct
Cholinesterase	U/l	5090	4072	6108	509.00	1018.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	404	331	477	36.50	73.00	Ortho Vitros Microslide Systems 37°C
	U/l	531	435	627	48.00	96.00	CK-NAC serum start (DGKC) 37°C
	U/l	332	272	392	30.00	60.00	CK-NAC serum start (DGKC) 30°C
	U/l	226	185	267	20.50	41.00	CK-NAC serum start (DGKC) 25°C
	U/l	507	416	598	45.50	91.00	CK-NAC substrate start (DGKC) 37°C
	U/l	317	260	374	28.50	57.00	CK-NAC substrate start (DGKC) 30°C
	U/l	215	177	253	19.00	38.00	CK-NAC substrate start (DGKC) 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	507	416	598	45.50	91.00	CK-NAC (IFCC) 37°C
	U/l	317	260	374	28.50	57.00	CK-NAC (IFCC) 30°C
	U/l	215	177	253	19.00	38.00	CK-NAC (IFCC) 25°C
	U/l	549	450	648	49.50	99.00	Monothioglycerol 37°C
	U/l	344	282	406	31.00	62.00	Monothioglycerol 30°C
	U/l	233	191	275	21.00	42.00	Monothioglycerol 25°C
Copper	µmol/l	26.9	21.5	32.3	2.70	5.40	Atomic absorption
	µg/dl	171	137	205	17.00	34.00	
	µmol/l	26.5	21.2	31.8	2.65	5.30	Colorimetric
	µg/dl	169	135	203	17.00	34.00	
Cortisol	nmol/l	1103	827	1379	138.00	276.00	Roche Cobas E411
	µg/dl	39.7	29.8	49.6	4.95	9.90	
Creatinine	µmol/l	369	295	443	37.00	74.00	Alkaline picrate with deproteinization
	mg/dl	4.17	3.33	5.01	0.42	0.84	
	µmol/l	368	295	441	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.16	3.33	4.99	0.42	0.83	
	µmol/l	383	306	460	38.50	77.00	Enzymatic UV method
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	388	311	465	38.50	77.00	Creatinine PAP method
	mg/dl	4.38	3.51	5.25	0.44	0.87	
	µmol/l	376	301	451	37.50	75.00	Jaffe rate blanked
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	378	302	454	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.27	3.41	5.13	0.43	0.86	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	368	294	442	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	379	303	455	38.00	76.00	Vitros IDMS Traceable
	mg/dl	4.28	3.42	5.14	0.43	0.86	
	µmol/l	375	300	450	37.50	75.00	IDMS traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
D-3-Hydroxybutyrate	mmol/l	1.18	1.01	1.35	0.09	0.17	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	3.89	3.11	4.67	0.39	0.78	Immunoturbidimetric
	ng/ml	3.04	2.43	3.65	0.31	0.61	
Folate	nmol/l	14.3	10.9	17.7	1.70	3.39	Roche Cobas E411
	ng/ml	6.30	4.81	7.79	0.75	1.49	
Free T4	pmol/l	48.3	36.2	60.4	6.05	12.10	Abbott Architect
	ng/dl	3.77	2.82	4.72	0.48	0.95	
	pg/ml	37.7	28.2	47.2	4.75	9.50	Abbott Architect
	pmol/l	70.9	53.2	88.6	8.85	17.70	Siemens Centaur XP/XPT/Classic
	ng/dl	5.53	4.15	6.91	0.69	1.38	
	pg/ml	55.3	41.5	69.1	6.90	13.80	Siemens Centaur XP/XPT/Classic
	pmol/l	61.6	46.2	77.0	7.70	15.40	Beckman Access
	ng/dl	4.80	3.60	6.00	0.60	1.20	
	pg/ml	48.0	36.0	60.0	6.00	12.00	Beckman Access
	pmol/l	66.7	50.0	83.4	8.35	16.70	Beckman DxI800
	ng/dl	5.20	3.90	6.50	0.65	1.30	
	pg/ml	52.0	39.0	65.0	6.50	13.00	Beckman DxI800
	pmol/l	71.5	53.6	89.4	8.95	17.90	Siemens Immulite 2000/2500
	ng/dl	5.58	4.18	6.98	0.70	1.40	
	pg/ml	55.8	41.8	69.8	7.00	14.00	Siemens Immulite 2000/2500

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	83.9	62.9	105	10.50	21.00	Roche Cobas E411
	ng/dl	6.54	4.91	8.17	0.82	1.63	
	pg/ml	65.4	49.1	81.7	8.15	16.30	Roche Cobas E411
	pmol/l	86.3	64.7	108	10.80	21.60	Roche Cobas 6000/8000
	ng/dl	6.73	5.05	8.41	0.84	1.68	
	pg/ml	67.3	50.5	84.1	8.40	16.80	Roche Cobas 6000/8000
	pmol/l	75.4	56.6	94.2	9.40	18.80	Biomerieux Vidas FT4N Kit
	ng/dl	5.88	4.41	7.35	0.74	1.47	
	pg/ml	58.8	44.1	73.5	7.35	14.70	Biomerieux Vidas FT4N Kit
Gentamicin	µmol/l	18.8	15.0	22.6	1.91	3.81	Immunoturbidimetric
	µg/ml	8.99	7.17	10.8	0.91	1.82	
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	196	166	226	15.00	30.00	Ortho Vitros Microslide Systems 37°C
	U/l	133	113	153	10.00	20.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	105	89	121	8.00	16.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	82	70	94	6.00	12.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	168	143	193	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	113	151	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	88	120	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	183	156	210	13.50	27.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	144	123	165	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	113	96	130	8.50	17.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
GLDH	U/l	37	30	44	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
	U/l	28	23	33	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	23	19	27	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.3	12.2	16.4	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	258	220	296	19.00	38.00	
	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	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	15.5	13.1	17.9	1.20	2.40	Oxygen electrode
	mg/dl	279	236	322	21.50	43.00	
	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	394	311	477	41.50	83.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	297	235	359	31.00	62.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	223	176	270	23.50	47.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	2.08	1.77	2.39	0.16	0.31	Direct HDL PPD
	mg/dl	80.3	68.3	92.3	6.00	12.00	
	mmol/l	2.18	1.86	2.50	0.16	0.32	Direct HDL Immunoseparation
	mg/dl	84.1	71.8	96.4	6.15	12.30	
	mmol/l	1.76	1.50	2.02	0.13	0.26	Vitros Magnetic HDL
	mg/dl	67.9	57.9	77.9	5.00	10.00	
	mmol/l	2.01	1.71	2.31	0.15	0.30	Direct Clearance Method
	mg/dl	77.6	66.0	89.2	5.80	11.60	
	mmol/l	1.82	1.55	2.09	0.14	0.27	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	70.3	59.8	80.8	5.25	10.50	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.61	2.22	3.00	0.20	0.39	Direct HDL Roche 3rd generation
	mg/dl	101	85.7	116	7.65	15.30	
	mmol/l	2.00	1.70	2.30	0.15	0.30	HDL - Ultra
	mg/dl	77.2	65.6	88.8	5.80	11.60	
	mmol/l	2.62	2.22	3.02	0.20	0.40	Direct HDL Roche 4th Generation
	mg/dl	101	85.7	116	7.65	15.30	
Immunoglobulin A	g/l	1.55	1.16	1.94	0.20	0.39	Immunoturbidimetric
	mg/dl	155	116	194	19.50	39.00	
Immunoglobulin G	g/l	6.41	5.26	7.56	0.58	1.15	Immunoturbidimetric
	mg/dl	641	526	756	57.50	115.00	
Immunoglobulin M	g/l	0.65	0.52	0.78	0.07	0.13	Immunoturbidimetric
	mg/dl	65.1	52.1	78.1	6.50	13.00	
Iron	µmol/l	39.3	32.2	46.4	3.55	7.10	Colorimetric with ppt.
	µg/dl	220	180	260	20.00	40.00	
	µmol/l	39.2	32.1	46.3	3.55	7.10	Colorimetric without ppt.
	µg/dl	219	179	259	20.00	40.00	
	µmol/l	39.1	32.1	46.1	3.50	7.00	Ortho Vitros Microslide Systems
	µg/dl	219	179	259	20.00	40.00	
Lactate	mmol/l	5.21	4.27	6.15	0.47	0.94	Ion selective electrode
	mg/dl	46.9	38.5	55.3	4.20	8.40	
	mmol/l	5.64	4.62	6.66	0.51	1.02	Colorimetric Lactate Oxidase
	mg/dl	50.8	41.6	60.0	4.60	9.20	
	mmol/l	5.20	4.27	6.13	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	46.9	38.5	55.3	4.20	8.40	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	5.60	4.59	6.61	0.51	1.01	Enzymatic Electrode
	mg/dl	50.5	41.4	59.6	4.55	9.10	
	mmol/l	5.51	4.52	6.50	0.50	0.99	UV LDH
	mg/dl	49.6	40.7	58.5	4.45	8.90	
LAP	U/l	16	14	18	1.00	2.00	NAGEL 37°C
LD (LDH)	U/l	960	816	1104	72.00	144.00	Ortho Vitros Microslide Systems 37°C
	U/l	334	284	384	25.00	50.00	L->P 37°C
	U/l	241	205	277	18.00	36.00	L->P 30°C
	U/l	169	144	194	12.50	25.00	L->P 25°C
	U/l	778	662	894	58.00	116.00	P->L Scandinavian & Dutch 37°C
	U/l	562	478	646	42.00	84.00	P->L Scandinavian & Dutch 30°C
	U/l	394	336	452	29.00	58.00	P->L Scandinavian & Dutch 25°C
	U/l	688	585	791	51.50	103.00	P->L German methods 37°C
	U/l	497	422	572	37.50	75.00	P->L German methods 30°C
	U/l	349	297	401	26.00	52.00	P->L German methods 25°C
	U/l	692	589	795	51.50	103.00	P->L SFBC 37°C
	U/l	500	425	575	37.50	75.00	P->L SFBC 30°C
	U/l	351	299	403	26.00	52.00	P->L SFBC 25°C
	U/l	360	306	414	27.00	54.00	L->P IFCC 37°C
	U/l	260	221	299	19.50	39.00	L->P IFCC 30°C
	U/l	183	155	211	14.00	28.00	L->P IFCC 25°C
Lipase	U/l	695	558	832	68.50	137.00	Ortho Vitros Microslide Systems 37°C
	U/l	53	42	64	5.50	11.00	Roche Colorimetric 37°C
	U/l	85	69	101	8.00	16.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.47	2.17	2.77	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lithium	mmol/l	2.23	1.96	2.50	0.14	0.27	Ion selective electrode
	mg/dl	1.55	1.36	1.74	0.10	0.19	
	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	
	mmol/l	2.14	1.88	2.40	0.13	0.26	Randox Colorimetric
	mg/dl	1.49	1.31	1.67	0.09	0.18	
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	1.83	1.61	2.05	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.45	3.91	4.99	0.27	0.54	
	mmol/l	1.73	1.53	1.93	0.10	0.20	Calmagite
	mg/dl	4.20	3.72	4.68	0.24	0.48	
	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	1.76	1.55	1.97	0.11	0.21	Methylthymol blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	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	0.52	0.45	0.60	0.04	0.08	Colorimetric
Osmolality	mOsm/kg	351	281	421	35.00	70.00	Calculated
	mOsm/kg	387	309	465	39.00	78.00	Freezing point depression
Paracetamol	mmol/l	0.64	0.51	0.76	0.06	0.13	Colorimetric
	mg/l	96.1	76.9	115	9.60	19.20	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Ortho Vitros Microslide Systems
	mg/dl	6.79	5.77	7.81	0.51	1.02	
	mmol/l	2.21	1.87	2.55	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	6.85	5.80	7.90	0.53	1.05	
	mmol/l	2.22	1.88	2.56	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.88	5.83	7.93	0.53	1.05	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	Ortho Vitros Microslide Systems
	mmol/l	6.05	5.57	6.53	0.24	0.48	Enzymatic
	mmol/l	6.02	5.53	6.51	0.25	0.49	ISE method - direct
	mmol/l	6.08	5.59	6.57	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.6	36.4	54.8	4.60	9.20	Ortho Vitros Microslide Systems
	g/dl	4.56	3.64	5.48	0.46	0.92	
	g/l	44.9	35.9	53.9	4.50	9.00	Biuret reaction end point
	g/dl	4.49	3.59	5.39	0.45	0.90	
	g/l	44.7	35.7	53.7	4.50	9.00	Biuret reaction kinetic
	g/dl	4.47	3.57	5.37	0.45	0.90	
PSA Total	ng/ml =	36.4	27.3	45.5	4.55	9.10	Beckman Access standardised to Hybritech
	ng/ml =	30.3	22.7	37.9	3.80	7.60	bioMerieux VIDAS TPSA
	ng/ml =	24.3	18.2	30.4	3.05	6.10	Abbott Architect
	ng/ml =	33.6	25.2	42.0	4.20	8.40	Cobas E411
	ng/ml =	32.3	24.2	40.4	4.05	8.10	Roche Cobas 6000/8000
	ng/ml =	34.4	25.8	43.0	4.30	8.60	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	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	157	149	165	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	158	150	166	4.00	8.00	Enzymatic
	mmol/l	160	152	168	4.00	8.00	ISE method - direct
	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
Theophylline	µmol/l	139	111	167	14.00	28.00	Gravimetric
	µg/ml	25.0	20.0	30.0	2.50	5.00	
Thyroid Stimulating Hormone	µU/ml =	0.88	0.70	1.05	0.09	0.18	Abbott Architect
	µU/ml =	1.47	1.17	1.77	0.15	0.30	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.19	0.95	1.43	0.12	0.24	bioMerieux VIDAS TSH
	µU/ml =	1.33	1.07	1.59	0.13	0.26	Roche Cobas E411
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Roche Cobas 6000/8000
	µU/ml =	1.10	0.88	1.32	0.11	0.22	Beckman DxI800 Hyper TSH
	µU/ml =	1.05	0.84	1.26	0.10	0.21	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.08	0.87	1.30	0.11	0.22	Beckman DxI 600/800 Access (3rd IS)
TIBC	µmol/l	37.1	29.3	44.9	3.90	7.80	Ortho Vitros Microslide Systems
	µg/dl	207	164	250	21.50	43.00	
	µmol/l	39.7	31.4	48.0	4.15	8.30	Removal of excess free iron
	µg/dl	222	176	268	23.00	46.00	
	µmol/l	42.1	33.2	51.0	4.45	8.90	FE+UIBC(saturation with iron)
	µg/dl	235	186	284	24.50	49.00	
	µmol/l	41.9	33.1	50.7	4.40	8.80	Direct Colorimetric
	µg/dl	234	185	283	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	
	µmol/l	45.2	35.7	54.7	4.75	9.50	Randox Direct
	µg/dl	253	200	306	26.50	53.00	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Tobramycin	µmol/l	15.6	12.5	18.7	1.55	3.10	Gravimetric
	µg/ml	7.30	5.85	8.75	0.73	1.45	
Total T3	nmol/l	3.67	2.75	4.59	0.46	0.92	Abbott Architect
	ng/ml	2.39	1.79	2.99	0.30	0.60	
	ng/dl	239	179	299	30.00	60.00	Abbott Architect
	nmol/l	3.85	2.89	4.81	0.48	0.96	Beckman Access
	ng/ml	2.51	1.88	3.14	0.32	0.63	
	ng/dl	251	188	314	31.50	63.00	Beckman Access
	nmol/l	5.11	3.84	6.38	0.64	1.27	Siemens Centaur XP/XPT/Classic
	ng/ml	3.33	2.50	4.16	0.42	0.83	
	ng/dl	333	250	416	41.50	83.00	Siemens Centaur XP/XPT/Classic
	nmol/l	4.31	3.23	5.39	0.54	1.08	BioMerieux Vidas
	ng/ml	2.81	2.10	3.52	0.36	0.71	
	ng/dl	281	210	352	35.50	71.00	BioMerieux Vidas
	nmol/l	4.56	3.42	5.70	0.57	1.14	Roche Cobas E411
	ng/ml	2.97	2.23	3.71	0.37	0.74	
	ng/dl	297	223	371	37.00	74.00	Roche Cobas E411
	nmol/l	4.56	3.42	5.70	0.57	1.14	Roche Cobas 6000/8000
	ng/ml	2.97	2.23	3.71	0.37	0.74	
	ng/dl	297	223	371	37.00	74.00	Roche Cobas 6000/8000
Total T4	nmol/l	230	173	287	28.50	57.00	Abbott Architect
	µg/dl	17.9	13.5	22.3	2.20	4.40	
	ng/ml	179	135	223	22.00	44.00	Abbott Architect
	nmol/l	255	191	319	32.00	64.00	Siemens Centaur XP/XPT/Classic
	µg/dl	19.9	14.9	24.9	2.50	5.00	
	ng/ml	199	149	249	25.00	50.00	Siemens Centaur XP/XPT/Classic

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	266	200	332	33.00	66.00	Beckman Access
	µg/dl	20.7	15.6	25.8	2.55	5.10	
	ng/ml	207	156	258	25.50	51.00	Beckman Access
	nmol/l	237	178	296	29.50	59.00	Siemens Immulite 2000/2500
	µg/dl	18.5	13.9	23.1	2.30	4.60	
	ng/ml	185	139	231	23.00	46.00	Siemens Immulite 2000/2500
	nmol/l	204	153	255	25.50	51.00	Roche Modular E170
	µg/dl	15.9	11.9	19.9	2.00	4.00	
	ng/ml	159	119	199	20.00	40.00	Roche Modular E170
	nmol/l	204	153	255	25.50	51.00	Roche Cobas E411
	µg/dl	15.9	11.9	19.9	2.00	4.00	
	ng/ml	159	119	199	20.00	40.00	Roche Cobas E411
	nmol/l	200	150	250	25.00	50.00	Roche Cobas 6000/8000
	µg/dl	15.6	11.7	19.5	1.95	3.90	
	ng/ml	156	117	195	19.50	39.00	Roche Cobas 6000/8000
Transferrin	g/l	1.77	1.42	2.12	0.18	0.35	Immunoturbidimetric
	mg/dl	177	142	212	17.50	35.00	
Triglycerides	mmol/l	2.92	2.46	3.38	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	218	298	20.00	40.00	
	mmol/l	2.89	2.43	3.35	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	215	297	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	217	299	20.50	41.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	3.17	2.66	3.68	0.26	0.51	Ortho Vitros Microslide Systems
	mg/dl	281	235	327	23.00	46.00	
UIBC	µmol/l	2.70	2.21	3.19	0.25	0.49	TIBC - FE
	µg/dl	15.1	12.4	17.8	1.35	2.70	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.72	7.58	9.86	0.57	1.14	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.09	7.90	10.3	0.60	1.19	
	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	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.26	8.05	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	18.3	15.6	21.0	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	110	93.8	126	8.10	16.20	
	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease end point
	mg/dl	119	102	136	8.50	17.00	
	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Vitamin B12	pmol/l	242	194	290	24.00	48.00	Roche Cobas E411
	pg/ml	328	263	393	32.50	65.00	
Zinc	µmol/l	36.4	29.2	43.6	3.60	7.20	Colorimetric with deproteinisation
	µg/dl	238	191	285	23.50	47.00	

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RANDOX

MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin (electrophoresis)		57.8	52.1	63.5	2.85	5.70	% of total Protein (Beckman Capillary)
alpha-1-globulin		6.4	4.9	7.9	0.75	1.50	% of total Protein (Beckman Capillary)
alpha-2-globulin		9.9	7.5	12.3	1.20	2.40	% of total Protein (Beckman Capillary)
beta-globulin		13.6	10.3	16.9	1.65	3.30	% of total Protein (Beckman Capillary)
gamma-globulin		12.3	9.3	15.3	1.50	3.00	% osf total Protein (Beckman Capillary)

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RANDOX

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.9	26.2	35.6	2.35	4.70	Bromocresol Green
	g/dl	3.09	2.62	3.56	0.24	0.47	
Alkaline Phosphatase	U/l	469	398	540	35.50	71.00	Diethanolamine buffer DEA 37°C
	U/l	365	310	420	27.50	55.00	Diethanolamine buffer DEA 30°C
	U/l	300	254	346	23.00	46.00	Diethanolamine buffer DEA 25°C
	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	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	153	123	183	15.00	30.00	Tris buffer without P5P 37°C
	U/l	103	83	123	10.00	20.00	Tris buffer without P5P 30°C
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.2	68.9	106	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.10	4.03	6.17	0.54	1.07	
	µmol/l	97.1	76.7	118	10.20	20.40	Oxidation to Biliverdin/Vanadate
	mg/dl	5.68	4.49	6.87	0.60	1.19	
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	7.29	6.35	8.23	0.47	0.94	Cholesterol Oxidase
	mg/dl	281	245	317	18.00	36.00	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholinesterase	U/l	5202	4162	6242	520.00	1040.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	537	440	634	48.50	97.00	CK-NAC (IFCC) 37°C
	U/l	336	275	397	30.50	61.00	CK-NAC (IFCC) 30°C
	U/l	228	187	269	20.50	41.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	361	289	433	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.08	3.27	4.89	0.41	0.81	
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	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	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	2.01	1.71	2.31	0.15	0.30	Direct Clearance Method
	mg/dl	77.6	66.0	89.2	5.80	11.60	
Iron	µmol/l	39.3	32.2	46.4	3.55	7.10	Colorimetric without ppt.
	µg/dl	220	180	260	20.00	40.00	
LD (LDH)	U/l	735	625	845	55.00	110.00	P->L German methods 37°C
	U/l	531	451	611	40.00	80.00	P->L German methods 30°C
	U/l	373	317	429	28.00	56.00	P->L German methods 25°C
	U/l	718	611	825	53.50	107.00	P->L SFBC 37°C
	U/l	518	441	595	38.50	77.00	P->L SFBC 30°C
	U/l	364	310	418	27.00	54.00	P->L SFBC 25°C
	U/l	356	303	409	26.50	53.00	L->P IFCC 37°C
	U/l	257	219	295	19.00	38.00	L->P IFCC 30°C
	U/l	180	154	206	13.00	26.00	L->P IFCC 25°C

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RANDOX

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Xylidyl Blue
	mg/dl	4.13	3.65	4.61	0.24	0.48	
Phosphate Inorganic	mmol/l	2.17	1.85	2.49	0.16	0.32	Phosphomolybdate UV
	mg/dl	6.73	5.74	7.72	0.50	0.99	
Protein Total	g/l	46.8	37.4	56.2	4.70	9.40	Biuret reaction end point
	g/dl	4.68	3.74	5.62	0.47	0.94	
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	254	213	295	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	8.33	10.9	0.63	1.26	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	8.38	10.9	0.63	1.25	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	8.10	10.5	0.61	1.21	
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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Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.1	23.9	32.3	2.10	4.20	Ortho Vitros Microslide Systems
	g/dl	2.81	2.39	3.23	0.21	0.42	
Alkaline Phosphatase	U/l	245	208	282	18.50	37.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	150	120	180	15.00	30.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	182	154	210	14.00	28.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	196	157	235	19.50	39.00	Ortho Vitros Microslide visible slide 37°C
Bilirubin Total	µmol/l	81.7	64.6	98.8	8.55	17.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.78	3.78	5.78	0.50	1.00	
Bilirubin, Unconjugated Vitros BU	µmol/l	80.6	63.7	97.5	8.45	16.90	BuBc Vitros Slide
	mg/dl	4.72	3.73	5.71	0.50	0.99	
Calcium	mmol/l	3.15	2.83	3.47	0.16	0.32	Ortho Vitros Microslide Systems
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.68	5.81	7.55	0.44	0.87	Ortho Vitros Microslide Systems
	mg/dl	258	224	292	17.00	34.00	
Chloride	mmol/l	119	109	129	5.00	10.00	Ortho Vitros Microslide Systems
CK Total	U/l	404	331	477	36.50	73.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	379	303	455	38.00	76.00	Vitros IDMS Traceable
	mg/dl	4.28	3.42	5.14	0.43	0.86	
gamma-GT	U/l	196	166	226	15.00	30.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	14.3	12.2	16.4	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	258	220	296	19.00	38.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.76	1.50	2.02	0.13	0.26	Vitros Magnetic HDL
	mg/dl	67.9	57.9	77.9	5.00	10.00	
	mmol/l	1.82	1.55	2.09	0.14	0.27	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	70.3	59.8	80.8	5.25	10.50	
Iron	µmol/l	39.1	32.1	46.1	3.50	7.00	Ortho Vitros Microslide Systems
	µg/dl	219	179	259	20.00	40.00	
Lactate	mmol/l	5.20	4.27	6.13	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	46.9	38.5	55.3	4.20	8.40	
LD (LDH)	U/l	960	816	1104	72.00	144.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	695	558	832	68.50	137.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	2.47	2.17	2.77	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	
Magnesium	mmol/l	1.83	1.61	2.05	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.45	3.91	4.99	0.27	0.54	
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Ortho Vitros Microslide Systems
	mg/dl	6.79	5.77	7.81	0.51	1.02	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	Ortho Vitros Microslide Systems
Protein Total	g/l	45.6	36.4	54.8	4.60	9.20	Ortho Vitros Microslide Systems
	g/dl	4.56	3.64	5.48	0.46	0.92	
Sodium	mmol/l	157	149	165	4.00	8.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.12	0.90	1.34	0.11	0.22	Vitros ECi
TIBC	µmol/l	37.1	29.3	44.9	3.90	7.80	Ortho Vitros Microslide Systems
	µg/dl	207	164	250	21.50	43.00	
Triglycerides	mmol/l	3.17	2.66	3.68	0.26	0.51	Ortho Vitros Microslide Systems
	mg/dl	281	235	327	23.00	46.00	

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Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.72	7.58	9.86	0.57	1.14	
	mmol/l	0.50	0.43	0.56	0.03	0.07	Vitros DT60/DT60 II
	mg/dl	8.38	7.29	9.47	0.55	1.09	
Urea	mmol/l	18.3	15.6	21.0	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	110	93.8	126	8.10	16.20	
	mmol/l	18.3	15.6	21.0	1.35	2.70	BUN
	mg/dl	51.4	43.7	59.1	3.85	7.70	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Alkaline Phosphatase	U/l	316	268	364	24.00	48.00	AMP optimised to IFCC 37°C
	U/l	246	209	283	18.50	37.00	AMP optimised to IFCC 30°C
	U/l	202	171	233	15.50	31.00	AMP optimised to IFCC 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	158	126	190	16.00	32.00	Tris buffer without P5P 37°C
	U/l	107	85	129	11.00	22.00	Tris buffer without P5P 30°C
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25°C
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	7.27	6.32	8.22	0.48	0.95	Cholesterol Oxidase
	mg/dl	281	244	318	18.50	37.00	
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
Protein Total	g/l	47.1	37.7	56.5	4.70	9.40	Biuret reaction end point
	g/dl	4.71	3.77	5.65	0.47	0.94	
Triglycerides	mmol/l	2.83	2.38	3.28	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	250	211	289	19.50	39.00	
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	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.6	16.6	22.6	1.50	3.00	Urease kinetic
	mg/dl	118	99.8	136	9.10	18.20	
	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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RANDOX

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.5	25.9	35.1	2.30	4.60	Bromocresol Green
	g/dl	3.05	2.59	3.51	0.23	0.46	
	g/l	28.1	23.9	32.3	2.10	4.20	Bromocresol Purple
	g/dl	2.81	2.39	3.23	0.21	0.42	
	g/l	26.7	22.7	30.7	2.00	4.00	Turbidimetric Assays
	g/dl	2.67	2.27	3.07	0.20	0.40	
Alkaline Phosphatase	U/l	277	235	319	21.00	42.00	Roche Integra AMP buffer 37°C
	U/l	216	183	249	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	177	150	204	13.50	27.00	Roche Integra AMP buffer 25°C
ALT (GPT)	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
Amylase Pancreatic	U/l	252	214	290	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	273	232	314	20.50	41.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	273	232	314	20.50	41.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	273	232	314	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	42.6	34.1	51.1	4.25	8.50	Enzymatic Colorimetric
Bicarbonate	mmol/l	18.9	15.0	22.8	1.95	3.90	Colorimetric

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	18.7	14.9	22.5	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	29.4	23.3	35.5	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.72	1.36	2.08	0.18	0.36	
	µmol/l	29.0	22.9	35.1	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.34	2.06	0.18	0.36	
	µmol/l	29.6	23.3	35.9	3.15	6.30	Roche JG factored
	mg/dl	1.73	1.36	2.10	0.19	0.37	
	µmol/l	29.6	23.4	35.8	3.10	6.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.73	1.37	2.09	0.18	0.36	
Bilirubin Total	µmol/l	81.4	64.3	98.5	8.55	17.10	Diazo with Sulphanilic Acid
	mg/dl	4.76	3.76	5.76	0.50	1.00	
	µmol/l	82.5	65.2	99.8	8.65	17.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.83	3.81	5.85	0.51	1.02	
	µmol/l	82.5	65.2	99.8	8.65	17.30	Diazonium ion
	mg/dl	4.83	3.81	5.85	0.51	1.02	
Calcium	mmol/l	3.22	2.90	3.54	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.20	2.88	3.52	0.16	0.32	NM-BAPTA
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	6.88	5.99	7.77	0.45	0.89	Cholesterol Oxidase
	mg/dl	266	231	301	17.50	35.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE indirect
Cholinesterase	U/l	5112	4089	6135	511.50	1023.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	502	412	592	45.00	90.00	CK-NAC substrate start (DGKC) 37°C
	U/l	314	258	370	28.00	56.00	CK-NAC substrate start (DGKC) 30°C
	U/l	213	175	251	19.00	38.00	CK-NAC substrate start (DGKC) 25°C

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	493	404	582	44.50	89.00	CK-NAC (IFCC) 37°C
	U/l	309	253	365	28.00	56.00	CK-NAC (IFCC) 30°C
	U/l	210	172	248	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	393	314	472	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.44	3.55	5.33	0.45	0.89	
	µmol/l	390	312	468	39.00	78.00	Enzymatic UV method
	mg/dl	4.41	3.53	5.29	0.44	0.88	
	µmol/l	389	311	467	39.00	78.00	Roche Creatinine Plus
	mg/dl	4.40	3.51	5.29	0.45	0.89	
	µmol/l	383	306	460	38.50	77.00	Jaffe rate blanked
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	381	304	458	38.50	77.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.31	3.44	5.18	0.44	0.87	
D-3-Hydroxybutyrate	mmol/l	1.16	0.99	1.33	0.09	0.17	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	86.3	64.7	108	10.80	21.60	Roche Cobas 6000/8000
	ng/dl	6.73	5.05	8.41	0.84	1.68	
	pg/ml	67.3	50.5	84.1	8.40	16.80	Roche Cobas 6000/8000
gamma-GT	U/l	148	126	170	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	99	135	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	78	104	6.50	13.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	146	196	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	115	155	10.00	20.00	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

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
GLDH	U/l	36	28	44	4.00	8.00	Triethanolamine buffer 50 mmol 37°C
	U/l	28	22	34	3.00	6.00	Triethanolamine buffer 50 mmol 30°C
	U/l	22	17	27	2.50	5.00	Triethanolamine buffer 50 mmol 25°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	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
HDL - Cholesterol	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	2.55	2.16	2.94	0.20	0.39	Direct HDL Roche 3rd generation
	mg/dl	98.4	83.4	113	7.50	15.00	
	mmol/l	2.61	2.22	3.00	0.20	0.39	Direct HDL Roche 4th Generation
	mg/dl	101	85.7	116	7.65	15.30	
Iron	µmol/l	38.8	31.8	45.8	3.50	7.00	Colorimetric with ppt.
	µg/dl	217	178	256	19.50	39.00	
	µmol/l	39.1	32.0	46.2	3.55	7.10	Colorimetric without ppt.
	µg/dl	219	179	259	20.00	40.00	
Lactate	mmol/l	5.62	4.61	6.63	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.6	41.5	59.7	4.55	9.10	
LD (LDH)	U/l	342	291	393	25.50	51.00	L->P 37°C
	U/l	247	210	284	18.50	37.00	L->P 30°C
	U/l	173	148	198	12.50	25.00	L->P 25°C
	U/l	680	578	782	51.00	102.00	P->L German methods 37°C
	U/l	491	417	565	37.00	74.00	P->L German methods 30°C
	U/l	345	293	397	26.00	52.00	P->L German methods 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	360	306	414	27.00	54.00	L->P IFCC 37°C
	U/l	260	221	299	19.50	39.00	L->P IFCC 30°C
	U/l	183	155	211	14.00	28.00	L->P IFCC 25°C
Lipase	U/l	51	41	61	5.00	10.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.13	1.87	2.39	0.13	0.26	Spectrophotometric
	mg/dl	1.48	1.30	1.66	0.09	0.18	
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	1.77	1.55	1.99	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.30	3.77	4.83	0.27	0.53	
Osmolality	mOsm/kg	355	284	426	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.88	5.86	7.90	0.51	1.02	
	mmol/l	2.21	1.88	2.54	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.85	5.83	7.87	0.51	1.02	
Potassium	mmol/l	6.15	5.66	6.64	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.9	35.9	53.9	4.50	9.00	Biuret reaction end point
	g/dl	4.49	3.59	5.39	0.45	0.90	
	g/l	44.7	35.7	53.7	4.50	9.00	Biuret reaction kinetic
	g/dl	4.47	3.57	5.37	0.45	0.90	
PSA Total	ng/ml =	32.3	24.2	40.4	4.05	8.10	Roche Cobas 6000/8000
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.35	1.08	1.62	0.14	0.27	Roche Cobas 6000/8000
TIBC	µmol/l	41.8	33.0	50.6	4.40	8.80	FE+UIBC(saturation with iron)
	µg/dl	234	184	284	25.00	50.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	43.7	34.5	52.9	4.60	9.20	Calculated from Transferrin
	µg/dl	244	193	295	25.50	51.00	
Total T3	nmol/l	4.56	3.42	5.70	0.57	1.14	Roche Cobas 6000/8000
	ng/ml	2.97	2.23	3.71	0.37	0.74	
	ng/dl	297	223	371	37.00	74.00	Roche Cobas 6000/8000
Total T4	nmol/l	200	150	250	25.00	50.00	Roche Cobas 6000/8000
	µg/dl	15.6	11.7	19.5	1.95	3.90	
	ng/ml	156	117	195	19.50	39.00	Roche Cobas 6000/8000
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	
	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	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.14	7.96	10.3	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	7.91	10.3	0.60	1.20	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	7.91	10.3	0.60	1.20	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease end point
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease kinetic
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.4	16.5	22.3	1.45	2.90	BUN
	mg/dl	54.4	46.2	62.6	4.10	8.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			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	
Alkaline Phosphatase	U/l	290	246	334	22.00	44.00	Roche Integra AMP buffer 37°C
	U/l	226	192	260	17.00	34.00	Roche Integra AMP buffer 30°C
	U/l	185	157	213	14.00	28.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	131	105	157	13.00	26.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	286	243	329	21.50	43.00	Roche liquid stable pNPG7 37°C
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	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	
Bilirubin Total	µmol/l	77.4	61.2	93.6	8.10	16.20	Diazo with Sulphanilic Acid
	mg/dl	4.53	3.58	5.48	0.48	0.95	
	µmol/l	78.8	62.3	95.3	8.25	16.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.61	3.64	5.58	0.49	0.97	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.17	2.86	3.48	0.16	0.31	NM-BAPTA
	mg/dl	12.7	11.5	13.9	0.60	1.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.00	6.09	7.91	0.46	0.91	Cholesterol Oxidase
	mg/dl	270	235	305	17.50	35.00	
Chloride	mmol/l	121	111	131	5.00	10.00	ISE indirect
CK Total	U/l	483	396	570	43.50	87.00	CK-NAC (IFCC) 37°C
	U/l	302	248	356	27.00	54.00	CK-NAC (IFCC) 30°C
	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	378	302	454	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.27	3.41	5.13	0.43	0.86	
	µmol/l	375	300	450	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	356	285	427	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.02	3.22	4.82	0.40	0.80	
gamma-GT	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	107	145	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	84	114	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	2.76	2.35	3.17	0.21	0.41	Direct HDL Roche 3rd generation
	mg/dl	107	90.7	123	8.15	16.30	
	mmol/l	2.76	2.35	3.17	0.21	0.41	Direct HDL Roche 4th Generation
	mg/dl	107	90.7	123	8.15	16.30	
LD (LDH)	U/l	373	317	429	28.00	56.00	L->P IFCC 37°C
	U/l	269	229	309	20.00	40.00	L->P IFCC 30°C
	U/l	189	161	217	14.00	28.00	L->P IFCC 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.37	3.84	4.90	0.27	0.53	
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	5.98	5.50	6.46	0.24	0.48	ISE method - indirect
Protein Total	g/l	46.6	37.3	55.9	4.65	9.30	Biuret reaction end point
	g/dl	4.66	3.73	5.59	0.47	0.93	
Sodium	mmol/l	159	151	167	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	2.80	2.35	3.25	0.23	0.45	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	248	208	288	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	8.01	10.4	0.60	1.20	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	7.96	10.3	0.59	1.18	
Urea	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. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			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	29.3	24.9	33.7	2.20	4.40	Bromocresol Purple
	g/dl	2.93	2.49	3.37	0.22	0.44	
Alkaline Phosphatase	U/l	274	233	315	20.50	41.00	Roche Integra AMP buffer 37°C
	U/l	213	182	244	15.50	31.00	Roche Integra AMP buffer 30°C
	U/l	175	149	201	13.00	26.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	134	107	161	13.50	27.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	277	236	318	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.7	14.9	22.5	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	27.9	22.0	33.8	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	28.3	22.4	34.2	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.31	2.01	0.18	0.35	
	µmol/l	28.6	22.6	34.6	3.00	6.00	Roche JG factored
	mg/dl	1.67	1.32	2.02	0.18	0.35	

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Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	82.0	64.8	99.2	8.60	17.20	Diazo with Sulphanilic Acid
	mg/dl	4.80	3.79	5.81	0.51	1.01	
	µmol/l	82.6	65.3	99.9	8.65	17.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.83	3.82	5.84	0.51	1.01	
	µmol/l	81.8	64.6	99.0	8.60	17.20	Diazonium ion
	mg/dl	4.79	3.78	5.80	0.51	1.01	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	3.22	2.89	3.55	0.17	0.33	NM-BAPTA
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	6.95	6.04	7.86	0.46	0.91	Cholesterol Oxidase
	mg/dl	268	233	303	17.50	35.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE indirect
CK Total	U/l	499	409	589	45.00	90.00	CK-NAC (IFCC) 37°C
	U/l	312	256	368	28.00	56.00	CK-NAC (IFCC) 30°C
	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	387	309	465	39.00	78.00	Alkaline picrate no deproteinization
	mg/dl	4.37	3.49	5.25	0.44	0.88	
	µmol/l	393	314	472	39.50	79.00	Roche Creatinine Plus
	mg/dl	4.44	3.55	5.33	0.45	0.89	
	µmol/l	389	311	467	39.00	78.00	Jaffe rate blanked
	mg/dl	4.40	3.51	5.29	0.45	0.89	
	µmol/l	381	305	457	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.31	3.45	5.17	0.43	0.86	
gamma-GT	U/l	150	127	173	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	118	100	136	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	93	78	108	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. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	173	147	199	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	116	156	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	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	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	2.61	2.22	3.00	0.20	0.39	Direct HDL Roche 3rd generation
	mg/dl	101	85.7	116	7.65	15.30	
	mmol/l	2.56	2.17	2.95	0.20	0.39	Direct HDL Roche 4th Generation
	mg/dl	98.8	83.8	114	7.50	15.00	
Iron	µmol/l	39.1	32.0	46.2	3.55	7.10	Colorimetric without ppt.
	µg/dl	219	179	259	20.00	40.00	
Lactate	mmol/l	5.69	4.66	6.72	0.52	1.03	Colorimetric Lactate Oxidase
	mg/dl	51.3	42.0	60.6	4.65	9.30	
LD (LDH)	U/l	668	568	768	50.00	100.00	P->L German methods 37°C
	U/l	482	410	554	36.00	72.00	P->L German methods 30°C
	U/l	339	288	390	25.50	51.00	P->L German methods 25°C
	U/l	362	308	416	27.00	54.00	L->P IFCC 37°C
	U/l	261	222	300	19.50	39.00	L->P IFCC 30°C
	U/l	184	156	212	14.00	28.00	L->P IFCC 25°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	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.79	5.77	7.81	0.51	1.02	
	mmol/l	2.23	1.89	2.57	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.91	5.86	7.96	0.53	1.05	
Potassium	mmol/l	6.15	5.66	6.64	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
Sodium	mmol/l	163	155	171	4.00	8.00	ISE method - indirect
TIBC	µmol/l	41.0	32.4	49.6	4.30	8.60	FE+UIBC(saturation with iron)
	µg/dl	229	181	277	24.00	48.00	
Triglycerides	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	258	217	299	20.50	41.00	
UIBC	µmol/l	3.38	2.77	3.99	0.31	0.61	Direct Colorimetric
	µg/dl	18.9	15.5	22.3	1.70	3.40	
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	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.05	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.29	8.08	10.5	0.61	1.21	
Urea	mmol/l	19.6	16.6	22.6	1.50	3.00	Urease kinetic
	mg/dl	118	99.8	136	9.10	18.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	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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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.3	25.8	34.8	2.25	4.50	Bromocresol Green
	g/dl	3.03	2.58	3.48	0.23	0.45	
	g/l	27.8	23.6	32.0	2.10	4.20	Bromocresol Purple
	g/dl	2.78	2.36	3.20	0.21	0.42	
	g/l	29.6	25.1	34.1	2.25	4.50	Turbidimetric Assays
	g/dl	2.96	2.51	3.41	0.23	0.45	
Alkaline Phosphatase	U/l	264	224	304	20.00	40.00	Roche Integra AMP buffer 37°C
	U/l	206	174	238	16.00	32.00	Roche Integra AMP buffer 30°C
	U/l	169	143	195	13.00	26.00	Roche Integra AMP buffer 25°C
	U/l	265	226	304	19.50	39.00	AMP optimised to IFCC 37°C
	U/l	206	176	236	15.00	30.00	AMP optimised to IFCC 30°C
	U/l	169	144	194	12.50	25.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	77	61	93	8.00	16.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	249	211	287	19.00	38.00	Roche EPS Liquid 37°C
Amylase Total	U/l	276	234	318	21.00	42.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	274	233	315	20.50	41.00	Roche liquid stable pNPG7 37°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

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Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bile Acids	µmol/l	41.9	33.5	50.3	4.20	8.40	Enzymatic Colorimetric
Bicarbonate	mmol/l	18.9	15.0	22.8	1.95	3.90	Enzymatic
Bilirubin Direct	µmol/l	30.1	23.8	36.4	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	30.2	23.8	36.6	3.20	6.40	Roche JG factored
	mg/dl	1.77	1.39	2.15	0.19	0.38	
	µmol/l	25.8	20.4	31.2	2.70	5.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.51	1.19	1.83	0.16	0.32	
Bilirubin Total	µmol/l	82.5	65.2	99.8	8.65	17.30	Diazo with Dichloroaniline (DCA)
	mg/dl	4.83	3.81	5.85	0.51	1.02	
	µmol/l	81.9	64.7	99.1	8.60	17.20	Diazo with Sulphanilic Acid
	mg/dl	4.79	3.78	5.80	0.51	1.01	
	µmol/l	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	82.2	64.9	99.5	8.65	17.30	Diazonium ion
	mg/dl	4.81	3.80	5.82	0.51	1.01	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.17	2.86	3.48	0.16	0.31	NM-BAPTA
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Cholesterol	mmol/l	6.89	6.00	7.78	0.45	0.89	Cholesterol Oxidase
	mg/dl	266	232	300	17.00	34.00	
Chloride	mmol/l	117	108	126	4.50	9.00	ISE indirect
Cholinesterase	U/l	5095	4076	6114	509.50	1019.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	486	399	573	43.50	87.00	CK-NAC (IFCC) 37°C
	U/l	304	250	358	27.00	54.00	CK-NAC (IFCC) 30°C
	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	392	314	470	39.00	78.00	Roche Creatinine Plus
	mg/dl	4.43	3.55	5.31	0.44	0.88	
	µmol/l	391	313	469	39.00	78.00	Jaffe rate blanked
	mg/dl	4.42	3.54	5.30	0.44	0.88	
	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	3.44	5.14	0.43	0.85	
gamma-GT	U/l	144	122	166	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	96	130	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	75	103	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
HDL - Cholesterol	mmol/l	2.57	2.18	2.96	0.20	0.39	Direct HDL Roche 4th Generation
	mg/dl	99.2	84.1	114	7.55	15.10	
Iron	µmol/l	38.3	31.4	45.2	3.45	6.90	Colorimetric without ppt.
	µg/dl	214	176	252	19.00	38.00	
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	359	305	413	27.00	54.00	L->P IFCC 37°C
	U/l	259	220	298	19.50	39.00	L->P IFCC 30°C
	U/l	182	155	209	13.50	27.00	L->P IFCC 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	55	44	66	5.50	11.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.07	1.82	2.32	0.13	0.25	Spectrophotometric
	mg/dl	1.44	1.26	1.62	0.09	0.18	
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Xylidyl Blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.17	1.85	2.49	0.16	0.32	Phosphomolybdate UV
	mg/dl	6.73	5.74	7.72	0.50	0.99	
Potassium	mmol/l	6.16	5.67	6.65	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.7	35.8	53.6	4.45	8.90	Biuret reaction end point
	g/dl	4.47	3.58	5.36	0.45	0.89	
Sodium	mmol/l	163	155	171	4.00	8.00	ISE method - indirect
TIBC	µmol/l	41.9	33.1	50.7	4.40	8.80	FE+UIBC(saturation with iron)
	µg/dl	234	185	283	24.50	49.00	
	µmol/l	41.6	32.9	50.3	4.35	8.70	Calculated from Transferrin
	µg/dl	233	184	282	24.50	49.00	
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	2.92	2.46	3.38	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	258	218	298	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	0.53	0.47	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.97	7.81	10.1	0.58	1.16	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.02	7.85	10.2	0.59	1.17	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	Urease kinetic
	mg/dl	115	97.4	133	8.80	17.60	
	mmol/l	19.1	16.2	22.0	1.45	2.90	BUN
	mg/dl	53.6	45.6	61.6	4.00	8.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.3	25.7	34.9	2.30	4.60	Bromocresol Green
	g/dl	3.03	2.57	3.49	0.23	0.46	
Alkaline Phosphatase	U/l	530	451	609	39.50	79.00	Diethanolamine buffer DEA 37°C
	U/l	362	308	416	27.00	54.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	305	259	351	23.00	46.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	314	267	361	23.50	47.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	154	123	185	15.50	31.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	42.8	34.2	51.4	4.30	8.60	5th Generation Colorimetric
Bicarbonate	mmol/l	19.5	15.5	23.5	2.00	4.00	Enzymatic
Bilirubin Direct	µmol/l	29.5	23.3	35.7	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.73	1.36	2.10	0.19	0.37	
	µmol/l	28.7	22.7	34.7	3.00	6.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin Total	µmol/l	90.3	71.4	109	9.45	18.90	Diazo with Sulphanilic Acid
	mg/dl	5.28	4.18	6.38	0.55	1.10	
	µmol/l	97.3	76.9	118	10.20	20.40	Oxidation to Biliverdin/Vanadate
	mg/dl	5.69	4.50	6.88	0.60	1.19	
Calcium	mmol/l	3.24	2.91	3.57	0.17	0.33	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	7.55	6.57	8.53	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	254	328	18.50	37.00	

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RANDOX

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	115	106	124	4.50	9.00	ISE direct
CK Total	U/l	549	450	648	49.50	99.00	CK-NAC substrate start (DGKC) 37°C
	U/l	561	460	662	50.50	101.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	336	269	403	33.50	67.00	Alkaline picrate no deproteinization
	mg/dl	3.80	3.04	4.56	0.38	0.76	
	µmol/l	388	311	465	38.50	77.00	Enzymatic UV method
	mg/dl	4.38	3.51	5.25	0.44	0.87	
gamma-GT	U/l	183	156	210	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.1	13.7	18.5	1.20	2.40	Hexokinase
	mg/dl	290	247	333	21.50	43.00	
	mmol/l	16.5	14.0	19.0	1.25	2.50	Glucose oxidase
	mg/dl	297	252	342	22.50	45.00	
Iron	µmol/l	39.9	32.7	47.1	3.60	7.20	Colorimetric without ppt.
	µg/dl	223	183	263	20.00	40.00	
Lactate	mmol/l	5.55	4.55	6.55	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.0	41.0	59.0	4.50	9.00	
LD (LDH)	U/l	744	632	856	56.00	112.00	P->L German methods 37°C
	U/l	344	292	396	26.00	52.00	L->P IFCC 37°C
Lipase	U/l	85	68	102	8.50	17.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.14	1.88	2.40	0.13	0.26	Colorimetric
	mg/dl	1.49	1.31	1.67	0.09	0.18	
Magnesium	mmol/l	1.79	1.58	2.00	0.11	0.21	Xylidyl Blue
	mg/dl	4.35	3.84	4.86	0.26	0.51	
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	

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RANDOX

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	5.95	5.48	6.42	0.24	0.47	ISE method - direct
	mmol/l	6.05	5.57	6.53	0.24	0.48	Enzymatic
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	159	151	167	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	Enzymatic
TIBC	µmol/l	45.2	35.7	54.7	4.75	9.50	Direct Colorimetric
	µg/dl	253	200	306	26.50	53.00	
Triglycerides	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	265	222	308	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.73	8.47	11.0	0.63	1.26	
	mmol/l	0.58	0.51	0.66	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.81	8.53	11.1	0.64	1.28	
Urea	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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SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400 ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			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	27.2	23.1	31.3	2.05	4.10	Bromocresol Purple
	g/dl	2.72	2.31	3.13	0.21	0.41	
Alkaline Phosphatase	U/l	293	249	337	22.00	44.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	154	124	184	15.00	30.00	Tris buffer without P5P 37°C
Amylase Total	U/l	293	249	337	22.00	44.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	162	130	194	16.00	32.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	45.8	36.7	54.9	4.55	9.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	20.0	15.9	24.1	2.05	4.10	Enzymatic
Bilirubin Direct	µmol/l	29.5	23.3	35.7	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.73	1.36	2.10	0.19	0.37	
Bilirubin Total	µmol/l	96.9	76.6	117	10.15	20.30	Oxidation to Biliverdin/Vanadate
	mg/dl	5.67	4.48	6.86	0.60	1.19	
Calcium	mmol/l	3.26	2.93	3.59	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.1	11.7	14.5	0.70	1.40	
	mmol/l	3.09	2.78	3.40	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Cholesterol	mmol/l	7.11	6.19	8.03	0.46	0.92	Cholesterol Oxidase
	mg/dl	274	239	309	17.50	35.00	
Chloride	mmol/l	120	110	130	5.00	10.00	ISE indirect

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

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28 Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	5523	4419	6627	552.00	1104.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	523	428	618	47.50	95.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	372	298	446	37.00	74.00	Enzymatic UV method
	mg/dl	4.20	3.37	5.03	0.42	0.83	
	µmol/l	370	296	444	37.00	74.00	Jaffe rate blanked
	mg/dl	4.18	3.34	5.02	0.42	0.84	
	µmol/l	364	291	437	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.11	3.29	4.93	0.41	0.82	
gamma-GT	U/l	170	144	196	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.1	12.9	17.3	1.10	2.20	Hexokinase
	mg/dl	272	232	312	20.00	40.00	
	mmol/l	15.1	12.9	17.3	1.10	2.20	Glucose oxidase
	mg/dl	272	232	312	20.00	40.00	
HDL - Cholesterol	mmol/l	1.81	1.54	2.08	0.14	0.27	Direct Clearance Method
	mg/dl	69.9	59.4	80.4	5.25	10.50	
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	
Lactate	mmol/l	5.61	4.60	6.62	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.5	41.4	59.6	4.55	9.10	
LD (LDH)	U/l	678	576	780	51.00	102.00	P->L German methods 37°C
	U/l	363	309	417	27.00	54.00	L->P IFCC 37°C
Lipase	U/l	81	65	97	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	2.15	1.89	2.41	0.13	0.26	Spectrophotometric
	mg/dl	1.49	1.31	1.67	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	

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

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.25	1.91	2.59	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.98	5.92	8.04	0.53	1.06	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.0	35.2	52.8	4.40	8.80	Biuret reaction end point
	g/dl	4.40	3.52	5.28	0.44	0.88	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
TIBC	µmol/l	44.5	35.1	53.9	4.70	9.40	FE+UIBC(saturation with iron)
	µg/dl	249	196	302	26.50	53.00	
	µmol/l	44.0	34.8	53.2	4.60	9.20	Direct Colorimetric
	µg/dl	246	195	297	25.50	51.00	
	µmol/l	38.5	30.4	46.6	4.05	8.10	Calculated from Transferrin
	µg/dl	215	170	260	22.50	45.00	
Triglycerides	mmol/l	2.97	2.49	3.45	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	263	220	306	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	8.22	10.7	0.61	1.22	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.59	8.35	10.8	0.62	1.24	
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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RANDOX

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.8	23.6	32.0	2.10	4.20	Bromocresol Purple
	g/dl	2.78	2.36	3.20	0.21	0.42	
Alkaline Phosphatase	U/l	302	256	348	23.00	46.00	Siemens Dimension AMP buffer 37°C
	U/l	303	257	349	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	119	177	14.50	29.00	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	191	153	229	19.00	38.00	Tris buffer with P5P 37°C
	U/l	197	157	237	20.00	40.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	19.8	15.7	23.9	2.05	4.10	Enzymatic
Bilirubin Total	µmol/l	87.2	68.9	106	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.10	4.03	6.17	0.54	1.07	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Cholesterol	mmol/l	6.79	5.91	7.67	0.44	0.88	Dimension-Siemens reagents
	mg/dl	262	228	296	17.00	34.00	
Chloride	mmol/l	119	109	129	5.00	10.00	ISE indirect
CK Total	U/l	490	401	579	44.50	89.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	381	305	457	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.31	3.45	5.17	0.43	0.86	
	µmol/l	380	304	456	38.00	76.00	Enzymatic UV method
	mg/dl	4.29	3.44	5.14	0.43	0.85	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	176	150	202	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	185	157	213	14.00	28.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	2.07	1.76	2.38	0.16	0.31	Direct HDL PEGME
	mg/dl	79.9	67.9	91.9	6.00	12.00	
Iron	µmol/l	37.6	30.8	44.4	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.78	4.74	6.82	0.52	1.04	UV LDH
	mg/dl	52.1	42.7	61.5	4.70	9.40	
LD (LDH)	U/l	353	300	406	26.50	53.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	348	296	400	26.00	52.00	L->P IFCC 37°C
Lipase	U/l	241	194	288	23.50	47.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.75	1.54	1.96	0.11	0.21	Methylthymol blue
	mg/dl	4.25	3.74	4.76	0.26	0.51	
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.08	5.60	6.56	0.24	0.48	ISE method - indirect
Protein Total	g/l	46.0	36.8	55.2	4.60	9.20	Biuret reaction end point
	g/dl	4.60	3.68	5.52	0.46	0.92	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
TIBC	µmol/l	39.6	31.2	48.0	4.20	8.40	FE+UIBC(saturation with iron)
	µg/dl	221	174	268	23.50	47.00	
Triglycerides	mmol/l	2.89	2.42	3.36	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	256	214	298	21.00	42.00	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	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	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	8.01	10.4	0.60	1.20	
	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	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.2	24.0	32.4	2.10	4.20	Bromocresol Purple
	g/dl	2.82	2.40	3.24	0.21	0.42	
Alkaline Phosphatase	U/l	302	257	347	22.50	45.00	Siemens Dimension AMP buffer 37°C
	U/l	297	252	342	22.50	45.00	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	151	121	181	15.00	30.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	343	292	394	25.50	51.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	189	151	227	19.00	38.00	Tris buffer with P5P 37°C
	U/l	198	158	238	20.00	40.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Total	µmol/l	86.4	68.2	105	9.10	18.20	Diazo with Sulphanilic Acid
	mg/dl	5.05	3.99	6.11	0.53	1.06	
Calcium	mmol/l	3.14	2.82	3.46	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.86	5.97	7.75	0.45	0.89	Dimension-Siemens reagents
	mg/dl	265	230	300	17.50	35.00	
Chloride	mmol/l	119	109	129	5.00	10.00	ISE indirect
CK Total	U/l	493	404	582	44.50	89.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	377	302	452	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	373	298	448	37.50	75.00	Enzymatic UV method
	mg/dl	4.21	3.37	5.05	0.42	0.84	

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RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	173	147	199	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	200	170	230	15.00	30.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	
HDL - Cholesterol	mmol/l	2.23	1.90	2.56	0.17	0.33	Direct HDL PPD
	mg/dl	86.1	73.3	98.9	6.40	12.80	
	mmol/l	2.04	1.73	2.35	0.16	0.31	Direct HDL PEGME
	mg/dl	78.7	66.8	90.6	5.95	11.90	
Iron	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric without ppt.
	µg/dl	211	173	249	19.00	38.00	
LD (LDH)	U/l	346	294	398	26.00	52.00	L->P IFCC 37°C
Lipase	U/l	250	200	300	25.00	50.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Methylthymol blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.01	5.95	8.07	0.53	1.06	
	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Potassium	mmol/l	6.03	5.55	6.51	0.24	0.48	ISE method - indirect
Protein Total	g/l	46.3	37.0	55.6	4.65	9.30	Biuret reaction end point
	g/dl	4.63	3.70	5.56	0.47	0.93	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.92	2.46	3.38	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	218	298	20.00	40.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	259	218	300	20.50	41.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.86	2.41	3.31	0.23	0.45	Lipase/Glycerol Dehydrogenase
	mg/dl	253	213	293	20.00	40.00	
Uric Acid (Urate)	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	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.19	8.00	10.4	0.60	1.19	
Urea	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease end point
	mg/dl	119	102	136	8.50	17.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	

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RANDOX

URIT 8000 Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1070UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.6	25.2	34.0	2.20	4.40	Bromocresol Green
	g/dl	2.96	2.52	3.40	0.22	0.44	
Alkaline Phosphatase	U/l	487	414	560	36.50	73.00	Diethanolamine buffer DEA 37°C
	U/l	379	323	435	28.00	56.00	Diethanolamine buffer DEA 30°C
	U/l	311	265	357	23.00	46.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	137	110	164	13.50	27.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	77	62	92	7.50	15.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	152	122	182	15.00	30.00	Tris buffer without P5P 37°C
	U/l	103	82	124	10.50	21.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Cholesterol	mmol/l	7.19	6.25	8.13	0.47	0.94	Cholesterol Oxidase
	mg/dl	278	241	315	18.50	37.00	
CK Total	U/l	546	448	644	49.00	98.00	CK-NAC (IFCC) 37°C
	U/l	342	280	404	31.00	62.00	CK-NAC (IFCC) 30°C
	U/l	232	190	274	21.00	42.00	CK-NAC (IFCC) 25°C
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
LD (LDH)	U/l	760	646	874	57.00	114.00	P->L Scandinavian & Dutch 37°C
	U/l	549	466	632	41.50	83.00	P->L Scandinavian & Dutch 30°C
	U/l	385	328	442	28.50	57.00	P->L Scandinavian & Dutch 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.04	1.73	2.35	0.16	0.31	Phosphomolybdate UV
	mg/dl	6.32	5.36	7.28	0.48	0.96	
Protein Total	g/l	47.2	37.7	56.7	4.75	9.50	Biuret reaction end point
	g/dl	4.72	3.77	5.67	0.48	0.95	
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	
Uric Acid (Urate)	mmol/l	0.46	0.40	0.52	0.03	0.06	Uricase peroxidase no ascorbate oxidase
	mg/dl	7.78	6.75	8.81	0.52	1.03	
Urea	mmol/l	18.9	16.0	21.8	1.45	2.90	Urease kinetic
	mg/dl	114	96.2	132	8.90	17.80	
	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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