RANDOX 0086 CE

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

CAT. NO. HN1530 / HS2611 **LOT NO.** 1047UN
SIZE: 20 x 5ml / 5 x 5ml **EXP:** 2019-07

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 (25 - 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 2 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.

12 Apr '16 ne

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ABBOTT AEROSET®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.9	34.8	47.0	3.05	6.10	Bromocresol Green
	g/dl	4.09	3.48	4.70	0.31	0.61	
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	19.6	15.5	23.7	2.05	4.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.15	0.907	1.39	0.12	0.24	
Bilirubin Total	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Calcium	mmol/l	2.48	2.23	2.73	0.13	0.25	Cresolphthalein complexone
	mg/dl	9.94	8.94	10.9	0.50	1.00	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Arsenazo III
	mg/dl	8.94	8.06	9.82	0.44	0.88	
Cholesterol	mmol/l	4.90	4.27	5.53	0.32	0.63	Cholesterol Oxidase
	mg/dl	189	165	213	12.00	24.00	
Chloride	mmol/l	98.6	90.7	107	3.95	7.90	ISE direct
CK Total	U/l	202	166	238	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	124	99.5	149	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
Glucose	mmol/l	7.04	5.99	8.09	0.53	1.05	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	6.81	5.79	7.83	0.51	1.02	Glucose oxidase
	mg/dl	123	104	142	9.50	19.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.64	1.39	1.89	0.13	0.25	HDL - Ultra
	mg/dl	63.3	53.7	72.9	4.80	9.60	
Phosphate Inorganic	mmol/l	1.54	1.31	1.77	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.77	4.06	5.48	0.36	0.71	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - direct
Protein Total	g/l	61.4	49.1	73.7	6.15	12.30	Biuret reaction end point
	g/dl	6.14	4.91	7.37	0.62	1.23	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.1	115	8.00	16.00	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	5.09	6.61	0.38	0.76	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.96	5.19	6.73	0.39	0.77	
Urea	mmol/l	7.51	6.38	8.64	0.57	1.13	Urease kinetic
	mg/dl	45.1	38.3	51.9	3.40	6.80	
	mmol/l	7.25	6.16	8.34	0.55	1.09	Urease hypochlorite
	mg/dl	43.6	37.0	50.2	3.30	6.60	
	mmol/l	7.51	6.38	8.64	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

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Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Purple
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	160	136	184	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	163	138	188	12.50	25.00	AMP optimised to NVKC/SFBC 37°C
	U/l	158	134	182	12.00	24.00	AMP non-optimised 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	68	58	78	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	98	83	113	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	109	92	126	8.50	17.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	26.5	21.2	31.8	2.65	5.30	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	18.7	14.8	22.6	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.09	0.866	1.31	0.11	0.22	
	µmol/l	19.3	15.2	23.4	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.13	0.889	1.37	0.12	0.24	
	µmol/l	19.2	15.2	23.2	2.00	4.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.12	0.889	1.35	0.12	0.23	
Bilirubin Total	µmol/l	26.9	21.2	32.6	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	1.24	1.90	0.17	0.33	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	26.2	20.7	31.7	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazonium ion
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Cholesterol	mmol/l	4.84	4.21	5.47	0.32	0.63	Cholesterol Oxidase
	mg/dl	187	163	211	12.00	24.00	
Chloride	mmol/l	99.5	91.5	108	4.00	8.00	ISE indirect
Cholinesterase	U/l	6749	5400	8098	674.50	1349.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	220	181	259	19.50	39.00	CK-NAC serum start (DGKC) 37°C
	U/l	217	178	256	19.50	39.00	CK-NAC substrate start (DGKC) 37°C
	U/l	208	170	246	19.00	38.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	128	102	154	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	125	99.8	150	12.60	25.20	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	126	101	151	12.50	25.00	IDMS traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
Free T4	pmol/l	15.0	11.3	18.7	1.85	3.70	Abbott Architect
	ng/dl	1.17	0.881	1.46	0.14	0.29	
	pg/ml	11.7	8.81	14.6	1.45	2.89	Abbott Architect

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	52	45	59	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	54	46	62	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.91	5.87	7.95	0.52	1.04	Glucose dehydrogenase
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	6.99	5.94	8.04	0.53	1.05	Hexokinase
	mg/dl	126	107	145	9.50	19.00	
	mmol/l	6.97	5.93	8.01	0.52	1.04	Glucose oxidase
	mg/dl	126	107	145	9.50	19.00	
HDL - Cholesterol	mmol/l	1.71	1.45	1.97	0.13	0.26	Direct HDL PPD
	mg/dl	66.0	56.0	76.0	5.00	10.00	
	mmol/l	1.68	1.43	1.93	0.13	0.25	Direct Clearance Method
	mg/dl	64.8	55.2	74.4	4.80	9.60	
	mmol/l	1.69	1.44	1.94	0.13	0.25	HDL - Ultra
	mg/dl	65.2	55.6	74.8	4.80	9.60	
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric with ppt.
	µg/dl	109	89.4	129	9.80	19.60	
	µmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.3	128	9.85	19.70	
Lactate	mmol/l	1.37	1.12	1.62	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.3	10.1	14.5	1.10	2.20	
LD (LDH)	U/l	193	164	222	14.50	29.00	L->P 37°C
	U/l	194	165	223	14.50	29.00	L->P IFCC 37°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	38	31	45	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Spectrophotometric
	mg/dl	0.715	0.631	0.799	0.04	0.08	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Arsenazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Enzymatic
	mg/dl	2.23	1.97	2.49	0.13	0.26	
Osmolality	mOsm/kg	303	242	364	30.50	61.00	Calculated
Phosphate Inorganic	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate enzymatic
	mg/dl	5.15	4.37	5.93	0.39	0.78	
	mmol/l	1.64	1.39	1.89	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.08	4.31	5.85	0.39	0.77	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.2	48.1	72.3	6.05	12.10	Biuret reaction end point
	g/dl	6.02	4.81	7.23	0.61	1.21	
	g/l	61.2	49.0	73.4	6.10	12.20	Biuret reaction kinetic
	g/dl	6.12	4.90	7.34	0.61	1.22	
PSA Total	ng/ml =	13.8	10.3	17.3	1.75	3.50	Abbott Architect
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.11	0.89	1.33	0.11	0.22	Abbott Architect
TIBC	µmol/l	51.5	40.7	62.3	5.40	10.80	FE+UIBC(saturation with iron)
	µg/dl	288	228	348	30.00	60.00	
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	83.9	116	8.05	16.10	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	84.3	116	7.85	15.70	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	101	84.9	117	8.05	16.10	
	mmol/l	1.15	0.96	1.34	0.09	0.19	Agappe - GPO - TOPS
	mg/dl	102	85.1	119	8.45	16.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.93	5.16	6.70	0.39	0.77	
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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ABX Pentra 400®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.9	35.7	48.1	3.10	6.20	Bromocresol Green
	g/dl	4.19	3.57	4.81	0.31	0.62	
Alkaline Phosphatase	U/l	179	152	206	13.50	27.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	43	35	51	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	21.4	16.9	25.9	2.25	4.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.25	0.989	1.51	0.13	0.26	
Bilirubin Total	µmol/l	26.3	20.8	31.8	2.75	5.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.54	1.22	1.86	0.16	0.32	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Cholesterol	mmol/l	5.06	4.40	5.72	0.33	0.66	Cholesterol Oxidase
	mg/dl	195	170	220	12.50	25.00	
Creatinine	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
Glucose	mmol/l	7.39	6.28	8.50	0.56	1.11	Glucose oxidase
	mg/dl	133	113	153	10.00	20.00	
Magnesium	mmol/l	0.91	0.80	1.02	0.06	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
Phosphate Inorganic	mmol/l	1.81	1.54	2.08	0.14	0.27	Phosphomolybdate UV
	mg/dl	5.61	4.77	6.45	0.42	0.84	

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RANDOX

ABX Pentra 400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction end point
	g/dl	5.97	4.78	7.16	0.60	1.19	
Triglycerides	mmol/l	1.20	1.01	1.39	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	106	89.4	123	8.30	16.60	
Urea	mmol/l	7.54	6.41	8.67	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.54	6.41	8.67	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

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Alfa Wassermann Alfa 600 / Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.3	35.1	47.5	3.10	6.20	Bromocresol Green
	g/dl	4.13	3.51	4.75	0.31	0.62	
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.18	8.26	10.1	0.46	0.92	
	mmol/l	2.39	2.15	2.63	0.12	0.24	Arsenazo III
	mg/dl	9.58	8.62	10.5	0.48	0.96	
Cholesterol	mmol/l	4.51	3.92	5.10	0.30	0.59	Cholesterol Oxidase
	mg/dl	174	151	197	11.50	23.00	
Creatinine	µmol/l	123	98.0	148	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
Glucose	mmol/l	6.74	5.73	7.75	0.51	1.01	Hexokinase
	mg/dl	121	103	139	9.00	18.00	
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction end point
	g/dl	5.97	4.78	7.16	0.60	1.19	
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.5	119	8.25	16.50	

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Alfa Wassermann Alfa 600 / Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.64	4.91	6.37	0.37	0.73	
Urea	mmol/l	7.16	6.09	8.23	0.54	1.07	Urease kinetic
	mg/dl	43.0	36.6	49.4	3.20	6.40	
	mmol/l	7.16	6.09	8.23	0.54	1.07	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.6	35.4	47.8	3.10	6.20	Bromocresol Green
	g/dl	4.16	3.54	4.78	0.31	0.62	
	g/l	41.0	34.9	47.1	3.05	6.10	Bromocresol Purple
	g/dl	4.10	3.49	4.71	0.31	0.61	
Alkaline Phosphatase	U/l	207	176	238	15.50	31.00	p-Nitrophenylphosphate AMP 37°C
	U/l	280	238	322	21.00	42.00	Diethanolamine buffer DEA 37°C
	U/l	198	168	228	15.00	30.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	pNP Maltotrioside substrates 37°C
	U/l	88	75	101	6.50	13.00	Biotrol - blocked pNPG7 37°C
	U/l	93	79	107	7.00	14.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	87	74	100	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.1	12.8	19.4	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	20.7	16.3	25.1	2.20	4.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	0.954	1.47	0.13	0.26	
	µmol/l	20.4	16.1	24.7	2.15	4.30	Diazo with Sulphanilic Acid
	mg/dl	1.19	0.942	1.44	0.12	0.25	
	µmol/l	19.0	15.0	23.0	2.00	4.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.11	0.878	1.34	0.12	0.23	
Bilirubin Total	µmol/l	31.1	24.6	37.6	3.25	6.50	Diazo with Sulphanilic Acid
	mg/dl	1.82	1.44	2.20	0.19	0.38	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	30.9	24.4	37.4	3.25	6.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.81	1.43	2.19	0.19	0.38	
	µmol/l	31.2	24.7	37.7	3.25	6.50	Oxidation to Biliverdin
	mg/dl	1.83	1.44	2.22	0.20	0.39	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.18	8.26	10.1	0.46	0.92	
	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Cholesterol	mmol/l	4.85	4.22	5.48	0.32	0.63	Cholesterol Oxidase
	mg/dl	187	163	211	12.00	24.00	
Chloride	mmol/l	97.1	89.3	105	3.90	7.80	ISE indirect
Cholinesterase	U/l	5337	4270	6404	533.50	1067.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	17.5	14.0	21.0	1.75	3.50	Colorimetric
	µg/dl	111	89.0	133	11.00	22.00	
Creatinine	µmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	122	97.8	146	12.10	24.20	Randox Enzymatic UV method
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	µmol/l	123	98.0	148	12.50	25.00	Creatinine PAP method
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked
	mg/dl	1.42	1.14	1.70	0.14	0.28	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	120	96.0	144	12.00	24.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	120	96.0	144	12.00	24.00	IDMS traceable
	mg/dl	1.36	1.08	1.64	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	56	47	65	4.50	9.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	17	14	20	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	7.04	5.98	8.10	0.53	1.06	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	7.06	6.00	8.12	0.53	1.06	Glucose oxidase
	mg/dl	127	108	146	9.50	19.00	
HDL - Cholesterol	mmol/l	1.67	1.42	1.92	0.13	0.25	Direct HDL Immunoseparation
	mg/dl	64.5	54.8	74.2	4.85	9.70	
	mmol/l	1.71	1.45	1.97	0.13	0.26	Direct Clearance Method
	mg/dl	66.0	56.0	76.0	5.00	10.00	
Iron	µmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric with ppt.
	µg/dl	106	87.2	125	9.40	18.80	
	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.32	1.09	1.55	0.12	0.23	Colorimetric Lactate Oxidase
	mg/dl	11.9	9.82	14.0	1.04	2.08	
LD (LDH)	U/l	193	164	222	14.50	29.00	L->P 37°C

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	420	357	483	31.50	63.00	P->L Scandinavian & Dutch 37°C
	U/l	377	320	434	28.50	57.00	P->L German methods 37°C
	U/l	195	166	224	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	36	29	43	3.50	7.00	Other Colorimetric 37°C
	U/l	38	30	46	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.692	0.609	0.775	0.04	0.08	
Magnesium	mmol/l	0.95	0.83	1.06	0.06	0.11	Xylidyl Blue
	mg/dl	2.30	2.03	2.57	0.14	0.27	
Phosphate Inorganic	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate enzymatic
	mg/dl	5.15	4.37	5.93	0.39	0.78	
	mmol/l	1.64	1.39	1.89	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.08	4.31	5.85	0.39	0.77	
Potassium	mmol/l	3.96	3.64	4.28	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.3	47.5	71.1	5.90	11.80	Biuret reaction end point
	g/dl	5.93	4.75	7.11	0.59	1.18	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	51.8	40.9	62.7	5.45	10.90	FE+UIBC(saturation with iron)
	µg/dl	290	229	351	30.50	61.00	
Total T4	nmol/l	89.5	67.2	112	11.15	22.30	Microgenics DRI assay
	µg/dl	6.98	5.24	8.72	0.87	1.74	
	ng/ml	69.8	52.4	87.2	8.70	17.40	Microgenics DRI assay
Triglycerides	mmol/l	1.18	0.99	1.37	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.5	121	8.25	16.50	
	mmol/l	1.19	1.00	1.38	0.10	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	105	88.4	122	8.30	16.60	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.21	1.01	1.41	0.10	0.20	L/G Kinase EP. no correction
	mg/dl	107	89.4	125	8.80	17.60	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.01	5.22	6.80	0.40	0.79	
	mmol/l	0.36	0.32	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.10	5.31	6.89	0.40	0.79	
Urea	mmol/l	7.45	6.33	8.57	0.56	1.12	Urease end point
	mg/dl	44.8	38.0	51.6	3.40	6.80	
	mmol/l	7.42	6.31	8.53	0.56	1.11	Urease kinetic
	mg/dl	44.6	37.9	51.3	3.35	6.70	
	mmol/l	7.42	6.31	8.53	0.56	1.11	BUN
	mg/dl	20.8	17.7	23.9	1.55	3.10	
Zinc	µmol/l	26.9	21.5	32.3	2.70	5.40	Colorimetric with deproteinisation
	µg/dl	176	140	212	18.00	36.00	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.2	37.5	50.9	3.35	6.70	Bromocresol Purple
	g/dl	4.42	3.75	5.09	0.34	0.67	
Alkaline Phosphatase	U/l	183	156	210	13.50	27.00	p-Nitrophenylphosphate AMP 37°C
	U/l	189	161	217	14.00	28.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	36	29	43	3.50	7.00	Tris buffer SCE 37°C
Amylase Total	U/l	87	74	100	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	90	77	103	6.50	13.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	38	30	46	4.00	8.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	16.1	12.7	19.5	1.70	3.40	Differential rate pH change
	mmol/l	16.3	12.9	19.7	1.70	3.40	Ion selective electrode
Bilirubin Direct	µmol/l	14.7	11.6	17.8	1.55	3.10	Diazo with Sulphanilic Acid
	mg/dl	0.860	0.679	1.04	0.09	0.18	
Bilirubin Total	µmol/l	31.2	24.6	37.8	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
Calcium	mmol/l	2.23	2.00	2.46	0.12	0.23	Ion selective electrode
	mg/dl	8.94	8.02	9.86	0.46	0.92	
	mmol/l	2.30	2.07	2.53	0.12	0.23	Arsenazo III
	mg/dl	9.22	8.30	10.1	0.46	0.92	
Cholesterol	mmol/l	4.69	4.08	5.30	0.31	0.61	Cholesterol Oxidase
	mg/dl	181	157	205	12.00	24.00	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	98.4	90.6	106	3.90	7.80	ISE indirect
CK Total	U/l	215	176	254	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	216	177	255	19.50	39.00	Monothioglycerol 37°C
Creatinine	µmol/l	122	97.5	147	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	127	101	153	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	123	98.5	148	12.25	24.50	Jaffe rate blanked
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	122	97.4	147	12.30	24.60	IDMS traceable
	mg/dl	1.38	1.10	1.66	0.14	0.28	
Free T4	pmol/l	15.3	11.5	19.1	1.90	3.80	Beckman DxI800
	ng/dl	1.19	0.897	1.48	0.15	0.29	
	pg/ml	11.9	8.97	14.8	1.47	2.93	Beckman DxI800
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	45	38	52	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.91	5.87	7.95	0.52	1.04	Hexokinase
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	6.89	5.86	7.92	0.52	1.03	Oxygen electrode
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	6.84	5.81	7.87	0.52	1.03	Glucose oxidase
	mg/dl	123	105	141	9.00	18.00	
HDL - Cholesterol	mmol/l	2.16	1.84	2.48	0.16	0.32	Direct HDL PPD
	mg/dl	83.4	71.0	95.8	6.20	12.40	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	
Lactate	mmol/l	1.40	1.15	1.65	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.6	10.4	14.8	1.10	2.20	
LD (LDH)	U/l	166	141	191	12.50	25.00	L->P 37°C
	U/l	493	419	567	37.00	74.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Spectrophotometric
	mg/dl	0.694	0.611	0.777	0.04	0.08	
Magnesium	mmol/l	0.94	0.83	1.05	0.06	0.11	Calmagite
	mg/dl	2.28	2.01	2.55	0.14	0.27	
Phosphate Inorganic	mmol/l	1.67	1.42	1.92	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.18	4.40	5.96	0.39	0.78	
Potassium	mmol/l	3.89	3.58	4.20	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.9	47.9	71.9	6.00	12.00	Biuret reaction CX4/5/7
	g/dl	5.99	4.79	7.19	0.60	1.20	
	g/l	60.2	48.2	72.2	6.00	12.00	Biuret reaction end point
	g/dl	6.02	4.82	7.22	0.60	1.20	
	g/l	57.9	46.3	69.5	5.80	11.60	Biuret reaction kinetic
	g/dl	5.79	4.63	6.95	0.58	1.16	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.38	1.10	1.66	0.14	0.28	Beckman DxI800 Hyper TSH
Triglycerides	mmol/l	1.23	1.03	1.43	0.10	0.20	Lipase/GPO-PAP no correction
	mg/dl	109	91.2	127	8.90	17.80	
	mmol/l	1.25	1.05	1.45	0.10	0.20	L/G Kinase EP. no correction
	mg/dl	111	92.9	129	9.05	18.10	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
Urea	mmol/l	7.68	6.52	8.84	0.58	1.16	Urease end point
	mg/dl	46.2	39.2	53.2	3.50	7.00	
	mmol/l	7.71	6.56	8.86	0.58	1.15	Urease kinetic
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	7.71	6.55	8.87	0.58	1.16	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.9	34.8	47.0	3.05	6.10	Bromocresol Green
	g/dl	4.09	3.48	4.70	0.31	0.61	
Alkaline Phosphatase	U/l	189	160	218	14.50	29.00	AMP optimised to IFCC 37°C
	U/l	147	125	169	11.00	22.00	AMP optimised to IFCC 30°C
	U/l	121	102	140	9.50	19.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer without P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	24.8	19.6	30.0	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.45	1.15	1.75	0.15	0.30	
Bilirubin Total	µmol/l	34.2	27.0	41.4	3.60	7.20	Diazo with Sulphanilic Acid
	mg/dl	2.00	1.58	2.42	0.21	0.42	
Cholesterol	mmol/l	4.96	4.32	5.60	0.32	0.64	Cholesterol Oxidase
	mg/dl	191	167	215	12.00	24.00	
Creatinine	µmol/l	120	96.1	144	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.36	1.09	1.63	0.14	0.27	
Glucose	mmol/l	7.38	6.27	8.49	0.56	1.11	Glucose oxidase
	mg/dl	133	113	153	10.00	20.00	
LD (LDH)	U/l	398	338	458	30.00	60.00	P->L SFBC 37°C
	U/l	287	244	330	21.50	43.00	P->L SFBC 30°C
	U/l	202	171	233	15.50	31.00	P->L SFBC 25°C

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	58.3	46.6	70.0	5.85	11.70	Biuret reaction end point
	g/dl	5.83	4.66	7.00	0.59	1.17	
Triglycerides	mmol/l	1.21	1.02	1.40	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	107	90.3	124	8.35	16.70	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.43	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.33	5.51	7.15	0.41	0.82	
	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.25	5.43	7.07	0.41	0.82	
Urea	mmol/l	7.16	6.09	8.23	0.54	1.07	Urease kinetic
	mg/dl	43.0	36.6	49.4	3.20	6.40	
	mmol/l	7.16	6.09	8.23	0.54	1.07	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.2	34.2	46.2	3.00	6.00	Bromocresol Green
	g/dl	4.02	3.42	4.62	0.30	0.60	
Alkaline Phosphatase	U/l	161	137	185	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	125	107	143	9.00	18.00	AMP optimised to IFCC 30°C
	U/l	103	88	118	7.50	15.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer without P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	41	32	50	4.50	9.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	15	25	2.50	5.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	34.7	27.4	42.0	3.65	7.30	Diazo with Sulphanilic Acid
	mg/dl	2.03	1.60	2.46	0.22	0.43	
Calcium	mmol/l	2.28	2.06	2.50	0.11	0.22	Arsenazo III
	mg/dl	9.14	8.26	10.0	0.44	0.88	
Cholesterol	mmol/l	4.75	4.13	5.37	0.31	0.62	Cholesterol Oxidase
	mg/dl	183	159	207	12.00	24.00	
CK Total	U/l	223	183	263	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	140	115	165	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	95	78	112	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	115	92.1	138	11.45	22.90	Alkaline picrate no deproteinization
	mg/dl	1.30	1.04	1.56	0.13	0.26	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	57	48	66	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	45	38	52	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.01	5.96	8.06	0.53	1.05	Glucose oxidase
	mg/dl	126	107	145	9.50	19.00	
Protein Total	g/l	59.3	47.4	71.2	5.95	11.90	Biuret reaction end point
	g/dl	5.93	4.74	7.12	0.60	1.19	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.9	117	8.05	16.10	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.43	0.03	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.43	5.59	7.27	0.42	0.84	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	
Urea	mmol/l	7.39	6.28	8.50	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.39	6.28	8.50	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	

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Biotechnica/Weiner BT Series/CB 350i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.9	34.8	47.0	3.05	6.10	Bromocresol Green
	g/dl	4.09	3.48	4.70	0.31	0.61	
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C
Calcium	mmol/l	2.26	2.03	2.49	0.12	0.23	Arsenazo III
	mg/dl	9.06	8.14	9.98	0.46	0.92	
Cholesterol	mmol/l	4.87	4.24	5.50	0.32	0.63	Cholesterol Oxidase
	mg/dl	188	164	212	12.00	24.00	
Creatinine	µmol/l	120	95.8	144	12.10	24.20	Creatinine PAP method
	mg/dl	1.36	1.08	1.64	0.14	0.28	
Glucose	mmol/l	7.27	6.18	8.36	0.55	1.09	Glucose oxidase
	mg/dl	131	111	151	10.00	20.00	
Protein Total	g/l	61.7	49.4	74.0	6.15	12.30	Biuret reaction end point
	g/dl	6.17	4.94	7.40	0.62	1.23	
Triglycerides	mmol/l	1.21	1.02	1.40	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	107	90.3	124	8.35	16.70	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.43	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.33	5.51	7.15	0.41	0.82	
Urea	mmol/l	7.43	6.31	8.55	0.56	1.12	Urease kinetic
	mg/dl	44.7	37.9	51.5	3.40	6.80	

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.43	6.32	8.54	0.56	1.11	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
	g/l	41.7	35.5	47.9	3.10	6.20	Bromocresol Purple
	g/dl	4.17	3.55	4.79	0.31	0.62	
	g/l	40.1	34.1	46.1	3.00	6.00	Turbidimetric Assays
	g/dl	4.01	3.41	4.61	0.30	0.60	
Alkaline Phosphatase	U/l	127	108	146	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	99	84	114	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	81	69	93	6.00	12.00	Roche Integra AMP buffer 25°C
	U/l	125	106	144	9.50	19.00	AMP optimised to IFCC 37°C
	U/l	97	83	111	7.00	14.00	AMP optimised to IFCC 30°C
	U/l	80	68	92	6.00	12.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	70	60	80	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	68	58	78	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	91	77	105	7.00	14.00	Saccharogenic 37°C
	U/l	90	76	104	7.00	14.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.2	11.3	17.1	1.45	2.90	Colorimetric
	mmol/l	15.3	12.2	18.4	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	18.6	14.7	22.5	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.09	0.860	1.32	0.12	0.23	
	µmol/l	18.4	14.5	22.3	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.08	0.848	1.31	0.12	0.23	
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	27.2	21.5	32.9	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.26	1.92	0.17	0.33	
	µmol/l	27.4	21.7	33.1	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.60	1.27	1.93	0.17	0.33	
	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazonium ion
	mg/dl	1.61	1.27	1.95	0.17	0.34	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.98	8.10	9.86	0.44	0.88	
	mmol/l	2.24	2.02	2.46	0.11	0.22	NM-BAPTA
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Cholesterol	mmol/l	4.90	4.26	5.54	0.32	0.64	Cholesterol Oxidase
	mg/dl	189	164	214	12.50	25.00	
Chloride	mmol/l	97.2	89.5	105	3.85	7.70	ISE indirect
CK Total	U/l	218	179	257	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	136	112	160	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	93	76	110	8.50	17.00	CK-NAC (IFCC) 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	114	91.6	136	11.20	22.40	Alkaline picrate with deproteinization
	mg/dl	1.29	1.04	1.54	0.13	0.25	
	µmol/l	117	93.8	140	11.60	23.20	Alkaline picrate no deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	122	97.4	147	12.30	24.60	Roche Creatinine Plus
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	115	92.1	138	11.45	22.90	Jaffe rate blanked
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	119	95.3	143	11.85	23.70	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	118	94.6	141	11.70	23.40	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.19	6.11	8.27	0.54	1.08	Glucose dehydrogenase
	mg/dl	130	110	150	10.00	20.00	
	mmol/l	7.06	6.00	8.12	0.53	1.06	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	7.00	5.95	8.05	0.53	1.05	Glucose oxidase
	mg/dl	126	107	145	9.50	19.00	

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RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.00	1.70	2.30	0.15	0.30	Direct HDL PEGME
	mg/dl	77.2	65.6	88.8	5.80	11.60	
	mmol/l	2.02	1.72	2.32	0.15	0.30	Direct HDL Roche 3rd generation
	mg/dl	78.0	66.4	89.6	5.80	11.60	
Iron	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric with ppt.
	µg/dl	112	91.7	132	10.15	20.30	
	µmol/l	20.1	16.5	23.7	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	92.2	132	9.90	19.80	
Lactate	mmol/l	1.42	1.16	1.68	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	12.8	10.5	15.1	1.15	2.30	
LD (LDH)	U/l	375	318	432	28.50	57.00	P->L German methods 37°C
	U/l	271	230	312	20.50	41.00	P->L German methods 30°C
	U/l	190	161	219	14.50	29.00	P->L German methods 25°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
	U/l	149	126	172	11.50	23.00	L->P IFCC 30°C
	U/l	104	89	119	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	34	27	41	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.14	0.06	0.12	Ion selective electrode
	mg/dl	0.708	0.623	0.793	0.04	0.09	
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Phosphate Inorganic	mmol/l	1.73	1.47	1.99	0.13	0.26	Phosphomolybdate enzymatic
	mg/dl	5.36	4.56	6.16	0.40	0.80	
	mmol/l	1.71	1.45	1.97	0.13	0.26	Phosphomolybdate UV
	mg/dl	5.30	4.50	6.10	0.40	0.80	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.9	46.3	69.5	5.80	11.60	Biuret reaction end point
	g/dl	5.79	4.63	6.95	0.58	1.16	
	g/l	57.3	45.8	68.8	5.75	11.50	Biuret reaction kinetic
	g/dl	5.73	4.58	6.88	0.58	1.15	
Sodium	mmol/l	143	135	151	4.00	8.00	ISE method - indirect
TIBC	µmol/l	50.5	39.9	61.1	5.30	10.60	FE+UIBC(saturation with iron)
	µg/dl	282	223	341	29.50	59.00	
Triglycerides	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	85.9	120	8.55	17.10	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	102	85.5	119	8.25	16.50	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	102	85.5	119	8.25	16.50	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.01	5.22	6.80	0.40	0.79	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.03	5.26	6.80	0.39	0.77	
Urea	mmol/l	7.03	5.98	8.08	0.53	1.05	Urease kinetic
	mg/dl	42.3	35.9	48.7	3.20	6.40	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.03	5.98	8.08	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	

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ELITech/Vitalab Selectra Pro/E/XL/Jnr

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.9	36.4	49.4	3.25	6.50	Bromocresol Green
	g/dl	4.29	3.64	4.94	0.33	0.65	
Alkaline Phosphatase	U/l	270	230	310	20.00	40.00	Diethanolamine buffer DEA 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	29.8	23.5	36.1	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Calcium	mmol/l	2.36	2.12	2.60	0.12	0.24	Arsenazo III
	mg/dl	9.46	8.50	10.4	0.48	0.96	
Cholesterol	mmol/l	4.91	4.27	5.55	0.32	0.64	Cholesterol Oxidase
	mg/dl	190	165	215	12.50	25.00	
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	118	94.5	142	11.75	23.50	Alkaline picrate no deproteinization
	mg/dl	1.33	1.07	1.59	0.13	0.26	
	µmol/l	124	99.3	149	12.35	24.70	Jaffe rate blanked
	mg/dl	1.40	1.12	1.68	0.14	0.28	
Glucose	mmol/l	7.43	6.32	8.54	0.56	1.11	Glucose oxidase
	mg/dl	134	114	154	10.00	20.00	
LD (LDH)	U/l	195	166	224	14.50	29.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	1.78	1.51	2.05	0.14	0.27	Phosphomolybdate UV
	mg/dl	5.52	4.68	6.36	0.42	0.84	
Protein Total	g/l	61.9	49.6	74.2	6.15	12.30	Biuret reaction end point
	g/dl	6.19	4.96	7.42	0.62	1.23	

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.52	6.39	8.65	0.57	1.13	Urease kinetic
	mg/dl	45.2	38.4	52.0	3.40	6.80	
	mmol/l	7.52	6.39	8.65	0.57	1.13	BUN
	mg/dl	21.1	17.9	24.3	1.60	3.20	

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.5	37.0	50.0	3.25	6.50	Bromocresol Green
	g/dl	4.35	3.70	5.00	0.33	0.65	
Alkaline Phosphatase	U/l	111	94	128	8.50	17.00	Roche Integra AMP buffer 37°C
	U/l	86	73	99	6.50	13.00	Roche Integra AMP buffer 30°C
	U/l	71	60	82	5.50	11.00	Roche Integra AMP buffer 25°C
	U/l	177	150	204	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	138	117	159	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	113	96	130	8.50	17.00	AMP optimised to IFCC 25°C
	U/l	191	162	220	14.50	29.00	Randox AMP 37°C
	U/l	149	126	172	11.50	23.00	Randox AMP 30°C
	U/l	122	104	140	9.00	18.00	Randox AMP 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Roche liquid stable pNPG7 37°C
	U/l	77	65	89	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	86	73	99	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	97	82	112	7.50	15.00	Randox liquid stable pNPG7 37°C
Acid Phosphatase (non-prostatic)	U/l	3.90	2.61	5.19	0.65	1.29	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	4.22	2.83	5.61	0.70	1.39	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	11.8	7.91	15.7	1.95	3.89	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Acid Phosphatase (Prostatic)	U/l	9.08	6.08	12.1	1.50	3.00	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	15.7	10.5	20.9	2.60	5.20	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	13.3	8.91	17.7	2.20	4.39	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.9	19.9	29.9	2.50	5.00	5th Generation Colorimetric
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	18.5	14.7	22.3	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.860	1.30	0.11	0.22	
	µmol/l	18.5	14.6	22.4	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.08	0.854	1.31	0.11	0.23	
Bilirubin Total	µmol/l	27.2	21.5	32.9	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.26	1.92	0.17	0.33	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazonium ion
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.06	8.18	9.94	0.44	0.88	
	mmol/l	2.24	2.02	2.46	0.11	0.22	Arsenazo III
	mg/dl	8.98	8.10	9.86	0.44	0.88	
	mmol/l	2.27	2.05	2.49	0.11	0.22	NM-BAPTA
	mg/dl	9.10	8.22	9.98	0.44	0.88	
Cholesterol	mmol/l	4.84	4.21	5.47	0.32	0.63	Cholesterol Oxidase
	mg/dl	187	163	211	12.00	24.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	94.4	86.9	102	3.75	7.50	ISE indirect
Cholinesterase	U/l	5401	4321	6481	540.00	1080.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	204	167	241	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	198	163	233	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	124	102	146	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	84	69	99	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	127	101	153	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	124	99.2	149	12.40	24.80	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	127	101	153	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	49	41	57	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	32	46	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	25	35	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	58	49	67	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	39	53	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	36	30	42	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
GLDH	U/l	19	15	23	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	7.01	5.96	8.06	0.53	1.05	Hexokinase
	mg/dl	126	107	145	9.50	19.00	
	mmol/l	7.25	6.16	8.34	0.55	1.09	Glucose oxidase
	mg/dl	131	111	151	10.00	20.00	
alpha-HBDH	U/l	216	170	262	23.00	46.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	163	128	198	17.50	35.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	122	96	148	13.00	26.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.70	1.45	1.95	0.13	0.25	Direct HDL Immunoseparation
	mg/dl	65.6	56.0	75.2	4.80	9.60	
	mmol/l	1.91	1.63	2.19	0.14	0.28	Direct HDL PEGME
	mg/dl	73.7	62.9	84.5	5.40	10.80	
	mmol/l	1.96	1.66	2.26	0.15	0.30	Direct HDL Roche 3rd generation
	mg/dl	75.7	64.1	87.3	5.80	11.60	
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
Lactate	mmol/l	1.32	1.08	1.56	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	11.9	9.73	14.1	1.09	2.17	
LD (LDH)	U/l	388	329	447	29.50	59.00	P->L German methods 37°C
	U/l	280	238	322	21.00	42.00	P->L German methods 30°C
	U/l	197	167	227	15.00	30.00	P->L German methods 25°C
	U/l	192	163	221	14.50	29.00	L->P IFCC 37°C
	U/l	139	118	160	10.50	21.00	L->P IFCC 30°C
	U/l	97	83	111	7.00	14.00	L->P IFCC 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.09	0.96	1.23	0.07	0.14	Spectrophotometric
	mg/dl	0.757	0.663	0.851	0.05	0.09	
Magnesium	mmol/l	0.94	0.83	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.28	2.00	2.56	0.14	0.28	
Phosphate Inorganic	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.15	4.37	5.93	0.39	0.78	
Potassium	mmol/l	4.07	3.74	4.40	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.8	47.8	71.8	6.00	12.00	Biuret reaction end point
	g/dl	5.98	4.78	7.18	0.60	1.20	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
TIBC	µmol/l	50.5	39.9	61.1	5.30	10.60	FE+UIBC(saturation with iron)
	µg/dl	282	223	341	29.50	59.00	
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.6	118	8.20	16.40	
	mmol/l	1.17	0.98	1.36	0.10	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	104	86.7	121	8.65	17.30	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.5	115	7.80	15.60	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.11	6.65	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	

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RANDOX

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.91	5.16	6.66	0.38	0.75	
Urea	mmol/l	7.54	6.41	8.67	0.57	1.13	Urease kinetic
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.54	6.41	8.67	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.9	35.6	48.2	3.15	6.30	Bromocresol Green
	g/dl	4.19	3.56	4.82	0.32	0.63	
Alkaline Phosphatase	U/l	176	149	203	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	137	116	158	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	112	95	129	8.50	17.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.4	19.5	29.3	2.45	4.90	Enzymatic Colorimetric
Bilirubin Total	µmol/l	30.6	24.2	37.0	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.79	1.42	2.16	0.19	0.37	
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.06	8.18	9.94	0.44	0.88	
Cholesterol	mmol/l	4.80	4.18	5.42	0.31	0.62	Cholesterol Oxidase
	mg/dl	185	161	209	12.00	24.00	
Chloride	mmol/l	96.8	89.0	105	3.90	7.80	ISE indirect
CK Total	U/l	192	158	226	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	120	99	141	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	82	67	97	7.50	15.00	CK-NAC (IFCC) 25°C

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	131	105	157	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	32	42	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	25	33	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.10	6.03	8.17	0.54	1.07	Hexokinase
	mg/dl	128	109	147	9.50	19.00	
	mmol/l	6.96	5.92	8.00	0.52	1.04	Glucose oxidase
	mg/dl	125	107	143	9.00	18.00	
HDL - Cholesterol	mmol/l	1.53	1.30	1.76	0.12	0.23	Direct HDL Immunoseparation
	mg/dl	59.1	50.2	68.0	4.45	8.90	
Iron	µmol/l	19.9	16.3	23.5	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	91.1	131	9.95	19.90	
LD (LDH)	U/l	377	321	433	28.00	56.00	P->L German methods 37°C
	U/l	272	232	312	20.00	40.00	P->L German methods 30°C
	U/l	191	163	219	14.00	28.00	P->L German methods 25°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.22	1.96	2.48	0.13	0.26	
Phosphate Inorganic	mmol/l	1.74	1.48	2.00	0.13	0.26	Phosphomolybdate UV
	mg/dl	5.39	4.59	6.19	0.40	0.80	

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.10	3.77	4.43	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction end point
	g/dl	6.00	4.80	7.20	0.60	1.20	
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	1.21	1.02	1.40	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	107	90.3	124	8.35	16.70	
	mmol/l	1.18	0.99	1.37	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	104	87.9	120	8.05	16.10	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.42	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.30	5.48	7.12	0.41	0.82	
Urea	mmol/l	7.68	6.53	8.83	0.58	1.15	Urease end point
	mg/dl	46.2	39.2	53.2	3.50	7.00	
	mmol/l	7.68	6.53	8.83	0.58	1.15	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.0	34.9	47.1	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.10	3.49	4.71	0.31	0.61	
Alkaline Phosphatase	U/l	117	99	135	9.00	18.00	Ortho Vitros Microslide Systems 37°C
	U/l	118	100	136	9.00	18.00	Vitros DT60/DT60 II/DTSC II 37°C
ALT (GPT)	U/l	51	40	62	5.50	11.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	64	55	73	4.50	9.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
	U/l	54	43	65	5.50	11.00	Vitros DT60/DT60 II/DTSC II 37°C
Bicarbonate	mmol/l	17.7	14.1	21.3	1.80	3.60	Ortho Vitros Microslide Systems
Bilirubin Direct	µmol/l	12.1	9.58	14.6	1.26	2.52	Vitros conjugated from BUBC
	mg/dl	0.708	0.560	0.856	0.07	0.15	
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.58	1.25	1.91	0.17	0.33	
Calcium	mmol/l	2.32	2.09	2.55	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.27	2.04	2.50	0.12	0.23	Vitros DT60/DT60 II/DTSC II
	mg/dl	9.10	8.18	10.0	0.46	0.92	
Cholesterol	mmol/l	4.58	3.98	5.18	0.30	0.60	Ortho Vitros Microslide Systems
	mg/dl	177	154	200	11.50	23.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.88	4.25	5.51	0.32	0.63	Vitros DT60/DT60 II
	mg/dl	188	164	212	12.00	24.00	
Chloride	mmol/l	97.6	89.8	105	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	99.0	91.0	107	4.00	8.00	Vitros DT60/DT60 II/DTE II
Cholinesterase	U/l	5522	4418	6626	552.00	1104.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	193	158	228	17.50	35.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	120	96.3	144	11.85	23.70	Vitros DT60/DT60 II/DTSC II
	mg/dl	1.36	1.09	1.63	0.14	0.27	
	µmol/l	125	100	150	12.50	25.00	Vitros IDMS Traceable
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	6.78	5.77	7.79	0.51	1.01	Ortho Vitros Microslide Systems
	mg/dl	122	104	140	9.00	18.00	
	mmol/l	6.66	5.66	7.66	0.50	1.00	Vitros DT60/DT60 II
	mg/dl	120	102	138	9.00	18.00	
HDL - Cholesterol	mmol/l	1.85	1.57	2.13	0.14	0.28	Vitros Magnetic HDL
	mg/dl	71.4	60.6	82.2	5.40	10.80	
	mmol/l	1.78	1.52	2.04	0.13	0.26	Vitros 5.1 FS microtip assay
	mg/dl	68.7	58.7	78.7	5.00	10.00	
	mmol/l	1.84	1.57	2.11	0.14	0.27	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	71.0	60.6	81.4	5.20	10.40	
Iron	µmol/l	20.3	16.7	23.9	1.80	3.60	Ortho Vitros Microslide Systems
	µg/dl	113	93.4	133	9.80	19.60	
Lactate	mmol/l	1.28	1.05	1.51	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	11.5	9.46	13.5	1.02	2.04	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	563	479	647	42.00	84.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	216	173	259	21.50	43.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.22	1.07	1.37	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.847	0.743	0.951	0.05	0.10	
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Phosphate Inorganic	mmol/l	1.75	1.49	2.01	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	5.43	4.62	6.24	0.41	0.81	
Potassium	mmol/l	4.08	3.75	4.41	0.17	0.33	Ortho Vitros Microslide Systems
	mmol/l	4.10	3.77	4.43	0.17	0.33	Vitros DT60/DT60 II/DTE II
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Ortho Vitros Microslide Systems
	g/dl	5.95	4.76	7.14	0.60	1.19	
PSA Total	ng/ml =	16.4	12.3	20.5	2.05	4.10	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	145	138	152	3.50	7.00	Vitros DT60/DT60 II/DTE II
Thyroid Stimulating Hormone	µU/ml =	1.35	1.08	1.62	0.14	0.27	Vitros ECi
TIBC	µmol/l	55.2	43.6	66.8	5.80	11.60	Ortho Vitros Microslide Systems
	µg/dl	309	244	374	32.50	65.00	
Total T3	nmol/l	3.45	2.58	4.32	0.44	0.87	Vitros ECi
	ng/ml	2.25	1.68	2.82	0.29	0.57	
	ng/dl	225	168	282	28.50	57.00	Vitros ECi
Total T4	nmol/l	72.8	54.6	91.0	9.10	18.20	Vitros ECi
	µg/dl	5.68	4.26	7.10	0.71	1.42	
	ng/ml	56.8	42.6	71.0	7.10	14.20	Vitros ECi
Triglycerides	mmol/l	1.32	1.11	1.53	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	117	98.2	136	9.40	18.80	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.32	1.11	1.53	0.11	0.21	Vitros DT60/DT60 II
	mg/dl	117	98.2	136	9.40	18.80	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Ortho Vitros Microslide Systems
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.37	0.32	0.41	0.02	0.05	Vitros DT60/DT60 II
	mg/dl	6.17	5.38	6.96	0.40	0.79	
Urea	mmol/l	6.93	5.89	7.97	0.52	1.04	Ortho Vitros Microslide Systems
	mg/dl	41.6	35.4	47.8	3.10	6.20	
	mmol/l	7.46	6.34	8.58	0.56	1.12	Vitros DT60/DT60 II
	mg/dl	44.8	38.1	51.5	3.35	6.70	
	mmol/l	6.93	5.89	7.97	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	

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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.0	34.0	46.0	3.00	6.00	Bromocresol Green
	g/dl	4.00	3.40	4.60	0.30	0.60	
Alkaline Phosphatase	U/l	168	142	194	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	131	111	151	10.00	20.00	AMP optimised to IFCC 30°C
	U/l	107	91	123	8.00	16.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer without P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 25°C
Amylase Total	U/l	79	67	91	6.00	12.00	bioMerieux 2-chloro-pNPG3 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	26.9	21.6	32.2	2.65	5.30	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	18.2	14.4	22.0	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.842	1.28	0.11	0.22	
Bilirubin Total	µmol/l	23.5	18.5	28.5	2.50	5.00	Nitrobenzenediazonium salt
	mg/dl	1.37	1.08	1.66	0.15	0.29	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Cholesterol	mmol/l	4.77	4.15	5.39	0.31	0.62	Cholesterol Oxidase
	mg/dl	184	160	208	12.00	24.00	

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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	100	92.1	108	3.95	7.90	ISE direct
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	132	108	156	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	131	105	157	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	126	100	152	13.00	26.00	Creatinine PAP method
	mg/dl	1.42	1.13	1.71	0.15	0.29	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	56	47	65	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	44	37	51	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	29	41	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.41	6.30	8.52	0.56	1.11	Hexokinase
	mg/dl	134	114	154	10.00	20.00	
	mmol/l	7.13	6.06	8.20	0.54	1.07	Glucose oxidase
	mg/dl	128	109	147	9.50	19.00	
HDL - Cholesterol	mmol/l	1.92	1.63	2.21	0.15	0.29	Direct HDL PEGME
	mg/dl	74.1	62.9	85.3	5.60	11.20	
Iron	µmol/l	22.6	18.5	26.7	2.05	4.10	Colorimetric without ppt.
	µg/dl	126	103	149	11.50	23.00	
LD (LDH)	U/l	374	318	430	28.00	56.00	P->L German methods 37°C
	U/l	270	230	310	20.00	40.00	P->L German methods 30°C
	U/l	190	161	219	14.50	29.00	P->L German methods 25°C

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RANDOX

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	398	338	458	30.00	60.00	P->L SFBC 37°C
	U/l	287	244	330	21.50	43.00	P->L SFBC 30°C
	U/l	202	171	233	15.50	31.00	P->L SFBC 25°C
Magnesium	mmol/l	0.98	0.86	1.10	0.06	0.12	Calmagite
	mg/dl	2.38	2.09	2.67	0.15	0.29	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
Phosphate Inorganic	mmol/l	1.71	1.45	1.97	0.13	0.26	Phosphomolybdate UV
	mg/dl	5.30	4.50	6.10	0.40	0.80	
Potassium	mmol/l	3.85	3.55	4.15	0.15	0.30	ISE method - direct
Protein Total	g/l	60.3	48.2	72.4	6.05	12.10	Biuret reaction end point
	g/dl	6.03	4.82	7.24	0.61	1.21	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
TIBC	µmol/l	58.6	46.3	70.9	6.15	12.30	FE+UIBC(saturation with iron)
	µg/dl	328	259	397	34.50	69.00	
Triglycerides	mmol/l	1.18	0.99	1.37	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.8	120	8.10	16.20	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.42	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.30	5.48	7.12	0.41	0.82	
	mmol/l	0.37	0.32	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.13	5.33	6.93	0.40	0.80	
	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.23	5.43	7.03	0.40	0.80	
Urea	mmol/l	7.44	6.32	8.56	0.56	1.12	Urease kinetic
	mg/dl	44.7	38.0	51.4	3.35	6.70	

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RANDOX

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.44	6.32	8.56	0.56	1.12	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Green
	g/dl	4.25	3.61	4.89	0.32	0.64	
	g/l	43.1	36.7	49.5	3.20	6.40	Bromocresol Purple
	g/dl	4.31	3.67	4.95	0.32	0.64	
	g/l	41.0	34.9	47.1	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.10	3.49	4.71	0.31	0.61	
	g/l	40.6	34.5	46.7	3.05	6.10	Turbidimetric Assays
	g/dl	4.06	3.45	4.67	0.31	0.61	
Alkaline Phosphatase	U/l	184	157	211	13.50	27.00	p-Nitrophenylphosphate AMP 37°C
	U/l	143	122	164	10.50	21.00	p-Nitrophenylphosphate AMP 30°C
	U/l	118	100	136	9.00	18.00	p-Nitrophenylphosphate AMP 25°C
	U/l	117	99	135	9.00	18.00	Ortho Vitros Microslide Systems 37°C
	U/l	282	240	324	21.00	42.00	Diethanolamine buffer DEA 37°C
	U/l	220	187	253	16.50	33.00	Diethanolamine buffer DEA 30°C
	U/l	180	153	207	13.50	27.00	Diethanolamine buffer DEA 25°C
	U/l	179	152	206	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	139	118	160	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	114	97	131	8.50	17.00	AMP optimised to IFCC 25°C
	U/l	166	141	191	12.50	25.00	AMP optimised to NVKC/SFBC 37°C
	U/l	129	110	148	9.50	19.00	AMP optimised to NVKC/SFBC 30°C
	U/l	106	90	122	8.00	16.00	AMP optimised to NVKC/SFBC 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	51	40	62	5.50	11.00	Ortho Vitros Microslide Systems 37°C
	U/l	45	36	54	4.50	9.00	Tris buffer with P5P 37°C
	U/l	33	27	39	3.00	6.00	Tris buffer with P5P 30°C
	U/l	25	20	30	2.50	5.00	Tris buffer with P5P 25°C
	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
	U/l	36	29	43	3.50	7.00	Tris buffer SCE 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer SCE 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	68	58	78	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	66	56	76	5.00	10.00	Roche liquid stable pNPG7 37°C
	U/l	77	65	89	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	pNP Maltotrioside substrates 37°C
	U/l	89	76	102	6.50	13.00	Siemens - blocked pNPG7 37°C
	U/l	89	75	103	7.00	14.00	Biotrol - blocked pNPG7 37°C
	U/l	71	60	82	5.50	11.00	Randox - Ethylidene pNPG7 37°C
	U/l	97	82	112	7.50	15.00	Randox liquid stable pNPG7 37°C
	U/l	89	75	103	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	98	83	113	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	90	77	103	6.50	13.00	Saccharogenic 37°C
	U/l	95	80	110	7.50	15.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	89	76	102	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	64	55	73	4.50	9.00	Ortho Vitros Microslide Systems 37°C

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	88	75	101	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	88	74	102	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	97	83	111	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
	U/l	81	69	93	6.00	12.00	bioMerieux 2-chloro-pNPG3 37°C
	U/l	87	74	100	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Beckman Synchron AMY7 37°C
	U/l	87	74	100	6.50	13.00	I.L. 2-chloro-pNPG3 37°C
	U/l	98	83	113	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	109	92	126	8.50	17.00	Abbott Architect IFCC Cal. 37°C
Apolipoprotein A-1	g/l	1.02	0.84	1.20	0.09	0.18	Immunoturbidimetric
	mg/dl	102	83.6	120	9.20	18.40	
Apolipoprotein B	g/l	0.56	0.46	0.66	0.05	0.10	Immunoturbidimetric
	mg/dl	56.2	46.1	66.3	5.05	10.10	
Acid Phosphatase (non-prostatic)	U/l	4.22	2.83	5.61	0.70	1.39	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	3.90	2.61	5.19	0.65	1.29	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	9.08	6.08	12.1	1.50	3.00	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	11.8	7.91	15.7	1.95	3.89	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	13.3	8.91	17.7	2.20	4.39	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	15.7	10.5	20.9	2.60	5.20	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
AST (GOT)	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
	U/l	55	44	66	5.50	11.00	Tris buffer with P5P 37°C
	U/l	37	30	44	3.50	7.00	Tris buffer with P5P 30°C
	U/l	26	21	31	2.50	5.00	Tris buffer with P5P 25°C
	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer SCE 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer SCE 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	26.1	20.9	31.3	2.60	5.20	4th Generation Colorimetric
	µmol/l	24.9	19.9	29.9	2.50	5.00	5th Generation Colorimetric
Bicarbonate	mmol/l	15.0	11.9	18.1	1.55	3.10	Colorimetric
	mmol/l	17.7	14.1	21.3	1.80	3.60	Ortho Vitros Microslide Systems
	mmol/l	16.1	12.7	19.5	1.70	3.40	Differential rate pH change
	mmol/l	15.6	12.3	18.9	1.65	3.30	Enzymatic
	mmol/l	16.3	13.0	19.6	1.65	3.30	Ion selective electrode
Bilirubin Direct	µmol/l	19.3	15.2	23.4	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	0.889	1.37	0.12	0.24	
	µmol/l	12.1	9.58	14.6	1.26	2.52	Vitros conjugated from BUBC
	mg/dl	0.708	0.560	0.856	0.07	0.15	
	µmol/l	21.4	16.9	25.9	2.25	4.50	Diazo with Sulphanilic Acid
	mg/dl	1.25	0.989	1.51	0.13	0.26	
	µmol/l	19.2	15.2	23.2	2.00	4.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.12	0.889	1.35	0.12	0.23	
	µmol/l	19.5	15.4	23.6	2.05	4.10	Oxidation to Biliverdin
	mg/dl	1.14	0.901	1.38	0.12	0.24	
	µmol/l	18.2	14.4	22.0	1.90	3.80	Modified Jendrassik
	mg/dl	1.06	0.842	1.28	0.11	0.22	
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.58	1.25	1.91	0.17	0.33	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	37.6	29.7	45.5	3.95	7.90	Diazo with Dichloroaniline (DCA)
	mg/dl	2.20	1.74	2.66	0.23	0.46	
	µmol/l	29.8	23.5	36.1	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.74	1.37	2.11	0.19	0.37	
	µmol/l	28.8	22.8	34.8	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	24.3	19.2	29.4	2.55	5.10	Nitrobenzenediazonium salt
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazonium ion
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	µmol/l	31.5	24.9	38.1	3.30	6.60	Oxidation to Biliverdin
	mg/dl	1.84	1.46	2.22	0.19	0.38	
	µmol/l	37.7	29.8	45.6	3.95	7.90	Modified Jendrassik
	mg/dl	2.21	1.74	2.68	0.24	0.47	
Calcium	mmol/l	2.25	2.02	2.48	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.02	8.10	9.94	0.46	0.92	
	mmol/l	2.32	2.09	2.55	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.23	2.00	2.46	0.12	0.23	Ion selective electrode
	mg/dl	8.94	8.02	9.86	0.46	0.92	
	mmol/l	2.42	2.18	2.66	0.12	0.24	Methylthymol blue
	mg/dl	9.70	8.74	10.7	0.48	0.96	
	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	NM-BAPTA
	mg/dl	9.06	8.18	9.94	0.44	0.88	
Cholesterol	mmol/l	4.58	3.98	5.18	0.30	0.60	Ortho Vitros Microslide Systems
	mg/dl	177	154	200	11.50	23.00	
	mmol/l	4.83	4.20	5.46	0.32	0.63	Cholesterol Oxidase
	mg/dl	186	162	210	12.00	24.00	
Chloride	mmol/l	102	93.8	110	4.10	8.20	Colorimetric
	mmol/l	97.6	89.8	105	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	96.4	88.6	104	3.90	7.80	ISE indirect
	mmol/l	98.4	90.5	106	3.95	7.90	ISE direct
Cholinesterase	U/l	5522	4418	6626	552.00	1104.00	Ortho Vitros Microslide Systems 37°C
	U/l	5559	4447	6671	556.00	1112.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	193	158	228	17.50	35.00	Ortho Vitros Microslide Systems 37°C
	U/l	217	178	256	19.50	39.00	CK-NAC serum start (DGKC) 37°C
	U/l	136	111	161	12.50	25.00	CK-NAC serum start (DGKC) 30°C
	U/l	92	76	108	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	U/l	214	175	253	19.50	39.00	CK-NAC substrate start (DGKC) 37°C
	U/l	134	110	158	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC substrate start (DGKC) 25°C
	U/l	213	175	251	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	110	156	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	91	74	108	8.50	17.00	CK-NAC (IFCC) 25°C
	U/l	216	177	255	19.50	39.00	Monothioglycerol 37°C
	U/l	135	111	159	12.00	24.00	Monothioglycerol 30°C
	U/l	92	75	109	8.50	17.00	Monothioglycerol 25°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	201	165	237	18.00	36.00	Dithioerythritol 37°C
	U/l	126	103	149	11.50	23.00	Dithioerythritol 30°C
	U/l	85	70	100	7.50	15.00	Dithioerythritol 25°C
	U/l	195	160	230	17.50	35.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	122	100	144	11.00	22.00	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	83	68	98	7.50	15.00	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	17.0	13.6	20.4	1.70	3.40	Atomic absorption
	µg/dl	108	86.5	130	10.75	21.50	
	µmol/l	16.9	13.5	20.3	1.70	3.40	Colorimetric
	µg/dl	107	85.9	128	10.55	21.10	
Cortisol	nmol/l	476	357	595	59.50	119.00	Roche Cobas E411
	µg/dl	17.1	12.9	21.3	2.10	4.20	
Creatinine	µmol/l	118	94.7	141	11.65	23.30	Alkaline picrate with deproteinization
	mg/dl	1.33	1.07	1.59	0.13	0.26	
	µmol/l	123	98.5	148	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	124	99.4	149	12.30	24.60	Randox Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	125	99.7	150	12.65	25.30	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked
	mg/dl	1.42	1.14	1.70	0.14	0.28	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	119	95.5	143	11.75	23.50	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.34	1.08	1.60	0.13	0.26	
	µmol/l	125	100	150	12.50	25.00	Vitros IDMS Traceable
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	122	97.3	147	12.35	24.70	IDMS traceable
	mg/dl	1.38	1.10	1.66	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.90	1.52	2.28	0.19	0.38	Immunoturbidimetric
	ng/ml	1.48	1.19	1.77	0.15	0.29	
Folate	nmol/l	42.0	31.9	52.1	5.05	10.10	Roche Cobas E411
	ng/ml	18.5	14.1	22.9	2.20	4.40	
Free T4	pmol/l	15.2	11.4	19.0	1.90	3.80	Abbott Architect
	ng/dl	1.19	0.889	1.49	0.15	0.30	
	pg/ml	11.9	8.89	14.9	1.51	3.01	Abbott Architect
	pmol/l	21.0	15.7	26.3	2.65	5.30	Siemens Centaur XP/XPT/Classic
	ng/dl	1.64	1.22	2.06	0.21	0.42	
	pg/ml	16.4	12.2	20.6	2.10	4.20	Siemens Centaur XP/XPT/Classic
	pmol/l	15.8	11.8	19.8	2.00	4.00	Beckman Access
	ng/dl	1.23	0.920	1.54	0.16	0.31	
	pg/ml	12.3	9.20	15.4	1.55	3.10	Beckman Access
	pmol/l	15.2	11.4	19.0	1.90	3.80	Beckman DxI800
	ng/dl	1.19	0.889	1.49	0.15	0.30	
	pg/ml	11.9	8.89	14.9	1.51	3.01	Beckman DxI800

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	19.7	14.7	24.7	2.50	5.00	Siemens Immulite 1000
	ng/dl	1.54	1.15	1.93	0.20	0.39	
	pg/ml	15.4	11.5	19.3	1.95	3.90	Siemens Immulite 1000
	pmol/l	19.6	14.7	24.5	2.45	4.90	Roche Elecsys
	ng/dl	1.53	1.15	1.91	0.19	0.38	
	pg/ml	15.3	11.5	19.1	1.90	3.80	Roche Elecsys
	pmol/l	18.7	14.1	23.3	2.30	4.60	Roche Modular E170
	ng/dl	1.46	1.10	1.82	0.18	0.36	
	pg/ml	14.6	11.0	18.2	1.80	3.60	Roche Modular E170
	pmol/l	19.1	14.3	23.9	2.40	4.80	Roche Cobas E411
	ng/dl	1.49	1.12	1.86	0.19	0.37	
	pg/ml	14.9	11.2	18.6	1.85	3.70	Roche Cobas E411
	pmol/l	19.0	14.3	23.7	2.35	4.70	Roche Cobas 6000/8000
	ng/dl	1.48	1.12	1.84	0.18	0.36	
	pg/ml	14.8	11.2	18.4	1.80	3.60	Roche Cobas 6000/8000
Gentamicin	µmol/l	7.97	6.38	9.56	0.80	1.59	Immunoturbidimetric
	µg/ml	3.81	3.05	4.57	0.38	0.76	
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	34	46	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	46	39	53	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	58	49	67	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	39	53	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	36	30	42	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
	U/l	13	10	16	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	11	8	14	1.50	3.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.78	5.77	7.79	0.51	1.01	Ortho Vitros Microslide Systems
	mg/dl	122	104	140	9.00	18.00	
	mmol/l	7.06	6.00	8.12	0.53	1.06	Glucose dehydrogenase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	7.04	5.98	8.10	0.53	1.06	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	6.90	5.87	7.93	0.52	1.03	Oxygen electrode
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	6.96	5.92	8.00	0.52	1.04	Glucose oxidase
	mg/dl	125	107	143	9.00	18.00	
alpha-HBDH	U/l	216	171	261	22.50	45.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	163	129	197	17.00	34.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	122	97	147	12.50	25.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.94	1.65	2.23	0.15	0.29	Direct HDL PPD
	mg/dl	74.9	63.7	86.1	5.60	11.20	
	mmol/l	1.65	1.41	1.89	0.12	0.24	Direct HDL Immunoseparation
	mg/dl	63.7	54.4	73.0	4.65	9.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.85	1.57	2.13	0.14	0.28	Vitros Magnetic HDL
	mg/dl	71.4	60.6	82.2	5.40	10.80	
	mmol/l	1.98	1.68	2.28	0.15	0.30	Direct HDL PEGME
	mg/dl	76.4	64.8	88.0	5.80	11.60	
	mmol/l	1.55	1.32	1.78	0.12	0.23	Direct Clearance Method
	mg/dl	59.8	51.0	68.6	4.40	8.80	
	mmol/l	1.78	1.52	2.04	0.13	0.26	Vitros 5.1 FS microtip assay
	mg/dl	68.7	58.7	78.7	5.00	10.00	
	mmol/l	1.84	1.57	2.11	0.14	0.27	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	71.0	60.6	81.4	5.20	10.40	
	mmol/l	1.97	1.68	2.26	0.15	0.29	Direct HDL Roche 3rd generation
	mg/dl	76.0	64.8	87.2	5.60	11.20	
	mmol/l	1.69	1.44	1.94	0.13	0.25	HDL - Ultra
	mg/dl	65.2	55.6	74.8	4.80	9.60	
Immunoglobulin A	g/l	1.91	1.43	2.39	0.24	0.48	Immunoturbidimetric
	mg/dl	191	143	239	24.00	48.00	
Immunoglobulin G	g/l	6.46	5.30	7.62	0.58	1.16	Immunoturbidimetric
	mg/dl	646	530	762	58.00	116.00	
Immunoglobulin M	g/l	0.74	0.59	0.89	0.07	0.15	Immunoturbidimetric
	mg/dl	74.2	59.4	89.0	7.40	14.80	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric with ppt.
	µg/dl	108	88.9	127	9.55	19.10	
	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
	µmol/l	20.3	16.7	23.9	1.80	3.60	Ortho Vitros Microslide Systems
	µg/dl	113	93.4	133	9.80	19.60	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.35	1.11	1.59	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	12.2	10.0	14.4	1.10	2.20	
	mmol/l	1.28	1.05	1.51	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	11.5	9.46	13.5	1.02	2.04	
	mmol/l	1.22	1.00	1.44	0.11	0.22	UV LDH
	mg/dl	11.0	9.01	13.0	1.00	1.99	
LAP	U/l	17	14	20	1.50	3.00	NAGEL 37°C
LD (LDH)	U/l	563	479	647	42.00	84.00	Ortho Vitros Microslide Systems 37°C
	U/l	178	151	205	13.50	27.00	L->P 37°C
	U/l	129	109	149	10.00	20.00	L->P 30°C
	U/l	90	77	103	6.50	13.00	L->P 25°C
	U/l	420	357	483	31.50	63.00	P->L Scandinavian & Dutch 37°C
	U/l	303	258	348	22.50	45.00	P->L Scandinavian & Dutch 30°C
	U/l	213	181	245	16.00	32.00	P->L Scandinavian & Dutch 25°C
	U/l	383	325	441	29.00	58.00	P->L German methods 37°C
	U/l	277	235	319	21.00	42.00	P->L German methods 30°C
	U/l	194	165	223	14.50	29.00	P->L German methods 25°C
	U/l	383	325	441	29.00	58.00	P->L SFBC 37°C
	U/l	277	235	319	21.00	42.00	P->L SFBC 30°C
	U/l	194	165	223	14.50	29.00	P->L SFBC 25°C
	U/l	196	166	226	15.00	30.00	L->P IFCC 37°C
	U/l	142	120	164	11.00	22.00	L->P IFCC 30°C
	U/l	99	84	114	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	38	30	46	4.00	8.00	Other Colorimetric 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	216	173	259	21.50	43.00	Ortho Vitros Microslide Systems 37°C
	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
	U/l	163	131	195	16.00	32.00	Randox Turbidimetric with colipase 37°C
	U/l	37	30	44	3.50	7.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.22	1.07	1.37	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.847	0.743	0.951	0.05	0.10	
	mmol/l	1.01	0.89	1.13	0.06	0.12	Ion selective electrode
	mg/dl	0.701	0.615	0.787	0.04	0.09	
	mmol/l	1.03	0.90	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.628	0.802	0.04	0.09	
	mmol/l	1.05	0.92	1.18	0.06	0.13	Randox Colorimetric
	mg/dl	0.729	0.642	0.816	0.04	0.09	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Arsenazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.26	1.99	2.53	0.14	0.27	
	mmol/l	0.94	0.83	1.05	0.06	0.11	Calmagite
	mg/dl	2.28	2.01	2.55	0.14	0.27	
	mmol/l	0.94	0.83	1.06	0.06	0.11	Xylidyl Blue
	mg/dl	2.29	2.02	2.56	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Methylthymol blue
	mg/dl	2.20	1.94	2.46	0.13	0.26	
	mmol/l	0.94	0.82	1.05	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.27	2.00	2.54	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Enzymatic
	mg/dl	2.24	1.97	2.51	0.14	0.27	

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
NEFA	mmol/l	0.87	0.74	1.00	0.07	0.13	Colorimetric
Osmolality	mOsm/kg	294	235	353	29.50	59.00	Calculated
	mOsm/kg	309	247	371	31.00	62.00	Freezing point depression
	mOsm/kg	311	249	373	31.00	62.00	Vapour pressure
Paracetamol	mmol/l	0.08	0.06	0.09	0.01	0.02	Colorimetric
	mg/l	11.3	9.08	13.5	1.11	2.22	
Phosphate Inorganic	mmol/l	1.75	1.49	2.01	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	5.43	4.62	6.24	0.41	0.81	
	mmol/l	1.68	1.43	1.93	0.13	0.25	Phosphomolybdate enzymatic
	mg/dl	5.21	4.43	5.99	0.39	0.78	
	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.15	4.37	5.93	0.39	0.78	
Potassium	mmol/l	4.08	3.75	4.41	0.17	0.33	Ortho Vitros Microslide Systems
	mmol/l	4.23	3.89	4.57	0.17	0.34	Enzymatic
	mmol/l	3.98	3.66	4.30	0.16	0.32	Flame photometry
	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - direct
	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Ortho Vitros Microslide Systems
	g/dl	5.95	4.76	7.14	0.60	1.19	
	g/l	59.6	47.7	71.5	5.95	11.90	Biuret reaction end point
	g/dl	5.96	4.77	7.15	0.60	1.19	
	g/l	58.7	47.0	70.4	5.85	11.70	Biuret reaction kinetic
	g/dl	5.87	4.70	7.04	0.59	1.17	
PSA Total	ng/ml =	10.5	7.89	13.1	1.31	2.61	Tosoh AIA360

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Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	16.2	12.1	20.3	2.05	4.10	Roche Elecsys Modular E170
	ng/ml =	16.3	12.2	20.4	2.05	4.10	Beckman Access standardised to Hybritech
	ng/ml =	14.1	10.6	17.6	1.75	3.50	bioMerieux VIDAS TPSA
	ng/ml =	13.1	9.85	16.4	1.63	3.25	Siemens Centaur XP/XPT/Classic
	ng/ml =	13.8	10.3	17.3	1.75	3.50	Abbott Architect
	ng/ml =	16.8	12.6	21.0	2.10	4.20	Cobas E411
	ng/ml =	16.5	12.4	20.6	2.05	4.10	Roche Cobas 6000/8000
	ng/ml =	16.4	12.3	20.5	2.05	4.10	Ortho Vitros 3600/5600/ECi PSA II
Salicylate	mmol/l	0.42	0.33	0.50	0.04	0.08	Enzymatic
	mg/dl	5.77	4.61	6.93	0.58	1.16	
Sodium	mmol/l	143	136	150	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	143	136	150	3.50	7.00	Enzymatic
	mmol/l	140	133	147	3.50	7.00	Flame photometry
	mmol/l	142	135	149	3.50	7.00	ISE method - direct
	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Theophylline	µmol/l	26.6	21.3	31.9	2.65	5.30	Immunoturbidimetric
	µg/ml	4.79	3.84	5.74	0.48	0.95	
Thyroid Stimulating Hormone	µU/ml =	1.11	0.89	1.33	0.11	0.22	Abbott Architect
	µU/ml =	1.40	1.12	1.68	0.14	0.28	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.36	1.09	1.63	0.14	0.27	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.53	1.23	1.83	0.15	0.30	bioMerieux VIDAS TSH
	µU/ml =	1.41	1.12	1.70	0.15	0.29	Siemens Immulite 1000
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Vitros ECi
	µU/ml =	1.49	1.19	1.79	0.15	0.30	Roche Elecsys
	µU/ml =	1.53	1.22	1.84	0.16	0.31	Roche Modular E170

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Thyroid Stimulating Hormone	µU/ml =	1.49	1.20	1.78	0.15	0.29	Roche Cobas E411
	µU/ml =	1.49	1.19	1.79	0.15	0.30	Roche Cobas 6000/8000
	µU/ml =	1.38	1.10	1.66	0.14	0.28	Beckman DxI800 Hyper TSH
	µU/ml =	1.30	1.04	1.56	0.13	0.26	Siemens Centaur XP/XPT/Classic TSH3-Ultra
TIBC	µmol/l	48.2	38.1	58.3	5.05	10.10	Removal of excess free iron
	µg/dl	269	213	325	28.00	56.00	
	µmol/l	50.3	39.7	60.9	5.30	10.60	FE+UIBC(saturation with iron)
	µg/dl	281	222	340	29.50	59.00	
	µmol/l	51.3	40.6	62.0	5.35	10.70	Direct Colorimetric
	µg/dl	287	227	347	30.00	60.00	
	µmol/l	58.6	46.3	70.9	6.15	12.30	Randox Direct
	µg/dl	328	259	397	34.50	69.00	
Tobramycin	µmol/l	5.68	4.54	6.82	0.57	1.14	Immunoturbidimetric
	µg/ml	2.66	2.12	3.20	0.27	0.54	
Total T3	nmol/l	2.28	1.71	2.85	0.29	0.57	Abbott Architect
	ng/ml	1.48	1.11	1.85	0.19	0.37	
	ng/dl	148	111	185	18.50	37.00	Abbott Architect
	nmol/l	2.55	1.91	3.19	0.32	0.64	Siemens Centaur XP/XPT/Classic
	ng/ml	1.66	1.24	2.08	0.21	0.42	
	ng/dl	166	124	208	21.00	42.00	Siemens Centaur XP/XPT/Classic
	nmol/l	2.50	1.87	3.13	0.32	0.63	BioMerieux Vidas
	ng/ml	1.63	1.22	2.04	0.21	0.41	
	ng/dl	163	122	204	20.50	41.00	BioMerieux Vidas
	nmol/l	2.56	1.92	3.20	0.32	0.64	Roche Modular E170
	ng/ml	1.67	1.25	2.09	0.21	0.42	
	ng/dl	167	125	209	21.00	42.00	Roche Modular E170

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	2.08	1.56	2.60	0.26	0.52	Tosoh AIA360
	ng/ml	1.35	1.02	1.68	0.17	0.33	
	ng/dl	135	102	168	16.50	33.00	Tosoh AIA360
	nmol/l	2.54	1.90	3.18	0.32	0.64	Roche Cobas E411
	ng/ml	1.65	1.24	2.06	0.21	0.41	
	ng/dl	165	124	206	20.50	41.00	Roche Cobas E411
	nmol/l	2.53	1.90	3.16	0.32	0.63	Roche Cobas 6000/8000
	ng/ml	1.65	1.24	2.06	0.21	0.41	
	ng/dl	165	124	206	20.50	41.00	Roche Cobas 6000/8000
Total T4	nmol/l	76.0	57.0	95.0	9.50	19.00	Abbott Architect
	µg/dl	5.93	4.45	7.41	0.74	1.48	
	ng/ml	59.3	44.5	74.1	7.40	14.80	Abbott Architect
	nmol/l	84.2	63.2	105	10.50	21.00	Siemens Centaur XP/XPT/Classic
	µg/dl	6.57	4.93	8.21	0.82	1.64	
	ng/ml	65.7	49.3	82.1	8.20	16.40	Siemens Centaur XP/XPT/Classic
	nmol/l	81.2	60.9	102	10.15	20.30	BioMerieux Vidas
	µg/dl	6.33	4.75	7.91	0.79	1.58	
	ng/ml	63.3	47.5	79.1	7.90	15.80	BioMerieux Vidas
	nmol/l	78.1	58.6	97.6	9.75	19.50	Siemens Immulite 1000
	µg/dl	6.09	4.57	7.61	0.76	1.52	
	ng/ml	60.9	45.7	76.1	7.60	15.20	Siemens Immulite 1000
	nmol/l	80.8	60.6	101	10.10	20.20	Siemens Immulite 2000/2500
	µg/dl	6.30	4.73	7.87	0.79	1.57	
	ng/ml	63.0	47.3	78.7	7.85	15.70	Siemens Immulite 2000/2500

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	72.8	54.6	91.0	9.10	18.20	Vitros ECi
	µg/dl	5.68	4.26	7.10	0.71	1.42	
	ng/ml	56.8	42.6	71.0	7.10	14.20	Vitros ECi
	nmol/l	84.0	63.0	105	10.50	21.00	Roche Modular E170
	µg/dl	6.55	4.91	8.19	0.82	1.64	
	ng/ml	65.5	49.1	81.9	8.20	16.40	Roche Modular E170
	nmol/l	82.8	62.1	104	10.35	20.70	Tosoh AIA360
	µg/dl	6.46	4.84	8.08	0.81	1.62	
	ng/ml	64.6	48.4	80.8	8.10	16.20	Tosoh AIA360
	nmol/l	84.9	63.6	106	10.65	21.30	Roche Cobas E411
	µg/dl	6.62	4.96	8.28	0.83	1.66	
	ng/ml	66.2	49.6	82.8	8.30	16.60	Roche Cobas E411
	nmol/l	80.8	60.6	101	10.10	20.20	Roche Cobas 6000/8000
	µg/dl	6.30	4.73	7.87	0.79	1.57	
	ng/ml	63.0	47.3	78.7	7.85	15.70	Roche Cobas 6000/8000
Transferrin	g/l	1.99	1.59	2.39	0.20	0.40	Immunoturbidimetric
	mg/dl	199	159	239	20.00	40.00	
Triglycerides	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	86.1	120	8.45	16.90	
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	102	85.8	118	8.10	16.20	
	mmol/l	1.18	0.99	1.37	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	104	87.8	120	8.10	16.20	
	mmol/l	1.15	0.97	1.33	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	102	85.8	118	8.10	16.20	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.32	1.11	1.53	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	117	98.2	136	9.40	18.80	
UIBC	µmol/l	31.8	26.1	37.5	2.85	5.70	TIBC - FE
	µg/dl	178	146	210	16.00	32.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Ortho Vitros Microslide Systems
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase catalase 340nm
	mg/dl	6.03	5.24	6.82	0.40	0.79	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	5.21	6.75	0.39	0.77	
Urea	mmol/l	6.93	5.89	7.97	0.52	1.04	Ortho Vitros Microslide Systems
	mg/dl	41.6	35.4	47.8	3.10	6.20	
	mmol/l	7.40	6.29	8.51	0.56	1.11	Urease end point
	mg/dl	44.5	37.8	51.2	3.35	6.70	
	mmol/l	7.36	6.26	8.46	0.55	1.10	Urease kinetic
	mg/dl	44.2	37.6	50.8	3.30	6.60	
	mmol/l	7.51	6.38	8.64	0.57	1.13	Urease hypochlorite
	mg/dl	45.1	38.3	51.9	3.40	6.80	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.73	6.57	8.89	0.58	1.16	Urease Berthelot
	mg/dl	46.5	39.5	53.5	3.50	7.00	
	mmol/l	7.36	6.26	8.46	0.55	1.10	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	
Vitamin B12	pmol/l	460	368	552	46.00	92.00	Roche Cobas E411
	pg/ml	623	499	747	62.00	124.00	
Zinc	µmol/l	24.8	19.8	29.8	2.50	5.00	Atomic absorption
	µg/dl	162	129	195	16.50	33.00	
	µmol/l	26.8	21.5	32.1	2.65	5.30	Colorimetric with deproteinisation
	µg/dl	175	140	210	17.50	35.00	

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MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-1-globulin		5.8	4.4	7.2	0.70	1.39	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.1	4.6	7.6	0.73	1.46	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		67.6	60.9	74.3	3.35	6.70	% of total Protein (Beckman Capillary)
beta-globulin		10.2	7.8	12.7	1.23	2.45	% of total Protein (Beckman Capillary)
gamma-globulin		10.3	7.8	12.8	1.24	2.47	% of total Protein (Beckman Capillary)

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Green
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	269	229	309	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	210	178	242	16.00	32.00	Diethanolamine buffer DEA 30°C
	U/l	172	146	198	13.00	26.00	Diethanolamine buffer DEA 25°C
	U/l	182	154	210	14.00	28.00	AMP optimised to IFCC 37°C
	U/l	142	120	164	11.00	22.00	AMP optimised to IFCC 30°C
	U/l	116	98	134	9.00	18.00	AMP optimised to IFCC 25°C
	U/l	244	208	280	18.00	36.00	Agappe - DGKC-SCE 37°C
	U/l	190	162	218	14.00	28.00	Agappe - DGKC-SCE 30°C
	U/l	156	133	179	11.50	23.00	Agappe - DGKC-SCE 25°C
ALT (GPT)	U/l	41	32	50	4.50	9.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	15	21	1.50	3.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.7	14.7	22.7	2.00	4.00	Oxidation to Biliverdin
	mg/dl	1.09	0.860	1.32	0.12	0.23	
Bilirubin Total	µmol/l	30.6	24.2	37.0	3.20	6.40	Oxidation to Biliverdin
	mg/dl	1.79	1.42	2.16	0.19	0.37	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.22	1.99	2.45	0.12	0.23	Cresolphthalein complexone
	mg/dl	8.90	7.98	9.82	0.46	0.92	
	mmol/l	2.32	2.09	2.55	0.12	0.23	Arsenazo III
	mg/dl	9.30	8.38	10.2	0.46	0.92	
Cholesterol	mmol/l	4.84	4.21	5.47	0.32	0.63	Cholesterol Oxidase
	mg/dl	187	163	211	12.00	24.00	
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	132	108	156	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	119	94.9	143	12.05	24.10	Alkaline picrate with deproteinization
	mg/dl	1.34	1.07	1.61	0.14	0.27	
	µmol/l	114	90.9	137	11.55	23.10	Alkaline picrate no deproteinization
	mg/dl	1.29	1.03	1.55	0.13	0.26	
	µmol/l	109	87.6	130	10.70	21.40	Randox Enzymatic UV method
	mg/dl	1.23	0.990	1.47	0.12	0.24	
	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.68	5.68	7.68	0.50	1.00	Hexokinase
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	7.31	6.21	8.41	0.55	1.10	Glucose oxidase
	mg/dl	132	112	152	10.00	20.00	
HDL - Cholesterol	mmol/l	1.69	1.44	1.94	0.13	0.25	Direct HDL PPD
	mg/dl	65.2	55.6	74.8	4.80	9.60	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.70	1.45	1.95	0.13	0.25	Direct Clearance Method
	mg/dl	65.6	56.0	75.2	4.80	9.60	
Iron	µmol/l	19.2	15.8	22.6	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	88.3	126	9.35	18.70	
LD (LDH)	U/l	393	334	452	29.50	59.00	P->L German methods 37°C
	U/l	284	241	327	21.50	43.00	P->L German methods 30°C
	U/l	199	169	229	15.00	30.00	P->L German methods 25°C
	U/l	392	333	451	29.50	59.00	P->L SFBC 37°C
	U/l	283	240	326	21.50	43.00	P->L SFBC 30°C
	U/l	199	169	229	15.00	30.00	P->L SFBC 25°C
	U/l	199	169	229	15.00	30.00	L->P IFCC 37°C
	U/l	144	122	166	11.00	22.00	L->P IFCC 30°C
	U/l	101	86	116	7.50	15.00	L->P IFCC 25°C
Magnesium	mmol/l	0.96	0.84	1.07	0.06	0.11	Xylidyl Blue
	mg/dl	2.32	2.04	2.60	0.14	0.28	
Phosphate Inorganic	mmol/l	1.80	1.53	2.07	0.14	0.27	Phosphomolybdate UV
	mg/dl	5.58	4.74	6.42	0.42	0.84	
Protein Total	g/l	61.2	48.9	73.5	6.15	12.30	Biuret reaction end point
	g/dl	6.12	4.89	7.35	0.62	1.23	
Triglycerides	mmol/l	1.19	1.00	1.38	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	105	88.5	122	8.25	16.50	
Uric Acid (Urate)	mmol/l	0.37	0.33	0.42	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.28	5.46	7.10	0.41	0.82	
	mmol/l	0.38	0.33	0.43	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.32	5.49	7.15	0.42	0.83	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.05	5.26	6.84	0.40	0.79	
Urea	mmol/l	7.32	6.22	8.42	0.55	1.10	Urease end point
	mg/dl	44.0	37.4	50.6	3.30	6.60	
	mmol/l	7.58	6.45	8.71	0.57	1.13	Urease kinetic
	mg/dl	45.6	38.8	52.4	3.40	6.80	
	mmol/l	7.37	6.26	8.48	0.56	1.11	Urease hypochlorite
	mg/dl	44.3	37.6	51.0	3.35	6.70	
	mmol/l	7.58	6.44	8.72	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	

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PRESTIGE 24i

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.5	14.6	22.4	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
Bilirubin Total	µmol/l	24.9	19.7	30.1	2.60	5.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.46	1.15	1.77	0.16	0.31	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Cholesterol	mmol/l	4.77	4.15	5.39	0.31	0.62	Cholesterol Oxidase
	mg/dl	184	160	208	12.00	24.00	
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	120	95.6	144	12.20	24.40	Alkaline picrate no deproteinization
	mg/dl	1.36	1.08	1.64	0.14	0.28	

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Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	125	99.9	150	12.55	25.10	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
Glucose	mmol/l	6.84	5.81	7.87	0.52	1.03	Hexokinase
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	7.01	5.96	8.06	0.53	1.05	Glucose oxidase
	mg/dl	126	107	145	9.50	19.00	
HDL - Cholesterol	mmol/l	1.52	1.30	1.74	0.11	0.22	Direct HDL Immunoseparation
	mg/dl	58.7	50.2	67.2	4.25	8.50	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.92	2.46	0.14	0.27	
Protein Total	g/l	60.3	48.2	72.4	6.05	12.10	Biuret reaction end point
	g/dl	6.03	4.82	7.24	0.61	1.21	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.2	115	7.95	15.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
Urea	mmol/l	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.33	6.23	8.43	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.5	37.0	50.0	3.25	6.50	Bromocresol Green
	g/dl	4.35	3.70	5.00	0.33	0.65	
	g/l	43.0	36.6	49.4	3.20	6.40	Bromocresol Purple
	g/dl	4.30	3.66	4.94	0.32	0.64	
	g/l	41.1	34.9	47.3	3.10	6.20	Turbidimetric Assays
	g/dl	4.11	3.49	4.73	0.31	0.62	
Alkaline Phosphatase	U/l	129	110	148	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	100	86	114	7.00	14.00	Roche Integra AMP buffer 30°C
	U/l	82	70	94	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	25	39	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 30°C
	U/l	15	12	18	1.50	3.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	26.7	21.4	32.0	2.65	5.30	Enzymatic Colorimetric

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	15.3	12.1	18.5	1.60	3.20	Colorimetric
	mmol/l	15.3	12.1	18.5	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	19.1	15.1	23.1	2.00	4.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.12	0.883	1.36	0.12	0.24	
	µmol/l	19.1	15.1	23.1	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.12	0.883	1.36	0.12	0.24	
	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.06	0.837	1.28	0.11	0.22	
Bilirubin Total	µmol/l	27.0	21.3	32.7	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	27.2	21.5	32.9	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.26	1.92	0.17	0.33	
	µmol/l	27.2	21.5	32.9	2.85	5.70	Diazonium ion
	mg/dl	1.59	1.26	1.92	0.17	0.33	
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.06	8.18	9.94	0.44	0.88	
	mmol/l	2.22	2.00	2.44	0.11	0.22	Arsenazo III
	mg/dl	8.90	8.02	9.78	0.44	0.88	
	mmol/l	2.27	2.04	2.50	0.12	0.23	NM-BAPTA
	mg/dl	9.10	8.18	10.0	0.46	0.92	
Cholesterol	mmol/l	4.83	4.20	5.46	0.32	0.63	Cholesterol Oxidase
	mg/dl	186	162	210	12.00	24.00	
Chloride	mmol/l	92.7	85.3	100	3.70	7.40	ISE indirect
Cholinesterase	U/l	5302	4241	6363	530.50	1061.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	225	184	266	20.50	41.00	CK-NAC substrate start (DGKC) 37°C
	U/l	141	115	167	13.00	26.00	CK-NAC substrate start (DGKC) 30°C
	U/l	96	78	114	9.00	18.00	CK-NAC substrate start (DGKC) 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	220	180	260	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	138	113	163	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	94	77	111	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	125	99.8	150	12.60	25.20	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	19.0	14.3	23.7	2.35	4.70	Roche Cobas 6000/8000
	ng/dl	1.48	1.12	1.84	0.18	0.36	
	pg/ml	14.8	11.2	18.4	1.80	3.60	Roche Cobas 6000/8000
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	26	34	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	56	48	64	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	44	38	50	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	7.02	5.97	8.07	0.53	1.05	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	7.10	6.04	8.16	0.53	1.06	Glucose oxidase
	mg/dl	128	109	147	9.50	19.00	
HDL - Cholesterol	mmol/l	1.98	1.69	2.27	0.15	0.29	Direct HDL PEGME
	mg/dl	76.4	65.2	87.6	5.60	11.20	
	mmol/l	1.96	1.66	2.26	0.15	0.30	Direct HDL Roche 3rd generation
	mg/dl	75.7	64.1	87.3	5.80	11.60	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Colorimetric with ppt.
	µg/dl	110	90.0	130	10.00	20.00	
	µmol/l	19.7	16.1	23.3	1.80	3.60	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
Lactate	mmol/l	1.35	1.10	1.60	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.2	9.91	14.5	1.15	2.29	
LD (LDH)	U/l	376	320	432	28.00	56.00	P->L German methods 37°C
	U/l	271	231	311	20.00	40.00	P->L German methods 30°C
	U/l	191	162	220	14.50	29.00	P->L German methods 25°C
	U/l	193	164	222	14.50	29.00	L->P IFCC 37°C
	U/l	139	118	160	10.50	21.00	L->P IFCC 30°C
	U/l	98	83	113	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.91	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.628	0.802	0.04	0.09	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.94	0.83	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.28	2.01	2.55	0.14	0.27	
	mmol/l	0.94	0.82	1.05	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.28	2.00	2.56	0.14	0.28	
Osmolality	mOsm/kg	291	233	349	29.00	58.00	Calculated
Phosphate Inorganic	mmol/l	1.64	1.39	1.89	0.13	0.25	Phosphomolybdate enzymatic
	mg/dl	5.08	4.31	5.85	0.39	0.77	
	mmol/l	1.65	1.40	1.90	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.12	4.34	5.90	0.39	0.78	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.3	47.4	71.2	5.95	11.90	Biuret reaction end point
	g/dl	5.93	4.74	7.12	0.60	1.19	
	g/l	58.8	47.1	70.5	5.85	11.70	Biuret reaction kinetic
	g/dl	5.88	4.71	7.05	0.59	1.17	
PSA Total	ng/ml =	16.6	12.4	20.8	2.10	4.20	Roche Cobas 6000/8000
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.49	1.19	1.79	0.15	0.30	Roche Cobas 6000/8000
TIBC	µmol/l	48.7	38.4	59.0	5.15	10.30	FE+UIBC(saturation with iron)
	µg/dl	272	215	329	28.50	57.00	
	µmol/l	45.1	35.6	54.6	4.75	9.50	Direct Colorimetric
	µg/dl	252	199	305	26.50	53.00	
Total T3	nmol/l	2.53	1.90	3.16	0.32	0.63	Roche Cobas 6000/8000
	ng/ml	1.65	1.24	2.06	0.21	0.41	
	ng/dl	165	124	206	20.50	41.00	Roche Cobas 6000/8000
Total T4	nmol/l	80.8	60.6	101	10.10	20.20	Roche Cobas 6000/8000
	µg/dl	6.30	4.73	7.87	0.79	1.57	
	ng/ml	63.0	47.3	78.7	7.85	15.70	Roche Cobas 6000/8000

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.16	0.97	1.35	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	85.8	120	8.60	17.20	
	mmol/l	1.17	0.98	1.36	0.10	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	104	86.6	121	8.70	17.40	
	mmol/l	1.15	0.96	1.34	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	102	85.2	119	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	5.12	6.64	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.86	5.11	6.61	0.38	0.75	
Urea	mmol/l	7.35	6.25	8.45	0.55	1.10	Urease kinetic
	mg/dl	44.2	37.6	50.8	3.30	6.60	
	mmol/l	7.35	6.25	8.45	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.1	37.4	50.8	3.35	6.70	Bromocresol Green
	g/dl	4.41	3.74	5.08	0.34	0.67	
Alkaline Phosphatase	U/l	126	107	145	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	98	83	113	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	81	68	94	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	90	77	103	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.848	1.31	0.12	0.23	
	µmol/l	18.9	14.9	22.9	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.11	0.872	1.35	0.12	0.24	
Bilirubin Total	µmol/l	26.9	21.3	32.5	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.57	1.25	1.89	0.16	0.32	
	µmol/l	26.6	21.0	32.2	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazonium ion
	mg/dl	1.59	1.25	1.93	0.17	0.34	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.27	2.04	2.50	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.10	8.18	10.0	0.46	0.92	
	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.26	2.03	2.49	0.12	0.23	NM-BAPTA
	mg/dl	9.06	8.14	9.98	0.46	0.92	
Cholesterol	mmol/l	4.91	4.27	5.55	0.32	0.64	Cholesterol Oxidase
	mg/dl	190	165	215	12.50	25.00	
Chloride	mmol/l	98.3	90.4	106	3.95	7.90	ISE indirect
CK Total	U/l	217	178	256	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	136	111	161	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	92	76	108	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	117	93.5	141	11.75	23.50	Alkaline picrate with deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	117	93.8	140	11.60	23.20	Alkaline picrate no deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	124	99.3	149	12.35	24.70	Roche Creatinine Plus
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	118	94.4	142	11.80	23.60	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	37	49	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	34	29	39	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	7.09	6.03	8.15	0.53	1.06	Hexokinase
	mg/dl	128	109	147	9.50	19.00	
	mmol/l	6.99	5.94	8.04	0.53	1.05	Glucose oxidase
	mg/dl	126	107	145	9.50	19.00	
HDL - Cholesterol	mmol/l	1.96	1.67	2.25	0.15	0.29	Direct HDL Roche 3rd generation
	mg/dl	75.7	64.5	86.9	5.60	11.20	
Iron	µmol/l	20.2	16.5	23.9	1.85	3.70	Colorimetric without ppt.
	µg/dl	113	92.2	134	10.40	20.80	
LD (LDH)	U/l	203	173	233	15.00	30.00	L->P IFCC 37°C
	U/l	147	125	169	11.00	22.00	L->P IFCC 30°C
	U/l	103	88	118	7.50	15.00	L->P IFCC 25°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
Phosphate Inorganic	mmol/l	1.81	1.53	2.09	0.14	0.28	Phosphomolybdate enzymatic
	mg/dl	5.61	4.74	6.48	0.44	0.87	
	mmol/l	1.71	1.45	1.97	0.13	0.26	Phosphomolybdate UV
	mg/dl	5.30	4.50	6.10	0.40	0.80	
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.6	47.7	71.5	5.95	11.90	Biuret reaction end point
	g/dl	5.96	4.77	7.15	0.60	1.19	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	103	86.5	120	8.25	16.50	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	83.0	115	8.05	16.10	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	5.19	6.77	0.40	0.79	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.93	5.16	6.70	0.39	0.77	
Urea	mmol/l	7.14	6.07	8.21	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.5	49.3	3.20	6.40	
	mmol/l	7.21	6.13	8.29	0.54	1.08	Urease hypochlorite
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.14	6.07	8.21	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Green
	g/dl	4.34	3.69	4.99	0.33	0.65	
	g/l	43.1	36.6	49.6	3.25	6.50	Bromocresol Purple
	g/dl	4.31	3.66	4.96	0.33	0.65	
Alkaline Phosphatase	U/l	128	109	147	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	100	85	115	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	82	70	94	6.00	12.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	88	75	101	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	16	12	20	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	19.5	15.4	23.6	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.14	0.901	1.38	0.12	0.24	
	µmol/l	20.3	16.1	24.5	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.19	0.942	1.44	0.12	0.25	
	µmol/l	19.5	15.4	23.6	2.05	4.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.14	0.901	1.38	0.12	0.24	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.27	1.95	0.17	0.34	
	µmol/l	27.2	21.5	32.9	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.26	1.92	0.17	0.33	
	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazonium ion
	mg/dl	1.61	1.27	1.95	0.17	0.34	
Calcium	mmol/l	2.27	2.04	2.50	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.10	8.18	10.0	0.46	0.92	
	mmol/l	2.36	2.12	2.60	0.12	0.24	Arsenazo III
	mg/dl	9.46	8.50	10.4	0.48	0.96	
	mmol/l	2.28	2.06	2.50	0.11	0.22	NM-BAPTA
	mg/dl	9.14	8.26	10.0	0.44	0.88	
Cholesterol	mmol/l	4.84	4.21	5.47	0.32	0.63	Cholesterol Oxidase
	mg/dl	187	163	211	12.00	24.00	
Chloride	mmol/l	93.2	85.7	101	3.75	7.50	ISE indirect
Cholinesterase	U/l	5321	4256	6386	532.50	1065.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	224	184	264	20.00	40.00	CK-NAC substrate start (DGKC) 37°C
	U/l	140	115	165	12.50	25.00	CK-NAC substrate start (DGKC) 30°C
	U/l	95	78	112	8.50	17.00	CK-NAC substrate start (DGKC) 25°C
	U/l	221	181	261	20.00	40.00	CK-NAC (IFCC) 37°C
	U/l	138	113	163	12.50	25.00	CK-NAC (IFCC) 30°C
	U/l	94	77	111	8.50	17.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	103	153	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	130	104	156	13.00	26.00	Randox Enzymatic UV method
	mg/dl	1.47	1.18	1.76	0.15	0.29	

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Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	129	103	155	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	57	48	66	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	45	38	52	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.06	6.00	8.12	0.53	1.06	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	7.07	6.01	8.13	0.53	1.06	Glucose oxidase
	mg/dl	127	108	146	9.50	19.00	
HDL - Cholesterol	mmol/l	1.99	1.69	2.29	0.15	0.30	Direct HDL PEGME
	mg/dl	76.8	65.2	88.4	5.80	11.60	
	mmol/l	1.98	1.69	2.27	0.15	0.29	Direct HDL Roche 3rd generation
	mg/dl	76.4	65.2	87.6	5.60	11.20	
Iron	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.33	1.09	1.57	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	12.0	9.82	14.2	1.09	2.18	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	376	319	433	28.50	57.00	P->L German methods 37°C
	U/l	271	230	312	20.50	41.00	P->L German methods 30°C
	U/l	191	162	220	14.50	29.00	P->L German methods 25°C
	U/l	194	165	223	14.50	29.00	L->P IFCC 37°C
	U/l	140	119	161	10.50	21.00	L->P IFCC 30°C
	U/l	98	84	112	7.00	14.00	L->P IFCC 25°C
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.94	0.82	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.28	2.00	2.56	0.14	0.28	
	mmol/l	0.94	0.83	1.05	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.28	2.00	2.56	0.14	0.28	
Phosphate Inorganic	mmol/l	1.67	1.42	1.92	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.18	4.40	5.96	0.39	0.78	
Potassium	mmol/l	4.06	3.74	4.38	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.3	47.5	71.1	5.90	11.80	Biuret reaction end point
	g/dl	5.93	4.75	7.11	0.59	1.18	
	g/l	58.8	47.1	70.5	5.85	11.70	Biuret reaction kinetic
	g/dl	5.88	4.71	7.05	0.59	1.17	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	µmol/l	49.1	38.8	59.4	5.15	10.30	FE+UIBC(saturation with iron)
	µg/dl	274	217	331	28.50	57.00	
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.5	119	8.25	16.50	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	85.0	117	8.00	16.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.17	0.98	1.36	0.09	0.19	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	104	86.8	121	8.60	17.20	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.95	5.17	6.73	0.39	0.78	
Urea	mmol/l	7.45	6.34	8.56	0.56	1.11	Urease kinetic
	mg/dl	44.8	38.1	51.5	3.35	6.70	
	mmol/l	7.45	6.33	8.57	0.56	1.12	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Green
	g/dl	4.34	3.69	4.99	0.33	0.65	
Alkaline Phosphatase	U/l	112	95	129	8.50	17.00	Roche Integra AMP buffer 37°C
	U/l	87	74	100	6.50	13.00	Roche Integra AMP buffer 30°C
	U/l	72	61	83	5.50	11.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	65	55	75	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	88	74	102	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.1	12.7	19.5	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	19.3	15.2	23.4	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	0.889	1.37	0.12	0.24	
Bilirubin Total	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	26.0	20.6	31.4	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	1.21	1.83	0.16	0.31	

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	26.0	20.6	31.4	2.70	5.40	Diazonium ion
	mg/dl	1.52	1.21	1.83	0.16	0.31	
Calcium	mmol/l	2.25	2.03	2.47	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.02	8.14	9.90	0.44	0.88	
	mmol/l	2.25	2.02	2.48	0.12	0.23	NM-BAPTA
	mg/dl	9.02	8.10	9.94	0.46	0.92	
Cholesterol	mmol/l	4.78	4.16	5.40	0.31	0.62	Cholesterol Oxidase
	mg/dl	185	161	209	12.00	24.00	
Chloride	mmol/l	93.4	86.0	101	3.70	7.40	ISE indirect
CK Total	U/l	199	163	235	18.00	36.00	CK-NAC (IFCC) 37°C
	U/l	125	102	148	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	85	69	101	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	133	107	159	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	µmol/l	124	99.0	149	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	26	36	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	56	47	65	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	44	37	51	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	35	29	41	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	7.03	5.98	8.08	0.53	1.05	Hexokinase
	mg/dl	127	108	146	9.50	19.00	
HDL - Cholesterol	mmol/l	1.93	1.64	2.22	0.15	0.29	Direct HDL Roche 3rd generation
	mg/dl	74.5	63.3	85.7	5.60	11.20	

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	19.1	15.6	22.6	1.75	3.50	Colorimetric without ppt.
	µg/dl	107	87.2	127	9.90	19.80	
Lactate	mmol/l	1.33	1.09	1.57	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	12.0	9.82	14.2	1.09	2.18	
LD (LDH)	U/l	193	164	222	14.50	29.00	L->P IFCC 37°C
	U/l	139	118	160	10.50	21.00	L->P IFCC 30°C
	U/l	98	83	113	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	33	27	39	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Spectrophotometric
	mg/dl	0.715	0.629	0.801	0.04	0.09	
Magnesium	mmol/l	0.93	0.82	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
Phosphate Inorganic	mmol/l	1.63	1.38	1.88	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.05	4.28	5.82	0.39	0.77	
Potassium	mmol/l	4.07	3.74	4.40	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.3	47.5	71.1	5.90	11.80	Biuret reaction end point
	g/dl	5.93	4.75	7.11	0.59	1.18	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
TIBC	µmol/l	49.5	39.1	59.9	5.20	10.40	FE+UIBC(saturation with iron)
	µg/dl	277	219	335	29.00	58.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.1	115	8.00	16.00	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.78	5.02	6.54	0.38	0.76	
Urea	mmol/l	7.31	6.21	8.41	0.55	1.10	Urease kinetic
	mg/dl	43.9	37.3	50.5	3.30	6.60	
	mmol/l	7.31	6.21	8.41	0.55	1.10	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
Alkaline Phosphatase	U/l	293	249	337	22.00	44.00	Diethanolamine buffer DEA 37°C
	U/l	191	162	220	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	77	65	89	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	97	82	112	7.50	15.00	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	24.9	19.9	29.9	2.50	5.00	5th Generation Colorimetric
Bicarbonate	mmol/l	16.2	12.8	19.6	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	21.4	16.9	25.9	2.25	4.50	Diazo with Sulphanilic Acid
	mg/dl	1.25	0.989	1.51	0.13	0.26	
	µmol/l	18.3	14.5	22.1	1.90	3.80	Vanadate Oxidation
	mg/dl	1.07	0.848	1.29	0.11	0.22	
Bilirubin Total	µmol/l	33.8	26.7	40.9	3.55	7.10	Diazo with Sulphanilic Acid
	mg/dl	1.98	1.56	2.40	0.21	0.42	
	µmol/l	32.1	25.4	38.8	3.35	6.70	Vanadate Oxidation
	mg/dl	1.88	1.49	2.27	0.20	0.39	
Calcium	mmol/l	2.33	2.10	2.56	0.12	0.23	Arsenazo III
	mg/dl	9.34	8.42	10.3	0.46	0.92	
Cholesterol	mmol/l	4.94	4.30	5.58	0.32	0.64	Cholesterol Oxidase
	mg/dl	191	166	216	12.50	25.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	96.0	88.3	104	3.85	7.70	ISE direct
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	220	180	260	20.00	40.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	123	98.2	148	12.40	24.80	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	121	96.8	145	12.10	24.20	Randox Enzymatic UV method
	mg/dl	1.37	1.09	1.65	0.14	0.28	
gamma-GT	U/l	58	50	66	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	7.36	6.26	8.46	0.55	1.10	Hexokinase
	mg/dl	133	113	153	10.00	20.00	
	mmol/l	7.58	6.44	8.72	0.57	1.14	Glucose oxidase
	mg/dl	137	116	158	10.50	21.00	
Iron	µmol/l	20.1	16.5	23.7	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	92.2	132	9.90	19.80	
Lactate	mmol/l	1.32	1.08	1.56	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	11.9	9.73	14.1	1.09	2.17	
LD (LDH)	U/l	393	334	452	29.50	59.00	P->L German methods 37°C
	U/l	197	167	227	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	40	32	48	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.05	0.92	1.18	0.06	0.13	Colorimetric
	mg/dl	0.729	0.642	0.816	0.04	0.09	
Magnesium	mmol/l	0.97	0.86	1.09	0.06	0.12	Xylidyl Blue
	mg/dl	2.36	2.08	2.64	0.14	0.28	
Phosphate Inorganic	mmol/l	1.70	1.45	1.95	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.27	4.50	6.04	0.39	0.77	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.23	3.89	4.57	0.17	0.34	Enzymatic
	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - direct
Protein Total	g/l	61.3	49.0	73.6	6.15	12.30	Biuret reaction end point
	g/dl	6.13	4.90	7.36	0.62	1.23	
Sodium	mmol/l	143	136	150	3.50	7.00	Enzymatic
	mmol/l	143	136	150	3.50	7.00	ISE method - direct
TIBC	µmol/l	58.6	46.3	70.9	6.15	12.30	Direct Colorimetric
	µg/dl	328	259	397	34.50	69.00	
Triglycerides	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.0	121	8.50	17.00	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
	mmol/l	0.36	0.32	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.10	5.31	6.89	0.40	0.79	
Urea	mmol/l	7.35	6.25	8.45	0.55	1.10	Urease kinetic
	mg/dl	44.2	37.6	50.8	3.30	6.60	
	mmol/l	7.35	6.25	8.45	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.7	34.6	46.8	3.05	6.10	Bromocresol Green
	g/dl	4.07	3.46	4.68	0.31	0.61	
	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Purple
	g/dl	4.41	3.75	5.07	0.33	0.66	
Alkaline Phosphatase	U/l	266	226	306	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	182	155	209	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	180	153	207	13.50	27.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	71	60	82	5.50	11.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	26.6	21.3	31.9	2.65	5.30	Enzymatic Colorimetric
Bicarbonate	mmol/l	17.4	13.8	21.0	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	19.6	15.5	23.7	2.05	4.10	Oxidation to Biliverdin
	mg/dl	1.15	0.907	1.39	0.12	0.24	
Bilirubin Total	µmol/l	31.6	25.0	38.2	3.30	6.60	Oxidation to Biliverdin
	mg/dl	1.85	1.46	2.24	0.20	0.39	
Calcium	mmol/l	2.23	2.01	2.45	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.94	8.06	9.82	0.44	0.88	
	mmol/l	2.27	2.04	2.50	0.12	0.23	Arsenazo III
	mg/dl	9.10	8.18	10.0	0.46	0.92	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.69	4.08	5.30	0.31	0.61	Cholesterol Oxidase
	mg/dl	181	157	205	12.00	24.00	
Chloride	mmol/l	98.9	91.0	107	3.95	7.90	ISE indirect
Cholinesterase	U/l	5847	4678	7016	584.50	1169.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	131	105	157	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	117	93.9	140	11.55	23.10	Randox Enzymatic UV method
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	124	99.3	149	12.35	24.70	Jaffe rate blanked
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	54	46	62	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.87	5.84	7.90	0.52	1.03	Hexokinase
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	7.02	5.97	8.07	0.53	1.05	Glucose oxidase
	mg/dl	127	108	146	9.50	19.00	
HDL - Cholesterol	mmol/l	1.32	1.12	1.52	0.10	0.20	Direct Clearance Method
	mg/dl	51.0	43.2	58.8	3.90	7.80	
Iron	µmol/l	19.8	16.3	23.3	1.75	3.50	Colorimetric without ppt.
	µg/dl	111	91.1	131	9.95	19.90	
Lactate	mmol/l	1.20	0.99	1.42	0.11	0.22	Colorimetric Lactate Oxidase
	mg/dl	10.8	8.87	12.7	0.97	1.93	
LD (LDH)	U/l	191	162	220	14.50	29.00	L->P 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	389	331	447	29.00	58.00	P->L German methods 37°C
	U/l	198	168	228	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	37	30	44	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.01	0.89	1.13	0.06	0.12	Spectrophotometric
	mg/dl	0.701	0.619	0.783	0.04	0.08	
Magnesium	mmol/l	0.97	0.85	1.08	0.06	0.12	Xylidyl Blue
	mg/dl	2.35	2.07	2.63	0.14	0.28	
Osmolality	mOsm/kg	295	236	354	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.66	1.42	1.90	0.12	0.24	Phosphomolybdate UV
	mg/dl	5.15	4.40	5.90	0.38	0.75	
Potassium	mmol/l	4.05	3.73	4.37	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.8	47.9	71.7	5.95	11.90	Biuret reaction end point
	g/dl	5.98	4.79	7.17	0.60	1.19	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	µmol/l	56.1	44.3	67.9	5.90	11.80	Direct Colorimetric
	µg/dl	314	248	380	33.00	66.00	
Triglycerides	mmol/l	1.19	1.00	1.38	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	105	88.5	122	8.25	16.50	
	mmol/l	1.19	1.00	1.38	0.10	0.19	L/G Kinase EP. no correction
	mg/dl	105	88.5	122	8.25	16.50	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	
Urea	mmol/l	7.70	6.55	8.85	0.58	1.15	Urease kinetic
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	7.70	6.55	8.85	0.58	1.15	BUN
	mg/dl	21.6	18.4	24.8	1.60	3.20	

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RANDOX

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.7	36.3	49.1	3.20	6.40	Bromocresol Purple
	g/dl	4.27	3.63	4.91	0.32	0.64	
Alkaline Phosphatase	U/l	156	132	180	12.00	24.00	Siemens Dimension AMP buffer 37°C
	U/l	160	136	184	12.00	24.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	36	54	4.50	9.00	Tris buffer with P5P 37°C
	U/l	46	37	55	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	96	82	110	7.00	14.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	46	36	56	5.00	10.00	Tris buffer with P5P 37°C
	U/l	46	37	55	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	12.7	10.0	15.4	1.35	2.70	Diazo with Sulphanilic Acid
	mg/dl	0.743	0.585	0.901	0.08	0.16	
Bilirubin Total	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	
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Cholesterol	mmol/l	4.28	3.72	4.84	0.28	0.56	Dimension-Siemens reagents
	mg/dl	165	144	186	10.50	21.00	
Chloride	mmol/l	96.4	88.7	104	3.85	7.70	ISE indirect
CK Total	U/l	193	159	227	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	198	163	233	17.50	35.00	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	58	49	67	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	66	56	76	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	7.10	6.03	8.17	0.54	1.07	Hexokinase
	mg/dl	128	109	147	9.50	19.00	
HDL - Cholesterol	mmol/l	2.00	1.70	2.30	0.15	0.30	Direct HDL PEGME
	mg/dl	77.2	65.6	88.8	5.80	11.60	
Iron	µmol/l	18.3	15.0	21.6	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.9	120	9.05	18.10	
Lactate	mmol/l	1.25	1.03	1.47	0.11	0.22	UV LDH
	mg/dl	11.3	9.28	13.3	1.01	2.02	
LD (LDH)	U/l	194	164	224	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	183	156	210	13.50	27.00	L->P IFCC 37°C
Lipase	U/l	145	116	174	14.50	29.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.06	0.93	1.19	0.07	0.13	Spectrophotometric
	mg/dl	0.736	0.646	0.826	0.05	0.09	
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Methylthymol blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.15	4.37	5.93	0.39	0.78	
Potassium	mmol/l	3.91	3.59	4.23	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.9	48.7	73.1	6.10	12.20	Biuret reaction end point
	g/dl	6.09	4.87	7.31	0.61	1.22	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.3	115	7.90	15.80	

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Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.12	0.95	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.6	115	7.75	15.50	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	6.00	5.22	6.78	0.39	0.78	
Urea	mmol/l	7.16	6.09	8.23	0.54	1.07	Urease kinetic
	mg/dl	43.0	36.6	49.4	3.20	6.40	
	mmol/l	7.16	6.09	8.23	0.54	1.07	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1047UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.3	37.7	50.9	3.30	6.60	Bromocresol Green
	g/dl	4.43	3.77	5.09	0.33	0.66	
	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Purple
	g/dl	4.32	3.67	4.97	0.33	0.65	
Alkaline Phosphatase	U/l	158	134	182	12.00	24.00	Siemens Dimension AMP buffer 37°C
	U/l	160	136	184	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	166	141	191	12.50	25.00	Randox AMP 37°C
ALT (GPT)	U/l	47	37	57	5.00	10.00	Tris buffer with P5P 37°C
	U/l	46	37	55	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	98	83	113	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	98	83	113	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	47	38	56	4.50	9.00	Tris buffer with P5P 37°C
	U/l	49	39	59	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.4	13.8	21.0	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	13.0	10.2	15.8	1.40	2.80	Diazo with Sulphanilic Acid
	mg/dl	0.761	0.597	0.925	0.08	0.16	
Bilirubin Total	µmol/l	30.0	23.7	36.3	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Calcium	mmol/l	2.16	1.94	2.38	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.66	7.78	9.54	0.44	0.88	
Cholesterol	mmol/l	4.30	3.74	4.86	0.28	0.56	Dimension-Siemens reagents
	mg/dl	166	144	188	11.00	22.00	

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Size 20 x 5ml / 5 x 5ml Expiry 2019-07

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	97.2	89.4	105	3.90	7.80	ISE indirect
CK Total	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	202	166	238	18.00	36.00	Dithioerythritol 37°C
Creatinine	µmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	126	101	151	12.50	25.00	Randox Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Creatinine PAP method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	Jaffe rate blanked
	mg/dl	1.50	1.20	1.80	0.15	0.30	
gamma-GT	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	68	58	78	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	7.14	6.07	8.21	0.54	1.07	Hexokinase
	mg/dl	129	109	149	10.00	20.00	
	mmol/l	7.16	6.09	8.23	0.54	1.07	Glucose oxidase
	mg/dl	129	110	148	9.50	19.00	
HDL - Cholesterol	mmol/l	2.05	1.74	2.36	0.16	0.31	Direct HDL PPD
	mg/dl	79.1	67.2	91.0	5.95	11.90	
	mmol/l	2.02	1.72	2.32	0.15	0.30	Direct HDL PEGME
	mg/dl	78.0	66.4	89.6	5.80	11.60	
	mmol/l	1.93	1.64	2.22	0.15	0.29	Direct Clearance Method
	mg/dl	74.5	63.3	85.7	5.60	11.20	
Iron	µmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric with ppt.
	µg/dl	103	84.4	122	9.30	18.60	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	85.0	121	9.00	18.00	
LD (LDH)	U/l	194	165	223	14.50	29.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	188	160	216	14.00	28.00	L->P IFCC 37°C
Lipase	U/l	147	118	176	14.50	29.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Methylthymol blue
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.67	1.42	1.92	0.13	0.25	Phosphomolybdate enzymatic
	mg/dl	5.18	4.40	5.96	0.39	0.78	
	mmol/l	1.66	1.41	1.91	0.13	0.25	Phosphomolybdate UV
	mg/dl	5.15	4.37	5.93	0.39	0.78	
Potassium	mmol/l	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	61.8	49.4	74.2	6.20	12.40	Biuret reaction end point
	g/dl	6.18	4.94	7.42	0.62	1.24	
	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction kinetic
	g/dl	6.00	4.80	7.20	0.60	1.20	
Sodium	mmol/l	143	135	151	4.00	8.00	ISE method - indirect
TIBC	µmol/l	44.1	34.8	53.4	4.65	9.30	Removal of excess free iron
	µg/dl	247	195	299	26.00	52.00	
	µmol/l	45.0	35.5	54.5	4.75	9.50	Direct Colorimetric
	µg/dl	252	198	306	27.00	54.00	
Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.2	119	8.40	16.80	

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Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	84.7	117	8.15	16.30	
	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/Glycerol Dehydrogenase
	mg/dl	103	86.2	120	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase catalase 340nm
	mg/dl	6.01	5.22	6.80	0.40	0.79	
	mmol/l	0.36	0.32	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.08	5.29	6.87	0.40	0.79	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.95	5.17	6.73	0.39	0.78	
	mmol/l	0.37	0.32	0.41	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.15	5.34	6.96	0.41	0.81	
Urea	mmol/l	7.47	6.35	8.59	0.56	1.12	Urease end point
	mg/dl	44.9	38.2	51.6	3.35	6.70	
	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.14	6.07	8.21	0.54	1.07	Urease hypochlorite
	mg/dl	42.9	36.5	49.3	3.20	6.40	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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