RANDOX 0086 CE

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

CAT. NO. HN1530 / HS2611 **LOT NO.** 1030UN
SIZE: 20 x 5ml / 5 x 5ml **EXP:** 2019-03

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.

08 Jan '16 ne

Randox Laboratories Ltd, 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
T +44 (0) 28 9442 2413 **F** +44 (0) 28 9445 2912 **E** applications@randox.com **I** www.randox.com

RANDOX

ABBOTT AEROSET®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
ALT (GPT)	U/l	37	30	44	3.50	7.00	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	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	27.3	21.6	33.0	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Calcium	mmol/l	2.33	2.10	2.56	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.34	8.42	10.3	0.46	0.92	
	mmol/l	2.33	2.09	2.57	0.12	0.24	Arsenazo III
	mg/dl	9.34	8.38	10.3	0.48	0.96	
Cholesterol	mmol/l	3.97	3.45	4.49	0.26	0.52	Cholesterol Oxidase
	mg/dl	153	133	173	10.00	20.00	
Chloride	mmol/l	98.4	90.6	106	3.90	7.80	ISE direct
Creatinine	µmol/l	123	98.3	148	12.35	24.70	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
Glucose	mmol/l	6.06	5.15	6.97	0.46	0.91	Hexokinase
	mg/dl	109	92.8	125	8.10	16.20	
	mmol/l	6.25	5.32	7.18	0.47	0.93	Glucose oxidase
	mg/dl	113	95.9	130	8.55	17.10	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.32	1.12	1.52	0.10	0.20	HDL - Ultra
	mg/dl	51.0	43.2	58.8	3.90	7.80	
Iron	µmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric without ppt.
	µg/dl	98.9	81.1	117	8.90	17.80	
Phosphate Inorganic	mmol/l	1.39	1.19	1.59	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.31	3.69	4.93	0.31	0.62	
Potassium	mmol/l	3.86	3.55	4.17	0.16	0.31	ISE method - direct
Protein Total	g/l	59.7	47.7	71.7	6.00	12.00	Biuret reaction end point
	g/dl	5.97	4.77	7.17	0.60	1.20	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.9	109	7.45	14.90	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.02	6.50	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
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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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

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Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.1	34.9	47.3	3.10	6.20	Bromocresol Green
	g/dl	4.11	3.49	4.73	0.31	0.62	
	g/l	42.2	35.9	48.5	3.15	6.30	Bromocresol Purple
	g/dl	4.22	3.59	4.85	0.32	0.63	
Alkaline Phosphatase	U/l	164	140	188	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	161	137	185	12.00	24.00	AMP non-optimised 37°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	71	61	81	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	97	82	112	7.50	15.00	Randox liquid stable pNPG7 37°C
	U/l	98	84	112	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	27.0	21.6	32.4	2.70	5.40	Enzymatic Colorimetric
Bicarbonate	mmol/l	11.8	9.37	14.2	1.22	2.43	Enzymatic
Bilirubin Direct	µmol/l	18.8	14.9	22.7	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.10	0.872	1.33	0.11	0.23	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.09	0.860	1.32	0.12	0.23	
Bilirubin Total	µmol/l	25.7	20.3	31.1	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	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	

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Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Bilirubin Total	µmol/l	25.7	20.3	31.1	2.70	5.40	Diazonium ion
	mg/dl	1.50	1.19	1.81	0.16	0.31	
Calcium	mmol/l	2.41	2.17	2.65	0.12	0.24	Arsenazo III
	mg/dl	9.66	8.70	10.6	0.48	0.96	
Cholesterol	mmol/l	3.87	3.37	4.37	0.25	0.50	Cholesterol Oxidase
	mg/dl	149	130	168	9.50	19.00	
Chloride	mmol/l	97.7	89.9	106	3.90	7.80	ISE indirect
Cholinesterase	U/l	6939	5551	8327	694.00	1388.00	Colorimetric Butyrylthiocholine 37°C
	U/l	6749	5400	8098	674.50	1349.00	Agappe - DGKC/Butyrylthiocholine 37°C
CK Total	U/l	214	175	253	19.50	39.00	CK-NAC serum start (DGKC) 37°C
	U/l	199	163	235	18.00	36.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	14.3	11.4	17.2	1.45	2.90	Colorimetric
	µg/dl	90.9	72.5	109	9.20	18.40	
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	124	99.3	149	12.35	24.70	Randox Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	124	98.9	149	12.55	25.10	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	125	99.8	150	12.60	25.20	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	123	98.6	147	12.20	24.40	IDMS traceable
	mg/dl	1.39	1.11	1.67	0.14	0.28	
Free T4	pmol/l	18.1	13.6	22.6	2.25	4.50	Abbott Architect
	ng/dl	1.41	1.06	1.76	0.18	0.35	
	pg/ml	14.1	10.6	17.6	1.75	3.50	Abbott Architect

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	49	41	57	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	48	41	55	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.07	5.16	6.98	0.46	0.91	Hexokinase
	mg/dl	109	93.0	125	8.00	16.00	
	mmol/l	6.22	5.28	7.16	0.47	0.94	Glucose oxidase
	mg/dl	112	95.1	129	8.45	16.90	
HDL - Cholesterol	mmol/l	1.30	1.10	1.50	0.10	0.20	Direct HDL PPD
	mg/dl	50.2	42.5	57.9	3.85	7.70	
	mmol/l	1.29	1.10	1.48	0.10	0.19	Direct Clearance Method
	mg/dl	49.8	42.5	57.1	3.65	7.30	
	mmol/l	1.31	1.11	1.51	0.10	0.20	HDL - Ultra
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Iron	µmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric with ppt.
	µg/dl	101	82.7	119	9.15	18.30	
	µmol/l	17.6	14.4	20.8	1.60	3.20	Colorimetric without ppt.
	µg/dl	98.4	80.5	116	8.95	17.90	
Lactate	mmol/l	1.63	1.34	1.92	0.15	0.29	Colorimetric Lactate Oxidase
	mg/dl	14.7	12.1	17.3	1.30	2.60	
LD (LDH)	U/l	201	171	231	15.00	30.00	L->P 37°C
	U/l	202	172	232	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	36	29	43	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	0.90	0.79	1.00	0.05	0.11	Arsenazo III
	mg/dl	2.18	1.92	2.44	0.13	0.26	

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Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Enzymatic
	mg/dl	2.16	1.90	2.42	0.13	0.26	
Osmolality	mOsm/kg	296	237	355	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.37	3.72	5.02	0.33	0.65	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.0	47.2	70.8	5.90	11.80	Biuret reaction end point
	g/dl	5.90	4.72	7.08	0.59	1.18	
	g/l	59.4	47.5	71.3	5.95	11.90	Biuret reaction kinetic
	g/dl	5.94	4.75	7.13	0.60	1.19	
PSA Total	ng/ml =	12.9	9.68	16.1	1.61	3.22	Abbott Architect
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.20	0.96	1.44	0.12	0.24	Abbott Architect
TIBC	µmol/l	46.4	36.6	56.2	4.90	9.80	FE+UIBC(saturation with iron)
	µg/dl	259	205	313	27.00	54.00	
Triglycerides	mmol/l	1.03	0.87	1.20	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	91.2	76.6	106	7.30	14.60	
	mmol/l	1.03	0.86	1.20	0.08	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	91.2	76.5	106	7.35	14.70	
	mmol/l	1.03	0.87	1.20	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	91.2	76.6	106	7.30	14.60	
	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	81.2	112	7.65	15.30	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.04	0.88	1.20	0.08	0.16	Agappe - GPO - TOPS
	mg/dl	92.0	77.6	106	7.20	14.40	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.92	6.36	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.18	6.11	8.25	0.54	1.07	Urease kinetic
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.18	6.10	8.26	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	

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ABX Pentra 400®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.0	34.8	47.2	3.10	6.20	Bromocresol Green
	g/dl	4.10	3.48	4.72	0.31	0.62	
Alkaline Phosphatase	U/l	190	161	219	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	45	36	54	4.50	9.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	19.8	15.6	24.0	2.10	4.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.16	0.913	1.41	0.12	0.25	
Calcium	mmol/l	2.28	2.06	2.50	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.14	8.26	10.0	0.44	0.88	
	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	3.88	3.38	4.38	0.25	0.50	Cholesterol Oxidase
	mg/dl	150	130	170	10.00	20.00	
Glucose	mmol/l	6.25	5.31	7.19	0.47	0.94	Glucose oxidase
	mg/dl	113	95.7	130	8.65	17.30	
HDL - Cholesterol	mmol/l	1.36	1.15	1.57	0.11	0.21	Direct HDL PPD
	mg/dl	52.5	44.4	60.6	4.05	8.10	
Phosphate Inorganic	mmol/l	1.64	1.40	1.88	0.12	0.24	Phosphomolybdate UV
	mg/dl	5.08	4.34	5.82	0.37	0.74	
Protein Total	g/l	59.4	47.5	71.3	5.95	11.90	Biuret reaction end point
	g/dl	5.94	4.75	7.13	0.60	1.19	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

ABX Pentra 400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
Urea	mmol/l	7.23	6.15	8.31	0.54	1.08	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.23	6.15	8.31	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	

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

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	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
Calcium	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	4.01	3.49	4.53	0.26	0.52	Cholesterol Oxidase
	mg/dl	155	135	175	10.00	20.00	
Creatinine	µmol/l	119	95.4	143	11.80	23.60	Alkaline picrate no deproteinization
	mg/dl	1.34	1.08	1.60	0.13	0.26	
Glucose	mmol/l	6.24	5.31	7.17	0.47	0.93	Hexokinase
	mg/dl	112	95.7	128	8.15	16.30	
Protein Total	g/l	59.0	47.2	70.8	5.90	11.80	Biuret reaction end point
	g/dl	5.90	4.72	7.08	0.59	1.18	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.2	114	8.00	16.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.75	5.01	6.49	0.37	0.74	

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

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.31	6.22	8.40	0.55	1.09	Urease kinetic
	mg/dl	43.9	37.4	50.4	3.25	6.50	
	mmol/l	7.31	6.21	8.41	0.55	1.10	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	

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RANDOX

Arkray Spotchem EZ/EL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.5	37.4	45.6	2.05	4.10	ARKRAY Spotchem EZ
	g/dl	4.15	3.74	4.56	0.21	0.41	
Alkaline Phosphatase	U/l	322	270	374	26.00	52.00	ARKRAY Spotchem EZ 37°C
ALT (GPT)	U/l	33	28	38	2.50	5.00	ARKRAY Spotchem EZ 37°C
Amylase Total	U/l	71	60	82	5.50	11.00	ARKRAY Spotchem EZ 37°C
AST (GOT)	U/l	35	29	41	3.00	6.00	ARKRAY Spotchem EZ 37°C
Bilirubin Total	µmol/l	27.4	21.9	32.9	2.75	5.50	ARKRAY Spotchem EZ
	mg/dl	1.60	1.28	1.92	0.16	0.32	
Bun Urea	mmol/l	7.75	6.98	8.52	0.39	0.77	ARKRAY Spotchem EZ
	mg/dl	21.7	19.5	23.9	1.10	2.20	
Calcium	mmol/l	2.46	2.21	2.71	0.13	0.25	ARKRAY Spotchem EZ
	mg/dl	9.86	8.86	10.9	0.50	1.00	
Cholesterol	mmol/l	4.04	3.64	4.44	0.20	0.40	ARKRAY Spotchem EZ
	mg/dl	156	141	171	7.50	15.00	
Chloride	mmol/l	111	103	119	4.00	8.00	ARKRAY Spotchem EL
CK Total	U/l	205	174	236	15.50	31.00	ARKRAY Spotchem EZ 37°C
Creatinine	µmol/l	120	102	138	9.00	18.00	ARKRAY Spotchem EZ (creatinine)
	mg/dl	1.36	1.15	1.57	0.11	0.21	
	µmol/l	93.8	76.0	112	8.90	17.80	ARKRAY Spotchem EZ (creatinine2)
	mg/dl	1.06	0.859	1.26	0.10	0.20	
gamma-GT	U/l	64	53	75	5.50	11.00	ARKRAY Spotchem EZ 37°C

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Arkray Spotchem EZ/EL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Glucose	mmol/l	6.38	5.74	7.02	0.32	0.64	ARKRAY Spotchem EZ
	mg/dl	115	103	127	6.00	12.00	
HDL - Cholesterol	mmol/l	0.93	0.74	1.11	0.09	0.19	ARKRAY Spotchem EZ
	mg/dl	35.8	28.6	43.0	3.60	7.20	
LD (LDH)	U/l	346	291	401	27.50	55.00	ARKRAY Spotchem EZ 37°C
Magnesium	mmol/l	0.94	0.82	1.07	0.06	0.12	ARKRAY Spotchem EZ
	mg/dl	2.29	1.99	2.59	0.15	0.30	
Phosphate Inorganic	mmol/l	1.31	1.14	1.49	0.09	0.17	ARKRAY Spotchem EZ
	mg/dl	4.07	3.53	4.61	0.27	0.54	
Potassium	mmol/l	3.90	3.59	4.21	0.16	0.31	ARKRAY Spotchem EL
Protein Total	g/l	59.4	47.5	71.3	5.95	11.90	ARKRAY Spotchem EZ
	g/dl	5.94	4.75	7.13	0.60	1.19	
Sodium	mmol/l	140	135	145	2.50	5.00	ARKRAY Spotchem EL
Triglycerides	mmol/l	1.00	0.90	1.10	0.05	0.10	ARKRAY Spotchem EZ
	mg/dl	88.4	79.6	97.2	4.40	8.80	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.36	0.02	0.03	ARKRAY Spotchem EZ
	mg/dl	5.46	4.92	6.00	0.27	0.54	

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Beckman Coulter AU Series®

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
	g/l	40.8	34.6	47.0	3.10	6.20	Bromocresol Purple
	g/dl	4.08	3.46	4.70	0.31	0.62	
Alkaline Phosphatase	U/l	207	176	238	15.50	31.00	p-Nitrophenylphosphate AMP 37°C
	U/l	297	252	342	22.50	45.00	Diethanolamine buffer DEA 37°C
	U/l	200	170	230	15.00	30.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	91	78	104	6.50	13.00	pNP Maltotrioside substrates 37°C
	U/l	93	79	107	7.00	14.00	Biotrol - blocked pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	90	77	103	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	12.5	9.92	15.1	1.29	2.58	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	19.0	15.0	23.0	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.11	0.878	1.34	0.12	0.23	
	µmol/l	18.0	14.3	21.7	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.05	0.837	1.26	0.11	0.21	
Bilirubin Total	µmol/l	25.5	20.2	30.8	2.65	5.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.49	1.18	1.80	0.16	0.31	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Bilirubin Total	µmol/l	28.7	22.7	34.7	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	28.5	22.5	34.5	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	29.3	23.2	35.4	3.05	6.10	Oxidation to Biliverdin
	mg/dl	1.71	1.36	2.06	0.18	0.35	
Calcium	mmol/l	2.40	2.16	2.64	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.62	8.66	10.6	0.48	0.96	
	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	3.90	3.39	4.41	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	
Chloride	mmol/l	95.0	87.4	103	3.80	7.60	ISE indirect
Cholinesterase	U/l	5318	4254	6382	532.00	1064.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	207	169	245	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	202	166	238	18.00	36.00	CK-NAC substrate start (DGKC) 37°C
	U/l	203	166	240	18.50	37.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	19.0	15.2	22.8	1.90	3.80	Colorimetric
	µg/dl	121	96.7	145	12.15	24.30	
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	
	µmol/l	121	96.7	145	12.15	24.30	Randox Enzymatic UV method
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	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	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	123	98.2	148	12.40	24.80	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	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	115	92.2	138	11.40	22.80	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	118	94.8	141	11.60	23.20	IDMS traceable
	mg/dl	1.33	1.07	1.59	0.13	0.26	
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.34	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	51	44	58	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	50	43	57	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.16	5.24	7.08	0.46	0.92	Hexokinase
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	6.13	5.21	7.05	0.46	0.92	Glucose oxidase
	mg/dl	110	93.9	126	8.05	16.10	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct Clearance Method
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Iron	µmol/l	17.5	14.4	20.6	1.55	3.10	Colorimetric with ppt.
	µg/dl	97.8	80.5	115	8.65	17.30	
	µmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric without ppt.
	µg/dl	98.9	81.1	117	8.90	17.80	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Lactate	mmol/l	1.57	1.29	1.85	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.6	16.6	1.25	2.50	
LD (LDH)	U/l	201	171	231	15.00	30.00	L->P 37°C
	U/l	442	376	508	33.00	66.00	P->L Scandinavian & Dutch 37°C
	U/l	409	347	471	31.00	62.00	P->L German methods 37°C
	U/l	202	171	233	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	32	26	38	3.00	6.00	Other Colorimetric 37°C
	U/l	38	31	45	3.50	7.00	Randox Colorimetric 37°C
Lithium	mmol/l	0.98	0.87	1.10	0.06	0.12	Spectrophotometric
	mg/dl	0.683	0.601	0.765	0.04	0.08	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Osmolality	mOsm/kg	288	231	345	28.50	57.00	Calculated
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.25	3.60	4.90	0.33	0.65	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	3.92	3.61	4.23	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction end point
	g/dl	5.80	4.64	6.96	0.58	1.16	
	g/l	57.6	46.1	69.1	5.75	11.50	Biuret reaction kinetic
	g/dl	5.76	4.61	6.91	0.58	1.15	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
TIBC	µmol/l	46.4	36.7	56.1	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	259	205	313	27.00	54.00	

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	100	75.3	125	12.35	24.70	Microgenics DRI assay
	µg/dl	7.80	5.87	9.73	0.97	1.93	
	ng/ml	78.0	58.7	97.3	9.65	19.30	Microgenics DRI assay
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.8	113	7.80	15.60	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	83.4	115	7.85	15.70	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	82.9	115	8.10	16.20	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	5.07	6.59	0.38	0.76	
Urea	mmol/l	7.32	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	7.34	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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RANDOX

Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Purple
	g/dl	4.34	3.69	4.99	0.33	0.65	
Alkaline Phosphatase	U/l	184	157	211	13.50	27.00	p-Nitrophenylphosphate AMP 37°C
	U/l	184	156	212	14.00	28.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	36	29	43	3.50	7.00	Tris buffer SCE 37°C
Amylase Total	U/l	98	83	113	7.50	15.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	97	83	111	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	39	31	47	4.00	8.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	12.6	9.98	15.2	1.31	2.62	Differential rate pH change
	mmol/l	13.2	10.5	15.9	1.35	2.70	Ion selective electrode
Bilirubin Direct	µmol/l	13.2	10.5	15.9	1.35	2.70	Diazo with Sulphanilic Acid
	mg/dl	0.772	0.614	0.930	0.08	0.16	
Bilirubin Total	µmol/l	28.7	22.6	34.8	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.32	2.04	0.18	0.36	
Calcium	mmol/l	2.32	2.09	2.55	0.12	0.23	Ion selective electrode
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.35	2.12	2.58	0.12	0.23	Arsenazo III
	mg/dl	9.42	8.50	10.3	0.46	0.92	
Cholesterol	mmol/l	3.70	3.22	4.18	0.24	0.48	Cholesterol Oxidase
	mg/dl	143	124	162	9.50	19.00	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	96.7	89.0	104	3.85	7.70	ISE indirect
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	207	170	244	18.50	37.00	Monothioglycerol 37°C
Creatinine	µmol/l	121	96.5	146	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	124	99.1	149	12.45	24.90	Randox Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	122	97.7	146	12.15	24.30	Jaffe rate blanked
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	120	96.3	144	11.85	23.70	IDMS traceable
	mg/dl	1.36	1.09	1.63	0.14	0.27	
Free T4	pmol/l	18.1	13.5	22.7	2.30	4.60	Beckman DxI800
	ng/dl	1.41	1.05	1.77	0.18	0.36	
	pg/ml	14.1	10.5	17.7	1.80	3.60	Beckman DxI800
gamma-GT	U/l	42	35	49	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.96	5.07	6.85	0.45	0.89	Hexokinase
	mg/dl	107	91.4	123	7.80	15.60	
	mmol/l	6.01	5.11	6.91	0.45	0.90	Oxygen electrode
	mg/dl	108	92.1	124	7.95	15.90	
	mmol/l	5.95	5.06	6.84	0.45	0.89	Glucose oxidase
	mg/dl	107	91.2	123	7.90	15.80	
HDL - Cholesterol	mmol/l	1.43	1.22	1.64	0.11	0.21	Direct HDL PPD
	mg/dl	55.2	47.1	63.3	4.05	8.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	17.1	14.1	20.1	1.50	3.00	Colorimetric without ppt.
	µg/dl	95.6	78.8	112	8.40	16.80	
Lactate	mmol/l	1.65	1.35	1.95	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	14.9	12.2	17.6	1.35	2.70	
LD (LDH)	U/l	169	144	194	12.50	25.00	L->P 37°C
	U/l	514	437	591	38.50	77.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	163	139	187	12.00	24.00	L->P IFCC 37°C
Lithium	mmol/l	1.01	0.88	1.14	0.06	0.13	Spectrophotometric
	mg/dl	0.701	0.614	0.788	0.04	0.09	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Calmagite
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.87	3.56	4.18	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.5	46.8	70.2	5.85	11.70	Biuret reaction CX4/5/7
	g/dl	5.85	4.68	7.02	0.59	1.17	
	g/l	59.4	47.5	71.3	5.95	11.90	Biuret reaction end point
	g/dl	5.94	4.75	7.13	0.60	1.19	
	g/l	57.1	45.7	68.5	5.70	11.40	Biuret reaction kinetic
	g/dl	5.71	4.57	6.85	0.57	1.14	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.44	1.15	1.73	0.15	0.29	Beckman DxI800 Hyper TSH
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	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.4	115	7.85	15.70	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.53	4.80	6.26	0.37	0.73	
Urea	mmol/l	7.39	6.28	8.50	0.56	1.11	Urease end point
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.52	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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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	167	142	192	12.50	25.00	AMP optimised to IFCC 37°C
	U/l	130	111	149	9.50	19.00	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	45	36	54	4.50	9.00	Tris buffer without P5P 37°C
	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 30°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	33.5	26.5	40.5	3.50	7.00	Diazo with Sulphanilic Acid
	mg/dl	1.96	1.55	2.37	0.21	0.41	
Calcium	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	4.05	3.52	4.58	0.27	0.53	Cholesterol Oxidase
	mg/dl	156	136	176	10.00	20.00	
CK Total	U/l	219	180	258	19.50	39.00	CK-NAC (IFCC) 37°C
	U/l	137	113	161	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	93	77	109	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	120	95.9	144	12.05	24.10	Alkaline picrate no deproteinization
	mg/dl	1.36	1.08	1.64	0.14	0.28	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.33	5.38	7.28	0.48	0.95	Glucose oxidase
	mg/dl	114	96.9	131	8.55	17.10	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Protein Total	g/l	58.8	47.1	70.5	5.85	11.70	Biuret reaction end point
	g/dl	5.88	4.71	7.05	0.59	1.17	
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.8	113	7.80	15.60	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.05	5.26	6.84	0.40	0.79	
	mmol/l	0.36	0.32	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.10	5.31	6.89	0.40	0.79	
Urea	mmol/l	7.00	5.95	8.05	0.53	1.05	Urease kinetic
	mg/dl	42.1	35.8	48.4	3.15	6.30	
	mmol/l	7.00	5.95	8.05	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Green
	g/dl	4.32	3.67	4.97	0.33	0.65	
	g/l	40.9	34.7	47.1	3.10	6.20	Bromocresol Purple
	g/dl	4.09	3.47	4.71	0.31	0.62	
	g/l	39.0	33.2	44.8	2.90	5.80	Turbidimetric Assays
	g/dl	3.90	3.32	4.48	0.29	0.58	
Alkaline Phosphatase	U/l	130	110	150	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	101	86	116	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	83	70	96	6.50	13.00	Roche Integra AMP buffer 25°C
	U/l	129	109	149	10.00	20.00	AMP optimised to IFCC 37°C
	U/l	100	85	115	7.50	15.00	AMP optimised to IFCC 30°C
	U/l	82	70	94	6.00	12.00	AMP optimised to IFCC 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	70	60	80	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	92	79	105	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	92	78	106	7.00	14.00	Roche liquid stable pNPG7 37°C
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

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	12.1	9.57	14.6	1.27	2.53	Enzymatic
Bilirubin Direct	µmol/l	17.8	14.1	21.5	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.04	0.825	1.26	0.11	0.22	
	µmol/l	17.7	13.9	21.5	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.04	0.813	1.27	0.11	0.23	
	µmol/l	17.8	14.1	21.5	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.04	0.825	1.26	0.11	0.22	
Bilirubin Total	µmol/l	26.2	20.7	31.7	2.75	5.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	µmol/l	25.6	20.2	31.0	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.50	1.18	1.82	0.16	0.32	
	µmol/l	25.7	20.3	31.1	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	µmol/l	26.0	20.5	31.5	2.75	5.50	Diazonium ion
	mg/dl	1.52	1.20	1.84	0.16	0.32	
Calcium	mmol/l	2.36	2.13	2.59	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.46	8.54	10.4	0.46	0.92	
	mmol/l	2.35	2.11	2.59	0.12	0.24	NM-BAPTA
	mg/dl	9.42	8.46	10.4	0.48	0.96	
Cholesterol	mmol/l	3.95	3.44	4.46	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	133	171	9.50	19.00	
Chloride	mmol/l	97.0	89.3	105	3.85	7.70	ISE indirect
CK Total	U/l	224	183	265	20.50	41.00	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

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Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	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	115	91.9	138	11.55	23.10	Alkaline picrate no deproteinization
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	121	96.8	145	12.10	24.20	Roche Creatinine Plus
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	120	95.9	144	12.05	24.10	Jaffe rate blanked
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	119	94.9	143	12.05	24.10	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.34	1.07	1.61	0.14	0.27	
	µmol/l	117	93.5	141	11.75	23.50	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.32	1.06	1.58	0.13	0.26	
gamma-GT	U/l	44	37	51	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	29	41	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.16	5.23	7.09	0.47	0.93	Glucose dehydrogenase
	mg/dl	111	94.2	128	8.40	16.80	
	mmol/l	6.14	5.22	7.06	0.46	0.92	Hexokinase
	mg/dl	111	94.1	128	8.45	16.90	

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.20	5.27	7.13	0.47	0.93	Glucose oxidase
	mg/dl	112	95.0	129	8.50	17.00	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Direct HDL PEGME
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL Roche 3rd generation
	mg/dl	46.3	39.4	53.2	3.45	6.90	
Iron	µmol/l	18.3	15.0	21.6	1.65	3.30	Colorimetric with ppt.
	µg/dl	102	83.9	120	9.05	18.10	
	µmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.3	121	9.35	18.70	
Lactate	mmol/l	1.72	1.41	2.03	0.16	0.31	Colorimetric Lactate Oxidase
	mg/dl	15.5	12.7	18.3	1.40	2.80	
LD (LDH)	U/l	389	331	447	29.00	58.00	P->L German methods 37°C
	U/l	281	239	323	21.00	42.00	P->L German methods 30°C
	U/l	197	168	226	14.50	29.00	P->L German methods 25°C
	U/l	214	182	246	16.00	32.00	L->P IFCC 37°C
	U/l	155	131	179	12.00	24.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	34	28	40	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.00	0.88	1.12	0.06	0.12	Ion selective electrode
	mg/dl	0.694	0.610	0.778	0.04	0.08	
Magnesium	mmol/l	0.94	0.82	1.05	0.06	0.11	Methylthymol blue
	mg/dl	2.28	2.00	2.56	0.14	0.28	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.21	1.94	2.48	0.14	0.27	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	1.45	1.24	1.66	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.50	3.84	5.16	0.33	0.66	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.50	3.81	5.19	0.35	0.69	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - indirect
Protein Total	g/l	56.8	45.4	68.2	5.70	11.40	Biuret reaction end point
	g/dl	5.68	4.54	6.82	0.57	1.14	
	g/l	55.6	44.5	66.7	5.55	11.10	Biuret reaction kinetic
	g/dl	5.56	4.45	6.67	0.56	1.11	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
TIBC	µmol/l	46.1	36.4	55.8	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	258	203	313	27.50	55.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.3	111	7.65	15.30	
	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	81.6	113	7.90	15.80	
	mmol/l	1.09	0.92	1.26	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	96.5	81.1	112	7.70	15.40	
	mmol/l	1.11	0.94	1.29	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	98.2	82.7	114	7.75	15.50	
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	0.34	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	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	6.92	5.89	7.95	0.52	1.03	Urease kinetic
	mg/dl	41.6	35.4	47.8	3.10	6.20	
	mmol/l	6.92	5.88	7.96	0.52	1.04	BUN
	mg/dl	19.4	16.5	22.3	1.45	2.90	

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ELITech/Vitalab Selectra Pro/E/XL/Jnr

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	
Alkaline Phosphatase	U/l	295	251	339	22.00	44.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37°C
Calcium	mmol/l	2.35	2.11	2.59	0.12	0.24	Arsenazo III
	mg/dl	9.42	8.46	10.4	0.48	0.96	
Cholesterol	mmol/l	3.95	3.44	4.46	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	133	171	9.50	19.00	
CK Total	U/l	204	167	241	18.50	37.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	111	89.1	133	10.95	21.90	Alkaline picrate no deproteinization
	mg/dl	1.25	1.01	1.49	0.12	0.24	
	µmol/l	120	96.2	144	11.90	23.80	Jaffe rate blanked
	mg/dl	1.36	1.09	1.63	0.14	0.27	
Glucose	mmol/l	6.37	5.42	7.32	0.48	0.95	Glucose oxidase
	mg/dl	115	97.7	132	8.65	17.30	
Phosphate Inorganic	mmol/l	1.52	1.29	1.75	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.71	4.00	5.42	0.36	0.71	
Protein Total	g/l	61.1	48.8	73.4	6.15	12.30	Biuret reaction end point
	g/dl	6.11	4.88	7.34	0.62	1.23	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.4	115	7.85	15.70	

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ELITech/Vitalab Selectra Pro/E/XL/Jnr

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.59	4.87	6.31	0.36	0.72	
Urea	mmol/l	7.05	5.99	8.11	0.53	1.06	Urease kinetic
	mg/dl	42.4	36.0	48.8	3.20	6.40	
	mmol/l	7.05	5.99	8.11	0.53	1.06	BUN
	mg/dl	19.8	16.8	22.8	1.50	3.00	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	115	98	132	8.50	17.00	Roche Integra AMP buffer 37°C
	U/l	90	76	104	7.00	14.00	Roche Integra AMP buffer 30°C
	U/l	73	63	83	5.00	10.00	Roche Integra AMP buffer 25°C
	U/l	180	153	207	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	140	119	161	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	115	98	132	8.50	17.00	AMP optimised to IFCC 25°C
	U/l	195	166	224	14.50	29.00	Randox AMP 37°C
	U/l	152	129	175	11.50	23.00	Randox AMP 30°C
	U/l	125	106	144	9.50	19.00	Randox AMP 25°C
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
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Roche liquid stable pNPG7 37°C
	U/l	81	69	93	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	102	87	117	7.50	15.00	Randox liquid stable pNPG7 37°C
Acid Phosphatase (non-prostatic)	U/l	3.37	2.26	4.48	0.56	1.11	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	5.15	3.45	6.85	0.85	1.70	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	10.7	7.17	14.2	1.77	3.53	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. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Acid Phosphatase (Prostatic)	U/l	6.85	4.59	9.11	1.13	2.26	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	14.0	9.38	18.6	2.31	4.62	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	12.0	8.04	16.0	1.98	3.96	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	41	33	49	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	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric
Bicarbonate	mmol/l	12.9	10.2	15.6	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	16.6	13.1	20.1	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.971	0.766	1.18	0.10	0.21	
	µmol/l	16.9	13.4	20.4	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.989	0.784	1.19	0.10	0.21	
Bilirubin Total	µmol/l	25.9	20.5	31.3	2.70	5.40	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	24.6	19.5	29.7	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazonium ion
	mg/dl	1.48	1.17	1.79	0.16	0.31	
Calcium	mmol/l	2.38	2.14	2.62	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.54	8.58	10.5	0.48	0.96	
	mmol/l	2.38	2.14	2.62	0.12	0.24	NM-BAPTA
	mg/dl	9.54	8.58	10.5	0.48	0.96	
Cholesterol	mmol/l	3.93	3.42	4.44	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	132	172	10.00	20.00	
Chloride	mmol/l	92.2	84.8	99.6	3.70	7.40	ISE indirect

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholinesterase	U/l	5440	4352	6528	544.00	1088.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	200	164	236	18.00	36.00	CK-NAC substrate start (DGKC) 37°C
	U/l	125	103	147	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	85	70	100	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	121	100	142	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	82	68	96	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	123	98.6	147	12.20	24.40	Randox Enzymatic UV method
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	117	93.8	140	11.60	23.20	Creatinine PAP method
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	123	98.8	147	12.10	24.20	Roche Creatinine Plus
	mg/dl	1.39	1.12	1.66	0.14	0.27	
	µmol/l	124	99.6	148	12.20	24.40	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.40	1.13	1.67	0.14	0.27	
gamma-GT	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	31	26	36	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	24	20	28	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	44	38	50	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	23	31	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	53	45	61	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	42	35	49	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	33	28	38	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	24	19	29	2.50	5.00	Triethanolamine buffer 50 mmol 37°C
	U/l	18	15	21	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 25°C

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.09	5.18	7.00	0.46	0.91	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
	mmol/l	6.32	5.38	7.26	0.47	0.94	Glucose oxidase
	mg/dl	114	96.9	131	8.55	17.10	
alpha-HBDH	U/l	233	184	282	24.50	49.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	176	139	213	18.50	37.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	132	104	160	14.00	28.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.22	1.04	1.40	0.09	0.18	Direct HDL PEGME
	mg/dl	47.1	40.1	54.1	3.50	7.00	
	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL Roche 3rd generation
	mg/dl	46.3	39.4	53.2	3.45	6.90	
Iron	µmol/l	17.2	14.1	20.3	1.55	3.10	Colorimetric without ppt.
	µg/dl	96.1	78.8	113	8.65	17.30	
Lactate	mmol/l	1.76	1.45	2.07	0.16	0.31	Colorimetric Lactate Oxidase
	mg/dl	15.9	13.1	18.7	1.40	2.80	
LD (LDH)	U/l	410	349	471	30.50	61.00	P->L German methods 37°C
	U/l	296	252	340	22.00	44.00	P->L German methods 30°C
	U/l	208	177	239	15.50	31.00	P->L German methods 25°C
	U/l	196	167	225	14.50	29.00	L->P IFCC 37°C
	U/l	142	121	163	10.50	21.00	L->P IFCC 30°C
	U/l	99	85	113	7.00	14.00	L->P IFCC 25°C
Lipase	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.09	0.96	1.22	0.06	0.13	Spectrophotometric
	mg/dl	0.757	0.667	0.847	0.05	0.09	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.23	1.96	2.50	0.14	0.27	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.1	46.5	69.7	5.80	11.60	Biuret reaction end point
	g/dl	5.81	4.65	6.97	0.58	1.16	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	44.3	35.0	53.6	4.65	9.30	FE+UIBC(saturation with iron)
	µg/dl	248	196	300	26.00	52.00	
Triglycerides	mmol/l	1.07	0.90	1.25	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.2	110	7.75	15.50	
	mmol/l	1.08	0.91	1.25	0.08	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	80.6	111	7.50	15.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.58	4.84	6.32	0.37	0.74	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.66	4.94	6.38	0.36	0.72	
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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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.8	35.6	48.0	3.10	6.20	Bromocresol Green
	g/dl	4.18	3.56	4.80	0.31	0.62	
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 30°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 25°C
Amylase Total	U/l	91	78	104	6.50	13.00	I.L. 2-chloro-pNPG3 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	22.0	17.6	26.4	2.20	4.40	Enzymatic Colorimetric
Bilirubin Total	µmol/l	29.0	22.9	35.1	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.34	2.06	0.18	0.36	
Calcium	mmol/l	2.37	2.14	2.60	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.50	8.58	10.4	0.46	0.92	
Cholesterol	mmol/l	3.83	3.33	4.33	0.25	0.50	Cholesterol Oxidase
	mg/dl	148	129	167	9.50	19.00	
Chloride	mmol/l	94.7	87.1	102	3.80	7.60	ISE indirect
CK Total	U/l	186	153	219	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	116	96	136	10.00	20.00	CK-NAC (IFCC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
D-3-Hydroxybutyrate	mmol/l	0.29	0.25	0.34	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	45	38	52	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	23	33	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	45	38	52	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	23	33	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.29	5.35	7.23	0.47	0.94	Hexokinase
	mg/dl	113	96.4	130	8.30	16.60	
	mmol/l	6.13	5.21	7.05	0.46	0.92	Glucose oxidase
	mg/dl	110	93.9	126	8.05	16.10	
HDL - Cholesterol	mmol/l	1.10	0.94	1.27	0.08	0.17	Direct HDL Immunoseparation
	mg/dl	42.5	36.1	48.9	3.20	6.40	
Iron	µmol/l	17.6	14.5	20.7	1.55	3.10	Colorimetric without ppt.
	µg/dl	98.4	81.1	116	8.65	17.30	
LD (LDH)	U/l	399	339	459	30.00	60.00	P->L German methods 37°C
	U/l	288	245	331	21.50	43.00	P->L German methods 30°C
	U/l	202	172	232	15.00	30.00	P->L German methods 25°C
Magnesium	mmol/l	0.97	0.85	1.08	0.06	0.12	Enzymatic
	mg/dl	2.34	2.06	2.62	0.14	0.28	
Phosphate Inorganic	mmol/l	1.44	1.22	1.66	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.46	3.78	5.14	0.34	0.68	
Potassium	mmol/l	4.03	3.70	4.36	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Biuret reaction end point
	g/dl	5.95	4.76	7.14	0.60	1.19	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	83.7	116	8.15	16.30	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.7	116	8.15	16.30	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
Urea	mmol/l	7.62	6.48	8.76	0.57	1.14	Urease end point
	mg/dl	45.8	38.9	52.7	3.45	6.90	
	mmol/l	7.62	6.48	8.76	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	39.1	33.2	45.0	2.95	5.90	Ortho Vitros Microslide Systems
	g/dl	3.91	3.32	4.50	0.30	0.59	
	g/l	37.3	31.7	42.9	2.80	5.60	Vitros DT60/DT60 II/DTSC II
	g/dl	3.73	3.17	4.29	0.28	0.56	
Alkaline Phosphatase	U/l	129	109	149	10.00	20.00	Ortho Vitros Microslide Systems 37°C
	U/l	138	117	159	10.50	21.00	Vitros DT60/DT60 II/DTSC II 37°C
ALT (GPT)	U/l	48	39	57	4.50	9.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	52	42	62	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
	U/l	53	42	64	5.50	11.00	Vitros DT60/DT60 II/DTSC II 37°C
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Ortho Vitros Microslide Systems
Bilirubin Direct	µmol/l	10.9	8.60	13.2	1.15	2.30	Vitros conjugated from BUBC
	mg/dl	0.638	0.503	0.773	0.07	0.14	
Bilirubin Total	µmol/l	24.7	19.5	29.9	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	25.1	19.8	30.4	2.65	5.30	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	mmol/l	2.43	2.19	2.67	0.12	0.24	Ortho Vitros Microslide Systems
	mg/dl	9.74	8.78	10.7	0.48	0.96	
	mmol/l	2.40	2.16	2.64	0.12	0.24	Vitros DT60/DT60 II/DTSC II
	mg/dl	9.62	8.66	10.6	0.48	0.96	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	3.63	3.16	4.10	0.24	0.47	Ortho Vitros Microslide Systems
	mg/dl	140	122	158	9.00	18.00	
	mmol/l	3.67	3.19	4.15	0.24	0.48	Vitros DT60/DT60 II
	mg/dl	142	123	161	9.50	19.00	
Chloride	mmol/l	96.3	88.6	104	3.85	7.70	Ortho Vitros Microslide Systems
	mmol/l	95.4	87.8	103	3.80	7.60	Vitros DT60/DT60 II/DTE II
Cholinesterase	U/l	5491	4393	6589	549.00	1098.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	184	151	217	16.50	33.00	Ortho Vitros Microslide Systems 37°C
	U/l	178	146	210	16.00	32.00	Vitros DT60/DT60 II/DTSC II 37°C
Creatinine	µmol/l	124	99.2	149	12.40	24.80	Vitros DT60/DT60 II/DTSC II
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	120	96.1	144	11.95	23.90	Vitros IDMS Traceable
	mg/dl	1.36	1.09	1.63	0.14	0.27	
Free T4	pmol/l	38.4	28.8	48.0	4.80	9.60	Vitros ECi
	ng/dl	3.00	2.25	3.75	0.38	0.75	
	pg/ml	30.0	22.5	37.5	3.75	7.50	Vitros ECi
gamma-GT	U/l	60	51	69	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	62	53	71	4.50	9.00	Vitros DT60/DT60 II/DTSC II 37°C
Glucose	mmol/l	5.87	4.99	6.75	0.44	0.88	Ortho Vitros Microslide Systems
	mg/dl	106	89.9	122	8.05	16.10	
	mmol/l	5.76	4.89	6.63	0.44	0.87	Vitros DT60/DT60 II
	mg/dl	104	88.1	120	7.95	15.90	
HDL - Cholesterol	mmol/l	1.22	1.04	1.40	0.09	0.18	Vitros Magnetic HDL
	mg/dl	47.1	40.1	54.1	3.50	7.00	
	mmol/l	1.22	1.03	1.41	0.10	0.19	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	47.1	39.8	54.4	3.65	7.30	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	18.0	14.8	21.2	1.60	3.20	Ortho Vitros Microslide Systems
	µg/dl	101	82.7	119	9.15	18.30	
Lactate	mmol/l	1.49	1.22	1.76	0.14	0.27	Ortho Vitros Microslide Systems
	mg/dl	13.4	11.0	15.8	1.20	2.40	
LD (LDH)	U/l	593	504	682	44.50	89.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	227	182	272	22.50	45.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.23	1.08	1.38	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.854	0.750	0.958	0.05	0.10	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.20	1.94	2.46	0.13	0.26	
Phosphate Inorganic	mmol/l	1.51	1.28	1.74	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.68	3.97	5.39	0.36	0.71	
	mmol/l	1.48	1.25	1.71	0.12	0.23	Vitros DT60/DT60 II
	mg/dl	4.59	3.88	5.30	0.36	0.71	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	Ortho Vitros Microslide Systems
	mmol/l	4.01	3.69	4.33	0.16	0.32	Vitros DT60/DT60 II/DTE II
Protein Total	g/l	58.1	46.4	69.8	5.85	11.70	Ortho Vitros Microslide Systems
	g/dl	5.81	4.64	6.98	0.59	1.17	
	g/l	57.7	46.2	69.2	5.75	11.50	Vitros DT60/DT60 II
	g/dl	5.77	4.62	6.92	0.58	1.15	
PSA Total	ng/ml =	15.8	11.8	19.8	2.00	4.00	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	141	134	148	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	140	133	147	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

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	48.3	38.2	58.4	5.05	10.10	Ortho Vitros Microslide Systems
	µg/dl	270	214	326	28.00	56.00	
Total T3	nmol/l	3.30	2.48	4.12	0.41	0.82	Vitros ECi
	ng/ml	2.15	1.61	2.69	0.27	0.54	
	ng/dl	215	161	269	27.00	54.00	Vitros ECi
Triglycerides	mmol/l	1.24	1.04	1.44	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	110	92.0	128	9.00	18.00	
	mmol/l	1.22	1.03	1.41	0.10	0.19	Vitros DT60/DT60 II
	mg/dl	108	91.2	125	8.40	16.80	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.54	4.82	6.26	0.36	0.72	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Vitros DT60/DT60 II
	mg/dl	5.73	4.99	6.47	0.37	0.74	
Urea	mmol/l	6.76	5.75	7.77	0.51	1.01	Ortho Vitros Microslide Systems
	mg/dl	40.6	34.6	46.6	3.00	6.00	
	mmol/l	7.10	6.04	8.16	0.53	1.06	Vitros DT60/DT60 II
	mg/dl	42.7	36.3	49.1	3.20	6.40	
	mmol/l	6.76	5.75	7.77	0.51	1.01	BUN
	mg/dl	19.0	16.2	21.8	1.40	2.80	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	38.7	32.9	44.5	2.90	5.80	Bromocresol Green
	g/dl	3.87	3.29	4.45	0.29	0.58	
Alkaline Phosphatase	U/l	295	251	339	22.00	44.00	Diethanolamine buffer DEA 37°C
	U/l	230	196	264	17.00	34.00	Diethanolamine buffer DEA 30°C
	U/l	189	160	218	14.50	29.00	Diethanolamine buffer DEA 25°C
	U/l	169	144	194	12.50	25.00	AMP optimised to IFCC 37°C
	U/l	132	112	152	10.00	20.00	AMP optimised to IFCC 30°C
	U/l	108	92	124	8.00	16.00	AMP optimised to IFCC 25°C
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
Amylase Total	U/l	84	71	97	6.50	13.00	bioMerieux 2-chloro-pNPG3 37°C
AST (GOT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	23	33	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
Bilirubin Direct	µmol/l	17.6	13.9	21.3	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.03	0.813	1.25	0.11	0.22	
Bilirubin Total	µmol/l	22.6	17.9	27.3	2.35	4.70	Nitrobenzenediazonium salt
	mg/dl	1.32	1.05	1.59	0.14	0.27	
Calcium	mmol/l	2.38	2.14	2.62	0.12	0.24	Arsenazo III
	mg/dl	9.54	8.58	10.5	0.48	0.96	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	3.78	3.29	4.27	0.25	0.49	Cholesterol Oxidase
	mg/dl	146	127	165	9.50	19.00	
Chloride	mmol/l	100	92.4	108	3.80	7.60	ISE direct
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	127	102	152	12.50	25.00	Randox Enzymatic UV method
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	127	102	152	12.50	25.00	Creatinine PAP method
	mg/dl	1.44	1.15	1.73	0.15	0.29	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.49	5.52	7.46	0.49	0.97	Hexokinase
	mg/dl	117	99.5	135	8.75	17.50	
	mmol/l	6.18	5.25	7.11	0.47	0.93	Glucose oxidase
	mg/dl	111	94.6	127	8.20	16.40	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.14	0.97	1.32	0.09	0.18	Direct HDL PEGME
	mg/dl	44.0	37.2	50.8	3.40	6.80	
Iron	µmol/l	20.5	16.8	24.2	1.85	3.70	Colorimetric without ppt.
	µg/dl	115	93.9	136	10.55	21.10	

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

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.00	0.88	1.12	0.06	0.12	Calmagite
	mg/dl	2.43	2.15	2.71	0.14	0.28	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Phosphate Inorganic	mmol/l	1.45	1.24	1.66	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.50	3.84	5.16	0.33	0.66	
Potassium	mmol/l	3.79	3.48	4.10	0.16	0.31	ISE method - direct
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	
Sodium	mmol/l	138	131	145	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.01	5.24	6.78	0.39	0.77	
	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	0.36	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	7.12	6.05	8.19	0.54	1.07	Urease kinetic
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	42.6	36.2	49.0	3.20	6.40	Bromocresol Purple
	g/dl	4.26	3.62	4.90	0.32	0.64	
	g/l	39.1	33.2	45.0	2.95	5.90	Ortho Vitros Microslide Systems
	g/dl	3.91	3.32	4.50	0.30	0.59	
	g/l	39.6	33.7	45.5	2.95	5.90	Turbidimetric Assays
	g/dl	3.96	3.37	4.55	0.30	0.59	
Alkaline Phosphatase	U/l	182	155	209	13.50	27.00	p-Nitrophenylphosphate AMP 37°C
	U/l	142	121	163	10.50	21.00	p-Nitrophenylphosphate AMP 30°C
	U/l	116	99	133	8.50	17.00	p-Nitrophenylphosphate AMP 25°C
	U/l	129	109	149	10.00	20.00	Ortho Vitros Microslide Systems 37°C
	U/l	295	250	340	22.50	45.00	Diethanolamine buffer DEA 37°C
	U/l	230	195	265	17.50	35.00	Diethanolamine buffer DEA 30°C
	U/l	189	160	218	14.50	29.00	Diethanolamine buffer DEA 25°C
	U/l	182	155	209	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	142	121	163	10.50	21.00	AMP optimised to IFCC 30°C
	U/l	116	99	133	8.50	17.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	48	39	57	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
	U/l	32	25	39	3.50	7.00	Tris buffer with P5P 30°C
	U/l	24	19	29	2.50	5.00	Tris buffer with P5P 25°C

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	16	26	2.50	5.00	Tris buffer without P5P 25°C
	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	69	59	79	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	69	59	79	5.00	10.00	Roche liquid stable pNPG7 37°C
	U/l	81	69	93	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	91	78	104	6.50	13.00	pNP Maltotrioside substrates 37°C
	U/l	92	78	106	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	93	79	107	7.00	14.00	Biotrol - blocked pNPG7 37°C
	U/l	74	63	85	5.50	11.00	Randox - Ethylidene pNPG7 37°C
	U/l	100	85	115	7.50	15.00	Randox liquid stable pNPG7 37°C
	U/l	91	77	105	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	96	82	110	7.00	14.00	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	101	86	116	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	100	85	115	7.50	15.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	92	78	106	7.00	14.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	66	56	76	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	91	77	105	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	100	85	115	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
	U/l	88	74	102	7.00	14.00	bioMerieux 2-chloro-pNPG3 37°C
	U/l	90	77	103	6.50	13.00	Beckman Olympus - blocked pNPG7 37°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	97	83	111	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	91	78	104	6.50	13.00	I.L. 2-chloro-pNPG3 37°C
	U/l	98	84	112	7.00	14.00	Abbott Architect Non-IFCC Cal. 37°C
Apolipoprotein A-1	g/l	1.08	0.89	1.27	0.10	0.19	Immunoturbidimetric
	mg/dl	108	88.6	127	9.70	19.40	
Apolipoprotein B	g/l	0.58	0.48	0.69	0.05	0.11	Immunoturbidimetric
	mg/dl	58.4	47.9	68.9	5.25	10.50	
Acid Phosphatase (non-prostatic)	U/l	5.15	3.45	6.85	0.85	1.70	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	3.37	2.26	4.48	0.56	1.11	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	6.85	4.59	9.11	1.13	2.26	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	10.7	7.17	14.2	1.77	3.53	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	12.0	8.04	16.0	1.98	3.96	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	14.0	9.38	18.6	2.31	4.62	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
AST (GOT)	U/l	52	42	62	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
	U/l	52	42	62	5.00	10.00	Tris buffer with P5P 37°C
	U/l	35	28	42	3.50	7.00	Tris buffer with P5P 30°C
	U/l	25	20	30	2.50	5.00	Tris buffer with P5P 25°C
	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
	U/l	39	31	47	4.00	8.00	Tris buffer SCE 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer SCE 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	27.1	21.7	32.5	2.70	5.40	4th Generation Colorimetric
	µmol/l	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	12.3	9.73	14.9	1.29	2.57	Colorimetric
	mmol/l	13.9	11.0	16.8	1.45	2.90	Ortho Vitros Microslide Systems
	mmol/l	12.6	9.98	15.2	1.31	2.62	Differential rate pH change
	mmol/l	12.5	9.90	15.1	1.30	2.60	Enzymatic
	mmol/l	13.4	10.6	16.2	1.40	2.80	Ion selective electrode
Bilirubin Direct	µmol/l	18.5	14.6	22.4	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
	µmol/l	10.9	8.60	13.2	1.15	2.30	Vitros conjugated from BUBC
	mg/dl	0.638	0.503	0.773	0.07	0.14	
	µmol/l	19.5	15.4	23.6	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.14	0.901	1.38	0.12	0.24	
	µmol/l	18.5	14.6	22.4	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
	µmol/l	18.3	14.5	22.1	1.90	3.80	Oxidation to Biliverdin
	mg/dl	1.07	0.848	1.29	0.11	0.22	
	µmol/l	16.0	12.6	19.4	1.70	3.40	Modified Jendrassik
	mg/dl	0.936	0.737	1.14	0.10	0.20	
Bilirubin Total	µmol/l	24.7	19.5	29.9	2.60	5.20	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	25.1	19.8	30.4	2.65	5.30	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	µmol/l	33.5	26.5	40.5	3.50	7.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.96	1.55	2.37	0.21	0.41	
	µmol/l	27.9	22.1	33.7	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.63	1.29	1.97	0.17	0.34	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	28.6	22.6	34.6	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	23.1	18.3	27.9	2.40	4.80	Nitrobenzenediazonium salt
	mg/dl	1.35	1.07	1.63	0.14	0.28	
	µmol/l	25.4	20.0	30.8	2.70	5.40	Diazonium ion
	mg/dl	1.49	1.17	1.81	0.16	0.32	
	µmol/l	29.3	23.1	35.5	3.10	6.20	Oxidation to Biliverdin
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	33.8	26.7	40.9	3.55	7.10	Modified Jendrassik
	mg/dl	1.98	1.56	2.40	0.21	0.42	
Calcium	mmol/l	2.35	2.11	2.59	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.42	8.46	10.4	0.48	0.96	
	mmol/l	2.43	2.19	2.67	0.12	0.24	Ortho Vitros Microslide Systems
	mg/dl	9.74	8.78	10.7	0.48	0.96	
	mmol/l	2.32	2.09	2.55	0.12	0.23	Ion selective electrode
	mg/dl	9.30	8.38	10.2	0.46	0.92	
	mmol/l	2.39	2.15	2.63	0.12	0.24	Methylthymol blue
	mg/dl	9.58	8.62	10.5	0.48	0.96	
	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	
	mmol/l	2.38	2.14	2.62	0.12	0.24	NM-BAPTA
	mg/dl	9.54	8.58	10.5	0.48	0.96	
Cholesterol	mmol/l	3.63	3.16	4.10	0.24	0.47	Ortho Vitros Microslide Systems
	mg/dl	140	122	158	9.00	18.00	
	mmol/l	3.91	3.40	4.42	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	102	93.8	110	4.10	8.20	Colorimetric
	mmol/l	96.3	88.6	104	3.85	7.70	Ortho Vitros Microslide Systems
	mmol/l	94.5	86.9	102	3.80	7.60	ISE indirect
	mmol/l	97.3	89.5	105	3.90	7.80	ISE direct
Cholinesterase	U/l	5491	4393	6589	549.00	1098.00	Ortho Vitros Microslide Systems 37°C
	U/l	5593	4474	6712	559.50	1119.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	184	151	217	16.50	33.00	Ortho Vitros Microslide Systems 37°C
	U/l	207	170	244	18.50	37.00	CK-NAC serum start (DGKC) 37°C
	U/l	130	106	154	12.00	24.00	CK-NAC serum start (DGKC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC serum start (DGKC) 25°C
	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	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC (IFCC) 25°C
	U/l	207	170	244	18.50	37.00	Monothioglycerol 37°C
	U/l	130	106	154	12.00	24.00	Monothioglycerol 30°C
	U/l	88	72	104	8.00	16.00	Monothioglycerol 25°C
	U/l	190	156	224	17.00	34.00	Dithioerythritol 37°C
	U/l	119	98	140	10.50	21.00	Dithioerythritol 30°C
	U/l	81	66	96	7.50	15.00	Dithioerythritol 25°C
	U/l	188	154	222	17.00	34.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	118	96	140	11.00	22.00	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	80	65	95	7.50	15.00	Dithioerythritol (DTE) IFCC correlated 25°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Copper	µmol/l	18.3	14.6	22.0	1.85	3.70	Atomic absorption
	µg/dl	116	92.9	139	11.55	23.10	
	µmol/l	18.2	14.6	21.8	1.80	3.60	Colorimetric
	µg/dl	116	92.9	139	11.55	23.10	
Cortisol	nmol/l	494	371	617	61.50	123.00	Roche Cobas E411
	µg/dl	17.8	13.4	22.2	2.20	4.40	
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	121	97.2	145	11.90	23.80	Alkaline picrate no deproteinization
	mg/dl	1.37	1.10	1.64	0.14	0.27	
	µmol/l	122	97.3	147	12.35	24.70	Randox Enzymatic UV method
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	122	97.9	146	12.05	24.10	Creatinine PAP method
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	µmol/l	125	100	150	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	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	
	µmol/l	117	93.7	140	11.65	23.30	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	120	96.1	144	11.95	23.90	Vitros IDMS Traceable
	mg/dl	1.36	1.09	1.63	0.14	0.27	

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	120	96.1	144	11.95	23.90	IDMS traceable
	mg/dl	1.36	1.09	1.63	0.14	0.27	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	2.00	1.60	2.40	0.20	0.40	Immunoturbidimetric
	ng/ml	1.56	1.25	1.87	0.16	0.31	
Folate	nmol/l	45.6	34.7	56.5	5.45	10.90	Roche Cobas E411
	ng/ml	20.1	15.3	24.9	2.40	4.80	
Free T4	pmol/l	18.5	13.9	23.1	2.30	4.60	Abbott Architect
	ng/dl	1.44	1.08	1.80	0.18	0.36	
	pg/ml	14.4	10.8	18.0	1.80	3.60	Abbott Architect
	pmol/l	19.0	14.2	23.8	2.40	4.80	Siemens Centaur XP/XPT/Classic
	ng/dl	1.48	1.11	1.85	0.19	0.37	
	pg/ml	14.8	11.1	18.5	1.85	3.70	Siemens Centaur XP/XPT/Classic
	pmol/l	18.1	13.5	22.7	2.30	4.60	Beckman DxI800
	ng/dl	1.41	1.05	1.77	0.18	0.36	
	pg/ml	14.1	10.5	17.7	1.80	3.60	Beckman DxI800
	pmol/l	22.8	17.1	28.5	2.85	5.70	BioMerieux Vidas
	ng/dl	1.78	1.33	2.23	0.23	0.45	
	pg/ml	17.8	13.3	22.3	2.25	4.50	BioMerieux Vidas
	pmol/l	22.5	16.9	28.1	2.80	5.60	Siemens Immulite 1000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Siemens Immulite 1000
	pmol/l	38.4	28.8	48.0	4.80	9.60	Vitros ECi
	ng/dl	3.00	2.25	3.75	0.38	0.75	
	pg/ml	30.0	22.5	37.5	3.75	7.50	Vitros ECi

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	23.3	17.5	29.1	2.90	5.80	Roche Elecsys
	ng/dl	1.82	1.37	2.27	0.23	0.45	
	pg/ml	18.2	13.7	22.7	2.25	4.50	Roche Elecsys
	pmol/l	22.6	16.9	28.3	2.85	5.70	Roche Modular E170
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Modular E170
	pmol/l	22.0	16.5	27.5	2.75	5.50	Roche Cobas E411
	ng/dl	1.72	1.29	2.15	0.22	0.43	
	pg/ml	17.2	12.9	21.5	2.15	4.30	Roche Cobas E411
	pmol/l	22.7	17.0	28.4	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.77	1.33	2.21	0.22	0.44	
	pg/ml	17.7	13.3	22.1	2.20	4.40	Roche Cobas 6000/8000
Gentamicin	µmol/l	7.64	6.11	9.17	0.77	1.53	Immunoturbidimetric
	µg/ml	3.65	2.92	4.38	0.37	0.73	
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	37	32	42	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	29	25	33	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	60	51	69	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	41	35	47	3.00	6.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	32	28	36	2.00	4.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	25	22	28	1.50	3.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	50	43	57	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	34	44	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	53	45	61	4.00	8.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	42	35	49	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	33	28	38	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	5.87	4.99	6.75	0.44	0.88	Ortho Vitros Microslide Systems
	mg/dl	106	89.9	122	8.05	16.10	
	mmol/l	6.07	5.16	6.98	0.46	0.91	Glucose dehydrogenase
	mg/dl	109	93.0	125	8.00	16.00	
	mmol/l	6.11	5.19	7.03	0.46	0.92	Hexokinase
	mg/dl	110	93.5	127	8.25	16.50	
	mmol/l	6.01	5.10	6.92	0.46	0.91	Oxygen electrode
	mg/dl	108	91.9	124	8.05	16.10	
	mmol/l	6.20	5.27	7.13	0.47	0.93	Glucose oxidase
	mg/dl	112	95.0	129	8.50	17.00	
alpha-HBDH	U/l	233	184	282	24.50	49.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	176	139	213	18.50	37.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	132	104	160	14.00	28.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	1.35	1.15	1.55	0.10	0.20	Direct HDL PPD
	mg/dl	52.1	44.4	59.8	3.85	7.70	
	mmol/l	1.18	1.00	1.36	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	45.5	38.6	52.4	3.45	6.90	
	mmol/l	1.22	1.04	1.40	0.09	0.18	Vitros Magnetic HDL
	mg/dl	47.1	40.1	54.1	3.50	7.00	
	mmol/l	1.17	1.00	1.34	0.09	0.17	Direct HDL PEGME
	mg/dl	45.2	38.5	51.9	3.35	6.70	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct Clearance Method
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.22	1.03	1.41	0.10	0.19	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	47.1	39.8	54.4	3.65	7.30	
	mmol/l	1.16	0.99	1.33	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	44.8	38.2	51.4	3.30	6.60	
	mmol/l	1.31	1.11	1.51	0.10	0.20	HDL - Ultra
	mg/dl	50.6	42.8	58.4	3.90	7.80	
Immunoglobulin A	g/l	1.92	1.44	2.40	0.24	0.48	Immunoturbidimetric
	mg/dl	192	144	240	24.00	48.00	
Immunoglobulin G	g/l	6.47	5.31	7.63	0.58	1.16	Immunoturbidimetric
	mg/dl	647	531	763	58.00	116.00	
Immunoglobulin M	g/l	0.71	0.56	0.85	0.07	0.14	Immunoturbidimetric
	mg/dl	70.5	56.4	84.6	7.05	14.10	
Iron	µmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric with ppt.
	µg/dl	98.9	81.1	117	8.90	17.80	
	µmol/l	17.6	14.5	20.7	1.55	3.10	Colorimetric without ppt.
	µg/dl	98.4	81.1	116	8.65	17.30	
	µmol/l	18.0	14.8	21.2	1.60	3.20	Ortho Vitros Microslide Systems
	µg/dl	101	82.7	119	9.15	18.30	
Lactate	mmol/l	1.83	1.50	2.16	0.17	0.33	Ion selective electrode
	mg/dl	16.5	13.5	19.5	1.50	3.00	
	mmol/l	1.66	1.36	1.96	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.0	12.3	17.7	1.35	2.70	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.49	1.22	1.76	0.14	0.27	Ortho Vitros Microslide Systems
	mg/dl	13.4	11.0	15.8	1.20	2.40	
	mmol/l	1.37	1.13	1.61	0.12	0.24	UV LDH
	mg/dl	12.3	10.2	14.4	1.05	2.10	
LAP	U/l	17	14	20	1.50	3.00	NAGEL 37°C
LD (LDH)	U/l	593	504	682	44.50	89.00	Ortho Vitros Microslide Systems 37°C
	U/l	182	155	209	13.50	27.00	L->P 37°C
	U/l	131	112	150	9.50	19.00	L->P 30°C
	U/l	92	79	105	6.50	13.00	L->P 25°C
	U/l	442	376	508	33.00	66.00	P->L Scandinavian & Dutch 37°C
	U/l	319	271	367	24.00	48.00	P->L Scandinavian & Dutch 30°C
	U/l	224	191	257	16.50	33.00	P->L Scandinavian & Dutch 25°C
	U/l	403	343	463	30.00	60.00	P->L German methods 37°C
	U/l	291	248	334	21.50	43.00	P->L German methods 30°C
	U/l	204	174	234	15.00	30.00	P->L German methods 25°C
	U/l	402	342	462	30.00	60.00	P->L SFBC 37°C
	U/l	290	247	333	21.50	43.00	P->L SFBC 30°C
	U/l	204	173	235	15.50	31.00	P->L SFBC 25°C
	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
Lipase	U/l	35	28	42	3.50	7.00	Other Colorimetric 37°C
	U/l	227	182	272	22.50	45.00	Ortho Vitros Microslide Systems 37°C
	U/l	32	26	38	3.00	6.00	Roche Colorimetric 37°C
	U/l	167	134	200	16.50	33.00	Randox Turbidimetric with colipase 37°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	37	30	44	3.50	7.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.23	1.08	1.38	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.854	0.750	0.958	0.05	0.10	
	mmol/l	0.99	0.87	1.11	0.06	0.12	Ion selective electrode
	mg/dl	0.687	0.604	0.770	0.04	0.08	
	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
	mg/dl	0.708	0.626	0.790	0.04	0.08	
	mmol/l	1.07	0.94	1.20	0.06	0.13	Randox Colorimetric
	mg/dl	0.743	0.654	0.832	0.04	0.09	
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Arsenazo III
	mg/dl	2.20	1.93	2.47	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.20	1.94	2.46	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Calmagite
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.93	0.81	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Methylthymol blue
	mg/dl	2.18	1.92	2.44	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
	mmol/l	0.89	0.79	1.00	0.05	0.11	Enzymatic
	mg/dl	2.17	1.91	2.43	0.13	0.26	
NEFA	mmol/l	1.99	1.69	2.29	0.15	0.30	Colorimetric
Osmolality	mOsm/kg	289	231	347	29.00	58.00	Calculated

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	301	240	362	30.50	61.00	Freezing point depression
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	1.51	1.28	1.74	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	4.68	3.97	5.39	0.36	0.71	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	Ortho Vitros Microslide Systems
	mmol/l	4.12	3.79	4.45	0.17	0.33	Enzymatic
	mmol/l	3.96	3.64	4.28	0.16	0.32	Flame photometry
	mmol/l	3.89	3.58	4.20	0.16	0.31	ISE method - direct
	mmol/l	3.95	3.63	4.27	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.1	46.4	69.8	5.85	11.70	Ortho Vitros Microslide Systems
	g/dl	5.81	4.64	6.98	0.59	1.17	
	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction end point
	g/dl	5.84	4.67	7.01	0.59	1.17	
	g/l	57.6	46.1	69.1	5.75	11.50	Biuret reaction kinetic
	g/dl	5.76	4.61	6.91	0.58	1.15	
PSA Total	ng/ml =	9.88	7.41	12.4	1.24	2.47	Tosoh AIA360
	ng/ml =	12.4	9.33	15.5	1.54	3.07	Siemens Immulite 1000
	ng/ml =	16.3	12.2	20.4	2.05	4.10	Roche Elecsys Modular E170
	ng/ml =	15.7	11.8	19.6	1.95	3.90	Beckman Access standardised to Hybritech
	ng/ml =	14.4	10.8	18.0	1.80	3.60	bioMerieux VIDAS TPSA

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	12.3	9.26	15.3	1.52	3.04	Siemens Centaur XP/XPT/Classic
	ng/ml =	13.3	9.99	16.6	1.66	3.31	Abbott Architect
	ng/ml =	16.5	12.4	20.6	2.05	4.10	Cobas E411
	ng/ml =	17.1	12.8	21.4	2.15	4.30	Roche Cobas 6000/8000
Salicylate	mmol/l	0.46	0.36	0.55	0.05	0.09	Enzymatic
	mg/dl	6.28	5.02	7.54	0.63	1.26	
Sodium	mmol/l	141	134	148	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	140	133	147	3.50	7.00	Enzymatic
	mmol/l	140	133	147	3.50	7.00	Flame photometry
	mmol/l	140	133	147	3.50	7.00	ISE method - direct
	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Theophylline	µmol/l	27.0	21.6	32.4	2.70	5.40	Immunoturbidimetric
	µg/ml	4.87	3.89	5.85	0.49	0.98	
Thyroid Stimulating Hormone	µU/ml =	1.15	0.92	1.38	0.11	0.23	Abbott Architect
	µU/ml =	1.36	1.09	1.63	0.14	0.27	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.44	1.15	1.73	0.15	0.29	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.47	1.18	1.76	0.15	0.29	bioMerieux VIDAS TSH
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Siemens Immulite 1000
	µU/ml =	1.35	1.08	1.62	0.14	0.27	Vitros ECi
	µU/ml =	1.51	1.21	1.81	0.15	0.30	Roche Elecsys
	µU/ml =	1.56	1.24	1.88	0.16	0.32	Roche Modular E170
	µU/ml =	1.23	0.98	1.48	0.12	0.25	Tosoh AIA360
	µU/ml =	1.54	1.23	1.85	0.16	0.31	Roche Cobas E411
	µU/ml =	1.57	1.26	1.88	0.16	0.31	Roche Cobas 6000/8000
	µU/ml =	1.44	1.15	1.73	0.15	0.29	Beckman DxI800 Hyper TSH

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Thyroid Stimulating Hormone	µU/ml =	1.28	1.02	1.54	0.13	0.26	Siemens Centaur XP/XPT/Classic TSH3-Ultra
TIBC	µmol/l	48.3	38.2	58.4	5.05	10.10	Ortho Vitros Microslide Systems
	µg/dl	270	214	326	28.00	56.00	
	µmol/l	45.2	35.7	54.7	4.75	9.50	Removal of excess free iron
	µg/dl	253	200	306	26.50	53.00	
	µmol/l	45.1	35.7	54.5	4.70	9.40	FE+UIBC(saturation with iron)
	µg/dl	252	200	304	26.00	52.00	
	µmol/l	46.2	36.5	55.9	4.85	9.70	Direct Colorimetric
	µg/dl	258	204	312	27.00	54.00	
	µmol/l	52.5	41.5	63.5	5.50	11.00	Randox Direct
	µg/dl	293	232	354	30.50	61.00	
Tobramycin	µmol/l	5.86	4.69	7.03	0.59	1.17	Immunoturbidimetric
	µg/ml	2.74	2.19	3.29	0.28	0.55	
Total T3	nmol/l	2.49	1.86	3.12	0.32	0.63	Abbott Architect
	ng/ml	1.62	1.21	2.03	0.21	0.41	
	ng/dl	162	121	203	20.50	41.00	Abbott Architect
	nmol/l	2.97	2.23	3.71	0.37	0.74	Siemens Centaur XP/XPT/Classic
	ng/ml	1.93	1.45	2.41	0.24	0.48	
	ng/dl	193	145	241	24.00	48.00	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	3.30	2.48	4.12	0.41	0.82	Vitros ECi
	ng/ml	2.15	1.61	2.69	0.27	0.54	
	ng/dl	215	161	269	27.00	54.00	Vitros ECi

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	2.72	2.04	3.40	0.34	0.68	Roche Cobas E411
	ng/ml	1.77	1.33	2.21	0.22	0.44	
	ng/dl	177	133	221	22.00	44.00	Roche Cobas E411
	nmol/l	2.80	2.10	3.50	0.35	0.70	Roche Cobas 6000/8000
	ng/ml	1.82	1.37	2.27	0.23	0.45	
	ng/dl	182	137	227	22.50	45.00	Roche Cobas 6000/8000
Total T4	nmol/l	90.0	67.5	113	11.25	22.50	Abbott Architect
	µg/dl	7.02	5.27	8.77	0.88	1.75	
	ng/ml	70.2	52.7	87.7	8.75	17.50	Abbott Architect
	nmol/l	96.4	72.3	121	12.05	24.10	Siemens Centaur XP/XPT/Classic
	µg/dl	7.52	5.64	9.40	0.94	1.88	
	ng/ml	75.2	56.4	94.0	9.40	18.80	Siemens Centaur XP/XPT/Classic
	nmol/l	84.0	63.0	105	10.50	21.00	BioMerieux Vidas
	µg/dl	6.55	4.91	8.19	0.82	1.64	
	ng/ml	65.5	49.1	81.9	8.20	16.40	BioMerieux Vidas
	nmol/l	84.7	63.5	106	10.60	21.20	Siemens Immulite 1000
	µg/dl	6.61	4.95	8.27	0.83	1.66	
	ng/ml	66.1	49.5	82.7	8.30	16.60	Siemens Immulite 1000
	nmol/l	88.3	66.2	110	11.05	22.10	Roche Modular E170
	µg/dl	6.89	5.16	8.62	0.87	1.73	
	ng/ml	68.9	51.6	86.2	8.65	17.30	Roche Modular E170
	nmol/l	90.1	67.5	113	11.30	22.60	Roche Cobas E411
	µg/dl	7.03	5.27	8.79	0.88	1.76	
	ng/ml	70.3	52.7	87.9	8.80	17.60	Roche Cobas E411
	nmol/l	89.4	67.0	112	11.20	22.40	Roche Cobas 6000/8000
	µg/dl	6.97	5.23	8.71	0.87	1.74	
	ng/ml	69.7	52.3	87.1	8.70	17.40	Roche Cobas 6000/8000

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Transferrin	g/l	1.95	1.56	2.34	0.20	0.39	Immunoturbidimetric
	mg/dl	195	156	234	19.50	39.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.6	111	7.50	15.00	
	mmol/l	1.08	0.91	1.26	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	80.1	111	7.75	15.50	
	mmol/l	1.09	0.92	1.26	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
	mmol/l	1.09	0.91	1.27	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	96.5	80.9	112	7.80	15.60	
	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	79.8	110	7.45	14.90	
	mmol/l	1.24	1.04	1.44	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	110	92.0	128	9.00	18.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.54	4.82	6.26	0.36	0.72	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.78	5.04	6.52	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.68	4.94	6.42	0.37	0.74	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	5.07	6.59	0.38	0.76	
Urea	mmol/l	6.76	5.75	7.77	0.51	1.01	Ortho Vitros Microslide Systems
	mg/dl	40.6	34.6	46.6	3.00	6.00	
	mmol/l	7.30	6.21	8.39	0.55	1.09	Urease end point
	mg/dl	43.9	37.3	50.5	3.30	6.60	
	mmol/l	7.23	6.15	8.31	0.54	1.08	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.46	6.34	8.58	0.56	1.12	Urease hypochlorite
	mg/dl	44.8	38.1	51.5	3.35	6.70	
	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease Berthelot
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.23	6.15	8.31	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Vitamin B12	pmol/l	413	330	496	41.50	83.00	Roche Cobas E411
	pg/ml	560	447	673	56.50	113.00	
Zinc	µmol/l	27.1	21.7	32.5	2.70	5.40	Atomic absorption
	µg/dl	177	142	212	17.50	35.00	
	µmol/l	27.8	22.2	33.4	2.80	5.60	Colorimetric with deproteinisation
	µg/dl	182	145	219	18.50	37.00	

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RANDOX

MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-1-globulin		5.7	4.3	7.1	0.69	1.37	% of total Protein (Beckman Capillary)
alpha-2-globulin		5.9	4.5	7.3	0.71	1.42	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		68.9	62.1	75.7	3.40	6.80	% of total Protein (Beckman Capillary)
beta-globulin		9.0	6.8	11.2	1.08	2.16	% of total Protein (Beckman Capillary)
gamma-globulin		10.5	8.0	13.0	1.26	2.52	% of total Protein (Beckman Capillary)

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RANDOX

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.4	36.0	48.8	3.20	6.40	Bromocresol Green
	g/dl	4.24	3.60	4.88	0.32	0.64	
Alkaline Phosphatase	U/l	173	147	199	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	135	115	155	10.00	20.00	AMP optimised to IFCC 30°C
	U/l	111	94	128	8.50	17.00	AMP optimised to IFCC 25°C
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
Amylase Total	U/l	91	78	104	6.50	13.00	pNP Maltotrioside substrates 37°C
AST (GOT)	U/l	42	33	51	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	16	24	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	30.1	23.8	36.4	3.15	6.30	Oxidation to Biliverdin
	mg/dl	1.76	1.39	2.13	0.19	0.37	
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	2.39	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	3.89	3.38	4.40	0.26	0.51	Cholesterol Oxidase
	mg/dl	150	130	170	10.00	20.00	
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

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	117	93.9	140	11.55	23.10	Alkaline picrate with deproteinization
	mg/dl	1.32	1.06	1.58	0.13	0.26	
	µmol/l	116	93.0	139	11.50	23.00	Alkaline picrate no deproteinization
	mg/dl	1.31	1.05	1.57	0.13	0.26	
	µmol/l	113	90.3	136	11.35	22.70	Randox Enzymatic UV method
	mg/dl	1.28	1.02	1.54	0.13	0.26	
gamma-GT	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.38	5.42	7.34	0.48	0.96	Glucose oxidase
	mg/dl	115	97.7	132	8.65	17.30	
HDL - Cholesterol	mmol/l	1.25	1.06	1.44	0.10	0.19	Direct Clearance Method
	mg/dl	48.3	40.9	55.7	3.70	7.40	
Iron	µmol/l	18.4	15.1	21.7	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	84.4	122	9.30	18.60	
LD (LDH)	U/l	437	371	503	33.00	66.00	P->L German methods 37°C
	U/l	316	268	364	24.00	48.00	P->L German methods 30°C
	U/l	222	188	256	17.00	34.00	P->L German methods 25°C
	U/l	400	340	460	30.00	60.00	P->L SFBC 37°C
	U/l	289	245	333	22.00	44.00	P->L SFBC 30°C
	U/l	203	172	234	15.50	31.00	P->L SFBC 25°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	1.53	1.30	1.76	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.74	4.03	5.45	0.36	0.71	
Potassium	mmol/l	3.85	3.54	4.16	0.16	0.31	ISE method - indirect
Protein Total	g/l	60.8	48.7	72.9	6.05	12.10	Biuret reaction end point
	g/dl	6.08	4.87	7.29	0.61	1.21	
Sodium	mmol/l	141	134	148	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	83.1	115	8.00	16.00	
Uric Acid (Urate)	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.18	5.38	6.98	0.40	0.80	
	mmol/l	0.37	0.32	0.42	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.20	5.39	7.01	0.41	0.81	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease end point
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.62	6.48	8.76	0.57	1.14	Urease kinetic
	mg/dl	45.8	38.9	52.7	3.45	6.90	
	mmol/l	7.11	6.04	8.18	0.54	1.07	Urease hypochlorite
	mg/dl	42.7	36.3	49.1	3.20	6.40	
	mmol/l	7.62	6.48	8.76	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.0	34.9	47.1	3.05	6.10	Bromocresol Green
	g/dl	4.10	3.49	4.71	0.31	0.61	
Alkaline Phosphatase	U/l	269	228	310	20.50	41.00	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
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 30°C
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.02	0.807	1.23	0.11	0.21	
Bilirubin Total	µmol/l	24.7	19.5	29.9	2.60	5.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
Calcium	mmol/l	2.32	2.08	2.56	0.12	0.24	Arsenazo III
	mg/dl	9.30	8.34	10.3	0.48	0.96	
Cholesterol	mmol/l	3.95	3.44	4.46	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	133	171	9.50	19.00	
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	130	106	154	12.00	24.00	CK-NAC (IFCC) 30°C
	U/l	88	72	104	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Creatinine PAP method
	mg/dl	1.45	1.15	1.75	0.15	0.30	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
Glucose	mmol/l	6.48	5.51	7.45	0.49	0.97	Glucose oxidase
	mg/dl	117	99.3	135	8.85	17.70	
HDL - Cholesterol	mmol/l	1.14	0.97	1.31	0.09	0.17	Direct HDL Immunoseparation
	mg/dl	44.0	37.3	50.7	3.35	6.70	
LD (LDH)	U/l	370	315	425	27.50	55.00	P->L German methods 37°C
	U/l	267	227	307	20.00	40.00	P->L German methods 30°C
	U/l	188	160	216	14.00	28.00	P->L German methods 25°C
Phosphate Inorganic	mmol/l	1.45	1.24	1.66	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.50	3.84	5.16	0.33	0.66	
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	
Triglycerides	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.5	109	7.65	15.30	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.54	4.82	6.26	0.36	0.72	
Urea	mmol/l	7.27	6.18	8.36	0.55	1.09	Urease kinetic
	mg/dl	43.7	37.1	50.3	3.30	6.60	
	mmol/l	7.27	6.18	8.36	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	

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RANDOX

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.6	36.2	49.0	3.20	6.40	Bromocresol Green
	g/dl	4.26	3.62	4.90	0.32	0.64	
	g/l	42.4	36.0	48.8	3.20	6.40	Bromocresol Purple
	g/dl	4.24	3.60	4.88	0.32	0.64	
	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	132	112	152	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	103	87	119	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	84	72	96	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 Pancreatic	U/l	68	58	78	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	90	77	103	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	90	77	103	6.50	13.00	Roche liquid stable pNPG7 37°C
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
Bile Acids	µmol/l	25.6	20.5	30.7	2.55	5.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	12.2	9.66	14.7	1.27	2.54	Colorimetric
	mmol/l	12.5	9.91	15.1	1.30	2.59	Enzymatic

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	18.2	14.4	22.0	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.06	0.842	1.28	0.11	0.22	
	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	17.3	13.6	21.0	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.01	0.796	1.22	0.11	0.21	
Bilirubin Total	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.48	1.17	1.79	0.16	0.31	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.48	1.17	1.79	0.16	0.31	
	µmol/l	25.1	19.9	30.3	2.60	5.20	Diazonium ion
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	mmol/l	2.40	2.16	2.64	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.62	8.66	10.6	0.48	0.96	
	mmol/l	2.39	2.15	2.63	0.12	0.24	NM-BAPTA
	mg/dl	9.58	8.62	10.5	0.48	0.96	
Cholesterol	mmol/l	3.92	3.41	4.43	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	132	170	9.50	19.00	
Chloride	mmol/l	90.3	83.1	97.5	3.60	7.20	ISE indirect
Cholinesterase	U/l	5519	4415	6623	552.00	1104.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	208	171	245	18.50	37.00	CK-NAC substrate start (DGKC) 37°C
	U/l	130	107	153	11.50	23.00	CK-NAC substrate start (DGKC) 30°C
	U/l	88	73	103	7.50	15.00	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

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	125	99.8	150	12.60	25.20	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	125	99.7	150	12.65	25.30	Randox Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.42	1.14	1.70	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	
	µmol/l	124	99.2	149	12.40	24.80	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	120	96.2	144	11.90	23.80	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.36	1.09	1.63	0.14	0.27	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	22.7	17.0	28.4	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.77	1.33	2.21	0.22	0.44	
	pg/ml	17.7	13.3	22.1	2.20	4.40	Roche Cobas 6000/8000
gamma-GT	U/l	44	38	50	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.08	5.17	6.99	0.46	0.91	Hexokinase
	mg/dl	110	93.2	127	8.40	16.80	
HDL - Cholesterol	mmol/l	1.16	0.99	1.33	0.09	0.17	Direct HDL PEGME
	mg/dl	44.8	38.2	51.4	3.30	6.60	
	mmol/l	1.16	0.99	1.34	0.09	0.18	Direct HDL Roche 3rd generation
	mg/dl	44.8	38.0	51.6	3.40	6.80	
Iron	µmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric with ppt.
	µg/dl	98.9	81.1	117	8.90	17.80	
	µmol/l	17.7	14.5	20.9	1.60	3.20	Colorimetric without ppt.
	µg/dl	98.9	81.1	117	8.90	17.80	
Lactate	mmol/l	1.68	1.38	1.98	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.1	12.4	17.8	1.35	2.70	
LD (LDH)	U/l	397	337	457	30.00	60.00	P->L German methods 37°C
	U/l	287	243	331	22.00	44.00	P->L German methods 30°C
	U/l	201	171	231	15.00	30.00	P->L German methods 25°C
	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
	U/l	144	123	165	10.50	21.00	L->P IFCC 30°C
	U/l	101	86	116	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	32	25	39	3.50	7.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Spectrophotometric
	mg/dl	0.715	0.628	0.802	0.04	0.09	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.92	0.81	1.04	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.25	1.98	2.52	0.14	0.27	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	287	229	345	29.00	58.00	Calculated
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.34	3.69	4.99	0.33	0.65	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.1	46.4	69.8	5.85	11.70	Biuret reaction end point
	g/dl	5.81	4.64	6.98	0.59	1.17	
	g/l	57.7	46.2	69.2	5.75	11.50	Biuret reaction kinetic
	g/dl	5.77	4.62	6.92	0.58	1.15	
PSA Total	ng/ml =	17.1	12.8	21.4	2.15	4.30	Roche Cobas 6000/8000
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.57	1.26	1.88	0.16	0.31	Roche Cobas 6000/8000
TIBC	µmol/l	43.6	34.5	52.7	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	244	193	295	25.50	51.00	
	µmol/l	44.1	34.8	53.4	4.65	9.30	Direct Colorimetric
	µg/dl	247	195	299	26.00	52.00	
Total T3	nmol/l	2.80	2.10	3.50	0.35	0.70	Roche Cobas 6000/8000
	ng/ml	1.82	1.37	2.27	0.23	0.45	
	ng/dl	182	137	227	22.50	45.00	Roche Cobas 6000/8000
Total T4	nmol/l	89.4	67.0	112	11.20	22.40	Roche Cobas 6000/8000
	µg/dl	6.97	5.23	8.71	0.87	1.74	
	ng/ml	69.7	52.3	87.1	8.70	17.40	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.3	111	7.65	15.30	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.08	0.90	1.26	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	80.0	111	7.80	15.60	
	mmol/l	1.08	0.91	1.25	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	95.6	80.2	111	7.70	15.40	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	4.91	6.35	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.66	4.92	6.40	0.37	0.74	
Urea	mmol/l	7.18	6.11	8.25	0.54	1.07	Urease kinetic
	mg/dl	43.2	36.7	49.7	3.25	6.50	
	mmol/l	7.18	6.10	8.26	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
Alkaline Phosphatase	U/l	129	109	149	10.00	20.00	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	34	28	40	3.00	6.00	Tris buffer without P5P 37°C
	U/l	25	21	29	2.00	4.00	Tris buffer without P5P 30°C
	U/l	19	16	22	1.50	3.00	Tris buffer without P5P 25°C
Amylase Total	U/l	93	79	107	7.00	14.00	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	17.8	14.1	21.5	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.04	0.825	1.26	0.11	0.22	
	µmol/l	18.3	14.5	22.1	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.07	0.848	1.29	0.11	0.22	
Bilirubin Total	µmol/l	26.0	20.5	31.5	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	25.2	19.9	30.5	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	µmol/l	26.3	20.8	31.8	2.75	5.50	Diazonium ion
	mg/dl	1.54	1.22	1.86	0.16	0.32	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.33	2.10	2.56	0.12	0.23	Cresolphthalein complexone
	mg/dl	9.34	8.42	10.3	0.46	0.92	
	mmol/l	2.18	1.97	2.39	0.11	0.21	Arsenazo III
	mg/dl	8.74	7.90	9.58	0.42	0.84	
	mmol/l	2.42	2.17	2.67	0.13	0.25	NM-BAPTA
	mg/dl	9.70	8.70	10.7	0.50	1.00	
Cholesterol	mmol/l	4.00	3.48	4.52	0.26	0.52	Cholesterol Oxidase
	mg/dl	154	134	174	10.00	20.00	
Chloride	mmol/l	97.0	89.3	105	3.85	7.70	ISE indirect
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	117	93.2	141	11.90	23.80	Alkaline picrate with deproteinization
	mg/dl	1.32	1.05	1.59	0.14	0.27	
	µmol/l	116	93.1	139	11.45	22.90	Alkaline picrate no deproteinization
	mg/dl	1.31	1.05	1.57	0.13	0.26	
	µmol/l	122	97.6	146	12.20	24.40	Roche Creatinine Plus
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	114	91.4	137	11.30	22.60	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.29	1.03	1.55	0.13	0.26	
gamma-GT	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Hexokinase
	mg/dl	112	94.8	129	8.60	17.20	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.11	5.20	7.02	0.46	0.91	Glucose oxidase
	mg/dl	110	93.7	126	8.15	16.30	
HDL - Cholesterol	mmol/l	1.14	0.97	1.31	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	44.0	37.3	50.7	3.35	6.70	
LD (LDH)	U/l	214	182	246	16.00	32.00	L->P IFCC 37°C
	U/l	155	131	179	12.00	24.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.23	1.96	2.50	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.97	2.49	0.13	0.26	
Phosphate Inorganic	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.5	46.8	70.2	5.85	11.70	Biuret reaction end point
	g/dl	5.85	4.68	7.02	0.59	1.17	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.2	112	7.65	15.30	
	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	93.8	78.8	109	7.50	15.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.73	4.99	6.47	0.37	0.74	
Urea	mmol/l	7.03	5.97	8.09	0.53	1.06	Urease kinetic
	mg/dl	42.3	35.9	48.7	3.20	6.40	
	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease hypochlorite
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	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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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.5	36.2	48.8	3.15	6.30	Bromocresol Green
	g/dl	4.25	3.62	4.88	0.32	0.63	
	g/l	42.8	36.3	49.3	3.25	6.50	Bromocresol Purple
	g/dl	4.28	3.63	4.93	0.33	0.65	
Alkaline Phosphatase	U/l	131	111	151	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	102	86	118	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	84	71	97	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	92	78	106	7.00	14.00	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
Bicarbonate	mmol/l	12.7	10.0	15.4	1.35	2.70	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	18.8	14.9	22.7	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.10	0.872	1.33	0.11	0.23	
	µmol/l	18.4	14.5	22.3	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.848	1.31	0.12	0.23	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Bilirubin Total	µmol/l	25.4	20.1	30.7	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.49	1.18	1.80	0.16	0.31	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.48	1.17	1.79	0.16	0.31	
	µmol/l	25.1	19.8	30.4	2.65	5.30	Diazonium ion
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	mmol/l	2.37	2.13	2.61	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.50	8.54	10.5	0.48	0.96	
	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	
	mmol/l	2.40	2.16	2.64	0.12	0.24	NM-BAPTA
	mg/dl	9.62	8.66	10.6	0.48	0.96	
Cholesterol	mmol/l	3.93	3.42	4.44	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	132	172	10.00	20.00	
Chloride	mmol/l	90.8	83.5	98.1	3.65	7.30	ISE indirect
Cholinesterase	U/l	5519	4415	6623	552.00	1104.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC substrate start (DGKC) 37°C
	U/l	133	109	157	12.00	24.00	CK-NAC substrate start (DGKC) 30°C
	U/l	90	74	106	8.00	16.00	CK-NAC substrate start (DGKC) 25°C
	U/l	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	127	101	153	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	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	

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Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	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	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	127	101	153	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	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	50	43	57	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	34	44	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.09	5.18	7.00	0.46	0.91	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
	mmol/l	6.03	5.13	6.93	0.45	0.90	Glucose oxidase
	mg/dl	109	92.4	126	8.30	16.60	
HDL - Cholesterol	mmol/l	1.14	0.97	1.31	0.08	0.17	Direct HDL Roche 3rd generation
	mg/dl	44.0	37.5	50.5	3.25	6.50	
Iron	µmol/l	17.6	14.5	20.7	1.55	3.10	Colorimetric without ppt.
	µg/dl	98.4	81.1	116	8.65	17.30	
Lactate	mmol/l	1.70	1.39	2.01	0.16	0.31	Colorimetric Lactate Oxidase
	mg/dl	15.3	12.5	18.1	1.40	2.80	
LD (LDH)	U/l	396	336	456	30.00	60.00	P->L German methods 37°C
	U/l	286	243	329	21.50	43.00	P->L German methods 30°C
	U/l	201	170	232	15.50	31.00	P->L German methods 25°C

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Email: applications@randox.com Website: www.randox.com

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
	U/l	144	123	165	10.50	21.00	L->P IFCC 30°C
	U/l	101	86	116	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	32	25	39	3.50	7.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.97	2.49	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.2	46.6	69.8	5.80	11.60	Biuret reaction end point
	g/dl	5.82	4.66	6.98	0.58	1.16	
	g/l	58.2	46.6	69.8	5.80	11.60	Biuret reaction kinetic
	g/dl	5.82	4.66	6.98	0.58	1.16	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	43.6	34.5	52.7	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	244	193	295	25.50	51.00	
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	80.3	111	7.65	15.30	
	mmol/l	1.08	0.91	1.25	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	95.6	80.4	111	7.60	15.20	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	5.02	6.50	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	
Urea	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.28	6.19	8.37	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			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	114	97	131	8.50	17.00	Roche Integra AMP buffer 37°C
	U/l	89	76	102	6.50	13.00	Roche Integra AMP buffer 30°C
	U/l	73	62	84	5.50	11.00	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 Pancreatic	U/l	68	58	78	5.00	10.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	91	77	105	7.00	14.00	Roche liquid stable pNPG7 37°C
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	12.6	9.98	15.2	1.31	2.62	Enzymatic
Bilirubin Direct	µmol/l	18.0	14.3	21.7	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.837	1.26	0.11	0.21	
Bilirubin Total	µmol/l	24.5	19.3	29.7	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	24.1	19.1	29.1	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.41	1.12	1.70	0.15	0.29	
	µmol/l	24.3	19.2	29.4	2.55	5.10	Diazonium ion
	mg/dl	1.42	1.12	1.72	0.15	0.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.38	2.14	2.62	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.54	8.58	10.5	0.48	0.96	
	mmol/l	2.35	2.12	2.58	0.12	0.23	NM-BAPTA
	mg/dl	9.42	8.50	10.3	0.46	0.92	
Cholesterol	mmol/l	3.86	3.36	4.36	0.25	0.50	Cholesterol Oxidase
	mg/dl	149	130	168	9.50	19.00	
Chloride	mmol/l	90.5	83.3	97.7	3.60	7.20	ISE indirect
CK Total	U/l	191	156	226	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	104	156	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	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	
gamma-GT	U/l	45	38	52	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	23	33	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	50	42	58	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	33	45	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.05	5.14	6.96	0.46	0.91	Hexokinase
	mg/dl	109	92.6	125	8.20	16.40	
HDL - Cholesterol	mmol/l	1.13	0.96	1.30	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	43.6	37.0	50.2	3.30	6.60	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	17.2	14.1	20.3	1.55	3.10	Colorimetric without ppt.
	µg/dl	96.1	78.8	113	8.65	17.30	
Lactate	mmol/l	1.67	1.37	1.97	0.15	0.30	Colorimetric Lactate Oxidase
	mg/dl	15.0	12.3	17.7	1.35	2.70	
LD (LDH)	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
	U/l	144	123	165	10.50	21.00	L->P IFCC 30°C
	U/l	101	86	116	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	33	26	40	3.50	7.00	Roche 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	0.91	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	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	4.03	3.71	4.35	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.7	46.1	69.3	5.80	11.60	Biuret reaction end point
	g/dl	5.77	4.61	6.93	0.58	1.16	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	44.6	35.2	54.0	4.70	9.40	FE+UIBC(saturation with iron)
	µg/dl	249	197	301	26.00	52.00	
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.9	109	7.45	14.90	
	mmol/l	1.06	0.89	1.23	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	93.8	78.5	109	7.65	15.30	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.51	4.79	6.23	0.36	0.72	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.59	4.87	6.31	0.36	0.72	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.51	4.79	6.23	0.36	0.72	
Urea	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.1	34.9	47.3	3.10	6.20	Bromocresol Green
	g/dl	4.11	3.49	4.73	0.31	0.62	
Alkaline Phosphatase	U/l	305	259	351	23.00	46.00	Diethanolamine buffer DEA 37°C
	U/l	195	166	224	14.50	29.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	81	69	93	6.00	12.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	102	86	118	8.00	16.00	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	24.6	19.7	29.5	2.45	4.90	5th Generation Colorimetric
Bicarbonate	mmol/l	12.9	10.2	15.6	1.35	2.70	Enzymatic
Bilirubin Direct	µmol/l	20.2	16.0	24.4	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.18	0.936	1.42	0.12	0.24	
	µmol/l	17.6	13.9	21.3	1.85	3.70	Vanadate Oxidation
	mg/dl	1.03	0.813	1.25	0.11	0.22	
Bilirubin Total	µmol/l	31.3	24.7	37.9	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	µmol/l	29.8	23.5	36.1	3.15	6.30	Vanadate Oxidation
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Calcium	mmol/l	2.45	2.21	2.69	0.12	0.24	Arsenazo III
	mg/dl	9.82	8.86	10.8	0.48	0.96	
Cholesterol	mmol/l	3.95	3.44	4.46	0.26	0.51	Cholesterol Oxidase
	mg/dl	152	133	171	9.50	19.00	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	94.7	87.1	102	3.80	7.60	ISE direct
CK Total	U/l	196	161	231	17.50	35.00	CK-NAC substrate start (DGKC) 37°C
	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	121	96.5	146	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	119	95.2	143	11.90	23.80	Randox Enzymatic UV method
	mg/dl	1.34	1.08	1.60	0.13	0.26	
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.27	5.33	7.21	0.47	0.94	Hexokinase
	mg/dl	113	96.0	130	8.50	17.00	
	mmol/l	6.38	5.42	7.34	0.48	0.96	Glucose oxidase
	mg/dl	115	97.7	132	8.65	17.30	
Iron	µmol/l	17.9	14.7	21.1	1.60	3.20	Colorimetric without ppt.
	µg/dl	100	82.2	118	8.90	17.80	
Lactate	mmol/l	1.56	1.28	1.84	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.5	16.7	1.30	2.60	
LD (LDH)	U/l	424	360	488	32.00	64.00	P->L German methods 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	40	32	48	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.07	0.94	1.20	0.06	0.13	Colorimetric
	mg/dl	0.743	0.654	0.832	0.04	0.09	
Magnesium	mmol/l	0.96	0.84	1.07	0.06	0.12	Xylidyl Blue
	mg/dl	2.32	2.04	2.60	0.14	0.28	
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.43	3.78	5.08	0.33	0.65	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.12	3.79	4.45	0.17	0.33	Enzymatic
	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - direct
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	
Sodium	mmol/l	140	133	147	3.50	7.00	Enzymatic
	mmol/l	141	134	148	3.50	7.00	ISE method - direct
TIBC	µmol/l	52.5	41.5	63.5	5.50	11.00	Direct Colorimetric
	µg/dl	293	232	354	30.50	61.00	
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.8	113	7.80	15.60	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.56	4.84	6.28	0.36	0.72	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	5.12	6.64	0.38	0.76	
Urea	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	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	39.6	33.6	45.6	3.00	6.00	Bromocresol Green
	g/dl	3.96	3.36	4.56	0.30	0.60	
	g/l	42.8	36.4	49.2	3.20	6.40	Bromocresol Purple
	g/dl	4.28	3.64	4.92	0.32	0.64	
Alkaline Phosphatase	U/l	269	229	309	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	184	157	211	13.50	27.00	AMP optimised to IFCC 37°C
	U/l	179	152	206	13.50	27.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	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	25.8	20.7	30.9	2.55	5.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	14.8	11.7	17.9	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	18.3	14.4	22.2	1.95	3.90	Oxidation to Biliverdin
	mg/dl	1.07	0.842	1.30	0.11	0.23	
Bilirubin Total	µmol/l	29.2	23.1	35.3	3.05	6.10	Oxidation to Biliverdin
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Calcium	mmol/l	2.37	2.13	2.61	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.50	8.54	10.5	0.48	0.96	
	mmol/l	2.37	2.14	2.60	0.12	0.23	Arsenazo III
	mg/dl	9.50	8.58	10.4	0.46	0.92	
Cholesterol	mmol/l	3.79	3.29	4.29	0.25	0.50	Cholesterol Oxidase
	mg/dl	146	127	165	9.50	19.00	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	97.1	89.3	105	3.90	7.80	ISE indirect
Cholinesterase	U/l	5770	4616	6924	577.00	1154.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	198	162	234	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	115	92.0	138	11.50	23.00	Randox Enzymatic UV method
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	120	96.0	144	12.00	24.00	Jaffe rate blanked
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	122	97.9	146	12.05	24.10	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.38	1.11	1.65	0.14	0.27	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.94	5.05	6.83	0.45	0.89	Hexokinase
	mg/dl	107	91.0	123	8.00	16.00	
	mmol/l	6.15	5.23	7.07	0.46	0.92	Glucose oxidase
	mg/dl	111	94.2	128	8.40	16.80	
HDL - Cholesterol	mmol/l	1.01	0.86	1.16	0.07	0.15	Direct Clearance Method
	mg/dl	39.0	33.3	44.7	2.85	5.70	
Iron	µmol/l	17.8	14.6	21.0	1.60	3.20	Colorimetric without ppt.
	µg/dl	99.5	81.6	117	8.95	17.90	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	202	172	232	15.00	30.00	L->P 37°C
	U/l	412	350	474	31.00	62.00	P->L German methods 37°C

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	38	31	45	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.04	0.92	1.16	0.06	0.12	Spectrophotometric
	mg/dl	0.722	0.636	0.808	0.04	0.09	
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	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.2	46.5	69.9	5.85	11.70	Biuret reaction end point
	g/dl	5.82	4.65	6.99	0.59	1.17	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	µmol/l	46.8	37.0	56.6	4.90	9.80	FE+UIBC(saturation with iron)
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	48.9	38.6	59.2	5.15	10.30	Direct Colorimetric
	µg/dl	273	216	330	28.50	57.00	
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.4	115	7.85	15.70	
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	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	5.02	6.50	0.37	0.74	
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	

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	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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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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RANDOX

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Purple
	g/dl	4.33	3.68	4.98	0.33	0.65	
Alkaline Phosphatase	U/l	159	135	183	12.00	24.00	Siemens Dimension AMP buffer 37°C
	U/l	159	135	183	12.00	24.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	43	35	51	4.00	8.00	Tris buffer with P5P 37°C
	U/l	45	36	54	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	100	85	115	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	49	39	59	5.00	10.00	Tris buffer with P5P 37°C
	U/l	50	40	60	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	13.2	10.4	16.0	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	12.2	9.65	14.8	1.28	2.55	Diazo with Sulphanilic Acid
	mg/dl	0.714	0.565	0.863	0.07	0.15	
Bilirubin Total	µmol/l	27.3	21.6	33.0	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.26	1.94	0.17	0.34	
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	
Cholesterol	mmol/l	3.29	2.86	3.72	0.22	0.43	Dimension-Siemens reagents
	mg/dl	127	110	144	8.50	17.00	
Chloride	mmol/l	95.1	87.5	103	3.80	7.60	ISE indirect
CK Total	U/l	186	153	219	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	189	155	223	17.00	34.00	Dithioerythritol (DTE) IFCC correlated 37°C

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RANDOX

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	122	97.7	146	12.15	24.30	Randox Enzymatic UV method
	mg/dl	1.38	1.10	1.66	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	63	54	72	4.50	9.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.22	5.29	7.15	0.47	0.93	Hexokinase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.23	1.04	1.42	0.10	0.19	Direct HDL PEGME
	mg/dl	47.5	40.1	54.9	3.70	7.40	
Iron	µmol/l	16.6	13.6	19.6	1.50	3.00	Colorimetric without ppt.
	µg/dl	92.8	76.0	110	8.40	16.80	
Lactate	mmol/l	1.40	1.15	1.65	0.13	0.25	UV LDH
	mg/dl	12.6	10.4	14.8	1.10	2.20	
LD (LDH)	U/l	198	168	228	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	194	165	223	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	145	116	174	14.50	29.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.88	0.77	0.99	0.05	0.11	Methylthymol blue
	mg/dl	2.14	1.88	2.40	0.13	0.26	
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	3.88	3.57	4.19	0.16	0.31	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	142	135	149	3.50	7.00	ISE method - indirect

Randox Laboratories Ltd., 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom
Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
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RANDOX

Siemens Dimension EXL

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	78.6	109	7.60	15.20	
	mmol/l	1.02	0.86	1.18	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	90.3	75.9	105	7.20	14.40	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.75	4.99	6.51	0.38	0.76	
Urea	mmol/l	7.17	6.09	8.25	0.54	1.08	Urease kinetic
	mg/dl	43.1	36.6	49.6	3.25	6.50	
	mmol/l	7.17	6.09	8.25	0.54	1.08	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. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Green
	g/dl	4.33	3.68	4.98	0.33	0.65	
	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Purple
	g/dl	4.33	3.68	4.98	0.33	0.65	
Alkaline Phosphatase	U/l	158	135	181	11.50	23.00	Siemens Dimension AMP buffer 37°C
	U/l	162	138	186	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	163	139	187	12.00	24.00	Randox AMP 37°C
ALT (GPT)	U/l	46	37	55	4.50	9.00	Tris buffer with P5P 37°C
	U/l	47	38	56	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	101	86	116	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	100	85	115	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer with P5P 37°C
	U/l	51	40	62	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	11.9	9.44	14.4	1.23	2.46	Diazo with Sulphanilic Acid
	mg/dl	0.696	0.552	0.840	0.07	0.14	
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.28	1.94	0.17	0.33	
Calcium	mmol/l	2.27	2.05	2.49	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.10	8.22	9.98	0.44	0.88	
Cholesterol	mmol/l	3.32	2.88	3.76	0.22	0.44	Dimension-Siemens reagents
	mg/dl	128	111	145	8.50	17.00	

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Tel: +44 (0) 28 9442 2413 Fax: +44 (0) 28 9445 2912
Email: applications@randox.com Website: www.randox.com

RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	95.0	87.4	103	3.80	7.60	ISE indirect
CK Total	U/l	188	154	222	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	195	160	230	17.50	35.00	Dithioerythritol 37°C
Creatinine	µmol/l	133	106	160	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	µmol/l	121	97.2	145	11.90	23.80	Randox Enzymatic UV method
	mg/dl	1.37	1.10	1.64	0.14	0.27	
	µmol/l	130	104	156	13.00	26.00	Creatinine PAP method
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	133	107	159	13.00	26.00	Jaffe rate blanked
	mg/dl	1.50	1.21	1.79	0.15	0.29	
gamma-GT	U/l	56	47	65	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	64	54	74	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Hexokinase
	mg/dl	112	95.1	129	8.45	16.90	
HDL - Cholesterol	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct HDL PPD
	mg/dl	48.6	41.3	55.9	3.65	7.30	
	mmol/l	1.18	1.00	1.36	0.09	0.18	Direct HDL PEGME
	mg/dl	45.5	38.6	52.4	3.45	6.90	
	mmol/l	1.21	1.03	1.39	0.09	0.18	Direct Clearance Method
	mg/dl	46.7	39.8	53.6	3.45	6.90	
Iron	µmol/l	16.6	13.6	19.6	1.50	3.00	Colorimetric with ppt.
	µg/dl	92.8	76.0	110	8.40	16.80	
	µmol/l	16.6	13.6	19.6	1.50	3.00	Colorimetric without ppt.
	µg/dl	92.8	76.0	110	8.40	16.80	

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Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
LD (LDH)	U/l	197	168	226	14.50	29.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	195	166	224	14.50	29.00	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	0.90	0.79	1.01	0.05	0.11	Methylthymol blue
	mg/dl	2.18	1.92	2.44	0.13	0.26	
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.86	3.56	4.16	0.15	0.30	ISE method - indirect
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 - indirect
TIBC	µmol/l	42.7	33.7	51.7	4.50	9.00	Removal of excess free iron
	µg/dl	239	188	290	25.50	51.00	
Triglycerides	mmol/l	1.04	0.88	1.20	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	92.0	77.5	107	7.25	14.50	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.5	110	7.60	15.20	
	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	77.3	107	7.35	14.70	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.80	5.04	6.56	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.66	4.92	6.40	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.71	4.97	6.45	0.37	0.74	
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	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.06	6.00	8.12	0.53	1.06	Urease hypochlorite
	mg/dl	42.4	36.1	48.7	3.15	6.30	
	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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Siemens Dimension Vista

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1030UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-03

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	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	162	137	187	12.50	25.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	36	54	4.50	9.00	Tris buffer with P5P 37°C
Amylase Total	U/l	99	84	114	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	50	40	60	5.00	10.00	Tris buffer with P5P 37°C
Bilirubin Direct	µmol/l	12.7	10.1	15.3	1.30	2.60	Diazo with Sulphanilic Acid
	mg/dl	0.743	0.591	0.895	0.08	0.15	
Bilirubin Total	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.29	1.99	0.18	0.35	
Calcium	mmol/l	2.32	2.08	2.56	0.12	0.24	Cresolphthalein complexone
	mg/dl	9.30	8.34	10.3	0.48	0.96	
Cholesterol	mmol/l	3.33	2.89	3.77	0.22	0.44	Dimension-Siemens reagents
	mg/dl	129	112	146	8.50	17.00	
Chloride	mmol/l	99.4	91.4	107	4.00	8.00	ISE indirect
CK Total	U/l	186	153	219	16.50	33.00	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	132	106	158	13.00	26.00	IDMS traceable
	mg/dl	1.49	1.20	1.78	0.15	0.29	
gamma-GT	U/l	62	52	72	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	5.93	5.04	6.82	0.45	0.89	Hexokinase
	mg/dl	107	90.8	123	8.10	16.20	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.18	1.01	1.35	0.09	0.17	Direct HDL PEGME
	mg/dl	45.5	39.0	52.0	3.25	6.50	
LD (LDH)	U/l	199	169	229	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	151	121	181	15.00	30.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.10	Methylthymol blue
	mg/dl	2.10	1.85	2.35	0.13	0.25	
Phosphate Inorganic	mmol/l	1.36	1.15	1.57	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.22	3.57	4.87	0.33	0.65	
Potassium	mmol/l	3.83	3.52	4.14	0.16	0.31	ISE method - indirect
Protein Total	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction end point
	g/dl	5.88	4.70	7.06	0.59	1.18	
Sodium	mmol/l	141	133	149	4.00	8.00	ISE method - indirect
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	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.68	4.94	6.42	0.37	0.74	
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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