CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 800UE
SIZE: 20 x 5ml **EXPIRY:** 2018-01

INTENDED USE

For use as a Calibrator in clinical chemistry assays. RANDOX Calibration Sera are based on lyophilised human serum. The concentrations and activities are suitable for calibration of clinical chemistry assays on a wide range of automatic analysers. Constituent concentrations are available at 2 levels.

SAFETY PRECAUTIONS AND WARNINGS

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. For *in vitro* diagnostic use only.

STORAGE AND STABILITY

Unreconstituted serum is stable up to the expiry date shown on the side of each individual bottle. Once reconstituted, the components of the Calibration Sera are stable for 8 hours at +15°C to +25°C, 7 days at +2°C to +8°C, and 28 days at –20°C when frozen once (see limitations).

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

1. Open the vial carefully, avoiding any loss of material.
2. Reconstitute by pipetting exactly 5 ml of distilled water at +15°C to +25°C, into the vial.
3. Replace the rubber stopper and leave to stand for 30 minutes out of bright light before use.
4. Swirl gently several times during the reconstitution period to ensure that the contents are completely dissolved.
5. Prior to use, mix the contents by inverting the vial. Do not shake the vial as the formation of foam should be avoided. Ensure that no lyophilised material remains unreconstituted.
6. The serum is then ready for use with either a manual test or with an automated instrument.

MATERIALS PROVIDED

Calibration Serum - Level 3
Cat No. CAL 2351 20 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle.
For Total and Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25 µl - 30 µl) of 0.7M Acetic acid solution to 1 ml of the serum exactly 30 minutes after reconstitution. After stabilisation, Total & Prostatic Acid Phosphatase are 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 –20°C.
Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum be 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 1 day at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components. Different lot numbers of this calibrator should not be interchanged, as the values assigned to the calibrators vary from lot to lot.

VALUE ASSIGNMENT

Each batch of serum is distributed to approximately 3000 laboratories worldwide and values are assigned by a consensus of results obtained by these laboratories. The Calibration values for each instrument have been determined in at least 10 independent laboratories. Values are verified against a master lot of calibrator, which is traceable to reference methods or reference materials. In some cases values may be assigned at Randox Laboratories in comparison to a master lot of calibrator, which is traceable to reference methods or reference materials.

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

® All trademarks recognised.

(1) Values established by reference laboratories officially recognised by the Federal Chamber of Physicians in Germany.
(2) DGKC: German Society for Clinical Chemistry.
(3) IFCC: International Federation of Clinical Chemistry.
(4) SCE: Scandinavian Committee on Enzymes.

01 Feb '16 ne

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABBOTT AEROSET® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.3	Bromocresol Green
	g/dl	2.83	
ALT (GPT)	U/l	143	Tris buffer without P5P 37°C
AST (GOT)	U/l	151	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	
Bilirubin Total	µmol/l	83.0	Diazo with Dichloroaniline (DCA)
	mg/dl	4.85	
	µmol/l	82.1	Diazo with Sulphanilic Acid
	mg/dl	4.80	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	113	ISE direct
Cholesterol	mmol/l	7.16	Cholesterol Oxidase
	mg/dl	276	
Creatinine	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	37.2	Colorimetric without ppt.
	µg/dl	208	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	5.93	ISE method - direct
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	18.5	Urease hypochlorite
	mg/dl	111	
	mmol/l	19.2	BUN
	mg/dl	53.9	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABBOTT AEROSET® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
	g/l	26.8	Bromocresol Purple
	g/dl	2.68	
Alkaline Phosphatase	U/l	323	AMP optimised to IFCC 37°C
	U/l	320	AMP optimised to NVKC/SFBC 37°C
	U/l	322	AMP non-optimised 37°C
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	262	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	316	Abbott Architect Non-IFCC Cal. 37°C
	U/l	358	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	159	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.7	Enzymatic
Bile Acids	µmol/l	45.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.0	Diazo with Sulphanilic Acid
	mg/dl	1.58	
	µmol/l	26.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.55	
Bilirubin Total	µmol/l	87.7	Diazo with Dichloroaniline (DCA)
	mg/dl	5.13	
	µmol/l	87.8	Diazo with Sulphanilic Acid
	mg/dl	5.13	
	µmol/l	88.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.20	
	µmol/l	89.5	Diazonium ion
	mg/dl	5.23	
Calcium	mmol/l	3.13	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.28	Cholesterol Oxidase
	mg/dl	281	
Cholinesterase	U/l	5583	Colorimetric Butyrylthiocholine 37°C
	U/l	5567	Agappe - DGKC/Butyrylthiocholine 37°C
CK Total	U/l	538	CK-NAC serum start (DGKC) 37°C
	U/l	519	CK-NAC (IFCC) 37°C
Copper	µmol/l	20.2	Colorimetric
	µg/dl	128	
Creatinine	µmol/l	384	Alkaline picrate no deproteinization
	mg/dl	4.33	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Creatinine	µmol/l	375	Randox Enzymatic UV method
	mg/dl	4.24	
	µmol/l	376	Creatinine PAP method
	mg/dl	4.25	
	µmol/l	384	Jaffe rate blanked
	mg/dl	4.34	
	µmol/l	380	IDMS traceable
	mg/dl	4.29	
gamma-GT	U/l	157	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	150	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.7	Glucose dehydrogenase
	mg/dl	283	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	37.9	Colorimetric with ppt.
	µg/dl	212	
	µmol/l	37.4	Colorimetric without ppt.
	µg/dl	209	
Lactate	mmol/l	5.34	Colorimetric Lactate Oxidase
	mg/dl	48.1	
LD (LDH)	U/l	328	L->P 37°C
	U/l	649	P->L German methods 37°C
	U/l	328	L->P IFCC 37°C
Lipase	U/l	56	Other Colorimetric 37°C
Lithium	mmol/l	2.01	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.67	Methylthymol blue
	mg/dl	4.06	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.11	ISE method - indirect
Protein Total	g/l	45.1	Biuret reaction end point
	g/dl	4.51	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Protein Total	g/l	45.1	Biuret reaction kinetic
	g/dl	4.51	
Sodium	mmol/l	165	ISE method - indirect
TIBC	µmol/l	59.0	FE+UIBC(saturation with iron)
	µg/dl	330	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.99	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	265	
	mmol/l	2.99	L/G Kinase EP. no correction
	mg/dl	265	
	mmol/l	2.98	Lipase/Glycerol Dehydrogenase
	mg/dl	264	
	mmol/l	2.99	Agappe - GPO - TOPS
	mg/dl	265	
Urea	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.546	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.553	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.29	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABX Pentra 400® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Green
	g/dl	2.88	
Alkaline Phosphatase	U/l	353	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	Tris buffer without P5P 37°C
AST (GOT)	U/l	167	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	24.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.44	
Bilirubin Total	µmol/l	90.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.29	
Cholesterol	mmol/l	7.51	Cholesterol Oxidase
	mg/dl	290	
CK Total	U/l	527	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate UV
	mg/dl	7.22	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.542	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.11	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
ALT (GPT)	U/l	134	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
AST (GOT)	U/l	151	Tris buffer without P5P 37°C
	U/l	102	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	23.9	Diazo with Sulphanilic Acid
	mg/dl	1.40	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.18	Cholesterol Oxidase
	mg/dl	277	
Creatinine	µmol/l	344	Alkaline picrate no deproteinization
	mg/dl	3.89	
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.0	Bromocresol Green
	g/dl	2.80	
	g/l	29.4	Bromocresol Purple
	g/dl	2.94	
Alkaline Phosphatase	U/l	424	p-Nitrophenylphosphate AMP 37°C
	U/l	572	Diethanolamine buffer DEA 37°C
	U/l	409	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
Amylase Total	U/l	284	pNP Maltotrioside substrates 37°C
	U/l	284	Biotrol - blocked pNPG7 37°C
	U/l	288	Beckman Olympus - blocked pNPG7 37°C
AST (GOT)	U/l	174	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.5	Enzymatic
Bilirubin Direct	µmol/l	22.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.29	
Bilirubin Total	µmol/l	87.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.09	
	µmol/l	88.0	Diazo with Sulphanilic Acid
	mg/dl	5.15	
	µmol/l	87.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.10	
	µmol/l	84.8	Oxidation to Biliverdin
	mg/dl	4.96	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.36	Cholesterol Oxidase
	mg/dl	284	
Cholinesterase	U/l	4264	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	526	CK-NAC serum start (DGKC) 37°C
	U/l	533	CK-NAC (IFCC) 37°C
Copper	µmol/l	26.5	Colorimetric
	µg/dl	169	
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	371	Randox Enzymatic UV method
	mg/dl	4.20	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Creatinine	µmol/l	362	Creatinine PAP method
	mg/dl	4.09	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.04	
	µmol/l	398	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.50	
	µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.26	
	µmol/l	364	IDMS traceable
	mg/dl	4.12	
D-3-Hydroxybutyrate	mmol/l	1.15	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	165	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	29	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	280	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	38.2	Colorimetric with ppt.
	µg/dl	214	
	µmol/l	37.7	Colorimetric without ppt.
	µg/dl	211	
Lactate	mmol/l	5.34	Colorimetric Lactate Oxidase
	mg/dl	48.1	
LD (LDH)	U/l	334	L->P 37°C
	U/l	743	P->L Scandinavian & Dutch 37°C
	U/l	637	P->L German methods 37°C
	U/l	329	L->P IFCC 37°C
Lipase	U/l	58	Other Colorimetric 37°C
	U/l	70	Randox Colorimetric 37°C
Lithium	mmol/l	1.98	Spectrophotometric
	mg/dl	1.37	
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
	g/l	44.3	Biuret reaction kinetic
	g/dl	4.43	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	57.6	FE+UIBC(saturation with iron)
	µg/dl	322	
Triglycerides	mmol/l	2.98	Lipase/GPO-PAP no correction
	mg/dl	264	
	mmol/l	3.06	L/G Kinase EP. no correction
	mg/dl	271	
Urea	mmol/l	18.9	Urease end point
	mg/dl	114	
	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.568	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.54	
	mmol/l	0.573	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	
	mmol/l	0.570	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.58	
Zinc	µmol/l	35.4	Colorimetric with deproteinisation
	µg/dl	231	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.5	Bromocresol Purple
	g/dl	2.85	
Alkaline Phosphatase	U/l	375	p-Nitrophenylphosphate AMP 37°C
	U/l	380	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
	U/l	124	Tris buffer SCE 37°C
Amylase Total	U/l	295	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	302	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	156	Tris buffer without P5P 37°C
	U/l	154	Tris buffer SCE 37°C
Bicarbonate	mmol/l	19.4	Differential rate pH change
	mmol/l	19.4	Ion selective electrode
Bilirubin Direct	µmol/l	15.2	Diazo with Sulphanilic Acid
	mg/dl	0.889	
Bilirubin Total	µmol/l	86.8	Diazo with Sulphanilic Acid
	mg/dl	5.08	
Calcium	mmol/l	3.05	Ion selective electrode
	mg/dl	12.2	
	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.39	Cholesterol Oxidase
	mg/dl	285	
Cholinesterase	U/l	4568	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	528	CK-NAC (IFCC) 37°C
	U/l	542	Monothioglycerol 37°C
Creatinine	µmol/l	366	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	366	Randox Enzymatic UV method
	mg/dl	4.14	
	µmol/l	369	Jaffe rate blanked
	mg/dl	4.17	
	µmol/l	399	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.51	
	µmol/l	368	IDMS traceable
	mg/dl	4.16	
gamma-GT	U/l	132	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	273	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Glucose	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	214	
Lactate	mmol/l	5.15	Colorimetric Lactate Oxidase
	mg/dl	46.4	
LD (LDH)	U/l	275	L->P 37°C
	U/l	862	Pyruvate 1.4 mM - Beckman LD-P 37°C
Magnesium	mmol/l	1.68	Calmagite
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	43.5	Biuret reaction CX4/5/7
	g/dl	4.35	
	g/l	44.0	Biuret reaction end point
	g/dl	4.40	
	g/l	43.0	Biuret reaction kinetic
	g/dl	4.30	
Sodium	mmol/l	162	ISE method - indirect
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	
	mmol/l	3.02	L/G Kinase EP. no correction
	mg/dl	267	
Urea	mmol/l	19.4	Urease end point
	mg/dl	117	
	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.526	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.84	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.5	Bromocresol Green
	g/dl	2.85	
Alkaline Phosphatase	U/l	348	AMP optimised to IFCC 37°C
	U/l	271	AMP optimised to IFCC 30°C
	U/l	222	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	143	Tris buffer without P5P 37°C
	U/l	106	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
AST (GOT)	U/l	179	Tris buffer without P5P 37°C
	U/l	121	Tris buffer without P5P 30°C
	U/l	85	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	90.9	Diazo with Sulphanilic Acid
	mg/dl	5.32	
Cholesterol	mmol/l	7.38	Cholesterol Oxidase
	mg/dl	285	
Creatinine	µmol/l	328	Alkaline picrate no deproteinization
	mg/dl	3.71	
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Protein Total	g/l	45.9	Biuret reaction end point
	g/dl	4.59	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	17.7	Urease kinetic
	mg/dl	106	
	mmol/l	17.7	BUN
	mg/dl	49.7	
Uric Acid (Urate)	mmol/l	0.564	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.48	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
Alkaline Phosphatase	U/l	326	AMP optimised to IFCC 37°C
	U/l	254	AMP optimised to IFCC 30°C
	U/l	208	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	93.1	Diazo with Sulphanilic Acid
	mg/dl	5.44	
Calcium	mmol/l	3.02	Arsenazo III
	mg/dl	12.1	
Cholesterol	mmol/l	7.51	Cholesterol Oxidase
	mg/dl	290	
CK Total	U/l	575	CK-NAC (IFCC) 37°C
	U/l	360	CK-NAC (IFCC) 30°C
	U/l	244	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	324	Alkaline picrate no deproteinization
	mg/dl	3.66	
gamma-GT	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	280	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Protein Total	g/l	46.4	Biuret reaction end point
	g/dl	4.64	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
Urea	mmol/l	17.5	Urease kinetic
	mg/dl	105	
	mmol/l	17.5	BUN
	mg/dl	49.1	
Uric Acid (Urate)	mmol/l	0.580	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.74	
	mmol/l	0.568	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.54	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Biotechnica/Weiner BT Series/CB 350i Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
Alkaline Phosphatase	U/l	482	Diethanolamine buffer DEA 37°C
	U/l	375	Diethanolamine buffer DEA 30°C
	U/l	308	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	133	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
AST (GOT)	U/l	163	Tris buffer without P5P 37°C
	U/l	110	Tris buffer without P5P 30°C
	U/l	78	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	85.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.01	
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	7.36	Cholesterol Oxidase
	mg/dl	284	
Creatinine	µmol/l	342	Alkaline picrate no deproteinization
	mg/dl	3.87	
	µmol/l	366	Creatinine PAP method
	mg/dl	4.13	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	mg/dl	241	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.532	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.94	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
	g/l	26.4	Turbidimetric Assays
	g/dl	2.64	
Alkaline Phosphatase	U/l	253	Roche Integra AMP buffer 37°C
	U/l	197	Roche Integra AMP buffer 30°C
	U/l	162	Roche Integra AMP buffer 25°C
	U/l	256	AMP optimised to IFCC 37°C
	U/l	199	AMP optimised to IFCC 30°C
	U/l	164	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	125	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	262	Immunoinhibition EPS substrate 37°C
	U/l	262	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	274	BM/Roche Colorimetric pNPG7 37°C
	U/l	281	Saccharogenic 37°C
	U/l	282	Roche Integra 2-chloro-pNPG7 37°C
	U/l	281	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
	U/l	106	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.9	Enzymatic
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	µmol/l	28.7	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	27.5	Roche JG factored
	mg/dl	1.61	
Bilirubin Total	µmol/l	82.0	Diazo with Sulphanilic Acid
	mg/dl	4.80	
	µmol/l	82.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.82	
	µmol/l	81.3	Diazonium ion
	mg/dl	4.75	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.16	NM-BAPTA
	mg/dl	12.7	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.44	Cholesterol Oxidase
	mg/dl	287	
CK Total	U/l	543	CK-NAC substrate start (DGKC) 37°C
	U/l	340	CK-NAC substrate start (DGKC) 30°C
	U/l	231	CK-NAC substrate start (DGKC) 25°C
	U/l	554	CK-NAC (IFCC) 37°C
	U/l	347	CK-NAC (IFCC) 30°C
	U/l	235	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	353	Alkaline picrate with deproteinization
	mg/dl	3.99	
	µmol/l	343	Alkaline picrate no deproteinization
	mg/dl	3.87	
	µmol/l	362	Roche Creatinine Plus
	mg/dl	4.09	
	µmol/l	335	Jaffe rate blanked
	mg/dl	3.78	
	µmol/l	370	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.18	
	µmol/l	365	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.12	
gamma-GT	U/l	146	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	115	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	90	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Glucose dehydrogenase
	mg/dl	278	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	38.1	Colorimetric with ppt.
	µg/dl	213	
	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	214	
Lactate	mmol/l	5.62	Colorimetric Lactate Oxidase
	mg/dl	50.6	
LD (LDH)	U/l	628	P->L German methods 37°C
	U/l	453	P->L German methods 30°C
	U/l	318	P->L German methods 25°C
	U/l	346	L->P IFCC 37°C
	U/l	250	L->P IFCC 30°C
	U/l	175	L->P 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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Lipase	U/l	55	Roche Colorimetric 37°C
Lithium	mmol/l	2.05	Ion selective electrode
	mg/dl	1.42	
Magnesium	mmol/l	1.71	Methylthymol blue
	mg/dl	4.16	
	mmol/l	1.69	Chlorphosphonazo III
	mg/dl	4.11	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate enzymatic
	mg/dl	7.16	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	43.4	Biuret reaction end point
	g/dl	4.34	
	g/l	42.9	Biuret reaction kinetic
	g/dl	4.29	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	57.5	FE+UIBC(saturation with iron)
	µg/dl	321	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.88	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	255	
	mmol/l	2.91	L/G Kinase EP. no correction
	mg/dl	258	
	mmol/l	2.82	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.549	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ELITech/Vitalab Selectra Pro/E/XL/Jnr Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
Alkaline Phosphatase	U/l	519	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	91.5	Diazo with Sulphanilic Acid
	mg/dl	5.35	
	µmol/l	87.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.13	
Calcium	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.27	Cholesterol Oxidase
	mg/dl	281	
CK Total	U/l	516	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	331	Alkaline picrate no deproteinization
	mg/dl	3.74	
	µmol/l	357	Jaffe rate blanked
	mg/dl	4.04	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
LD (LDH)	U/l	318	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Protein Total	g/l	48.8	Biuret reaction end point
	g/dl	4.88	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
	mg/dl	52.2	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
a-HBDH	U/l	408	Oxobutyrate < 10 mmol/l 37°C
	U/l	283	Oxobutyrate < 10 mmol/l 30°C
	U/l	173	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	6.58	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	11.1	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	30.4	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	21.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	37.0	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	32.4	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
	g/l	28.4	Bromocresol Purple
	g/dl	2.84	
Alkaline Phosphatase	U/l	219	Roche Integra AMP buffer 37°C
	U/l	171	Roche Integra AMP buffer 30°C
	U/l	140	Roche Integra AMP buffer 25°C
	U/l	371	Randox AMP 37°C
	U/l	289	Randox AMP 30°C
	U/l	237	Randox AMP 25°C
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	244	Roche liquid stable pNPG7 37°C
	U/l	284	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	269	Roche liquid stable pNPG7 37°C
	U/l	310	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	160	Tris buffer without P5P 37°C
	U/l	108	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	19.3	Colorimetric
	mmol/l	18.7	Enzymatic
Bile Acids	µmol/l	46.1	5th Generation Colorimetric
Bilirubin Direct	µmol/l	25.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	
	µmol/l	25.8	Diazo with Sulphanilic Acid
	mg/dl	1.51	
Bilirubin Total	µmol/l	83.8	Diazo with Sulphanilic Acid
	mg/dl	4.90	
	µmol/l	81.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.78	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry 2018-01

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	81.5	Diazonium ion
	mg/dl	4.77	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
	mmol/l	3.15	NM-BAPTA
	mg/dl	12.6	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.32	Cholesterol Oxidase
	mg/dl	283	
Cholinesterase	U/l	4782	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	517	CK-NAC substrate start (DGKC) 37°C
	U/l	324	CK-NAC substrate start (DGKC) 30°C
	U/l	220	CK-NAC substrate start (DGKC) 25°C
	U/l	494	CK-NAC (IFCC) 37°C
	U/l	309	CK-NAC (IFCC) 30°C
	U/l	210	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	367	Randox Enzymatic UV method
	mg/dl	4.14	
	µmol/l	375	Creatinine PAP method
	mg/dl	4.24	
	µmol/l	370	Roche Creatinine Plus
	mg/dl	4.19	
	µmol/l	399	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.51	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	140	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	110	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	86	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	151	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	119	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	169	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	133	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	34	Triethanolamine buffer 50 mmol 37°C
	U/l	26	Triethanolamine buffer 50 mmol 30°C
	U/l	21	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Iron	µmol/l	37.3	Colorimetric without ppt.
	µg/dl	209	
Lactate	mmol/l	5.55	Colorimetric Lactate Oxidase
	mg/dl	50.0	
LD (LDH)	U/l	642	P->L German methods 37°C
	U/l	464	P->L German methods 30°C
	U/l	325	P->L German methods 25°C
	U/l	323	L->P IFCC 37°C
	U/l	233	L->P IFCC 30°C
	U/l	164	L->P IFCC 25°C
Lipase	U/l	51	Roche Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	44.4	Biuret reaction end point
	g/dl	4.44	
Sodium	mmol/l	165	ISE method - indirect
TIBC	µmol/l	55.2	FE+UIBC(saturation with iron)
	µg/dl	308	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.87	L/G Kinase EP. no correction
	mg/dl	254	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.535	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Amylase Total	U/l	296	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	155	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bile Acids	µmol/l	41.6	Enzymatic Colorimetric
Bilirubin Total	µmol/l	91.9	Diazo with Sulphanilic Acid
	mg/dl	5.38	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.29	Cholesterol Oxidase
	mg/dl	281	
CK Total	U/l	481	CK-NAC (IFCC) 37°C
	U/l	301	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	340	Alkaline picrate no deproteinization
	mg/dl	3.85	
D-3-Hydroxybutyrate	mmol/l	1.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	148	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	151	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	119	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	29	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	18	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
LD (LDH)	U/l	645	P->L German methods 37°C
	U/l	466	P->L German methods 30°C
	U/l	327	P->L German methods 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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Magnesium	mmol/l	1.87	Enzymatic
	mg/dl	4.54	
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
Sodium	mmol/l	166	ISE method - indirect
Triglycerides	mmol/l	3.04	Lipase/GPO-PAP no correction
	mg/dl	269	
	mmol/l	2.99	L/G Kinase EP. no correction
	mg/dl	265	
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.5	BUN
	mg/dl	54.7	
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.61	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.3	Bromocresol Green
	g/dl	2.83	
Alkaline Phosphatase	U/l	565	Diethanolamine buffer DEA 37°C
	U/l	440	Diethanolamine buffer DEA 30°C
	U/l	361	Diethanolamine buffer DEA 25°C
	U/l	355	AMP optimised to IFCC 37°C
	U/l	277	AMP optimised to IFCC 30°C
	U/l	227	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	141	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Amylase Total	U/l	260	bioMerieux 2-chloro-pNPG3 37°C
AST (GOT)	U/l	181	Tris buffer without P5P 37°C
	U/l	122	Tris buffer without P5P 30°C
	U/l	86	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.4	Diazo with Sulphanilic Acid
	mg/dl	1.84	
Bilirubin Total	µmol/l	84.0	Diazo with Sulphanilic Acid
	mg/dl	4.92	
	µmol/l	80.7	Nitrobenzenediazonium salt
	mg/dl	4.72	
Calcium	mmol/l	3.28	Arsenazo III
	mg/dl	13.1	
Chloride	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.21	Cholesterol Oxidase
	mg/dl	278	
CK Total	U/l	523	CK-NAC (IFCC) 37°C
	U/l	327	CK-NAC (IFCC) 30°C
	U/l	222	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	370	Alkaline picrate no deproteinization
	mg/dl	4.18	
	µmol/l	379	Randox Enzymatic UV method
	mg/dl	4.28	
	µmol/l	365	Creatinine PAP method
	mg/dl	4.12	
gamma-GT	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	284	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	40.1	Colorimetric without ppt.
	µg/dl	224	
Magnesium	mmol/l	1.64	Calmagite
	mg/dl	3.99	
Phosphate Inorganic	mmol/l	2.35	Phosphomolybdate UV
	mg/dl	7.29	
Potassium	mmol/l	5.93	ISE method - direct
Protein Total	g/l	45.9	Biuret reaction end point
	g/dl	4.59	
Sodium	mmol/l	158	ISE method - direct
Triglycerides	mmol/l	3.00	Lipase/GPO-PAP no correction
	mg/dl	266	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.584	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.81	
	mmol/l	0.568	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.54	
	mmol/l	0.566	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.51	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
a-HBDH	U/l	408	Oxobutyrate < 10 mmol/l 37°C
	U/l	283	Oxobutyrate < 10 mmol/l 30°C
	U/l	173	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	11.1	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	6.58	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	21.3	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	30.4	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	32.4	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	37.0	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
	g/l	27.7	Bromocresol Purple
	g/dl	2.77	
	g/l	26.2	Turbidimetric Assays
	g/dl	2.62	
Alkaline Phosphatase	U/l	373	p-Nitrophenylphosphate AMP 37°C
	U/l	291	p-Nitrophenylphosphate AMP 30°C
	U/l	238	p-Nitrophenylphosphate AMP 25°C
	U/l	540	Diethanolamine buffer DEA 37°C
	U/l	421	Diethanolamine buffer DEA 30°C
	U/l	345	Diethanolamine buffer DEA 25°C
	U/l	367	AMP optimised to IFCC 37°C
	U/l	286	AMP optimised to IFCC 30°C
	U/l	235	AMP optimised to IFCC 25°C
	U/l	322	AMP optimised to NVKC/SFBC 37°C
	U/l	251	AMP optimised to NVKC/SFBC 30°C
	U/l	206	AMP optimised to NVKC/SFBC 25°C
ALT (GPT)	U/l	165	Tris buffer with P5P 37°C
	U/l	122	Tris buffer with P5P 30°C
	U/l	93	Tris buffer with P5P 25°C
	U/l	130	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
	U/l	124	Tris buffer SCE 37°C
	U/l	92	Tris buffer SCE 30°C
	U/l	70	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	261	Immunoinhibition EPS substrate 37°C
	U/l	252	Roche liquid stable pNPG7 37°C
	U/l	284	Randox liquid stable pNPG7 37°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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Amylase Total	U/l	284	pNP Maltotrioside substrates 37°C
	U/l	283	Siemens - blocked pNPG7 37°C
	U/l	284	Biotrol - blocked pNPG7 37°C
	U/l	231	Randox - Ethylidene pNPG7 37°C
	U/l	309	Randox liquid stable pNPG7 37°C
	U/l	277	BM/Roche Colorimetric pNPG7 37°C
	U/l	289	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	332	Siemens - maltopenta/hexaoside 37°C
	U/l	275	Saccharogenic 37°C
	U/l	279	Roche Integra 2-chloro-pNPG7 37°C
	U/l	274	Other Roche 2-chloro-pNPG7 37°C
	U/l	274	Roche liquid stable pNPG7 37°C
	U/l	338	Siemens 2-chloro-pNPG3 37°C
	U/l	264	bioMerieux 2-chloro-pNPG3 37°C
	U/l	288	Beckman Olympus - blocked pNPG7 37°C
	U/l	302	Beckman Synchron AMY7 37°C
	U/l	306	I.L. 2-chloro-pNPG3 37°C
	U/l	316	Abbott Architect Non-IFCC Cal. 37°C
	U/l	358	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	224	Tris buffer with P5P 37°C
	U/l	151	Tris buffer with P5P 30°C
	U/l	107	Tris buffer with P5P 25°C
	U/l	161	Tris buffer without P5P 37°C
	U/l	109	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
	U/l	151	Tris buffer SCE 37°C
	U/l	102	Tris buffer SCE 30°C
	U/l	72	Tris buffer SCE 25°C
Bicarbonate	mmol/l	18.5	Colorimetric
	mmol/l	19.4	Differential rate pH change
	mmol/l	19.2	Enzymatic
	mmol/l	19.7	Ion selective electrode
Bile Acids	µmol/l	45.1	4th Generation Colorimetric
	µmol/l	46.1	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	
	µmol/l	29.4	Diazo with Sulphanilic Acid
	mg/dl	1.72	
	µmol/l	27.2	Roche JG factored
	mg/dl	1.59	
	µmol/l	26.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.54	
	µmol/l	31.1	Oxidation to Biliverdin
	mg/dl	1.82	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Bilirubin Direct	µmol/l	30.1	Modified Jendrassik
	mg/dl	1.76	
Bilirubin Total	µmol/l	96.5	Diazo with Dichloroaniline (DCA)
	mg/dl	5.65	
	µmol/l	89.3	Diazo with Sulphanilic Acid
	mg/dl	5.22	
	µmol/l	95.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.56	
	µmol/l	83.2	Nitrobenzenediazonium salt
	mg/dl	4.87	
	µmol/l	81.8	Diazonium ion
	mg/dl	4.78	
	µmol/l	94.8	Oxidation to Biliverdin
	mg/dl	5.55	
	µmol/l	99.2	Modified Jendrassik
	mg/dl	5.80	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.05	Ion selective electrode
	mg/dl	12.2	
	mmol/l	3.10	Methylthymol blue
	mg/dl	12.4	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.16	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	115	Colorimetric
	mmol/l	114	ISE indirect
	mmol/l	115	ISE direct
Cholesterol	mmol/l	7.29	Cholesterol Oxidase
	mg/dl	281	
Cholinesterase	U/l	4761	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	535	CK-NAC serum start (DGKC) 37°C
	U/l	335	CK-NAC serum start (DGKC) 30°C
	U/l	227	CK-NAC serum start (DGKC) 25°C
	U/l	536	CK-NAC substrate start (DGKC) 37°C
	U/l	336	CK-NAC substrate start (DGKC) 30°C
	U/l	228	CK-NAC substrate start (DGKC) 25°C
	U/l	536	CK-NAC (IFCC) 37°C
	U/l	336	CK-NAC (IFCC) 30°C
	U/l	228	CK-NAC (IFCC) 25°C
	U/l	542	Monothioglycerol 37°C
	U/l	339	Monothioglycerol 30°C
	U/l	230	Monothioglycerol 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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
CK Total	U/l	492	Dithioerythritol 37°C
	U/l	308	Dithioerythritol 30°C
	U/l	209	Dithioerythritol 25°C
	U/l	494	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	309	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	210	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	27.2	Atomic absorption
	µg/dl	173	
	µmol/l	26.5	Colorimetric
	µg/dl	169	
Creatinine	µmol/l	328	Alkaline picrate with deproteinization
	mg/dl	3.71	
	µmol/l	350	Alkaline picrate no deproteinization
	mg/dl	3.95	
	µmol/l	367	Randox Enzymatic UV method
	mg/dl	4.15	
	µmol/l	367	Creatinine PAP method
	mg/dl	4.15	
	µmol/l	374	Roche Creatinine Plus
	mg/dl	4.22	
	µmol/l	363	Jaffe rate blanked
	mg/dl	4.10	
	µmol/l	390	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.41	
	µmol/l	372	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.20	
	µmol/l	382	Vitros IDMS Traceable
	mg/dl	4.32	
	µmol/l	368	IDMS traceable
	mg/dl	4.16	
D-3-Hydroxybutyrate	mmol/l	1.14	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	152	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	120	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	94	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	132	Gamma glutamyl-4-nitroanilide 37°C
	U/l	104	Gamma glutamyl-4-nitroanilide 30°C
	U/l	81	Gamma glutamyl-4-nitroanilide 25°C
	U/l	163	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	169	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	133	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
GLDH	U/l	29	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	18	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.6	Glucose dehydrogenase
	mg/dl	281	
	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	14.9	Oxygen electrode
	mg/dl	268	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	37.5	Colorimetric with ppt.
	µg/dl	210	
	µmol/l	37.6	Colorimetric without ppt.
	µg/dl	210	
Lactate	mmol/l	5.48	Ion selective electrode
	mg/dl	49.4	
	mmol/l	5.40	Colorimetric Lactate Oxidase
	mg/dl	48.7	
	mmol/l	5.63	Enzymatic Electrode
	mg/dl	50.7	
	mmol/l	5.07	UV LDH
	mg/dl	45.7	
LAP	U/l	13	NAGEL 37°C
LD (LDH)	U/l	297	L->P 37°C
	U/l	214	L->P 30°C
	U/l	151	L->P 25°C
	U/l	747	P->L Scandinavian & Dutch 37°C
	U/l	539	P->L Scandinavian & Dutch 30°C
	U/l	379	P->L Scandinavian & Dutch 25°C
	U/l	644	P->L German methods 37°C
	U/l	465	P->L German methods 30°C
	U/l	327	P->L German methods 25°C
	U/l	634	P->L SFBC 37°C
	U/l	458	P->L SFBC 30°C
	U/l	321	P->L SFBC 25°C
	U/l	328	L->P IFCC 37°C
	U/l	237	L->P IFCC 30°C
	U/l	166	L->P IFCC 25°C
Lipase	U/l	59	Other Colorimetric 37°C
	U/l	50	Roche Colorimetric 37°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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Lipase	U/l	71	Randox Colorimetric 37°C
Lithium	mmol/l	2.02	Flame photometry
	mg/dl	1.40	
	mmol/l	2.07	Ion selective electrode
	mg/dl	1.44	
	mmol/l	2.03	Spectrophotometric
	mg/dl	1.41	
	mmol/l	1.97	Randox Colorimetric
	mg/dl	1.37	
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.68	Calmagite
	mg/dl	4.08	
	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.72	Methylthymol blue
	mg/dl	4.18	
	mmol/l	1.70	Chlorphosphonazo III
	mg/dl	4.13	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Osmolality	mOsm/kg	349	Calculated
	mOsm/kg	386	Freezing point depression
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.16	Enzymatic
	mmol/l	5.95	Flame photometry
	mmol/l	6.04	ISE method - direct
	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	44.6	Biuret reaction end point
	g/dl	4.46	
	g/l	43.7	Biuret reaction kinetic
	g/dl	4.37	
Sodium	mmol/l	164	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	161	ISE method - direct
	mmol/l	163	ISE method - indirect
TIBC	µmol/l	51.2	Removal of excess free iron
	µg/dl	286	
	µmol/l	56.0	FE+UIBC(saturation with iron)
	µg/dl	313	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
TIBC	µmol/l	52.7	Direct Colorimetric
	µg/dl	295	
	µmol/l	58.6	Randox Direct
	µg/dl	328	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.88	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	255	
	mmol/l	2.97	L/G Kinase EP. no correction
	mg/dl	263	
	mmol/l	2.76	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	244	
	mmol/l	2.94	Lipase/Glycerol Dehydrogenase
	mg/dl	260	
Urea	mmol/l	18.1	Urease end point
	mg/dl	109	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.3	Urease hypochlorite
	mg/dl	110	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.554	Uricase catalase 340nm
	mg/dl	9.31	
	mmol/l	0.555	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.544	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	
	mmol/l	0.543	Spectrophotometric at 280-290
	mg/dl	9.12	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	
Zinc	µmol/l	35.2	Atomic absorption
	µg/dl	230	
	µmol/l	35.5	Colorimetric with deproteinisation
	µg/dl	232	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
Alkaline Phosphatase	U/l	351	AMP optimised to IFCC 37°C
	U/l	273	AMP optimised to IFCC 30°C
	U/l	224	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	138	Tris buffer without P5P 37°C
	U/l	102	Tris buffer without P5P 30°C
	U/l	78	Tris buffer without P5P 25°C
AST (GOT)	U/l	165	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	30.7	Oxidation to Biliverdin
	mg/dl	1.79	
Bilirubin Total	µmol/l	94.3	Diazo with Sulphanilic Acid
	mg/dl	5.52	
	µmol/l	92.4	Oxidation to Biliverdin
	mg/dl	5.41	
Calcium	mmol/l	3.05	Cresolphthalein complexone
	mg/dl	12.2	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.31	Cholesterol Oxidase
	mg/dl	282	
Cholinesterase	U/l	4964	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	531	CK-NAC (IFCC) 37°C
	U/l	332	CK-NAC (IFCC) 30°C
	U/l	226	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	334	Alkaline picrate with deproteinization
	mg/dl	3.77	
	µmol/l	327	Alkaline picrate no deproteinization
	mg/dl	3.69	
	µmol/l	359	Randox Enzymatic UV method
	mg/dl	4.06	
gamma-GT	U/l	150	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	118	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Iron	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	214	
Lactate	mmol/l	5.16	Colorimetric Lactate Oxidase
	mg/dl	46.5	
LD (LDH)	U/l	700	P->L German methods 37°C
	U/l	505	P->L German methods 30°C
	U/l	355	P->L German methods 25°C
	U/l	653	P->L SFBC 37°C
	U/l	471	P->L SFBC 30°C
	U/l	331	P->L SFBC 25°C
	U/l	341	L->P IFCC 37°C
	U/l	246	L->P IFCC 30°C
	U/l	173	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Protein Total	g/l	47.7	Biuret reaction end point
	g/dl	4.77	
Triglycerides	mmol/l	2.95	Lipase/GPO-PAP no correction
	mg/dl	261	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.6	Urease hypochlorite
	mg/dl	112	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.568	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.54	
	mmol/l	0.557	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

PRESTIGE 24i Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	27.8	Bromocresol Green
	g/dl	2.78	
Alkaline Phosphatase	U/l	457	Diethanolamine buffer DEA 37°C
	U/l	356	Diethanolamine buffer DEA 30°C
	U/l	292	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	142	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	80	Tris buffer without P5P 25°C
AST (GOT)	U/l	167	Tris buffer without P5P 37°C
	U/l	113	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	23.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.38	
Cholesterol	mmol/l	7.26	Cholesterol Oxidase
	mg/dl	280	
CK Total	U/l	533	CK-NAC (IFCC) 37°C
	U/l	334	CK-NAC (IFCC) 30°C
	U/l	227	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	401	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.53	
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Protein Total	g/l	44.9	Biuret reaction end point
	g/dl	4.49	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.510	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.57	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
	g/l	27.1	Bromocresol Purple
	g/dl	2.71	
	g/l	26.0	Turbidimetric Assays
	g/dl	2.60	
Alkaline Phosphatase	U/l	255	Roche Integra AMP buffer 37°C
	U/l	199	Roche Integra AMP buffer 30°C
	U/l	163	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	125	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	252	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	272	Roche Integra 2-chloro-pNPG7 37°C
	U/l	274	Other Roche 2-chloro-pNPG7 37°C
	U/l	271	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
	U/l	106	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.8	Colorimetric
	mmol/l	18.8	Enzymatic
Bile Acids	µmol/l	46.0	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	
	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	26.6	Roche JG factored
	mg/dl	1.56	
	µmol/l	27.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.61	
Bilirubin Total	µmol/l	81.6	Diazo with Sulphanilic Acid
	mg/dl	4.77	
	µmol/l	81.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	
	µmol/l	81.0	Diazonium ion
	mg/dl	4.74	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Calcium	mmol/l	3.16	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.27	Cholesterol Oxidase
	mg/dl	281	
Cholinesterase	U/l	4717	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	559	CK-NAC substrate start (DGKC) 37°C
	U/l	350	CK-NAC substrate start (DGKC) 30°C
	U/l	238	CK-NAC substrate start (DGKC) 25°C
	U/l	559	CK-NAC (IFCC) 37°C
	U/l	350	CK-NAC (IFCC) 30°C
	U/l	238	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	375	Randox Enzymatic UV method
	mg/dl	4.24	
	µmol/l	375	Roche Creatinine Plus
	mg/dl	4.24	
	µmol/l	360	Jaffe rate blanked
	mg/dl	4.06	
	µmol/l	385	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.35	
	µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.26	
D-3-Hydroxybutyrate	mmol/l	1.18	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	145	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	114	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	28	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	37.0	Colorimetric with ppt.
	µg/dl	207	
	µmol/l	37.6	Colorimetric without ppt.
	µg/dl	210	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase
	mg/dl	48.8	
LD (LDH)	U/l	630	P->L German methods 37°C
	U/l	455	P->L German methods 30°C
	U/l	319	P->L German methods 25°C
	U/l	326	L->P IFCC 37°C
	U/l	235	L->P IFCC 30°C
	U/l	165	L->P IFCC 25°C
Lipase	U/l	49	Roche Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.71	Chlorphosphonazo III
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate enzymatic
	mg/dl	6.88	
	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.17	ISE method - indirect
Protein Total	g/l	44.0	Biuret reaction end point
	g/dl	4.40	
	g/l	43.3	Biuret reaction kinetic
	g/dl	4.33	
Sodium	mmol/l	163	ISE method - indirect
TIBC	µmol/l	54.2	FE+UIBC(saturation with iron)
	µg/dl	303	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.82	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
	mmol/l	2.83	L/G Kinase EP. no correction
	mg/dl	250	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.539	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.06	
	mmol/l	0.537	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.02	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
Alkaline Phosphatase	U/l	253	Roche Integra AMP buffer 37°C
	U/l	197	Roche Integra AMP buffer 30°C
	U/l	162	Roche Integra AMP buffer 25°C
	U/l	235	AMP optimised to IFCC 37°C
	U/l	183	AMP optimised to IFCC 30°C
	U/l	150	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Total	U/l	284	pNP Maltotrioside substrates 37°C
	U/l	280	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	154	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	28.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	
	µmol/l	28.6	Diazo with Sulphanilic Acid
	mg/dl	1.67	
Bilirubin Total	µmol/l	80.5	Diazo with Sulphanilic Acid
	mg/dl	4.71	
	µmol/l	81.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.75	
	µmol/l	80.5	Diazonium ion
	mg/dl	4.71	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.46	Cholesterol Oxidase
	mg/dl	288	
CK Total	U/l	553	CK-NAC (IFCC) 37°C
	U/l	346	CK-NAC (IFCC) 30°C
	U/l	235	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	331	Alkaline picrate with deproteinization
	mg/dl	3.74	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Creatinine	µmol/l	339	Alkaline picrate no deproteinization
	mg/dl	3.83	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.11	
	µmol/l	358	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.05	
gamma-GT	U/l	158	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	97	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	37.2	Colorimetric without ppt.
	µg/dl	208	
LD (LDH)	U/l	342	L->P IFCC 37°C
	U/l	247	L->P IFCC 30°C
	U/l	173	L->P IFCC 25°C
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
	mmol/l	1.68	Chlorphosphonazo III
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	6.07	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	160	ISE method - indirect
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.81	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	249	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.0	Urease hypochlorite
	mg/dl	108	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.545	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	250	Roche Integra AMP buffer 37°C
	U/l	195	Roche Integra AMP buffer 30°C
	U/l	160	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	126	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Amylase Total	U/l	275	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
	U/l	106	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.6	Enzymatic
Bilirubin Direct	µmol/l	27.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	
	µmol/l	27.9	Diazo with Sulphanilic Acid
	mg/dl	1.63	
	µmol/l	26.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.53	
Bilirubin Total	µmol/l	79.1	Diazo with Sulphanilic Acid
	mg/dl	4.63	
	µmol/l	81.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	
	µmol/l	81.8	Diazonium ion
	mg/dl	4.78	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.18	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.28	Cholesterol Oxidase
	mg/dl	281	
Cholinesterase	U/l	4774	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	560	CK-NAC (IFCC) 37°C
	U/l	351	CK-NAC (IFCC) 30°C
	U/l	238	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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
	µmol/l	375	Randox Enzymatic UV method
	mg/dl	4.24	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.29	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.04	
	µmol/l	394	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.45	
gamma-GT	U/l	147	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	116	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	37.3	Colorimetric without ppt.
	µg/dl	209	
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase
	mg/dl	48.8	
LD (LDH)	U/l	619	P->L German methods 37°C
	U/l	447	P->L German methods 30°C
	U/l	314	P->L German methods 25°C
	U/l	325	L->P IFCC 37°C
	U/l	235	L->P IFCC 30°C
	U/l	165	L->P IFCC 25°C
Lipase	U/l	48	Roche Colorimetric 37°C
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.74	Chlorphosphonazo III
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate enzymatic
	mg/dl	6.73	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Protein Total	g/l	44.5	Biuret reaction kinetic
	g/dl	4.45	
Sodium	mmol/l	164	ISE method - indirect
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.82	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
	mmol/l	2.80	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	248	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.550	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	217	Roche Integra AMP buffer 37°C
	U/l	169	Roche Integra AMP buffer 30°C
	U/l	139	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	127	Tris buffer without P5P 37°C
	U/l	94	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Amylase Total	U/l	281	BM/Roche Colorimetric pNPG7 37°C
	U/l	272	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	158	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	19.3	Enzymatic
Bilirubin Direct	µmol/l	28.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	
Bilirubin Total	µmol/l	79.5	Diazo with Sulphanilic Acid
	mg/dl	4.65	
	µmol/l	79.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.67	
	µmol/l	79.7	Diazonium ion
	mg/dl	4.66	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.12	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.20	Cholesterol Oxidase
	mg/dl	278	
CK Total	U/l	489	CK-NAC (IFCC) 37°C
	U/l	306	CK-NAC (IFCC) 30°C
	U/l	208	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	382	Roche Creatinine Plus
	mg/dl	4.32	
	µmol/l	389	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.40	
gamma-GT	U/l	141	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	111	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	87	Gamma glutamyl.-3-carboxy-4-nitroanilide 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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
gamma-GT	U/l	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	273	
Iron	µmol/l	36.6	Colorimetric without ppt.
	µg/dl	204	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	322	L->P IFCC 37°C
	U/l	232	L->P IFCC 30°C
	U/l	163	L->P IFCC 25°C
Lipase	U/l	50	Roche Colorimetric 37°C
Lithium	mmol/l	2.03	Spectrophotometric
	mg/dl	1.41	
Magnesium	mmol/l	1.68	Xylidyl Blue
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate UV
	mg/dl	6.73	
Potassium	mmol/l	6.23	ISE method - indirect
Protein Total	g/l	44.0	Biuret reaction end point
	g/dl	4.40	
Sodium	mmol/l	166	ISE method - indirect
TIBC	µmol/l	55.7	FE+UIBC(saturation with iron)
	µg/dl	311	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
	mmol/l	2.74	L/G Kinase EP. no correction
	mg/dl	242	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.521	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.75	
	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.531	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.92	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/l	574	Diethanolamine buffer DEA 37°C
	U/l	371	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	141	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	284	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	310	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	179	Tris buffer without P5P 37°C
Bile Acids	µmol/l	46.1	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.9	Diazo with Sulphanilic Acid
	mg/dl	1.69	
	µmol/l	29.6	Vanadate Oxidation
	mg/dl	1.73	
Bilirubin Total	µmol/l	90.1	Diazo with Sulphanilic Acid
	mg/dl	5.27	
	µmol/l	95.1	Vanadate Oxidation
	mg/dl	5.56	
Calcium	mmol/l	3.16	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.45	Cholesterol Oxidase
	mg/dl	288	
CK Total	U/l	506	CK-NAC substrate start (DGKC) 37°C
	U/l	551	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	311	Alkaline picrate no deproteinization
	mg/dl	3.51	
	µmol/l	363	Randox Enzymatic UV method
	mg/dl	4.10	
gamma-GT	U/l	169	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	38.7	Colorimetric without ppt.
	µg/dl	216	
Lactate	mmol/l	5.27	Colorimetric Lactate Oxidase
	mg/dl	47.5	
LD (LDH)	U/l	697	P->L German methods 37°C
	U/l	328	L->P IFCC 37°C
Lipase	U/l	74	Randox Colorimetric 37°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
Email: applications@randox.com Website: www.randox.com

RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Lithium	mmol/l	1.97	Colorimetric
	mg/dl	1.37	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.16	Enzymatic
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
Sodium	mmol/l	163	Enzymatic
TIBC	µmol/l	58.6	Direct Colorimetric
	µg/dl	328	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
	mg/dl	52.2	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
Alkaline Phosphatase	U/l	366	AMP optimised to IFCC 37°C
	U/l	356	AMP non-optimised 37°C
ALT (GPT)	U/l	134	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	263	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	284	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	165	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	21.8	Enzymatic
Bile Acids	µmol/l	45.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	31.1	Oxidation to Biliverdin
	mg/dl	1.82	
Bilirubin Total	µmol/l	97.0	Oxidation to Biliverdin
	mg/dl	5.67	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.22	Cholesterol Oxidase
	mg/dl	279	
Cholinesterase	U/l	5056	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	505	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	359	Randox Enzymatic UV method
	mg/dl	4.06	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.02	
	µmol/l	389	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.40	
gamma-GT	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	269	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.3	Colorimetric without ppt.
	µg/dl	214	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Lactate	mmol/l	5.45	Colorimetric Lactate Oxidase
	mg/dl	49.1	
LD (LDH)	U/l	322	L->P 37°C
	U/l	671	P->L German methods 37°C
	U/l	332	L->P IFCC 37°C
Lipase	U/l	66	Other Colorimetric 37°C
Lithium	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Sodium	mmol/l	164	ISE method - indirect
TIBC	µmol/l	57.3	Direct Colorimetric
	µg/dl	320	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.96	L/G Kinase EP. no correction
	mg/dl	262	
Urea	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.551	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.26	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	27.2	Bromocresol Purple
	g/dl	2.72	
Alkaline Phosphatase	U/l	311	Siemens Dimension AMP buffer 37°C
	U/l	312	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	142	Tris buffer with P5P 37°C
	U/l	138	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	335	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	181	Tris buffer with P5P 37°C
	U/l	188	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	20.8	Enzymatic
Bilirubin Direct	µmol/l	15.4	Diazo with Sulphanilic Acid
	mg/dl	0.901	
Bilirubin Total	µmol/l	84.9	Diazo with Sulphanilic Acid
	mg/dl	4.96	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.86	Dimension-Siemens reagents
	mg/dl	265	
CK Total	U/l	492	CK-NAC (IFCC) 37°C
	U/l	483	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	369	Alkaline picrate no deproteinization
	mg/dl	4.17	
	µmol/l	375	IDMS traceable
	mg/dl	4.24	
gamma-GT	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	196	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	275	
Iron	µmol/l	37.1	Colorimetric with ppt.
	µg/dl	207	
	µmol/l	35.9	Colorimetric without ppt.
	µg/dl	201	
Lactate	mmol/l	5.02	UV LDH
	mg/dl	45.2	
LD (LDH)	U/l	331	Siemens Dimension L-P Non IFCC 37°C
	U/l	312	L->P IFCC 37°C
Lipase	U/l	227	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.70	Methylthymol blue
	mg/dl	4.13	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.11	ISE method - indirect
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	163	ISE method - indirect
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.96	L/G Kinase EP. no correction
	mg/dl	262	
	mmol/l	2.93	Lipase/Glycerol Dehydrogenase
	mg/dl	259	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.543	Spectrophotometric at 280-290
	mg/dl	9.12	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	314	Siemens Dimension AMP buffer 37°C
	U/l	316	AMP optimised to IFCC 37°C
	U/l	294	Randox AMP 37°C
ALT (GPT)	U/l	142	Tris buffer with P5P 37°C
	U/l	144	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	332	Siemens - maltopenta/hexaoside 37°C
	U/l	341	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	187	Tris buffer with P5P 37°C
	U/l	189	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	20.7	Enzymatic
Bilirubin Direct	µmol/l	15.7	Diazo with Sulphanilic Acid
	mg/dl	0.918	
Bilirubin Total	µmol/l	86.0	Diazo with Sulphanilic Acid
	mg/dl	5.03	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.79	Dimension-Siemens reagents
	mg/dl	262	
CK Total	U/l	489	CK-NAC (IFCC) 37°C
	U/l	503	Dithioerythritol 37°C
Creatinine	µmol/l	372	Alkaline picrate no deproteinization
	mg/dl	4.20	
	µmol/l	367	Randox Enzymatic UV method
	mg/dl	4.15	
	µmol/l	368	Creatinine PAP method
	mg/dl	4.16	
	µmol/l	366	Jaffe rate blanked
	mg/dl	4.14	
	µmol/l	364	IDMS traceable
	mg/dl	4.12	
gamma-GT	U/l	175	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	195	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	35.9	Colorimetric with ppt.
	µg/dl	200	
	µmol/l	36.0	Colorimetric without ppt.
	µg/dl	201	
Lactate	mmol/l	5.13	UV LDH
	mg/dl	46.2	
LD (LDH)	U/l	327	Siemens Dimension L-P Non IFCC 37°C
	U/l	316	L->P IFCC 37°C
Lipase	U/l	224	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
	mmol/l	1.73	Methylthymol blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
	g/l	45.1	Biuret reaction kinetic
	g/dl	4.51	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	47.3	Removal of excess free iron
	µg/dl	265	
	µmol/l	48.6	Direct Colorimetric
	µg/dl	272	
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	
	mmol/l	3.00	Lipase/Glycerol Dehydrogenase
	mg/dl	266	
Urea	mmol/l	18.6	Urease end point
	mg/dl	112	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.2	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.9	BUN
	mg/dl	53.0	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	
	mmol/l	0.546	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.542	Spectrophotometric at 280-290
	mg/dl	9.11	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	315	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	145	Tris buffer with P5P 37°C
Amylase Total	U/l	335	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	191	Tris buffer with P5P 37°C
Bicarbonate	mmol/l	19.5	Enzymatic
Bilirubin Direct	µmol/l	17.4	Diazo with Sulphanilic Acid
	mg/dl	1.02	
Bilirubin Total	µmol/l	85.3	Diazo with Sulphanilic Acid
	mg/dl	4.99	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	6.75	Dimension-Siemens reagents
	mg/dl	261	
CK Total	U/l	496	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	384	IDMS traceable
	mg/dl	4.34	
gamma-GT	U/l	198	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	269	
Lactate	mmol/l	5.23	UV LDH
	mg/dl	47.1	
LD (LDH)	U/l	326	L->P IFCC 37°C
Lipase	U/l	267	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.74	Methylthymol blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.05	ISE method - indirect
Protein Total	g/l	45.3	Biuret reaction end point
	g/dl	4.53	
Sodium	mmol/l	163	ISE method - indirect
Triglycerides	mmol/l	3.18	Lipase/GPO-PAP no correction
	mg/dl	281	
Urea	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.549	Spectrophotometric at 280-290
	mg/dl	9.22	

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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Weiner Lab CB 350i Lot No. 800UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2018-01

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
ALT (GPT)	U/l	145	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	82	Tris buffer without P5P 25°C
AST (GOT)	U/l	170	Tris buffer without P5P 37°C
	U/l	115	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	83.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.87	
Cholesterol	mmol/l	7.31	Cholesterol Oxidase
	mg/dl	282	
Creatinine	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.75	
Glucose	mmol/l	15.0	Glucose oxidase
	mg/dl	271	
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.527	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.85	

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