PRODUCT INFORMATION

Calibration Serum Level 3

CAL2351

Randox Laboratories have realigned the RX Series calibrator targets for Inorganic Phosphate to our internal master calibrator. This change many cause a shift in Quality Control and patient sample recovery.

If you have any queries, please contact Technical Services at technical.services@randox.com.

Ref qNCP 746

PRODUCT INFORMATION

Calibration Serum Level 3

CAL2351

Randox Laboratories have realigned the **RX Series** calibrator targets for Creatine Kinase (CK) Total to the DGKC and IFCC reference materials. This change may cause a shift in Quality Control and patient sample recovery.

If you have any queries, please contact Technical Services at technical.services@randox.com.

Ref qNCP 592

FORM NO. 8373-GP
REVISION (2)
2 Aug 2019

CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 1293UE
SIZE: 20 x 5ml **EXPIRY:** 2025-05-28
GTIN: 05055273200966

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 is stable for 3 days at 2 - 8°C and 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 for1 day at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
GLDH is stable for 1 day at 2 - 8°C

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.

Due to the zinc content in some batches of rubber stoppers, the QC material should be aliquoted into suitable containers without rubber stoppers and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

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 Method 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.

EC REP Randox Teoranta, Meenmore,
Dungloe, Donegal,
F94 TV06, Ireland

14 Jun '24 me

RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
a-HBDH	U/l	388	Oxobutyrate < 10 mmol/l 37°C
	U/l	293	Oxobutyrate < 10 mmol/l 30°C
	U/l	220	Oxobutyrate < 10 mmol/l 25°C
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	28.2	Bromocresol Purple
	g/dl	2.82	
	g/l	29.8	Turbidimetric Assays
	g/dl	2.98	
Alkaline Phosphatase	U/l	428	Diethanolamine buffer DEA 37°C
	U/l	333	Diethanolamine buffer DEA 30°C
	U/l	273	Diethanolamine buffer DEA 25°C
	U/l	350	AMP optimised to IFCC 37°C
	U/l	273	AMP optimised to IFCC 30°C
	U/l	224	AMP optimised to IFCC 25°C
	U/l	349	AMP non-optimised 37°C
	U/l	272	AMP non-optimised 30°C
	U/l	223	AMP non-optimised 25°C
ALT (GPT)	U/l	146	Colorimetric 37°C
	U/l	108	Colorimetric 30°C
	U/l	82	Colorimetric 25°C
	U/l	147	Tris buffer with P5P 37°C
	U/l	109	Tris buffer with P5P 30°C
	U/l	83	Tris buffer with P5P 25°C
	U/l	139	Tris buffer without P5P 37°C
	U/l	103	Tris buffer without P5P 30°C
	U/l	78	Tris buffer without P5P 25°C
	U/l	135	Tris buffer SCE 37°C
	U/l	100	Tris buffer SCE 30°C
	U/l	76	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	262	Immunoinhibition EPS substrate 37°C
	U/l	253	Roche EPS Liquid 37°C
	U/l	292	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	303	pNP Maltotrioside substrates 37°C
	U/l	312	Siemens - blocked pNPG7 37°C
	U/l	314	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	318	Randox Liquid Ethylidene pNPG7 37°C
	U/l	336	Siemens - maltopenta/hexaoside 37°C
	U/l	355	Siemens 2-chloro-pNP linked substrate 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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Amylase Total	U/l	283	Roche Integra 2-chloro-pNPG7 37°C
	U/l	281	Other Roche 2-chloro-pNPG7 37°C
	U/l	278	Roche liquid stable pNPG7 37°C
	U/l	340	Siemens 2-chloro-pNPG3 37°C
	U/l	294	Beckman Coulter - blocked pNPG7 37°C
	U/l	299	Beckman Synchron AMY7 37°C
	U/l	300	I.L. 2-chloro-pNPG3 37°C
	U/l	330	Abbott Architect / Alinity cal factor 3806 37°C
	U/l	315	Abbott Architect / Alinity cal factor 3431 37°C
	U/l	297	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	155	Colorimetric 37°C
	U/l	105	Colorimetric 30°C
	U/l	74	Colorimetric 25°C
	U/l	174	Tris buffer with P5P 37°C
	U/l	118	Tris buffer with P5P 30°C
	U/l	83	Tris buffer with P5P 25°C
	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
	U/l	159	Phosphate buffer DGKC 37°C
	U/l	107	Phosphate buffer DGKC 30°C
	U/l	76	Phosphate buffer DGKC 25°C
	U/l	155	Tris buffer with P5P NVKC 37°C
	U/l	105	Tris buffer with P5P NVKC 30°C
	U/l	74	Tris buffer with P5P NVKC 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	15.0	Colorimetric
	mmol/l	15.1	Enzymatic
Bile Acids	µmol/l	40.4	4th Generation Colorimetric
	µmol/l	40.9	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.7	Diazo with Sulphanilic Acid
	mg/dl	1.56	
	µmol/l	27.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.63	
	µmol/l	29.1	Oxidation to Biliverdin/Vanadate
	mg/dl	1.70	
	µmol/l	32.0	Modified Jendrassik
	mg/dl	1.87	
Bilirubin Total	µmol/l	87.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.09	
	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	

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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	78.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.60	
	µmol/l	81.1	Nitrobenzenediazonium salt
	mg/dl	4.75	
	µmol/l	79.0	Diazonium ion
	mg/dl	4.62	
	µmol/l	91.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.38	
	µmol/l	83.2	Modified Jendrassik
	mg/dl	4.87	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.02	Ion selective electrode
	mg/dl	12.1	
	mmol/l	3.05	Methylthymol blue
	mg/dl	12.2	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.07	Phosphonazo
	mg/dl	12.3	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	111	Colorimetric
	mmol/l	112	ISE indirect
	mmol/l	114	ISE direct
	mmol/l	125	Optical Fluorescence
Cholesterol	mmol/l	7.55	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	
	mmol/l	7.61	Cholesterol Oxidase - IDMS
	mg/dl	294	
	mmol/l	7.57	Cholesterol Dehydrogenase
	mg/dl	292	
Cholinesterase	U/l	5170	Colorimetric Benzoylcholine 37°C
	U/l	5210	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	526	CK-NAC serum start (DGKC) 37°C
	U/l	329	CK-NAC serum start (DGKC) 30°C
	U/l	224	CK-NAC serum start (DGKC) 25°C
	U/l	510	CK-NAC substrate start (DGKC) 37°C
	U/l	319	CK-NAC substrate start (DGKC) 30°C
	U/l	217	CK-NAC substrate start (DGKC) 25°C
	U/l	515	CK-NAC (IFCC) 37°C
	U/l	322	CK-NAC (IFCC) 30°C
	U/l	219	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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
CK Total	U/l	556	Monothioglycerol 37°C
	U/l	348	Monothioglycerol 30°C
	U/l	236	Monothioglycerol 25°C
Copper	µmol/l	28.1	Atomic absorption
	µg/dl	179	
	µmol/l	26.4	Colorimetric
	µg/dl	168	
Creatinine	µmol/l	373	Alkaline picrate with deproteinization
	mg/dl	4.21	
	µmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.25	
	µmol/l	397	Enzymatic UV method
	mg/dl	4.48	
	µmol/l	393	Creatinine PAP method
	mg/dl	4.44	
	µmol/l	364	Jaffe rate blanked
	mg/dl	4.11	
	µmol/l	414	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.68	
	µmol/l	398	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.50	
	µmol/l	388	IDMS traceable
	mg/dl	4.39	
D-3-Hydroxybutyrate	mmol/l	1.19	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	162	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	162	Gamma glutamyl-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl-4-nitroanilide 30°C
	U/l	100	Gamma glutamyl-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
	U/l	175	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	138	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	108	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	31	Triethanolamine buffer 50 mmol 37°C
	U/l	24	Triethanolamine buffer 50 mmol 30°C
	U/l	19	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.7	Glucose dehydrogenase
	mg/dl	283	
	mmol/l	15.7	Hexokinase
	mg/dl	283	

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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.6	Oxygen electrode
	mg/dl	281	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	38.4	Colorimetric with ppt.
	µg/dl	215	
	µmol/l	38.9	Colorimetric without ppt.
	µg/dl	217	
Lactate	mmol/l	5.60	Colorimetric Lactate Oxidase
	mg/dl	50.5	
	mmol/l	5.45	UV LDH
	mg/dl	49.1	
LD (LDH)	U/l	371	L->P 37°C
	U/l	268	L->P 30°C
	U/l	188	L->P 25°C
	U/l	769	P->L Scandinavian & Dutch 37°C
	U/l	555	P->L Scandinavian & Dutch 30°C
	U/l	390	P->L Scandinavian & Dutch 25°C
	U/l	741	P->L German methods 37°C
	U/l	535	P->L German methods 30°C
	U/l	376	P->L German methods 25°C
	U/l	756	P->L SFBC 37°C
	U/l	546	P->L SFBC 30°C
	U/l	383	P->L SFBC 25°C
	U/l	374	L->P IFCC 37°C
	U/l	270	L->P IFCC 30°C
	U/l	190	L->P IFCC 25°C
Lipase	U/l	66	Other Colorimetric 37°C
	U/l	69	Roche Colorimetric 37°C
	U/l	90	Randox Colorimetric 37°C
Lithium	mmol/l	2.03	Flame photometry
	mg/dl	1.41	
	mmol/l	2.05	Ion selective electrode
	mg/dl	1.42	
	mmol/l	2.02	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.75	Atomic absorption
	mg/dl	4.25	
	mmol/l	1.69	Calmagite
	mg/dl	4.11	

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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Osmolality	mOsm/kg	343	Calculated
	mOsm/kg	375	Freezing point depression
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate enzymatic
	mg/dl	6.88	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.25	Enzymatic
	mmol/l	5.76	Flame photometry
	mmol/l	5.99	ISE method - direct
	mmol/l	6.14	ISE method - indirect
	mmol/l	6.14	Optical Fluorescence
	mmol/l	5.59	Colorimetric
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	
	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	158	Enzymatic
	mmol/l	155	Flame photometry
	mmol/l	155	ISE method - direct
	mmol/l	157	ISE method - indirect
	mmol/l	159	Optical Fluorescence
	mmol/l	152	Colorimetric
TIBC	µmol/l	38.1	Removal of excess free iron
	µg/dl	213	
	µmol/l	40.7	FE+UIBC(saturation with iron)
	µg/dl	228	
Triglycerides	mmol/l	3.04	Lipase/GPO-PAP no correction
	mg/dl	269	
	mmol/l	2.95	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	261	
	mmol/l	2.97	L/G Kinase EP. no correction
	mg/dl	263	
	mmol/l	2.96	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	262	
	mmol/l	2.98	Lipase/Glycerol Dehydrogenase
	mg/dl	264	

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)

METHOD Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.1	Urease hypochlorite
	mg/dl	115	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.549	Uricase catalase 340nm
	mg/dl	9.22	
	mmol/l	0.561	Reduction methods
	mg/dl	9.42	
	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.549	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	
	mmol/l	0.547	Spectrophotometric at 280-290
	mg/dl	9.19	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	
Zinc	µmol/l	31.8	Atomic absorption
	µg/dl	208	
	µmol/l	34.3	Colorimetric with deproteinisation
	µg/dl	224	

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 Alinity/ Architect c/ci Systems® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
	g/l	28.7	Bromocresol Purple
	g/dl	2.87	
Alkaline Phosphatase	U/l	337	AMP optimised to IFCC 37°C
	U/l	341	AMP non-optimised 37°C
ALT (GPT)	U/l	139	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	266	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	317	Abbott Architect / Alinity cal factor 3806 37°C
	U/l	316	Abbott Architect / Alinity cal factor 3431 37°C
	U/l	313	Abbott Architect 37°C
AST (GOT)	U/l	143	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.8	Enzymatic
Bile Acids	µmol/l	43.5	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	30.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	
	µmol/l	29.6	Diazo with Sulphanilic Acid
	mg/dl	1.73	
	µmol/l	29.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	89.7	Diazo with Dichloroaniline (DCA)
	mg/dl	5.25	
	µmol/l	91.3	Diazo with Sulphanilic Acid
	mg/dl	5.34	
	µmol/l	89.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.23	
	µmol/l	90.3	Diazonium ion
	mg/dl	5.28	
Calcium	mmol/l	3.02	Arsenazo III
	mg/dl	12.1	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.47	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
	mmol/l	7.46	Cholesterol Oxidase - IDMS
	mg/dl	288	
Cholinesterase	U/l	6124	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	516	CK-NAC serum start (DGKC) 37°C
	U/l	526	CK-NAC substrate start (DGKC) 37°C
	U/l	519	CK-NAC (IFCC) 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)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
CK Total	U/l	523	Abbott CK-NAC (IFCC) 37°C
Creatinine	µmol/l	403	Alkaline picrate with deproteinization
	mg/dl	4.55	
	µmol/l	400	Alkaline picrate no deproteinization
	mg/dl	4.52	
	µmol/l	398	Enzymatic UV method
	mg/dl	4.50	
	µmol/l	405	Jaffe rate blanked
	mg/dl	4.58	
	µmol/l	415	IDMS traceable
	mg/dl	4.69	
gamma-GT	U/l	164	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	161	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	41.0	Colorimetric with ppt.
	µg/dl	229	
	µmol/l	40.7	Colorimetric without ppt.
	µg/dl	228	
	µmol/l	41.1	Abbott Architect
	µg/dl	230	
Lactate	mmol/l	5.87	Colorimetric Lactate Oxidase
	mg/dl	52.9	
LD (LDH)	U/l	366	L->P 37°C
	U/l	355	L->P IFCC 37°C
Lipase	U/l	60	Other Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
	mmol/l	1.73	Enzymatic
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate enzymatic
	mg/dl	6.79	
	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.11	ISE method - indirect
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	

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 Alinity/ Architect c/ci Systems® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Protein Total	g/l	47.4	Biuret reaction kinetic
	g/dl	4.74	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	43.8	FE+UIBC(saturation with iron)
	µg/dl	245	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.91	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	
	mmol/l	3.01	L/G Kinase EP. no correction
	mg/dl	266	
	mmol/l	2.97	Lipase/Glycerol Dehydrogenase
	mg/dl	263	
Urea	mmol/l	20.2	Urease end point
	mg/dl	121	
	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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

CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/l	340	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	Tris buffer without P5P 37°C
AST (GOT)	U/l	171	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	29.2	Diazo with Sulphanilic Acid
	mg/dl	1.71	
	µmol/l	25.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.51	
Bilirubin Total	µmol/l	90.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.31	
	µmol/l	96.2	Diazo with Sulphanilic Acid
	mg/dl	5.63	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.66	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	
CK Total	U/l	520	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	373	Alkaline picrate no deproteinization
	mg/dl	4.22	
gamma-GT	U/l	167	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	16.1	Glucose oxidase
	mg/dl	290	
Iron	µmol/l	38.1	Colorimetric without ppt.
	µg/dl	213	
LD (LDH)	U/l	727	P->L German methods 37°C
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.56	Phosphomolybdate UV
	mg/dl	7.94	
Protein Total	g/l	48.5	Biuret reaction end point
	g/dl	4.85	
Triglycerides	mmol/l	3.13	Lipase/GPO-PAP no correction
	mg/dl	277	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.549	Uricase peroxidase with ascorbate oxidase
	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)

ABX Pentra 400® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
	mmol/l	0.561	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
	g/l	28.5	Bromocresol Purple
	g/dl	2.85	
Alkaline Phosphatase	U/l	363	Diethanolamine buffer DEA 37°C
	U/l	388	AMP optimised to IFCC 37°C
	U/l	367	AMP non-optimised 37°C
ALT (GPT)	U/l	154	Colorimetric 37°C
	U/l	147	Tris buffer without P5P 37°C
	U/l	145	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	142	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	252	Immunoinhibition EPS substrate 37°C
	U/l	249	Roche EPS Liquid 37°C
Amylase Total	U/l	295	pNP Maltotrioside substrates 37°C
	U/l	292	Randox Liquid Ethylidene pNPG7 37°C
	U/l	295	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	279	Roche liquid stable pNPG7 37°C
	U/l	341	Siemens 2-chloro-pNPG3 37°C
	U/l	294	Beckman Coulter - blocked pNPG7 37°C
	U/l	298	Beckman Synchron AMY7 37°C
	U/l	296	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	159	Colorimetric 37°C
	U/l	157	Tris buffer without P5P 37°C
	U/l	161	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	160	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	15.3	Enzymatic
Bile Acids	µmol/l	43.0	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	21.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.26	
	µmol/l	29.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.73	
	µmol/l	21.1	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.24	
Bilirubin Total	µmol/l	86.7	Diazo with Dichloroaniline (DCA)
	mg/dl	5.07	
	µmol/l	85.8	Diazo with Sulphanilic Acid
	mg/dl	5.02	
	µmol/l	85.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.02	

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)

Beckman Coulter AU Series® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	92.3	Oxidation to Biliverdin/Vanadate
	mg/dl	5.40	
	µmol/l	85.4	DPD (Beckman AU)
	mg/dl	4.99	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.08	Ion selective electrode
	mg/dl	12.3	
	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	111	Colorimetric
	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.65	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	
	mmol/l	7.79	Cholesterol Oxidase - IDMS
	mg/dl	301	
	mmol/l	7.81	Cholesterol Dehydrogenase
	mg/dl	301	
Cholinesterase	U/l	4932	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	552	CK-NAC serum start (DGKC) 37°C
	U/l	546	CK-NAC (IFCC) 37°C
	U/l	561	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	360	Alkaline picrate with deproteinization
	mg/dl	4.07	
	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	391	Enzymatic UV method
	mg/dl	4.42	
	µmol/l	408	Creatinine PAP method
	mg/dl	4.61	
	µmol/l	369	Jaffe rate blanked
	mg/dl	4.17	
	µmol/l	404	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.57	
	µmol/l	397	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.49	
	µmol/l	384	IDMS traceable
	mg/dl	4.34	
D-3-Hydroxybutyrate	mmol/l	1.15	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	168	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	171	Gamma glutamyl-4-nitroanilide 37°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	170	DCL gamma glutamyl-3-carboxy-4-nitroanilide 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)

Beckman Coulter AU Series® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	169	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	31	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	16.1	GOD/02-Beckman method
	mg/dl	289	
	mmol/l	15.4	Glucose dehydrogenase
	mg/dl	278	
	mmol/l	15.7	Hexokinase
	mg/dl	283	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	39.3	Colorimetric with ppt.
	µg/dl	220	
	µmol/l	39.3	Colorimetric without ppt.
	µg/dl	220	
Lactate	mmol/l	5.44	Colorimetric Lactate Oxidase
	mg/dl	49.0	
LD (LDH)	U/l	371	L->P 37°C
	U/l	800	P->L Scandinavian & Dutch 37°C
	U/l	793	P->L German methods 37°C
	U/l	374	L->P IFCC 37°C
	U/l	379	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	64	Other Colorimetric 37°C
Lithium	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.63	Methylthymol blue
	mg/dl	3.96	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate enzymatic
	mg/dl	6.85	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
	mmol/l	2.20	Beckman PHOSm (365nm)
	mg/dl	6.82	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	42.0	FE+UIBC(saturation with iron)
	µg/dl	235	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
TIBC	µmol/l	43.5	Direct Colorimetric
	µg/dl	243	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.91	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	
	mmol/l	2.97	L/G Kinase EP. no correction
	mg/dl	263	
	mmol/l	2.90	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	257	
	mmol/l	2.99	Lipase/Glycerol Dehydrogenase
	mg/dl	265	
Urea	mmol/l	19.9	Beckman-Conductivity
	mg/dl	120	
	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	19.3	Urease hypochlorite
	mg/dl	116	
	mmol/l	20.0	BUN
	mg/dl	56.1	
Uric Acid (Urate)	mmol/l	0.572	Uricase catalase 340nm
	mg/dl	9.61	
	mmol/l	0.567	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.565	Spectrophotometric at 280-290
	mg/dl	9.49	
	mmol/l	0.554	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	
Zinc	µmol/l	33.5	Colorimetric with deproteinisation
	µg/dl	219	
	µmol/l	32.9	Colorimetric without deprot.
	µg/dl	215	

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 DxC600/800® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Purple
	g/dl	2.88	
Alkaline Phosphatase	U/l	354	AMP optimised to IFCC 37°C
	U/l	369	AMP non-optimised 37°C
ALT (GPT)	U/l	140	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	303	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	150	Beckman Mod. IFCC Ref. without P5P 37°C
Bilirubin Total	µmol/l	81.9	Diazo with Sulphanilic Acid
	mg/dl	4.79	
Calcium	mmol/l	3.03	Ion selective electrode
	mg/dl	12.1	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.58	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	
CK Total	U/l	557	CK-NAC (IFCC) 37°C
	U/l	554	Monothioglycerol 37°C
Creatinine	µmol/l	381	Alkaline picrate no deproteinization
	mg/dl	4.31	
	µmol/l	399	Jaffe rate blanked
	mg/dl	4.51	
	µmol/l	395	IDMS traceable
	mg/dl	4.47	
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
Iron	µmol/l	39.1	Colorimetric without ppt.
	µg/dl	219	
Lipase	U/l	69	Other Colorimetric 37°C
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.07	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	155	ISE method - indirect
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	3.05	L/G Kinase EP. no correction
	mg/dl	270	
Urea	mmol/l	20.2	Beckman-Conductivity
	mg/dl	121	

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 DxC600/800® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.549	Uricase peroxidase no ascorbate oxidase
	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)

BIOSYSTEMS A15 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
Alkaline Phosphatase	U/l	370	AMP optimised to IFCC 37°C
	U/l	288	AMP optimised to IFCC 30°C
	U/l	236	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	147	Tris buffer without P5P 37°C
	U/l	109	Tris buffer without P5P 30°C
	U/l	83	Tris buffer without P5P 25°C
AST (GOT)	U/l	159	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.8	Diazo with Sulphanilic Acid
	mg/dl	5.13	
Calcium	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	
Cholesterol	mmol/l	7.65	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	
	mmol/l	7.71	Cholesterol Oxidase - IDMS
	mg/dl	298	
Creatinine	µmol/l	385	Jaffe rate blanked
	mg/dl	4.35	
gamma-GT	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Phosphate Inorganic	mmol/l	2.43	Phosphomolybdate UV
	mg/dl	7.53	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
Urea	mmol/l	18.0	Urease end point
	mg/dl	108	
	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.581	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.76	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	32.0	Bromocresol Green
	g/dl	3.20	
ALT (GPT)	U/l	152	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	86	Tris buffer without P5P 25°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
	U/l	110	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	86.7	Diazo with Sulphanilic Acid
	mg/dl	5.07	
	µmol/l	77.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.52	
Calcium	mmol/l	2.68	Arsenazo III
	mg/dl	10.7	
Cholesterol	mmol/l	7.45	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
	mmol/l	7.35	Cholesterol Oxidase - IDMS
	mg/dl	284	
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.14	
gamma-GT	U/l	185	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	146	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	114	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.9	Glucose oxidase
	mg/dl	286	
Protein Total	g/l	48.7	Biuret reaction end point
	g/dl	4.87	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	3.03	L/G Kinase EP. no correction
	mg/dl	268	
Urea	mmol/l	20.9	Urease end point
	mg/dl	126	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.592	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.95	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.564	Uricase peroxidase no 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)

Biotecnica/Wiener BT and CB Series Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
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	156	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	27.4	Diazo with Sulphanilic Acid
	mg/dl	1.60	
Bilirubin Total	µmol/l	78.0	Diazo with Sulphanilic Acid
	mg/dl	4.56	
	µmol/l	76.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.50	
Calcium	mmol/l	3.03	Cresolphthalein complexone
	mg/dl	12.1	
	mmol/l	2.95	Arsenazo III
	mg/dl	11.8	
Chloride	mmol/l	109	Colorimetric
Cholesterol	mmol/l	7.57	Cholesterol Oxidase - Abell Kendall
	mg/dl	292	
	mmol/l	7.76	Cholesterol Oxidase - IDMS
	mg/dl	300	
Cholinesterase	U/l	4878	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	520	CK-NAC substrate start (DGKC) 37°C
	U/l	326	CK-NAC substrate start (DGKC) 30°C
	U/l	221	CK-NAC substrate start (DGKC) 25°C
	U/l	545	CK-NAC (IFCC) 37°C
	U/l	341	CK-NAC (IFCC) 30°C
	U/l	232	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	371	Alkaline picrate no deproteinization
	mg/dl	4.19	
	µmol/l	398	Creatinine PAP method
	mg/dl	4.50	
	µmol/l	409	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.62	
gamma-GT	U/l	156	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	123	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	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)

Biotecnica/Wiener BT and CB Series Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	36.3	Colorimetric with ppt.
	µg/dl	203	
	µmol/l	35.1	Colorimetric without ppt.
	µg/dl	196	
LD (LDH)	U/l	661	P->L Scandinavian & Dutch 37°C
	U/l	477	P->L Scandinavian & Dutch 30°C
	U/l	335	P->L Scandinavian & Dutch 25°C
	U/l	725	P->L SFBC 37°C
	U/l	523	P->L SFBC 30°C
	U/l	368	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate UV
	mg/dl	7.47	
Potassium	mmol/l	6.17	ISE method - direct
Protein Total	g/l	51.0	Biuret reaction end point
	g/dl	5.10	
	g/l	50.1	Biuret reaction kinetic
	g/dl	5.01	
Sodium	mmol/l	157	ISE method - direct
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
Urea	mmol/l	19.8	Urease kinetic
	mg/dl	119	
	mmol/l	19.8	BUN
	mg/dl	55.6	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	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)

COBAS INTEGRA® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
	g/l	31.6	Turbidimetric Assays
	g/dl	3.16	
Alkaline Phosphatase	U/l	332	Roche Integra AMP buffer 37°C
	U/l	259	Roche Integra AMP buffer 30°C
	U/l	212	Roche Integra AMP buffer 25°C
	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	132	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	267	Immunoinhibition EPS substrate 37°C
	U/l	259	Roche EPS Liquid 37°C
Amylase Total	U/l	285	Roche Integra 2-chloro-pNPG7 37°C
	U/l	286	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	147	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.4	Enzymatic
Bilirubin Direct	µmol/l	29.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	
	µmol/l	29.3	Diazo with Sulphanilic Acid
	mg/dl	1.71	
	µmol/l	29.4	Roche DPD JG standardised
	mg/dl	1.72	
	µmol/l	28.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.69	
	µmol/l	29.2	Roche DPD Doumas standardised
	mg/dl	1.71	
Bilirubin Total	µmol/l	77.2	Diazo with Dichloroaniline (DCA)
	mg/dl	4.51	
	µmol/l	78.3	Diazo with Sulphanilic Acid
	mg/dl	4.58	
	µmol/l	77.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.53	
	µmol/l	77.9	Diazonium ion
	mg/dl	4.56	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
	mmol/l	3.07	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.49	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	
	mmol/l	7.49	Cholesterol Oxidase - IDMS
	mg/dl	289	
Cholinesterase	U/l	5295	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	515	CK-NAC serum start (DGKC) 37°C
	U/l	322	CK-NAC serum start (DGKC) 30°C
	U/l	219	CK-NAC serum start (DGKC) 25°C
	U/l	500	CK-NAC substrate start (DGKC) 37°C
	U/l	313	CK-NAC substrate start (DGKC) 30°C
	U/l	213	CK-NAC substrate start (DGKC) 25°C
	U/l	507	CK-NAC (IFCC) 37°C
	U/l	317	CK-NAC (IFCC) 30°C
	U/l	215	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	370	Alkaline picrate with deproteinization
	mg/dl	4.18	
	µmol/l	379	Alkaline picrate no deproteinization
	mg/dl	4.28	
	µmol/l	393	Roche Creatinine Plus
	mg/dl	4.44	
	µmol/l	380	Jaffe rate blanked
	mg/dl	4.29	
	µmol/l	402	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.54	
	µmol/l	396	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.47	
	µmol/l	379	IDMS traceable
	mg/dl	4.29	
gamma-GT	U/l	164	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.9	Hexokinase
	mg/dl	286	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	38.7	Colorimetric with ppt.
	µg/dl	216	
	µmol/l	39.6	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.64	Colorimetric Lactate Oxidase
	mg/dl	50.8	
LD (LDH)	U/l	377	L->P 37°C
	U/l	272	L->P 30°C
	U/l	191	L->P 25°C
	U/l	385	L->P IFCC 37°C
	U/l	278	L->P IFCC 30°C
	U/l	195	L->P IFCC 25°C
Lipase	U/l	64	Roche Colorimetric 37°C
	U/l	67	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	2.05	Ion selective electrode
	mg/dl	1.42	
Magnesium	mmol/l	1.70	Xylidyl Blue
	mg/dl	4.13	
	mmol/l	1.73	Chlorphosphonazo III
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	43.6	Biuret reaction end point
	g/dl	4.36	
	g/l	44.0	Biuret reaction kinetic
	g/dl	4.40	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	40.7	FE+UIBC(saturation with iron)
	µg/dl	227	
Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
	mg/dl	267	
	mmol/l	3.01	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	266	
	mmol/l	2.96	L/G Kinase EP. no correction
	mg/dl	262	
	mmol/l	3.01	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	266	
	mmol/l	3.03	Lipase/Glycerol Dehydrogenase
	mg/dl	268	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Urea	mmol/l	19.6	Urease end point
	mg/dl	118	
	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.558	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.37	
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.554	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	

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 Series Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
Alkaline Phosphatase	U/l	372	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	Tris buffer without P5P 37°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.56	Cholesterol Oxidase - Abell Kendall
	mg/dl	292	
	mmol/l	7.60	Cholesterol Oxidase - IDMS
	mg/dl	293	
CK Total	U/l	522	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.15	
	µmol/l	407	Creatinine PAP method
	mg/dl	4.60	
gamma-GT	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.1	Hexokinase
	mg/dl	291	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	36.2	Colorimetric without ppt.
	µg/dl	202	
LD (LDH)	U/l	387	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.39	Phosphomolybdate UV
	mg/dl	7.41	
Protein Total	g/l	49.2	Biuret reaction end point
	g/dl	4.92	
Triglycerides	mmol/l	2.93	Lipase/GPO-PAP no correction
	mg/dl	259	
	mmol/l	3.12	L/G Kinase EP. no correction
	mg/dl	276	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.516	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.67	
	mmol/l	0.661	Uricase peroxidase no ascorbate oxidase
	mg/dl	11.1	

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 Series Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.561	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
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	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
Bilirubin Total	µmol/l	87.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.11	
	µmol/l	86.2	Diazo with Sulphanilic Acid
	mg/dl	5.04	
	µmol/l	82.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.85	
Calcium	mmol/l	2.86	Cresolphthalein complexone
	mg/dl	11.5	
	mmol/l	2.97	Arsenazo III
	mg/dl	11.9	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	291	
CK Total	U/l	569	CK-NAC (IFCC) 37°C
	U/l	356	CK-NAC (IFCC) 30°C
	U/l	242	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	359	Alkaline picrate with deproteinization
	mg/dl	4.06	
	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	362	Jaffe rate blanked
	mg/dl	4.09	
gamma-GT	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
Iron	µmol/l	37.1	Colorimetric without ppt.
	µg/dl	207	
LD (LDH)	U/l	374	L->P IFCC 37°C
	U/l	270	L->P IFCC 30°C
	U/l	190	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)

HITACHI SERIES® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.39	Phosphomolybdate UV
	mg/dl	7.41	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	46.5	Biuret reaction end point
	g/dl	4.65	
Sodium	mmol/l	158	ISE method - indirect
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	2.99	L/G Kinase EP. no correction
	mg/dl	265	
Urea	mmol/l	19.6	Urease end point
	mg/dl	118	
	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	20.0	BUN
	mg/dl	56.1	
Uric Acid (Urate)	mmol/l	0.570	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	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)

ILab 600®/650®/Aries/Taurus Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	375	AMP optimised to IFCC 37°C
	U/l	292	AMP optimised to IFCC 30°C
	U/l	240	AMP optimised to IFCC 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
Amylase Total	U/l	300	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	145	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	19.7	Diazo with Sulphanilic Acid
	mg/dl	1.15	
Bilirubin Total	µmol/l	83.8	Diazo with Sulphanilic Acid
	mg/dl	4.90	
Calcium	mmol/l	3.07	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.57	Cholesterol Oxidase - Abell Kendall
	mg/dl	292	
Cholinesterase	U/l	5346	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	530	CK-NAC (IFCC) 37°C
	U/l	332	CK-NAC (IFCC) 30°C
	U/l	225	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	376	Alkaline picrate no deproteinization
	mg/dl	4.25	
gamma-GT	U/l	160	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	154	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	121	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	95	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	38.2	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)

ILab 600®/650®/Aries/Taurus Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
LD (LDH)	U/l	739	P->L German methods 37°C
	U/l	534	P->L German methods 30°C
	U/l	375	P->L German methods 25°C
Lipase	U/l	67	Other Colorimetric 37°C
Magnesium	mmol/l	1.73	Enzymatic
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	157	ISE method - indirect
Triglycerides	mmol/l	3.04	Lipase/GPO-PAP no correction
	mg/dl	269	
Urea	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.521	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.75	
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	338	AMP optimised to IFCC 37°C
	U/l	263	AMP optimised to IFCC 30°C
	U/l	216	AMP optimised to IFCC 25°C
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	166	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 Total	µmol/l	80.2	Nitrobenzenediazonium salt
	mg/dl	4.69	
Calcium	mmol/l	3.25	Arsenazo III
	mg/dl	13.0	
Chloride	mmol/l	117	ISE direct
Cholesterol	mmol/l	7.58	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	
	mmol/l	7.58	Cholesterol Oxidase - IDMS
	mg/dl	293	
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	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	378	Enzymatic UV method
	mg/dl	4.28	
	µmol/l	392	Creatinine PAP method
	mg/dl	4.43	
	µmol/l	345	Jaffe rate blanked
	mg/dl	3.90	
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	42.4	Colorimetric with ppt.
	µg/dl	237	
	µmol/l	39.8	Colorimetric without ppt.
	µg/dl	222	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
LD (LDH)	U/l	741	P->L Scandinavian & Dutch 37°C
	U/l	535	P->L Scandinavian & Dutch 30°C
	U/l	376	P->L Scandinavian & Dutch 25°C
	U/l	376	L->P IFCC 37°C
	U/l	271	L->P IFCC 30°C
	U/l	191	L->P IFCC 25°C
Magnesium	mmol/l	1.60	Xylidyl Blue
	mg/dl	3.89	
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	6.03	ISE method - direct
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Sodium	mmol/l	153	ISE method - direct
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	
	mmol/l	3.14	Lipase/Glycerol Dehydrogenase
	mg/dl	278	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	
	mmol/l	0.570	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.58	

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 SERIES Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
	g/l	29.0	Bromocresol Purple
	g/dl	2.90	
Alkaline Phosphatase	U/l	366	AMP optimised to IFCC 37°C
	U/l	285	AMP optimised to IFCC 30°C
	U/l	234	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	154	Colorimetric 37°C
	U/l	114	Colorimetric 30°C
	U/l	87	Colorimetric 25°C
	U/l	150	Tris buffer without P5P 37°C
	U/l	111	Tris buffer without P5P 30°C
	U/l	84	Tris buffer without P5P 25°C
Amylase Total	U/l	308	pNP Maltotrioside substrates 37°C
	U/l	294	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	165	Colorimetric 37°C
	U/l	112	Colorimetric 30°C
	U/l	79	Colorimetric 25°C
	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	15.0	Enzymatic
Bilirubin Direct	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
	µmol/l	27.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	
Bilirubin Total	µmol/l	89.2	Diazo with Dichloroaniline (DCA)
	mg/dl	5.22	
	µmol/l	85.8	Diazo with Sulphanilic Acid
	mg/dl	5.02	
	µmol/l	83.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.89	
	µmol/l	81.8	Oxidation to Biliverdin/Vanadate
	mg/dl	4.79	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	121	Colorimetric

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 SERIES Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.49	Cholesterol Oxidase - Abell Kendall
	mg/dl	289	
	mmol/l	7.44	Cholesterol Oxidase - IDMS
	mg/dl	287	
	mmol/l	7.56	Cholesterol Dehydrogenase
	mg/dl	292	
Cholinesterase	U/l	5275	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	367	Alkaline picrate with deproteinization
	mg/dl	4.15	
	µmol/l	371	Alkaline picrate no deproteinization
	mg/dl	4.19	
	µmol/l	401	Enzymatic UV method
	mg/dl	4.53	
	µmol/l	392	Creatinine PAP method
	mg/dl	4.43	
	µmol/l	377	Jaffe rate blanked
	mg/dl	4.26	
	µmol/l	410	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.63	
gamma-GT	U/l	168	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	132	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	153	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	121	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C
	U/l	94	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	39.7	Colorimetric with ppt.
	µg/dl	222	
	µmol/l	38.1	Colorimetric without ppt.
	µg/dl	213	
Lactate	mmol/l	5.80	Colorimetric Lactate Oxidase
	mg/dl	52.3	
LD (LDH)	U/l	722	P->L German methods 37°C
	U/l	521	P->L German methods 30°C
	U/l	366	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)

MINDRAY BS SERIES Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
LD (LDH)	U/l	367	L->P IFCC 37°C
	U/l	265	L->P IFCC 30°C
	U/l	186	L->P IFCC 25°C
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.90	Enzymatic
	mg/dl	4.62	
Phosphate Inorganic	mmol/l	2.10	Phosphomolybdate UV
	mg/dl	6.51	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	47.8	Biuret reaction end point
	g/dl	4.78	
	g/l	46.8	Biuret reaction kinetic
	g/dl	4.68	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	37.0	FE+UIBC(saturation with iron)
	µg/dl	207	
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
	mmol/l	2.96	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	262	
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	
	mmol/l	2.84	Lipase/Glycerol Dehydrogenase
	mg/dl	251	
Urea	mmol/l	20.0	Urease end point
	mg/dl	120	
	mmol/l	19.9	Urease kinetic
	mg/dl	120	
	mmol/l	20.6	Urease hypochlorite
	mg/dl	124	
	mmol/l	19.9	BUN
	mg/dl	55.9	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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

CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
Alkaline Phosphatase	U/l	435	Diethanolamine buffer DEA 37°C
	U/l	339	Diethanolamine buffer DEA 30°C
	U/l	278	Diethanolamine buffer DEA 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	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	35.4	Diazo with Sulphanilic Acid
	mg/dl	2.07	
Bilirubin Total	µmol/l	85.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.03	
Cholesterol	mmol/l	7.62	Cholesterol Oxidase - Abell Kendall
	mg/dl	294	
	mmol/l	7.45	Cholesterol Oxidase - IDMS
	mg/dl	288	
CK Total	U/l	527	CK-NAC (IFCC) 37°C
	U/l	330	CK-NAC (IFCC) 30°C
	U/l	224	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	362	Jaffe rate blanked
	mg/dl	4.08	
gamma-GT	U/l	170	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	134	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	105	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	175	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	138	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	108	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
Iron	µmol/l	38.5	Colorimetric without ppt.
	µg/dl	215	
LD (LDH)	U/l	690	P->L German methods 37°C
	U/l	498	P->L German methods 30°C
	U/l	350	P->L German methods 25°C
Magnesium	mmol/l	1.82	Xylidyl Blue
	mg/dl	4.42	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.550	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.572	Uricase Peroxidase with ascorbate oxidase @ 546nm
	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)

Roche Cobas C111® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
Alkaline Phosphatase	U/l	333	Roche Integra AMP buffer 37°C
	U/l	259	Roche Integra AMP buffer 30°C
	U/l	213	Roche Integra AMP buffer 25°C
	U/l	309	AMP optimised to IFCC 37°C
	U/l	241	AMP optimised to IFCC 30°C
	U/l	197	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Amylase Total	U/l	284	Other Roche 2-chloro-pNPG7 37°C
	U/l	284	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	148	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.83	
	µmol/l	29.4	Diazo with Sulphanilic Acid
	mg/dl	1.72	
	µmol/l	31.4	Roche DPD JG standardised
	mg/dl	1.83	
	µmol/l	29.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.70	
	µmol/l	31.6	Roche DPD Doumas standardised
	mg/dl	1.85	
Bilirubin Total	µmol/l	76.4	Diazo with Dichloroaniline (DCA)
	mg/dl	4.47	
	µmol/l	77.6	Diazo with Sulphanilic Acid
	mg/dl	4.54	
	µmol/l	77.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.55	
	µmol/l	80.5	Diazonium ion
	mg/dl	4.71	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	290	
	mmol/l	7.54	Cholesterol Oxidase - IDMS
	mg/dl	291	
CK Total	U/l	513	CK-NAC (IFCC) 37°C
	U/l	321	CK-NAC (IFCC) 30°C
	U/l	218	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	373	Alkaline picrate no deproteinization
	mg/dl	4.21	
	µmol/l	389	Roche Creatinine Plus
	mg/dl	4.39	
	µmol/l	373	Jaffe rate blanked
	mg/dl	4.22	
	µmol/l	410	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.63	
	µmol/l	396	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.47	
gamma-GT	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	16.0	Hexokinase
	mg/dl	288	
	mmol/l	16.1	Glucose oxidase
	mg/dl	290	
Iron	µmol/l	39.0	Colorimetric without ppt.
	µg/dl	218	
LD (LDH)	U/l	380	L->P IFCC 37°C
	U/l	274	L->P IFCC 30°C
	U/l	193	L->P IFCC 25°C
Lipase	U/l	64	Roche Colorimetric 37°C
	U/l	60	Roche Turbidimetric with colipase 37°C
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
	mmol/l	1.73	Chlorphosphonazo III
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	
	mmol/l	3.15	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	279	
	mmol/l	3.05	L/G Kinase EP. no correction
	mg/dl	270	
	mmol/l	3.01	Lipase/Glycerol Dehydrogenase
	mg/dl	266	
Urea	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.547	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.19	
	mmol/l	0.556	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	
	mmol/l	0.554	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	

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 c303/501/502/503 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	31.2	Bromocresol Green
	g/dl	3.12	
	g/l	29.9	Bromocresol Purple
	g/dl	2.99	
	g/l	28.4	Turbidimetric Assays
	g/dl	2.84	
Alkaline Phosphatase	U/l	326	Roche Integra AMP buffer 37°C
	U/l	254	Roche Integra AMP buffer 30°C
	U/l	208	Roche Integra AMP buffer 25°C
	U/l	330	AMP optimised to IFCC 37°C
	U/l	257	AMP optimised to IFCC 30°C
	U/l	211	AMP optimised to IFCC 25°C
	U/l	324	Colorimetric 37°C
	U/l	252	Colorimetric 30°C
	U/l	207	Colorimetric 25°C
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
Amylase Pancreatic	U/l	257	Immunoinhibition EPS substrate 37°C
	U/l	252	Roche EPS Liquid 37°C
Amylase Total	U/l	279	Randox Liquid Ethylidene pNPG7 37°C
	U/l	277	Roche Integra 2-chloro-pNPG7 37°C
	U/l	278	Other Roche 2-chloro-pNPG7 37°C
	U/l	277	Roche liquid stable pNPG7 37°C
	U/l	277	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	147	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.5	Colorimetric
	mmol/l	14.8	Enzymatic
Bile Acids	µmol/l	42.1	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	
	µmol/l	28.4	Diazo with Sulphanilic Acid
	mg/dl	1.66	
	µmol/l	28.6	Roche DPD JG standardised
	mg/dl	1.67	
	µmol/l	28.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	

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

RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	75.5	Diazo with Dichloroaniline (DCA)
	mg/dl	4.42	
	µmol/l	75.2	Diazo with Sulphanilic Acid
	mg/dl	4.40	
	µmol/l	75.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.42	
	µmol/l	75.6	Nitrobenzenediazonium salt
	mg/dl	4.42	
	µmol/l	75.5	Diazonium ion
	mg/dl	4.41	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	290	
	mmol/l	7.52	Cholesterol Oxidase - IDMS
	mg/dl	290	
	mmol/l	7.42	Cholesterol Dehydrogenase
	mg/dl	286	
Cholinesterase	U/l	5171	Colorimetric Benzoylcholine 37°C
	U/l	5143	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	507	CK-NAC serum start (DGKC) 37°C
	U/l	317	CK-NAC serum start (DGKC) 30°C
	U/l	215	CK-NAC serum start (DGKC) 25°C
	U/l	495	CK-NAC substrate start (DGKC) 37°C
	U/l	310	CK-NAC substrate start (DGKC) 30°C
	U/l	210	CK-NAC substrate start (DGKC) 25°C
	U/l	508	CK-NAC (IFCC) 37°C
	U/l	318	CK-NAC (IFCC) 30°C
	U/l	216	CK-NAC (IFCC) 25°C
	U/l	515	Creatinine phosphate substrate Start 37°C
	U/l	322	Creatinine phosphate substrate Start 30°C
	U/l	219	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	389	Alkaline picrate no deproteinization
	mg/dl	4.39	
	µmol/l	404	Enzymatic UV method
	mg/dl	4.57	
	µmol/l	398	Creatinine PAP method
	mg/dl	4.50	

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 c303/501/502/503 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	400	Roche Creatinine Plus
	mg/dl	4.52	
	µmol/l	389	Jaffe rate blanked
	mg/dl	4.40	
	µmol/l	412	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.66	
	µmol/l	406	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.59	
	µmol/l	390	IDMS traceable
	mg/dl	4.41	
gamma-GT	U/l	157	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	124	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	164	Gamma glutamyl-4-nitroanilide 37°C
	U/l	129	Gamma glutamyl-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl-4-nitroanilide 25°C
	U/l	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	174	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	137	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C
	U/l	107	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	15.5	Glucose dehydrogenase
	mg/dl	279	
	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	39.2	Colorimetric with ppt.
	µg/dl	219	
	µmol/l	39.0	Colorimetric without ppt.
	µg/dl	218	
Lactate	mmol/l	5.61	Colorimetric Lactate Oxidase
	mg/dl	50.5	
LD (LDH)	U/l	380	L->P 37°C
	U/l	274	L->P 30°C
	U/l	193	L->P 25°C
	U/l	380	L->P IFCC 37°C
	U/l	274	L->P IFCC 30°C
	U/l	193	L->P IFCC 25°C
Lipase	U/l	71	Other Colorimetric 37°C
	U/l	70	Roche Colorimetric 37°C
	U/l	69	Roche Turbidimetric with colipase 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)

Roche Cobas c303/501/502/503 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Lithium	mmol/l	2.03	Ion selective electrode
	mg/dl	1.41	
	mmol/l	2.02	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.78	Arsenazo III
	mg/dl	4.33	
	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.72	Methylthymol blue
	mg/dl	4.18	
	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
	mmol/l	1.75	Enzymatic
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate enzymatic
	mg/dl	6.88	
	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	45.1	Biuret reaction kinetic
	g/dl	4.51	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	39.9	FE+UIBC(saturation with iron)
	µg/dl	223	
	µmol/l	42.7	Calculated from Transferrin
	µg/dl	239	
Triglycerides	mmol/l	3.00	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	3.03	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	268	
	mmol/l	3.01	L/G Kinase EP. no correction
	mg/dl	266	
	mmol/l	3.05	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	270	
	mmol/l	2.99	Lipase/Glycerol Dehydrogenase
	mg/dl	265	
Urea	mmol/l	20.0	Urease end point
	mg/dl	120	
	mmol/l	19.8	Urease kinetic
	mg/dl	119	

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 c303/501/502/503 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Urea	mmol/l	19.8	BUN
	mg/dl	55.6	
Uric Acid (Urate)	mmol/l	0.540	Uricase catalase 340nm
	mg/dl	9.07	
	mmol/l	0.541	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	
	mmol/l	0.539	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.06	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
	g/l	31.0	Bromocresol Purple
	g/dl	3.10	
	g/l	30.7	Turbidimetric Assays
	g/dl	3.07	
Alkaline Phosphatase	U/l	322	Roche Integra AMP buffer 37°C
	U/l	251	Roche Integra AMP buffer 30°C
	U/l	206	Roche Integra AMP buffer 25°C
	U/l	317	AMP optimised to IFCC 37°C
	U/l	247	AMP optimised to IFCC 30°C
	U/l	203	AMP optimised to IFCC 25°C
	U/l	328	Colorimetric 37°C
	U/l	256	Colorimetric 30°C
	U/l	210	Colorimetric 25°C
ALT (GPT)	U/l	137	Colorimetric 37°C
	U/l	101	Colorimetric 30°C
	U/l	77	Colorimetric 25°C
	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
Amylase Pancreatic	U/l	278	Immunoinhibition EPS substrate 37°C
	U/l	254	Roche EPS Liquid 37°C
Amylase Total	U/l	271	Roche Integra 2-chloro-pNPG7 37°C
	U/l	284	Other Roche 2-chloro-pNPG7 37°C
	U/l	281	Roche liquid stable pNPG7 37°C
	U/l	287	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	149	Colorimetric 37°C
	U/l	101	Colorimetric 30°C
	U/l	71	Colorimetric 25°C
	U/l	148	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.9	Enzymatic
Bilirubin Direct	µmol/l	26.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	
	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	µmol/l	27.3	Roche DPD JG standardised
	mg/dl	1.60	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	76.6	Diazo with Sulphanilic Acid
	mg/dl	4.48	
	µmol/l	75.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.43	
	µmol/l	76.4	Diazonium ion
	mg/dl	4.47	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.58	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	
	mmol/l	7.63	Cholesterol Oxidase - IDMS
	mg/dl	295	
	mmol/l	7.55	Cholesterol Dehydrogenase
	mg/dl	291	
Cholinesterase	U/l	5134	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	519	CK-NAC substrate start (DGKC) 37°C
	U/l	325	CK-NAC substrate start (DGKC) 30°C
	U/l	221	CK-NAC substrate start (DGKC) 25°C
	U/l	514	CK-NAC (IFCC) 37°C
	U/l	322	CK-NAC (IFCC) 30°C
	U/l	218	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	401	Alkaline picrate no deproteinization
	mg/dl	4.53	
	µmol/l	397	Roche Creatinine Plus
	mg/dl	4.49	
	µmol/l	398	Jaffe rate blanked
	mg/dl	4.50	
	µmol/l	418	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.72	
	µmol/l	406	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.59	
	µmol/l	395	IDMS traceable
	mg/dl	4.46	
gamma-GT	U/l	160	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	169	Gamma glutamyl-4-nitroanilide 37°C
	U/l	133	Gamma glutamyl-4-nitroanilide 30°C
	U/l	104	Gamma glutamyl-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 C311® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	173	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	38.4	Colorimetric with ppt.
	µg/dl	214	
	µmol/l	38.8	Colorimetric without ppt.
	µg/dl	217	
Lactate	mmol/l	5.58	Colorimetric Lactate Oxidase
	mg/dl	50.3	
LD (LDH)	U/l	378	L->P 37°C
	U/l	273	L->P 30°C
	U/l	192	L->P 25°C
	U/l	378	L->P IFCC 37°C
	U/l	273	L->P IFCC 30°C
	U/l	192	L->P IFCC 25°C
Lipase	U/l	71	Roche Colorimetric 37°C
Magnesium	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	
	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.79	Methylthymol blue
	mg/dl	4.35	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
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	6.18	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	40.9	FE+UIBC(saturation with iron)
	µg/dl	229	
	µmol/l	39.7	Direct Colorimetric
	µg/dl	222	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	3.01	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	3.02	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	267	
	mmol/l	3.05	L/G Kinase EP. no correction
	mg/dl	270	
	mmol/l	2.99	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	265	
	mmol/l	2.99	Lipase/Glycerol Dehydrogenase
	mg/dl	265	
Urea	mmol/l	19.4	Urease end point
	mg/dl	117	
	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	20.0	BUN
	mg/dl	56.1	
Uric Acid (Urate)	mmol/l	0.544	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.14	
	mmol/l	0.546	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
Alkaline Phosphatase	U/l	316	Roche Integra AMP buffer 37°C
	U/l	246	Roche Integra AMP buffer 30°C
	U/l	202	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	135	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	253	Roche EPS Liquid 37°C
Amylase Total	U/l	281	Randox Liquid Ethylidene pNPG7 37°C
	U/l	276	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	148	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.5	Enzymatic
Bilirubin Direct	µmol/l	28.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	
	µmol/l	29.3	Roche DPD JG standardised
	mg/dl	1.71	
Bilirubin Total	µmol/l	77.0	Diazo with Sulphanilic Acid
	mg/dl	4.50	
	µmol/l	75.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.43	
	µmol/l	75.8	Diazonium ion
	mg/dl	4.44	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.06	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.56	Cholesterol Oxidase - Abell Kendall
	mg/dl	292	
	mmol/l	7.50	Cholesterol Oxidase - IDMS
	mg/dl	290	
Cholinesterase	U/l	5085	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	494	CK-NAC substrate start (DGKC) 37°C
	U/l	309	CK-NAC substrate start (DGKC) 30°C
	U/l	210	CK-NAC substrate start (DGKC) 25°C
	U/l	503	CK-NAC (IFCC) 37°C
	U/l	315	CK-NAC (IFCC) 30°C
	U/l	214	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 c701 / c702 / c711 Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	405	Roche Creatinine Plus
	mg/dl	4.58	
	µmol/l	418	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.72	
	µmol/l	409	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.62	
	µmol/l	393	IDMS traceable
	mg/dl	4.44	
gamma-GT	U/l	161	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	127	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
Iron	µmol/l	37.3	Colorimetric without ppt.
	µg/dl	209	
Lactate	mmol/l	5.51	Colorimetric Lactate Oxidase
	mg/dl	49.6	
LD (LDH)	U/l	376	L->P IFCC 37°C
	U/l	271	L->P IFCC 30°C
	U/l	191	L->P IFCC 25°C
Lipase	U/l	70	Roche Colorimetric 37°C
Lithium	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	45.1	Biuret reaction end point
	g/dl	4.51	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	39.2	FE+UIBC(saturation with iron)
	µg/dl	219	
Triglycerides	mmol/l	3.00	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	2.93	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	259	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	3.03	L/G Kinase EP. no correction
	mg/dl	268	
	mmol/l	2.98	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	264	
	mmol/l	3.05	Lipase/Glycerol Dehydrogenase
	mg/dl	270	
Urea	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.531	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.92	
	mmol/l	0.533	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.95	
	mmol/l	0.532	Uricase Peroxidase with ascorbate oxidase @ 546nm
	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)

RX SERIES® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
Alkaline Phosphatase	U/l	542	Diethanolamine buffer DEA 37°C
	U/l	379	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	146	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	292	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	318	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
Bile Acids	µmol/l	40.9	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.2	Diazo with Sulphanilic Acid
	mg/dl	1.65	
	µmol/l	27.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.62	
Bilirubin Total	µmol/l	81.4	Diazo with Sulphanilic Acid
	mg/dl	4.76	
	µmol/l	91.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.35	
Calcium	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	8.10	Cholesterol Oxidase - Abell Kendall
	mg/dl	313	
CK Total	U/l	521	CK-NAC substrate start (DGKC) 37°C
	U/l	524	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	329	Alkaline picrate no deproteinization
	mg/dl	3.72	
	µmol/l	385	Enzymatic UV method
	mg/dl	4.35	
gamma-GT	U/l	175	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.9	Glucose oxidase
	mg/dl	287	
Iron	µmol/l	40.4	Colorimetric without ppt.
	µg/dl	226	
Lactate	mmol/l	5.54	Colorimetric Lactate Oxidase
	mg/dl	49.9	
LD (LDH)	U/l	780	P->L German methods 37°C
	U/l	375	L->P IFCC 37°C
Lipase	U/l	90	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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.00	
Potassium	mmol/l	6.25	Enzymatic
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Sodium	mmol/l	158	Enzymatic
TIBC	µmol/l	48.1	Direct Colorimetric
	µg/dl	269	
Triglycerides	mmol/l	3.04	Lipase/GPO-PAP no correction
	mg/dl	269	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.560	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.41	
	mmol/l	0.555	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.32	

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 Atellica Solution Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
	g/l	28.0	Bromocresol Purple
	g/dl	2.80	
Alkaline Phosphatase	U/l	317	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	158	Tris buffer without P5P 37°C
	U/l	157	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	295	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	323	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	167	Tris buffer without P5P 37°C
	U/l	169	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.0	Enzymatic
Bilirubin Direct	µmol/l	29.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.74	
Bilirubin Total	µmol/l	93.0	Oxidation to Biliverdin/Vanadate
	mg/dl	5.44	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.05	Arsenazo III
	mg/dl	12.2	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.61	Cholesterol Oxidase - Abell Kendall
	mg/dl	294	
	mmol/l	7.53	Cholesterol Oxidase - IDMS
	mg/dl	291	
Cholinesterase	U/l	6427	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	521	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	384	Alkaline picrate no deproteinization
	mg/dl	4.34	
	µmol/l	398	Enzymatic UV method
	mg/dl	4.50	
	µmol/l	402	Creatinine PAP method
	mg/dl	4.55	
	µmol/l	381	Jaffe rate blanked
	mg/dl	4.30	
	µmol/l	411	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.64	
	µmol/l	393	IDMS traceable
	mg/dl	4.44	

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)

Siemens Atellica Solution Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	156	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	153	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.7	Colorimetric with ppt.
	µg/dl	216	
	µmol/l	38.6	Colorimetric without ppt.
	µg/dl	216	
Lactate	mmol/l	5.61	Colorimetric Lactate Oxidase
	mg/dl	50.5	
LD (LDH)	U/l	369	L->P 37°C
	U/l	367	L->P IFCC 37°C
Lipase	U/l	80	Other Colorimetric 37°C
Lithium	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
Magnesium	mmol/l	1.69	Xylidyl Blue
	mg/dl	4.11	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	45.3	Biuret reaction end point
	g/dl	4.53	
	g/l	45.5	Biuret reaction kinetic
	g/dl	4.55	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	47.7	FE+UIBC(saturation with iron)
	µg/dl	267	
	µmol/l	49.4	Direct Colorimetric
	µg/dl	276	
Triglycerides	mmol/l	3.12	Lipase/GPO-PAP no correction
	mg/dl	276	
	mmol/l	3.11	L/G Kinase EP. no correction
	mg/dl	275	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	19.9	Urease kinetic
	mg/dl	120	
	mmol/l	20.3	Urease hypochlorite
	mg/dl	122	
	mmol/l	19.9	BUN
	mg/dl	55.9	

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)

Siemens Atellica Solution Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.555	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.556	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	
	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)

SIEMENS DIMENSION EXL® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.2	Bromocresol Green
	g/dl	2.82	
	g/l	28.0	Bromocresol Purple
	g/dl	2.80	
Alkaline Phosphatase	U/l	321	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	153	Tris buffer with P5P 37°C
	U/l	153	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	340	Siemens - blocked pNPG7 37°C
	U/l	336	Siemens - maltopenta/hexaoside 37°C
	U/l	340	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	174	Tris buffer with P5P 37°C
	U/l	175	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.3	Enzymatic
Bilirubin Direct	µmol/l	17.6	Diazo with Sulphanilic Acid
	mg/dl	1.03	
	µmol/l	17.1	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.00	
Bilirubin Total	µmol/l	82.9	Diazo with Sulphanilic Acid
	mg/dl	4.85	
	µmol/l	78.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.57	
	µmol/l	89.1	Oxidation to Biliverdin/Vanadate
	mg/dl	5.21	
Calcium	mmol/l	3.00	Cresolphthalein complexone
	mg/dl	12.0	
	mmol/l	2.94	Arsenazo III
	mg/dl	11.8	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.25	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.24	Dimension-Siemens reagents
	mg/dl	279	
CK Total	U/l	504	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	394	Alkaline picrate with deproteinization
	mg/dl	4.45	
	µmol/l	397	Alkaline picrate no deproteinization
	mg/dl	4.48	
	µmol/l	397	Enzymatic UV method
	mg/dl	4.49	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	395	Creatinine PAP method
	mg/dl	4.47	
	µmol/l	400	Jaffe rate blanked
	mg/dl	4.51	
	µmol/l	395	IDMS traceable
	mg/dl	4.46	
gamma-GT	U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.7	Oxygen electrode
	mg/dl	283	
Iron	µmol/l	37.1	Colorimetric with ppt.
	µg/dl	208	
	µmol/l	36.9	Colorimetric without ppt.
	µg/dl	206	
Lactate	mmol/l	5.32	UV LDH
	mg/dl	47.9	
LD (LDH)	U/l	365	Siemens Dimension L-P Non IFCC 37°C
	U/l	363	L->P IFCC 37°C
Lipase	U/l	69	Siemens Dimension Colorimetric (LIP Kit) 37°C
Magnesium	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.15	ISE method - indirect
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	37.2	Removal of excess free iron
	µg/dl	208	
	µmol/l	37.0	FE+UIBC(saturation with iron)
	µg/dl	207	
	µmol/l	36.8	Direct Colorimetric
	µg/dl	206	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.94	L/G Kinase EP. no correction
	mg/dl	260	
	mmol/l	2.97	Lipase/Glycerol Dehydrogenase
	mg/dl	263	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	
	mmol/l	0.555	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.547	Spectrophotometric at 280-290
	mg/dl	9.19	

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

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.3	Bromocresol Green
	g/dl	2.83	
	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/l	320	Siemens Dimension AMP buffer 37°C
	U/l	321	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	154	Tris buffer with P5P 37°C
	U/l	153	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	265	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	341	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	178	Tris buffer with P5P 37°C
	U/l	175	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.9	Enzymatic
Bilirubin Direct	µmol/l	16.6	Diazo with Sulphanilic Acid
	mg/dl	0.971	
	µmol/l	17.2	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.00	
Bilirubin Total	µmol/l	82.2	Diazo with Sulphanilic Acid
	mg/dl	4.81	
Calcium	mmol/l	3.03	Cresolphthalein complexone
	mg/dl	12.1	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.16	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	7.22	Dimension-Siemens reagents
	mg/dl	279	
Cholinesterase	U/l	9241	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	504	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	396	Alkaline picrate no deproteinization
	mg/dl	4.47	
	µmol/l	391	Creatinine PAP method
	mg/dl	4.42	
	µmol/l	400	Jaffe rate blanked
	mg/dl	4.52	
	µmol/l	399	IDMS traceable
	mg/dl	4.51	
gamma-GT	U/l	180	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	198	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.4	Glucose dehydrogenase
	mg/dl	277	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	
Iron	µmol/l	36.9	Colorimetric with ppt.
	µg/dl	206	
	µmol/l	37.0	Colorimetric without ppt.
	µg/dl	207	
Lactate	mmol/l	5.58	UV LDH
	mg/dl	50.3	
LD (LDH)	U/l	367	Siemens Dimension L-P Non IFCC 37°C
	U/l	364	L->P IFCC 37°C
Lipase	U/l	254	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.24	Spectrophotometric
	mg/dl	1.56	
Magnesium	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate enzymatic
	mg/dl	7.13	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	37.4	Removal of excess free iron
	µg/dl	209	
	µmol/l	37.0	FE+UIBC(saturation with iron)
	µg/dl	207	
	µmol/l	36.9	Direct Colorimetric
	µg/dl	206	
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	
	mmol/l	2.97	Lipase/Glycerol Dehydrogenase
	mg/dl	263	
Urea	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	
	mmol/l	0.563	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	

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. 1293UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.544	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	
	mmol/l	0.548	Spectrophotometric at 280-290
	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