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

PRODUCT INFORMATION

CAL2351

1262UE

Please note that for Calibration Serum Level 3 lot 1262UE,
LD (LDH) is stable for 5 days at +2°C to +8°C.
LD (LDH) is also stable for 8 hours at +15°C to +25°C and 28 days at -20°C when frozen once.

INC1313

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

CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO.	CAL 2351	**LOT NO.**	1262UE
SIZE:	20 x 5ml	**EXPIRY:**	2025-01-28
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°C to +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°C to +8°C.
LD (LDH) is stable for 5 days at +2°C to +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,
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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
a-HBDH	U/l	401	Oxobutyrate < 10 mmol/l 37°C
	U/l	303	Oxobutyrate < 10 mmol/l 30°C
	U/l	227	Oxobutyrate < 10 mmol/l 25°C
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
	g/l	28.4	Bromocresol Purple
	g/dl	2.84	
	g/l	26.9	Turbidimetric Assays
	g/dl	2.69	
Alkaline Phosphatase	U/l	513	Diethanolamine buffer DEA 37°C
	U/l	400	Diethanolamine buffer DEA 30°C
	U/l	328	Diethanolamine buffer DEA 25°C
	U/l	356	AMP optimised to IFCC 37°C
	U/l	277	AMP optimised to IFCC 30°C
	U/l	227	AMP optimised to IFCC 25°C
	U/l	340	AMP non-optimised 37°C
	U/l	265	AMP non-optimised 30°C
	U/l	217	AMP non-optimised 25°C
ALT (GPT)	U/l	137	Colorimetric 37°C
	U/l	101	Colorimetric 30°C
	U/l	77	Colorimetric 25°C
	U/l	139	Tris buffer with P5P 37°C
	U/l	103	Tris buffer with P5P 30°C
	U/l	78	Tris buffer with P5P 25°C
	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	241	Immunoinhibition EPS substrate 37°C
	U/l	236	Roche EPS Liquid 37°C
	U/l	275	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	305	pNP Maltotrioside substrates 37°C
	U/l	292	Siemens - blocked pNPG7 37°C
	U/l	223	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	301	Randox Liquid Ethylidene pNPG7 37°C
	U/l	262	BM/Roche Colorimetric pNPG7 37°C
	U/l	266	Roche Integra 2-chloro-pNPG7 37°C
	U/l	260	Other Roche 2-chloro-pNPG7 37°C
	U/l	264	Roche liquid stable pNPG7 37°C
	U/l	319	Siemens 2-chloro-pNPG3 37°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Amylase Total	U/l	277	Beckman Coulter - blocked pNPG7 37°C
	U/l	288	Beckman Synchron AMY7 37°C
	U/l	296	Abbott Architect Non-IFCC Cal. 37°C
	U/l	337	Abbott Architect IFCC Cal. 37°C
	U/l	265	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	145	Colorimetric 37°C
	U/l	98	Colorimetric 30°C
	U/l	69	Colorimetric 25°C
	U/l	167	Tris buffer with P5P 37°C
	U/l	113	Tris buffer with P5P 30°C
	U/l	79	Tris buffer with P5P 25°C
	U/l	138	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
	U/l	132	Phosphate buffer DGKC 37°C
	U/l	89	Phosphate buffer DGKC 30°C
	U/l	63	Phosphate buffer DGKC 25°C
	U/l	160	Tris buffer with P5P NVKC 37°C
	U/l	108	Tris buffer with P5P NVKC 30°C
	U/l	76	Tris buffer with P5P NVKC 25°C
Bicarbonate	mmol/l	16.8	Colorimetric
	mmol/l	17.0	Enzymatic
Bile Acids	µmol/l	39.4	Enzymatic Colorimetric
	µmol/l	39.8	4th Generation Colorimetric
	µmol/l	39.3	5th Generation Colorimetric
Bilirubin Direct	µmol/l	30.2	Diazo with Sulphanilic Acid
	mg/dl	1.77	
	µmol/l	29.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.73	
	µmol/l	29.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.75	
	µmol/l	34.6	Modified Jendrassik
	mg/dl	2.02	
Bilirubin Total	µmol/l	96.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.64	
	µmol/l	89.4	Diazo with Sulphanilic Acid
	mg/dl	5.23	
	µmol/l	82.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.84	
	µmol/l	90.5	Nitrobenzenediazonium salt
	mg/dl	5.29	
	µmol/l	88.7	Diazonium ion
	mg/dl	5.19	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	99.8	Oxidation to Biliverdin/Vanadate
	mg/dl	5.84	
	µmol/l	99.9	Modified Jendrassik
	mg/dl	5.84	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.17	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	113	ISE indirect
	mmol/l	113	ISE direct
Cholesterol	mmol/l	7.34	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
	mmol/l	7.21	Cholesterol Dehydrogenase
	mg/dl	278	
Cholinesterase	U/l	5285	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	487	CK-NAC serum start (DGKC) 37°C
	U/l	305	CK-NAC serum start (DGKC) 30°C
	U/l	207	CK-NAC serum start (DGKC) 25°C
	U/l	530	CK-NAC substrate start (DGKC) 37°C
	U/l	332	CK-NAC substrate start (DGKC) 30°C
	U/l	225	CK-NAC substrate start (DGKC) 25°C
	U/l	512	CK-NAC (IFCC) 37°C
	U/l	321	CK-NAC (IFCC) 30°C
	U/l	218	CK-NAC (IFCC) 25°C
Copper	µmol/l	26.4	Atomic absorption
	µg/dl	168	
	µmol/l	25.9	Colorimetric
	µg/dl	165	
Creatinine	µmol/l	354	Alkaline picrate with deproteinization
	mg/dl	4.00	
	µmol/l	355	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	374	Enzymatic UV method
	mg/dl	4.22	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.20	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.04	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	385	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.35	
	µmol/l	372	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.20	
	µmol/l	360	IDMS traceable
	mg/dl	4.07	
D-3-Hydroxybutyrate	mmol/l	1.18	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	174	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	158	Gamma glutamyl-4-nitroanilide 37°C
	U/l	125	Gamma glutamyl-4-nitroanilide 30°C
	U/l	97	Gamma glutamyl-4-nitroanilide 25°C
	U/l	181	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	195	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	154	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	120	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	35	Triethanolamine buffer 50 mmol 37°C
	U/l	27	Triethanolamine buffer 50 mmol 30°C
	U/l	22	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Glucose dehydrogenase
	mg/dl	276	
	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	39.8	Colorimetric with ppt.
	µg/dl	222	
	µmol/l	39.8	Colorimetric without ppt.
	µg/dl	222	
Lactate	mmol/l	5.66	Ion selective electrode
	mg/dl	51.0	
	mmol/l	5.64	Colorimetric Lactate Oxidase
	mg/dl	50.8	
	mmol/l	5.55	Enzymatic Electrode
	mg/dl	50.0	
	mmol/l	5.51	UV LDH
	mg/dl	49.6	
LD (LDH)	U/l	355	L->P 37°C
	U/l	256	L->P 30°C
	U/l	180	L->P 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
LD (LDH)	U/l	786	P->L Scandinavian & Dutch 37°C
	U/l	567	P->L Scandinavian & Dutch 30°C
	U/l	399	P->L Scandinavian & Dutch 25°C
	U/l	745	P->L German methods 37°C
	U/l	538	P->L German methods 30°C
	U/l	378	P->L German methods 25°C
	U/l	713	P->L SFBC 37°C
	U/l	515	P->L SFBC 30°C
	U/l	361	P->L SFBC 25°C
	U/l	368	L->P IFCC 37°C
	U/l	266	L->P IFCC 30°C
	U/l	187	L->P IFCC 25°C
Lipase	U/l	58	Other Colorimetric 37°C
	U/l	60	Roche Colorimetric 37°C
	U/l	78	Randox Colorimetric 37°C
Lithium	mmol/l	2.14	Ion selective electrode
	mg/dl	1.49	
	mmol/l	2.08	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.75	Arsenazo III
	mg/dl	4.25	
	mmol/l	1.79	Calmagite
	mg/dl	4.35	
	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
	mmol/l	1.79	Enzymatic
	mg/dl	4.35	
Osmolality	mOsm/kg	351	Calculated
	mOsm/kg	372	Freezing point depression
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate enzymatic
	mg/dl	6.67	
	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.08	ISE method - direct
	mmol/l	6.16	ISE method - indirect
	mmol/l	6.40	Enzymatic
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Protein Total	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	156	ISE method - direct
	mmol/l	158	ISE method - indirect
	mmol/l	160	Enzymatic
TIBC	µmol/l	42.9	Removal of excess free iron
	µg/dl	240	
	µmol/l	43.8	FE+UIBC(saturation with iron)
	µg/dl	245	
	µmol/l	43.8	Calculated from Transferrin
	µg/dl	245	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.80	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	248	
	mmol/l	2.82	L/G Kinase EP. no correction
	mg/dl	250	
	mmol/l	2.91	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	
	mmol/l	2.81	Lipase/Glycerol Dehydrogenase
	mg/dl	249	
Urea	mmol/l	19.3	Urease end point
	mg/dl	116	
	mmol/l	19.9	Urease kinetic
	mg/dl	120	
	mmol/l	19.9	BUN
	mg/dl	55.9	
Uric Acid (Urate)	mmol/l	0.593	Uricase catalase 340nm
	mg/dl	9.96	
	mmol/l	0.537	Reduction methods
	mg/dl	9.02	
	mmol/l	0.562	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.561	Spectrophotometric at 280-290
	mg/dl	9.42	
	mmol/l	0.558	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	
Zinc	µmol/l	34.3	Colorimetric with deproteinisation
	µg/dl	224	
	µmol/l	33.1	Colorimetric without deprot.
	µg/dl	216	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
	g/l	28.3	Bromocresol Purple
	g/dl	2.83	
Alkaline Phosphatase	U/l	339	AMP optimised to IFCC 37°C
	U/l	338	AMP non-optimised 37°C
ALT (GPT)	U/l	135	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	242	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	295	Abbott Architect Non-IFCC Cal. 37°C
	U/l	337	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	133	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.7	Enzymatic
Bile Acids	µmol/l	40.6	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.0	Diazo with Sulphanilic Acid
	mg/dl	1.70	
	µmol/l	29.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.74	
Bilirubin Total	µmol/l	97.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.68	
	µmol/l	97.8	Diazo with Sulphanilic Acid
	mg/dl	5.72	
	µmol/l	91.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.36	
	µmol/l	96.0	Diazonium ion
	mg/dl	5.61	
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.29	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	
	mmol/l	7.14	Cholesterol Oxidase - IDMS
	mg/dl	276	
Cholinesterase	U/l	6124	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	544	CK-NAC substrate start (DGKC) 37°C
	U/l	527	CK-NAC (IFCC) 37°C
	U/l	529	Abbott CK-NAC (IFCC) 37°C
Copper	µmol/l	19.6	Colorimetric
	µg/dl	124	
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	375	Enzymatic UV method
	mg/dl	4.24	
gamma-GT	U/l	179	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	176	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	42.1	Colorimetric with ppt.
	µg/dl	235	
	µmol/l	40.9	Colorimetric without ppt.
	µg/dl	229	
Lactate	mmol/l	5.92	Colorimetric Lactate Oxidase
	mg/dl	53.3	
LD (LDH)	U/l	353	L->P 37°C
	U/l	351	L->P IFCC 37°C
Lipase	U/l	55	Other Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.76	Arsenazo III
	mg/dl	4.28	
	mmol/l	1.79	Enzymatic
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.13	Phosphomolybdate enzymatic
	mg/dl	6.60	
	mmol/l	2.13	Phosphomolybdate UV
	mg/dl	6.60	
Potassium	mmol/l	6.16	ISE method - indirect
Protein Total	g/l	47.4	Biuret reaction end point
	g/dl	4.74	
	g/l	47.7	Biuret reaction kinetic
	g/dl	4.77	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	45.4	FE+UIBC(saturation with iron)
	µg/dl	254	
	µmol/l	42.8	Calculated from Transferrin
	µg/dl	239	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
	mmol/l	2.77	L/G Kinase EP. no correction
	mg/dl	245	
	mmol/l	2.76	Lipase/Glycerol Dehydrogenase
	mg/dl	244	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Urea	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	
	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	28.7	Bromocresol Green
	g/dl	2.87	
Alkaline Phosphatase	U/l	499	Diethanolamine buffer DEA 37°C
	U/l	395	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	Tris buffer without P5P 37°C
	U/l	141	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	135	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	277	Beckman Coulter - blocked pNPG7 37°C
	U/l	265	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	141	Tris buffer without P5P 37°C
	U/l	148	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	142	Beckman (Extinction Coefficient) 37°C
Bile Acids	µmol/l	38.6	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	22.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.32	
	µmol/l	27.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	
Bilirubin Total	µmol/l	92.6	Diazo with Dichloroaniline (DCA)
	mg/dl	5.42	
	µmol/l	90.2	Diazo with Sulphanilic Acid
	mg/dl	5.28	
	µmol/l	90.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.31	
	µmol/l	92.7	DPD (Beckman AU)
	mg/dl	5.43	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.36	Cholesterol Oxidase - Abell Kendall
	mg/dl	284	
	mmol/l	7.66	Cholesterol Oxidase - IDMS
	mg/dl	296	
Cholinesterase	U/l	4919	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	564	CK-NAC (IFCC) 37°C
	U/l	539	Beckman CK-NAC (Extinction Coeff) 37°C
Copper	µmol/l	23.9	Colorimetric
	µg/dl	152	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	345	Alkaline picrate no deproteinization
	mg/dl	3.90	
	µmol/l	383	Enzymatic UV method
	mg/dl	4.33	
	µmol/l	343	Jaffe rate blanked
	mg/dl	3.88	
	µmol/l	371	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.19	
	µmol/l	359	IDMS traceable
	mg/dl	4.06	
D-3-Hydroxybutyrate	mmol/l	1.15	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	185	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	182	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	178	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	35	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	41.1	Colorimetric with ppt.
	µg/dl	230	
	µmol/l	40.4	Colorimetric without ppt.
	µg/dl	226	
Lactate	mmol/l	5.31	Colorimetric Lactate Oxidase
	mg/dl	47.8	
LD (LDH)	U/l	352	L->P 37°C
	U/l	788	P->L Scandinavian & Dutch 37°C
	U/l	756	P->L German methods 37°C
	U/l	364	L->P IFCC 37°C
	U/l	325	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	61	Other Colorimetric 37°C
	U/l	78	Randox Colorimetric 37°C
Lithium	mmol/l	2.09	Spectrophotometric
	mg/dl	1.45	
Magnesium	mmol/l	1.79	Calmagite
	mg/dl	4.35	
	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate UV
	mg/dl	6.73	
Potassium	mmol/l	6.10	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	44.7	FE+UIBC(saturation with iron)
	µg/dl	250	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.83	L/G Kinase EP. no correction
	mg/dl	250	
Urea	mmol/l	19.8	Urease end point
	mg/dl	119	
	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.574	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.64	
	mmol/l	0.573	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	
	mmol/l	0.567	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.53	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Purple
	g/dl	2.92	
Amylase Total	U/l	288	Beckman Synchron AMY7 37°C
Bilirubin Total	µmol/l	91.4	Diazo with Sulphanilic Acid
	mg/dl	5.35	
Calcium	mmol/l	3.16	Ion selective electrode
	mg/dl	12.7	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.64	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	
Creatinine	µmol/l	370	Alkaline picrate no deproteinization
	mg/dl	4.18	
gamma-GT	U/l	133	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Magnesium	mmol/l	1.80	Calmagite
	mg/dl	4.37	
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	42.9	Biuret reaction kinetic
	g/dl	4.29	
Sodium	mmol/l	158	ISE method - indirect
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	mg/dl	241	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
ALT (GPT)	U/l	134	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
AST (GOT)	U/l	142	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	86.9	Diazo with Sulphanilic Acid
	mg/dl	5.08	
Cholesterol	mmol/l	7.44	Cholesterol Oxidase - Abell Kendall
	mg/dl	287	
Creatinine	µmol/l	355	Alkaline picrate no deproteinization
	mg/dl	4.01	
Glucose	mmol/l	16.0	Glucose oxidase
	mg/dl	287	
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.6	Bromocresol Green
	g/dl	3.16	
	g/l	26.8	Turbidimetric Assays
	g/dl	2.68	
Alkaline Phosphatase	U/l	330	Roche Integra AMP buffer 37°C
	U/l	257	Roche Integra AMP buffer 30°C
	U/l	211	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Amylase Total	U/l	259	BM/Roche Colorimetric pNPG7 37°C
	U/l	271	Roche Integra 2-chloro-pNPG7 37°C
	U/l	267	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	32.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.89	
	µmol/l	32.8	Diazo with Sulphanilic Acid
	mg/dl	1.92	
	µmol/l	31.6	Roche DPD JG standardised
	mg/dl	1.85	
Bilirubin Total	µmol/l	83.6	Diazo with Dichloroaniline (DCA)
	mg/dl	4.89	
	µmol/l	83.7	Diazo with Sulphanilic Acid
	mg/dl	4.90	
	µmol/l	84.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.93	
	µmol/l	84.4	Diazonium ion
	mg/dl	4.94	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.14	NM-BAPTA
	mg/dl	12.6	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.29	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	
	mmol/l	7.27	Cholesterol Oxidase - IDMS
	mg/dl	281	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
CK Total	U/l	505	CK-NAC (IFCC) 37°C
	U/l	316	CK-NAC (IFCC) 30°C
	U/l	215	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	344	Alkaline picrate with deproteinization
	mg/dl	3.89	
	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	371	Enzymatic UV method
	mg/dl	4.20	
	µmol/l	373	Roche Creatinine Plus
	mg/dl	4.22	
	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
	µmol/l	368	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.16	
gamma-GT	U/l	163	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	184	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	145	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	114	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
Iron	µmol/l	39.8	Colorimetric with ppt.
	µg/dl	222	
	µmol/l	40.1	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.57	Colorimetric Lactate Oxidase
	mg/dl	50.2	
LD (LDH)	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	55	Roche Colorimetric 37°C
Lithium	mmol/l	2.10	Ion selective electrode
	mg/dl	1.46	
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Potassium	mmol/l	6.13	ISE method - indirect
Protein Total	g/l	43.8	Biuret reaction end point
	g/dl	4.38	
	g/l	43.8	Biuret reaction kinetic
	g/dl	4.38	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	42.6	FE+UIBC(saturation with iron)
	µg/dl	238	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.83	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.570	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.570	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.573	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.63	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	32.6	Bromocresol Green
	g/dl	3.26	
Alkaline Phosphatase	U/l	439	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
AST (GOT)	U/l	147	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	29.4	Diazo with Sulphanilic Acid
	mg/dl	1.72	
Bilirubin Total	µmol/l	87.2	Diazo with Sulphanilic Acid
	mg/dl	5.10	
Calcium	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.67	Cholesterol Oxidase - Abell Kendall
	mg/dl	296	
CK Total	U/l	546	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	338	Alkaline picrate no deproteinization
	mg/dl	3.82	
	µmol/l	369	Creatinine PAP method
	mg/dl	4.16	
	µmol/l	354	Jaffe rate blanked
	mg/dl	4.00	
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Protein Total	g/l	51.9	Biuret reaction end point
	g/dl	5.19	
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
Urea	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.667	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	11.2	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
Potassium	mmol/l	6.20	ISE method - indirect
Sodium	mmol/l	158	ISE method - indirect

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
Alkaline Phosphatase	U/l	363	AMP optimised to IFCC 37°C
	U/l	283	AMP optimised to IFCC 30°C
	U/l	232	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	148	Tris buffer without P5P 37°C
	U/l	110	Tris buffer without P5P 30°C
	U/l	83	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 Direct	µmol/l	25.3	Diazo with Sulphanilic Acid
	mg/dl	1.48	
Bilirubin Total	µmol/l	87.8	Diazo with Sulphanilic Acid
	mg/dl	5.14	
	µmol/l	92.2	Nitrobenzenediazonium salt
	mg/dl	5.40	
Calcium	mmol/l	3.29	Arsenazo III
	mg/dl	13.2	
Chloride	mmol/l	113	ISE direct
Cholesterol	mmol/l	7.34	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
	mmol/l	6.94	Cholesterol Oxidase - IDMS
	mg/dl	268	
CK Total	U/l	547	CK-NAC (IFCC) 37°C
	U/l	342	CK-NAC (IFCC) 30°C
	U/l	232	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	359	Alkaline picrate no deproteinization
	mg/dl	4.06	
gamma-GT	U/l	181	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	14.7	Hexokinase
	mg/dl	266	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	41.4	Colorimetric without ppt.
	µg/dl	231	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.16	Phosphomolybdate UV
	mg/dl	6.70	
Potassium	mmol/l	5.95	ISE method - direct
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	157	ISE method - direct
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.578	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.71	
	mmol/l	0.580	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.74	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
Alkaline Phosphatase	U/l	488	Diethanolamine buffer DEA 37°C
	U/l	380	Diethanolamine buffer DEA 30°C
	U/l	312	Diethanolamine buffer DEA 25°C
	U/l	393	AMP optimised to IFCC 37°C
	U/l	306	AMP optimised to IFCC 30°C
	U/l	251	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Amylase Total	U/l	307	pNP Maltotrioside substrates 37°C
AST (GOT)	U/l	149	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	29.2	Diazo with Sulphanilic Acid
	mg/dl	1.71	
Bilirubin Total	µmol/l	91.5	Diazo with Sulphanilic Acid
	mg/dl	5.35	
	µmol/l	97.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.70	
	µmol/l	93.3	Oxidation to Biliverdin/Vanadate
	mg/dl	5.46	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.36	Cholesterol Oxidase - Abell Kendall
	mg/dl	284	
CK Total	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	348	Alkaline picrate no deproteinization
	mg/dl	3.93	
gamma-GT	U/l	174	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	179	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	284	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	39.3	Colorimetric with ppt.
	µg/dl	219	
	µmol/l	38.6	Colorimetric without ppt.
	µg/dl	216	
LD (LDH)	U/l	757	P->L German methods 37°C
	U/l	547	P->L German methods 30°C
	U/l	384	P->L German methods 25°C
	U/l	719	P->L SFBC 37°C
	U/l	519	P->L SFBC 30°C
	U/l	365	P->L SFBC 25°C
Lipase	U/l	63	Other Colorimetric 37°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Protein Total	g/l	49.2	Biuret reaction end point
	g/dl	4.92	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.545	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
Alkaline Phosphatase	U/l	325	Roche Integra AMP buffer 37°C
	U/l	253	Roche Integra AMP buffer 30°C
	U/l	208	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	127	Tris buffer without P5P 37°C
	U/l	94	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Amylase Total	U/l	269	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	33.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.94	
	µmol/l	34.0	Diazo with Sulphanilic Acid
	mg/dl	1.99	
	µmol/l	34.4	Roche DPD JG standardised
	mg/dl	2.01	
Bilirubin Total	µmol/l	85.7	Diazo with Sulphanilic Acid
	mg/dl	5.01	
	µmol/l	84.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.91	
	µmol/l	86.4	Diazonium ion
	mg/dl	5.05	
Calcium	mmol/l	3.19	NM-BAPTA
	mg/dl	12.8	
Cholesterol	mmol/l	7.30	Cholesterol Oxidase - Abell Kendall
	mg/dl	282	
	mmol/l	7.37	Cholesterol Oxidase - IDMS
	mg/dl	284	
CK Total	U/l	504	CK-NAC (IFCC) 37°C
	U/l	316	CK-NAC (IFCC) 30°C
	U/l	214	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	370	Roche Creatinine Plus
	mg/dl	4.19	
	µmol/l	357	Jaffe rate blanked
	mg/dl	4.03	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	378	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.27	
	µmol/l	372	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.20	
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
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
Phosphate Inorganic	mmol/l	2.18	Phosphomolybdate UV
	mg/dl	6.76	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
Urea	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	
	mmol/l	0.571	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.59	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.2	Bromocresol Green
	g/dl	3.12	
	g/l	27.0	Turbidimetric Assays
	g/dl	2.70	
Alkaline Phosphatase	U/l	323	Roche Integra AMP buffer 37°C
	U/l	252	Roche Integra AMP buffer 30°C
	U/l	206	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	129	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	241	Immunoinhibition EPS substrate 37°C
	U/l	234	Roche EPS Liquid 37°C
Amylase Total	U/l	263	Roche Integra 2-chloro-pNPG7 37°C
	U/l	263	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.9	Colorimetric
	mmol/l	17.4	Enzymatic
Bile Acids	µmol/l	38.7	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	31.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
	µmol/l	30.6	Diazo with Sulphanilic Acid
	mg/dl	1.79	
	µmol/l	31.5	Roche DPD JG standardised
	mg/dl	1.84	
Bilirubin Total	µmol/l	81.7	Diazo with Sulphanilic Acid
	mg/dl	4.78	
	µmol/l	82.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	
	µmol/l	82.3	Diazonium ion
	mg/dl	4.81	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.18	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.38	Cholesterol Oxidase - Abell Kendall
	mg/dl	285	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	7.34	Cholesterol Oxidase - IDMS
	mg/dl	283	
Cholinesterase	U/l	5195	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	516	CK-NAC substrate start (DGKC) 37°C
	U/l	323	CK-NAC substrate start (DGKC) 30°C
	U/l	219	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
	U/l	511	Creatinine phosphate substrate Start 37°C
	U/l	320	Creatinine phosphate substrate Start 30°C
	U/l	217	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	366	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	376	Roche Creatinine Plus
	mg/dl	4.25	
	µmol/l	384	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.34	
	µmol/l	378	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.27	
D-3-Hydroxybutyrate	mmol/l	1.15	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	163	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	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
GLDH	U/l	32	Triethanolamine buffer 50 mmol 37°C
	U/l	25	Triethanolamine buffer 50 mmol 30°C
	U/l	20	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	39.3	Colorimetric with ppt.
	µg/dl	220	
	µmol/l	39.4	Colorimetric without ppt.
	µg/dl	220	
Lactate	mmol/l	5.58	Colorimetric Lactate Oxidase
	mg/dl	50.3	
LD (LDH)	U/l	369	L->P 37°C
	U/l	266	L->P 30°C
	U/l	187	L->P 25°C
	U/l	623	P->L German methods 37°C
	U/l	450	P->L German methods 30°C
	U/l	316	P->L German methods 25°C

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
LD (LDH)	U/l	373	L->P IFCC 37°C
	U/l	269	L->P IFCC 30°C
	U/l	189	L->P IFCC 25°C
Lipase	U/l	60	Roche Colorimetric 37°C
Lithium	mmol/l	2.09	Spectrophotometric
	mg/dl	1.45	
Magnesium	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.16	Phosphomolybdate enzymatic
	mg/dl	6.70	
	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.20	ISE method - indirect
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	42.7	FE+UIBC(saturation with iron)
	µg/dl	239	
	µmol/l	46.6	Calculated from Transferrin
	µg/dl	260	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
Urea	mmol/l	19.8	Urease kinetic
	mg/dl	119	
	mmol/l	19.8	BUN
	mg/dl	55.6	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
Alkaline Phosphatase	U/l	320	Roche Integra AMP buffer 37°C
	U/l	249	Roche Integra AMP buffer 30°C
	U/l	204	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	131	Tris buffer without P5P 37°C
	U/l	97	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	239	Roche EPS Liquid 37°C
Amylase Total	U/l	259	BM/Roche Colorimetric pNPG7 37°C
	U/l	265	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	137	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.83	
	µmol/l	31.7	Roche DPD JG standardised
	mg/dl	1.85	
Bilirubin Total	µmol/l	80.0	Diazo with Sulphanilic Acid
	mg/dl	4.68	
	µmol/l	82.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	
	µmol/l	80.8	Diazonium ion
	mg/dl	4.73	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.18	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.39	Cholesterol Oxidase - Abell Kendall
	mg/dl	285	
	mmol/l	7.45	Cholesterol Oxidase - IDMS
	mg/dl	288	
CK Total	U/l	510	CK-NAC (IFCC) 37°C
	U/l	319	CK-NAC (IFCC) 30°C
	U/l	217	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	374	Alkaline picrate no deproteinization
	mg/dl	4.23	
	µmol/l	379	Roche Creatinine Plus
	mg/dl	4.29	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	373	Jaffe rate blanked
	mg/dl	4.22	
	µmol/l	387	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.37	
gamma-GT	U/l	167	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	132	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	103	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	188	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	148	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	116	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	39.5	Colorimetric with ppt.
	µg/dl	221	
	µmol/l	39.3	Colorimetric without ppt.
	µg/dl	220	
Lactate	mmol/l	5.61	Colorimetric Lactate Oxidase
	mg/dl	50.5	
LD (LDH)	U/l	373	L->P IFCC 37°C
	U/l	269	L->P IFCC 30°C
	U/l	189	L->P IFCC 25°C
Lipase	U/l	60	Roche Colorimetric 37°C
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
	mmol/l	1.82	Chlorphosphonazo III
	mg/dl	4.42	
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
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	0.563	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.46	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
	g/l	28.7	Bromocresol Purple
	g/dl	2.87	
	g/l	27.4	Turbidimetric Assays
	g/dl	2.74	
Alkaline Phosphatase	U/l	314	Roche Integra AMP buffer 37°C
	U/l	245	Roche Integra AMP buffer 30°C
	U/l	201	Roche Integra AMP buffer 25°C
	U/l	317	Colorimetric 37°C
	U/l	247	Colorimetric 30°C
	U/l	203	Colorimetric 25°C
ALT (GPT)	U/l	131	Colorimetric 37°C
	U/l	97	Colorimetric 30°C
	U/l	74	Colorimetric 25°C
	U/l	131	Tris buffer without P5P 37°C
	U/l	97	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	245	Roche EPS Liquid 37°C
Amylase Total	U/l	264	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	137	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.9	Enzymatic
Bile Acids	µmol/l	41.9	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	32.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.91	
	µmol/l	33.1	Diazo with Sulphanilic Acid
	mg/dl	1.94	
	µmol/l	32.5	Roche DPD JG standardised
	mg/dl	1.90	
	µmol/l	27.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.61	
Bilirubin Total	µmol/l	82.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.82	
	µmol/l	83.0	Diazonium ion
	mg/dl	4.85	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.13	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.33	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
	mmol/l	7.38	Cholesterol Oxidase - IDMS
	mg/dl	285	
Cholinesterase	U/l	4982	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	465	CK-NAC substrate start (DGKC) 37°C
	U/l	291	CK-NAC substrate start (DGKC) 30°C
	U/l	198	CK-NAC substrate start (DGKC) 25°C
	U/l	511	CK-NAC (IFCC) 37°C
	U/l	320	CK-NAC (IFCC) 30°C
	U/l	217	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	374	Roche Creatinine Plus
	mg/dl	4.23	
	µmol/l	362	Jaffe rate blanked
	mg/dl	4.09	
	µmol/l	394	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.45	
gamma-GT	U/l	159	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	98	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	183	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	144	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	113	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
Iron	µmol/l	38.2	Colorimetric with ppt.
	µg/dl	213	
	µmol/l	38.4	Colorimetric without ppt.
	µg/dl	215	
Lactate	mmol/l	5.51	Colorimetric Lactate Oxidase
	mg/dl	49.6	
LD (LDH)	U/l	369	L->P IFCC 37°C
	U/l	266	L->P IFCC 30°C
	U/l	187	L->P IFCC 25°C
Lipase	U/l	61	Roche Colorimetric 37°C
Lithium	mmol/l	2.09	Spectrophotometric
	mg/dl	1.45	
Magnesium	mmol/l	1.80	Xylidyl Blue
	mg/dl	4.37	
Phosphate Inorganic	mmol/l	2.13	Phosphomolybdate UV
	mg/dl	6.60	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Potassium	mmol/l	6.17	ISE method - indirect
Protein Total	g/l	44.9	Biuret reaction end point
	g/dl	4.49	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	43.3	FE+UIBC(saturation with iron)
	µg/dl	242	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.77	L/G Kinase EP. no correction
	mg/dl	245	
Urea	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
Alkaline Phosphatase	U/l	542	Diethanolamine buffer DEA 37°C
	U/l	374	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	147	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	275	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	298	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
Bile Acids	µmol/l	39.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	30.4	Diazo with Sulphanilic Acid
	mg/dl	1.78	
	µmol/l	28.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.68	
Bilirubin Total	µmol/l	90.5	Diazo with Sulphanilic Acid
	mg/dl	5.29	
	µmol/l	97.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.71	
Calcium	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	304	
CK Total	U/l	516	CK-NAC substrate start (DGKC) 37°C
	U/l	521	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	313	Alkaline picrate no deproteinization
	mg/dl	3.54	
	µmol/l	379	Enzymatic UV method
	mg/dl	4.28	
gamma-GT	U/l	195	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	40.5	Colorimetric without ppt.
	µg/dl	226	
Lactate	mmol/l	5.63	Colorimetric Lactate Oxidase
	mg/dl	50.7	
LD (LDH)	U/l	755	P->L German methods 37°C
	U/l	365	L->P IFCC 37°C
Lipase	U/l	77	Randox Colorimetric 37°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.12	Phosphomolybdate UV
	mg/dl	6.57	
Potassium	mmol/l	6.40	Enzymatic
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Sodium	mmol/l	160	Enzymatic
TIBC	µmol/l	49.1	Direct Colorimetric
	µg/dl	274	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
Urea	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.605	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.2	
	mmol/l	0.570	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.58	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
Alkaline Phosphatase	U/l	313	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	155	Tris buffer without P5P 37°C
Amylase Total	U/l	274	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	155	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.8	Enzymatic
Bilirubin Direct	µmol/l	28.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.68	
Bilirubin Total	µmol/l	101	Oxidation to Biliverdin/Vanadate
	mg/dl	5.92	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.45	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
CK Total	U/l	521	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	371	Enzymatic UV method
	mg/dl	4.19	
	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
gamma-GT	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	39.5	Colorimetric with ppt.
	µg/dl	221	
	µmol/l	39.6	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.54	Colorimetric Lactate Oxidase
	mg/dl	49.9	
LD (LDH)	U/l	725	P->L German methods 37°C
	U/l	366	L->P IFCC 37°C
Lipase	U/l	68	Other Colorimetric 37°C
Magnesium	mmol/l	1.69	Xylidyl Blue
	mg/dl	4.11	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
Urea	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.574	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.64	
	mmol/l	0.572	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.61	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Atellica Solution Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
	g/l	28.1	Bromocresol Purple
	g/dl	2.81	
Alkaline Phosphatase	U/l	310	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	150	Tris buffer without P5P 37°C
	U/l	150	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	262	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	305	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	152	Tris buffer without P5P 37°C
	U/l	154	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.6	Enzymatic
Bilirubin Direct	µmol/l	31.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.81	
Bilirubin Total	µmol/l	100	Oxidation to Biliverdin/Vanadate
	mg/dl	5.87	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.44	Cholesterol Oxidase - Abell Kendall
	mg/dl	287	
	mmol/l	7.38	Cholesterol Oxidase - IDMS
	mg/dl	285	
Cholinesterase	U/l	6729	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	525	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	352	Alkaline picrate no deproteinization
	mg/dl	3.98	
	µmol/l	375	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.24	
gamma-GT	U/l	180	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	273	
	mmol/l	14.5	Glucose oxidase
	mg/dl	261	
Iron	µmol/l	39.4	Colorimetric with ppt.
	µg/dl	220	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Atellica Solution Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Iron	µmol/l	39.5	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.71	Colorimetric Lactate Oxidase
	mg/dl	51.4	
LD (LDH)	U/l	362	Siemens Dimension L-P Non IFCC 37°C
	U/l	361	L->P IFCC 37°C
Lipase	U/l	67	Other Colorimetric 37°C
Lithium	mmol/l	2.05	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	48.7	Direct Colorimetric
	µg/dl	272	
	µmol/l	40.9	Calculated from Transferrin
	µg/dl	229	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.96	L/G Kinase EP. no correction
	mg/dl	262	
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.567	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	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.49	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Albumin	g/l	28.0	Bromocresol Purple
	g/dl	2.80	
Alkaline Phosphatase	U/l	319	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	144	Tris buffer with P5P 37°C
	U/l	143	Tris buffer with P5P NVKC 37°C
	U/l	142	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	319	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	160	Tris buffer with P5P 37°C
	U/l	160	Tris buffer with P5P NVKC 37°C
	U/l	157	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	18.2	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.06	
Bilirubin Total	µmol/l	89.5	Diazo with Sulphanilic Acid
	mg/dl	5.23	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	6.97	Dimension-Siemens reagents
	mg/dl	269	
CK Total	U/l	493	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	373	Alkaline picrate no deproteinization
	mg/dl	4.21	
	µmol/l	372	Jaffe rate blanked
	mg/dl	4.20	
gamma-GT	U/l	189	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	215	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
Iron	µmol/l	38.4	Colorimetric with ppt.
	µg/dl	214	
	µmol/l	38.1	Colorimetric without ppt.
	µg/dl	213	
LD (LDH)	U/l	366	L->P IFCC 37°C
Lipase	U/l	171	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate enzymatic
	mg/dl	6.79	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	38.3	Direct Colorimetric
	µg/dl	214	
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.555	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.554	Spectrophotometric at 280-290
	mg/dl	9.31	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1262UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2025-01-28

Analyte	unit	Target	methods
Alkaline Phosphatase	U/l	353	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	152	Tris buffer with P5P 37°C
Amylase Total	U/l	319	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	166	Tris buffer with P5P 37°C
Bilirubin Total	µmol/l	90.5	Diazo with Sulphanilic Acid
	mg/dl	5.29	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.02	Dimension-Siemens reagents
	mg/dl	271	
CK Total	U/l	517	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
gamma-GT	U/l	205	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
Lipase	U/l	184	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.75	Methylthymol blue
	mg/dl	4.25	
Potassium	mmol/l	6.20	ISE method - indirect
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	20.5	Urease kinetic
	mg/dl	123	
	mmol/l	20.5	BUN
	mg/dl	57.5	
Uric Acid (Urate)	mmol/l	0.558	Spectrophotometric at 280-290
	mg/dl	9.37	

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