



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 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 746

PRODUCT INFORMATION

CAL2351

1326UE

Please note that for Calibration Serum Level 3, lot 1326UE,
the stability of Iron is **6 days** at +2°C to +8°C

Iron is also stable for 8 hours at +15°C to +25°C,
or 28 days when frozen once at -18°C to -24°C

CCS INC385

CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 235I **LOT NO.** 1326UE
SIZE 20 x 5ml **EXPIRY:** 2025-09-28
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 235I 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 for 1 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.

Iron is stable for 6 days at +2°C to +8°C, 8 hours at +15°C to +25°C and 28 days at -20°C when frozen once.

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
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Rev. 16 Feb '24 ld

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
a-HBDH	U/l	409	Oxobutyrate < 10 mmol/l 37°C
	U/l	309	Oxobutyrate < 10 mmol/l 30°C
	U/l	231	Oxobutyrate < 10 mmol/l 25°C
Albumin	g/l	32.3	Bromocresol Green
	g/dl	3.23	
	g/l	30.7	Bromocresol Purple
	g/dl	3.07	
	g/l	31.8	Turbidimetric Assays
Alkaline Phosphatase	U/l	374	AMP optimised to IFCC 37°C
	U/l	291	AMP optimised to IFCC 30°C
	U/l	239	AMP optimised to IFCC 25°C
	U/l	366	AMP non-optimised 37°C
	U/l	285	AMP non-optimised 30°C
	U/l	234	AMP non-optimised 25°C
ALT (GPT)	U/l	147	Colorimetric 37°C
	U/l	109	Colorimetric 30°C
	U/l	83	Colorimetric 25°C
	U/l	146	Tris buffer with P5P 37°C
	U/l	108	Tris buffer with P5P 30°C
	U/l	82	Tris buffer with P5P 25°C
	U/l	141	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
	U/l	139	Tris buffer SCE 37°C
	U/l	103	Tris buffer SCE 30°C
	U/l	78	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	252	Immunoinhibition EPS substrate 37°C
	U/l	245	Roche EPS Liquid 37°C
	U/l	288	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	306	Siemens - blocked pNPG7 37°C
	U/l	302	Randox Liquid Ethylidene pNPG7 37°C
	U/l	317	Siemens - maltopenta/hexaoside 37°C
	U/l	273	Roche Integra 2-chloro-pNPG7 37°C
	U/l	272	Other Roche 2-chloro-pNPG7 37°C
	U/l	271	Roche liquid stable pNPG7 37°C
	U/l	326	Siemens 2-chloro-pNPG3 37°C
	U/l	295	bioMerieux 2-chloro-pNPG3 37°C
	U/l	285	Beckman Coulter - blocked pNPG7 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Amylase Total	U/l	288	Beckman Synchron AMY7 37°C
	U/l	294	I.L. 2-chloro-pNPG3 37°C
	U/l	282	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	301	Abbott Alinity Amylase 2 37°C
	U/l	302	Abbott Architect 37°C
AST (GOT)	U/l	147	Colorimetric 37°C
	U/l	99	Colorimetric 30°C
	U/l	70	Colorimetric 25°C
	U/l	170	Tris buffer with P5P 37°C
	U/l	115	Tris buffer with P5P 30°C
	U/l	81	Tris buffer with P5P 25°C
	U/l	144	Tris buffer without P5P 37°C
	U/l	97	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
	U/l	146	Phosphate buffer DGKC 37°C
	U/l	99	Phosphate buffer DGKC 30°C
	U/l	69	Phosphate buffer DGKC 25°C
	U/l	139	Tris buffer with P5P NVKC 37°C
	U/l	94	Tris buffer with P5P NVKC 30°C
	U/l	66	Tris buffer with P5P NVKC 25°C
	U/l	149	Tris buffer SCE 37°C
U/l	101	Tris buffer SCE 30°C	
U/l	71	Tris buffer SCE 25°C	
Bicarbonate	mmol/l	14.3	Colorimetric
	mmol/l	14.7	Enzymatic
Bile Acids	µmol/l	38.7	4th Generation Colorimetric
	µmol/l	39.4	5th Generation Colorimetric
Bilirubin Direct	µmol/l	35.1	Diazo with Sulphanilic Acid
	mg/dl	2.05	
	µmol/l	33.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.96	
	µmol/l	35.4	Oxidation to Biliverdin/Vanadate
	mg/dl	2.07	
Bilirubin Total	µmol/l	35.6	Modified Jendrassik
	mg/dl	2.08	
	µmol/l	90.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.29	
	µmol/l	92.8	Diazo with Sulphanilic Acid
	mg/dl	5.43	
Bilirubin Total	µmol/l	85.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.02	
	µmol/l	85.2	Nitrobenzenediazonium salt
	mg/dl	4.98	

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods	
Bilirubin Total	µmol/l	84.5	Diazonium ion	
	mg/dl	4.94		
	µmol/l	99.6	Oxidation to Biliverdin/Vanadate	
	mg/dl	5.83		
	µmol/l	102	Modified Jendrassik	
	mg/dl	5.97		
	Calcium	mmol/l	3.17	Cresolphthalein complexone
		mg/dl	12.7	
mmol/l		3.09	Ion selective electrode	
mg/dl		12.4		
mmol/l		3.21	Methylthymol blue	
mg/dl		12.9		
mmol/l		3.18	Arsenazo III	
mg/dl		12.7		
mmol/l		3.13	Phosphonazo	
mg/dl		12.5		
mmol/l		3.21	NM-BAPTA	
mg/dl		12.9		
Chloride	mmol/l	111	Colorimetric	
	mmol/l	112	ISE indirect	
	mmol/l	113	ISE direct	
	mmol/l	117	Optical Fluorescence	
Cholesterol	mmol/l	7.26	Cholesterol Oxidase - Abell Kendall	
	mg/dl	280		
	mmol/l	7.29	Cholesterol Oxidase - IDMS	
	mg/dl	281		
mmol/l	7.27	Cholesterol Dehydrogenase		
mg/dl	281			
Cholinesterase	U/l	5315	Colorimetric Benzoylcholine 37°C	
	U/l	5385	Colorimetric Butyrylthiocholine 37°C	
CK Total	U/l	506	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	502	CK-NAC substrate start (DGKC) 37°C	
	U/l	314	CK-NAC substrate start (DGKC) 30°C	
	U/l	213	CK-NAC substrate start (DGKC) 25°C	
	U/l	498	CK-NAC (IFCC) 37°C	
	U/l	312	CK-NAC (IFCC) 30°C	
	U/l	212	CK-NAC (IFCC) 25°C	
	U/l	545	Monothioglycerol 37°C	
	U/l	341	Monothioglycerol 30°C	
	U/l	232	Monothioglycerol 25°C	
Copper	µmol/l	24.5	Atomic absorption	
	µg/dl	156		

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Copper	µmol/l	25.2	Colorimetric
	µg/dl	160	
Creatinine	µmol/l	360	Alkaline picrate with deproteinization
	mg/dl	4.07	
	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	380	Enzymatic UV method
	mg/dl	4.29	
	µmol/l	379	Creatinine PAP method
	mg/dl	4.29	
	µmol/l	351	Jaffe rate blanked
	mg/dl	3.97	
µmol/l	371	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.19		
	µmol/l	363	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.10	
	µmol/l	373	IDMS traceable
	mg/dl	4.22	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	173	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	172	Gamma glutamyl-4-nitroanilide 37°C
	U/l	136	Gamma glutamyl-4-nitroanilide 30°C
	U/l	106	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	193	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	152	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	119	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	GLDH	U/l	30
U/l		23	Triethanolamine buffer 50 mmol 30°C
U/l		19	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.8	Glucose dehydrogenase
	mg/dl	285	
	mmol/l	15.9	Hexokinase
	mg/dl	287	
	mmol/l	15.7	Oxygen electrode
	mg/dl	283	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	44.3	Colorimetric with ppt.
	µg/dl	248	
	µmol/l	44.6	Colorimetric without ppt.
	µg/dl	249	
Lactate	mmol/l	5.46	Colorimetric Lactate Oxidase
	mg/dl	49.2	
	mmol/l	5.40	UV LDH
	mg/dl	48.7	
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	752	P->L Scandinavian & Dutch 37°C
	U/l	543	P->L Scandinavian & Dutch 30°C
	U/l	381	P->L Scandinavian & Dutch 25°C
	U/l	729	P->L German methods 37°C
	U/l	526	P->L German methods 30°C
	U/l	370	P->L German methods 25°C
	U/l	730	P->L SFBC 37°C
	U/l	527	P->L SFBC 30°C
	U/l	370	P->L SFBC 25°C
	U/l	375	L->P IFCC 37°C
	U/l	271	L->P IFCC 30°C
U/l	190	L->P IFCC 25°C	
Lipase	U/l	59	Other Colorimetric 37°C
	U/l	61	Roche Colorimetric 37°C
	U/l	79	Randox Colorimetric 37°C
Lithium	mmol/l	2.02	Flame photometry
	mg/dl	1.40	
	mmol/l	2.07	Ion selective electrode
	mg/dl	1.44	
	mmol/l	2.03	Spectrophotometric
	mg/dl	1.41	
Magnesium	mmol/l	1.80	Arsenazo III
	mg/dl	4.37	
	mmol/l	1.78	Atomic absorption
	mg/dl	4.33	
	mmol/l	1.69	Calmagite
	mg/dl	4.11	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.78	Methylthymol blue
	mg/dl	4.33	
mmol/l	1.78	Chlorphosphonazo III	
mg/dl	4.33		

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.78	Enzymatic
	mg/dl	4.33	
Osmolality	mOsm/kg	342	Calculated
	mOsm/kg	372	Freezing point depression
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.29	Enzymatic
	mmol/l	5.71	Flame photometry
	mmol/l	5.98	ISE method - direct
	mmol/l	6.12	ISE method - indirect
	mmol/l	6.16	Optical Fluorescence
	mmol/l	5.68	Colorimetric
Protein Total	g/l	48.4	Biuret reaction end point
	g/dl	4.84	
	g/l	47.8	Biuret reaction kinetic
	g/dl	4.78	
Sodium	mmol/l	156	Enzymatic
	mmol/l	155	Flame photometry
	mmol/l	154	ISE method - direct
	mmol/l	157	ISE method - indirect
	mmol/l	156	Optical Fluorescence
	mmol/l	151	Colorimetric
TIBC	µmol/l	39.9	Removal of excess free iron
	µg/dl	223	
	µmol/l	45.2	FE+UIBC(saturation with iron)
	µg/dl	253	
	µmol/l	43.0	Direct Colorimetric
	µg/dl	240	
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.91	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	
	mmol/l	2.91	L/G Kinase EP. no correction
	mg/dl	258	
	mmol/l	2.91	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	
mmol/l	2.91	Lipase/Glycerol Dehydrogenase	
mg/dl	258		
Urea	mmol/l	18.7	Urease end point
	mg/dl	112	

CALIBRATION SERUM LEVEL 3 (CAL 3)

METHOD Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.2	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.549	Uricase catalase 340nm
	mg/dl	9.22	
	mmol/l	0.557	Reduction methods
	mg/dl	9.36	
	mmol/l	0.547	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.19	
	mmol/l	0.542	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	
mmol/l	0.544	Spectrophotometric at 280-290	
mg/dl	9.14		
	mmol/l	0.538	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.04	
Zinc	µmol/l	29.9	Atomic absorption
	µg/dl	195	
	µmol/l	32.4	Colorimetric with deproteinisation
	µg/dl	212	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.7	Bromocresol Green
	g/dl	3.17	
	g/l	30.7	Bromocresol Purple
	g/dl	3.07	
Alkaline Phosphatase	U/l	365	AMP optimised to IFCC 37°C
	U/l	364	AMP non-optimised 37°C
	U/l	351	Colorimetric 37°C
ALT (GPT)	U/l	138	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	248	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	314	Abbott Architect / Alinity cal factor 3806 37°C
	U/l	306	Abbott Architect / Alinity cal factor 3431 37°C
	U/l	309	Abbott - blocked pNPG7 37°C
	U/l	302	Abbott Architect 37°C
AST (GOT)	U/l	141	Tris buffer without P5P 37°C
Bile Acids	µmol/l	40.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	35.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.07	
	µmol/l	34.3	Diazo with Sulphanilic Acid
	mg/dl	2.00	
	µmol/l	34.9	Diazo with Dichloroaniline (DCA)
mg/dl	2.04		
Bilirubin Total	µmol/l	91.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.38	
	µmol/l	92.3	Diazo with Sulphanilic Acid
	mg/dl	5.40	
Calcium	mmol/l	3.02	Cresolphthalein complexone
	mg/dl	12.1	
	mmol/l	3.13	Arsenazo III
Chloride	mmol/l	114	ISE indirect
	mg/dl	277	
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	
Cholinesterase	mmol/l	7.23	Cholesterol Oxidase - IDMS
	mg/dl	279	
Cholinesterase	U/l	6288	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	486	CK-NAC serum start (DGKC) 37°C
	U/l	501	CK-NAC substrate start (DGKC) 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods	
CK Total	U/l	504	CK-NAC (IFCC) 37°C	
	U/l	505	Monothioglycerol 37°C	
	U/l	507	Abbott CK-NAC (IFCC) 37°C	
Creatinine	µmol/l	388	Alkaline picrate with deproteinization	
	mg/dl	4.38		
	µmol/l	386	Alkaline picrate no deproteinization	
	mg/dl	4.36		
	µmol/l	384	Enzymatic UV method	
	mg/dl	4.34		
	µmol/l	360	Jaffe rate blanked	
	mg/dl	4.06		
	µmol/l	395	IDMS traceable	
	mg/dl	4.46		
	gamma-GT	U/l	177	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
U/l		175	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C	
Glucose	mmol/l	15.9	Hexokinase	
	mg/dl	287		
	mmol/l	16.1	Glucose oxidase	
	mg/dl	290		
	Iron	µmol/l	47.7	Colorimetric with ppt.
		µg/dl	267	
	µmol/l	47.6	Colorimetric without ppt.	
	µg/dl	266		
Lactate	mmol/l	5.69	Colorimetric Lactate Oxidase	
	mg/dl	51.3		
LD (LDH)	U/l	376	L->P 37°C	
	U/l	364	L->P IFCC 37°C	
Lipase	U/l	54	Other Colorimetric 37°C	
Lithium	mmol/l	1.99	Spectrophotometric	
	mg/dl	1.38		
Magnesium	mmol/l	1.79	Arsenazo III	
	mg/dl	4.35		
	mmol/l	1.77	Enzymatic	
	mg/dl	4.30		
	Osmolality	mOsm/kg	352	Calculated
Phosphate Inorganic	mmol/l	2.18	Phosphomolybdate enzymatic	
	mg/dl	6.76		
	mmol/l	2.18	Phosphomolybdate UV	
	mg/dl	6.76		
	Potassium	mmol/l	6.10	ISE method - indirect
Protein Total	g/l	49.6	Biuret reaction end point	
	g/dl	4.96		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Protein Total	g/l	48.1	Biuret reaction kinetic
	g/dl	4.81	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	50.5	FE+UIBC(saturation with iron)
	µg/dl	282	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.78	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	246	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	
	mmol/l	2.87	Lipase/Glycerol Dehydrogenase
	mg/dl	254	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.546	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
Alkaline Phosphatase	U/l	350	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	152	Tris buffer without P5P 37°C
AST (GOT)	U/l	164	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	34.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.99	
Bilirubin Total	µmol/l	101	Diazo with Dichloroaniline (DCA)
	mg/dl	5.93	
Calcium	mmol/l	3.33	Arsenazo III
	mg/dl	13.3	
Chloride	mmol/l	116	ISE direct
Cholesterol	mmol/l	7.57	Cholesterol Oxidase - Abell Kendall
	mg/dl	292	
CK Total	U/l	505	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	364	Alkaline picrate no deproteinization
	mg/dl	4.11	
	µmol/l	351	
	mg/dl	3.96	
gamma-GT	U/l	179	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	16.0	Hexokinase
	mg/dl	287	
	mmol/l	16.7	
	mg/dl	301	
Iron	µmol/l	45.9	Colorimetric without ppt.
	µg/dl	257	
LD (LDH)	U/l	753	P->L German methods 37°C
Lipase	U/l	53	Other Colorimetric 37°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.49	Phosphomolybdate UV
	mg/dl	7.72	
Potassium	mmol/l	5.98	ISE method - direct
Protein Total	g/l	51.5	Biuret reaction end point
	g/dl	5.15	
Sodium	mmol/l	157	ISE method - direct
Triglycerides	mmol/l	2.98	Lipase/GPO-PAP no correction
	mg/dl	264	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Urea	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.02	
	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		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
	g/l	30.8	Bromocresol Purple
	g/dl	3.08	
Alkaline Phosphatase	U/l	408	AMP optimised to IFCC 37°C
	U/l	394	AMP non-optimised 37°C
	U/l	341	Colorimetric 37°C
ALT (GPT)	U/l	148	Tris buffer without P5P 37°C
	U/l	144	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	243	Immunoinhibition EPS substrate 37°C
	U/l	260	Beckman Synchron/CX/LXi/DxC 37°C
Amylase Total	U/l	281	pNP Maltotrioxide substrates 37°C
	U/l	287	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	286	Beckman Coulter - blocked pNPG7 37°C
	U/l	289	Beckman Synchron AMY7 37°C
	U/l	282	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	151	Tris buffer without P5P 37°C
	U/l	149	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	14.9	Enzymatic
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	µmol/l	29.1	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.70	
Bilirubin Total	µmol/l	92.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.38	
	µmol/l	93.4	Diazo with Sulphanilic Acid
	mg/dl	5.46	
	µmol/l	92.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.43	
	µmol/l	94.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.53	
µmol/l	91.8	DPD (Beckman AU)	
mg/dl	5.37		
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.19	Ion selective electrode
	mg/dl	12.8	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.31	Cholesterol Oxidase - Abell Kendall
	mg/dl	282	
	mmol/l	7.38	Cholesterol Oxidase - IDMS
	mg/dl	285	
	mmol/l	7.36	Cholesterol Dehydrogenase
	mg/dl	284	
Cholinesterase	U/l	5087	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	538	CK-NAC (IFCC) 37°C
	U/l	525	Beckman CK-NAC (Extinction Coeff) 37°C
Copper	µmol/l	24.7	Colorimetric
	µg/dl	157	
Creatinine	µmol/l	351	Alkaline picrate with deproteinization
	mg/dl	3.97	
	µmol/l	354	Alkaline picrate no deproteinization
	mg/dl	4.00	
	µmol/l	376	Enzymatic UV method
	mg/dl	4.25	
	µmol/l	389	Creatinine PAP method
	mg/dl	4.40	
	µmol/l	355	Jaffe rate blanked
	mg/dl	4.01	
	µmol/l	392	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.43	
	µmol/l	379	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.28	
	µmol/l	371	IDMS traceable
	mg/dl	4.20	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	172	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	182	Gamma glutamyl-4-nitroanilide 37°C
	U/l	182	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	180	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	178	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	29	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	16.0	GOD/02-Beckman method
	mg/dl	289	
	mmol/l	15.6	Glucose dehydrogenase
	mg/dl	281	
	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	45.2	Colorimetric with ppt.
	µg/dl	253	
	µmol/l	45.0	Colorimetric without ppt.
	µg/dl	252	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	374	L->P 37°C
	U/l	793	P->L Scandinavian & Dutch 37°C
	U/l	373	L->P IFCC 37°C
	U/l	357	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	57	Other Colorimetric 37°C
Lithium	mmol/l	2.05	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.76	Calmagite
	mg/dl	4.28	
	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
	mmol/l	2.20	Beckman PHOSm (365nm)
	mg/dl	6.82	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
	g/l	47.6	Biuret reaction kinetic
	g/dl	4.76	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	45.9	FE+UIBC(saturation with iron)
	µg/dl	257	
	µmol/l	43.8	Direct Colorimetric
	µg/dl	245	
	µmol/l	36.0	Calculated from Transferrin
	µg/dl	201	
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.90	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	257	
	mmol/l	2.92	L/G Kinase EP. no correction
	mg/dl	258	
	mmol/l	2.95	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	261	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.94	Lipase/Glycerol Dehydrogenase
	mg/dl	260	
Urea	mmol/l	18.9	Beckman-Conductivity
	mg/dl	114	
	mmol/l	18.8	Urease end point
	mg/dl	113	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.555	Spectrophotometric at 280-290
	mg/dl	9.32	
Uric Acid (Urate)	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Purple
	g/dl	3.10	
Alkaline Phosphatase	U/l	378	AMP optimised to IFCC 37°C
	U/l	356	AMP non-optimised 37°C
ALT (GPT)	U/l	138	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	287	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	139	Beckman Mod. IFCC Ref. without P5P 37°C
Bilirubin Total	µmol/l	91.7	Diazo with Sulphanilic Acid
	mg/dl	5.37	
Calcium	mmol/l	3.14	Ion selective electrode
	mg/dl	12.6	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.32	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
Cholinesterase	U/l	5252	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	522	CK-NAC (IFCC) 37°C
	U/l	518	Monothioglycerol 37°C
Creatinine	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	379	Jaffe rate blanked
	mg/dl	4.29	
µmol/l	383	IDMS traceable	
mg/dl	4.33		
gamma-GT	U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
Iron	µmol/l	44.6	Colorimetric without ppt.
	µg/dl	249	
Lactate	mmol/l	5.23	Colorimetric Lactate Oxidase
	mg/dl	47.1	
LD (LDH)	U/l	315	L->P 37°C
Lipase	U/l	59	Other Colorimetric 37°C
Magnesium	mmol/l	1.76	Calmagite
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.08	ISE method - indirect
Protein Total	g/l	44.2	Biuret reaction CX4/5/7
	g/dl	4.42	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
	g/l	46.8	Biuret reaction kinetic
	g/dl	4.68	
Sodium	mmol/l	154	ISE method - indirect
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
	mmol/l	2.94	L/G Kinase EP. no correction
Urea	mmol/l	19.1	Beckman-Conductivity
	mg/dl	115	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	

CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.5	Bromocresol Green
	g/dl	3.25	
Alkaline Phosphatase	U/l	427	Diethanolamine buffer DEA 37°C
	U/l	333	Diethanolamine buffer DEA 30°C
	U/l	273	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	149	Tris buffer without P5P 37°C
	U/l	110	Tris buffer without P5P 30°C
	U/l	84	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 Total	µmol/l	90.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.28	
Cholesterol	mmol/l	7.46	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
Creatinine	µmol/l	352	Jaffe rate blanked
	mg/dl	3.98	
gamma-GT	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	15.8	Glucose oxidase
	mg/dl	285	
Protein Total	g/l	50.0	Biuret reaction end point
	g/dl	5.00	
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	17.8	Urease end point
	mg/dl	107	
	mmol/l	17.8	Urease kinetic
	mg/dl	107	
Uric Acid (Urate)	mmol/l	17.8	BUN
	mg/dl	50.0	
	mmol/l	0.556	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.34	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
mg/dl	9.12		

CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.7	Bromocresol Green
	g/dl	3.37	
Alkaline Phosphatase	U/l	372	AMP optimised to IFCC 37°C
	U/l	290	AMP optimised to IFCC 30°C
	U/l	238	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	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
Cholesterol	mmol/l	7.36	Cholesterol Oxidase - Abell Kendall
	mg/dl	284	
	mmol/l	7.26	Cholesterol Oxidase - IDMS
	mg/dl	280	
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	343	Jaffe rate blanked
	mg/dl	3.88	
gamma-GT	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	15.8	Glucose oxidase
	mg/dl	285	
Protein Total	g/l	50.1	Biuret reaction end point
	g/dl	5.01	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.82	L/G Kinase EP. no correction
	mg/dl	250	
Urea	mmol/l	18.0	Urease end point
	mg/dl	108	
	mmol/l	17.6	Urease kinetic
	mg/dl	106	
	mmol/l	17.6	BUN
mg/dl	49.4		
Uric Acid (Urate)	mmol/l	0.579	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.73	
	mmol/l	0.568	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.54	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.3	Bromocresol Green
	g/dl	3.23	
Alkaline Phosphatase	U/l	508	Diethanolamine buffer DEA 37°C
	U/l	396	Diethanolamine buffer DEA 30°C
	U/l	325	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	144	Tris buffer without P5P 37°C
	U/l	97	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	33.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.97	
	µmol/l	29.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.74	
Bilirubin Total	µmol/l	90.3	Diazo with Dichloroaniline (DCA)
	mg/dl	5.28	
	µmol/l	82.7	Diazo with Sulphanilic Acid
	mg/dl	4.84	
	µmol/l	83.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.91	
Calcium	mmol/l	3.26	Cresolphthalein complexone
	mg/dl	13.1	
	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	110	Colorimetric
Cholesterol	mmol/l	7.25	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.40	Cholesterol Oxidase - IDMS
	mg/dl	286	
Cholinesterase	U/l	5133	Colorimetric Butyrylthiocholine 37°C
CK Total	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	357	Alkaline picrate no deproteinization
	mg/dl	4.03	
	µmol/l	378	Creatinine PAP method
	mg/dl	4.27	
	µmol/l	340	Jaffe rate blanked
	mg/dl	3.85	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
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	169	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	133	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	40.8	Colorimetric without ppt.
	µg/dl	228	
LD (LDH)	U/l	673	P->L Scandinavian & Dutch 37°C
	U/l	486	P->L Scandinavian & Dutch 30°C
	U/l	341	P->L Scandinavian & Dutch 25°C
	U/l	711	P->L SFBC 37°C
	U/l	513	P->L SFBC 30°C
	U/l	360	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	6.13	ISE method - direct
Protein Total	g/l	52.1	Biuret reaction end point
	g/dl	5.21	
Sodium	mmol/l	155	ISE method - direct
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
Uric Acid (Urate)	mmol/l	0.535	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.99	
	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.535	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.99	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.7	Bromocresol Green
	g/dl	3.37	
	g/l	31.6	Bromocresol Purple
	g/dl	3.16	
Alkaline Phosphatase	U/l	351	Roche Integra AMP buffer 37°C
	U/l	273	Roche Integra AMP buffer 30°C
	U/l	224	Roche Integra AMP buffer 25°C
	U/l	344	AMP optimised to IFCC 37°C
	U/l	268	AMP optimised to IFCC 30°C
	U/l	220	AMP optimised to IFCC 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	256	Immuno-inhibition EPS substrate 37°C
	U/l	248	Roche EPS Liquid 37°C
Amylase Total	U/l	275	Roche Integra 2-chloro-pNPG7 37°C
	U/l	274	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	139	Tris buffer without P5P 37°C
	U/l	94	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.0	Enzymatic
Bilirubin Direct	µmol/l	36.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.15	
	µmol/l	36.6	Diazo with Sulphanilic Acid
	mg/dl	2.14	
	µmol/l	37.0	Roche DPD JG standardised
	mg/dl	2.16	
µmol/l	35.0	Diazo with Dichloroaniline (DCA)	
mg/dl	2.05		
Bilirubin Total	µmol/l	85.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.02	
	µmol/l	85.0	Diazo with Sulphanilic Acid
	mg/dl	4.97	
	µmol/l	84.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.94	
µmol/l	84.3	Diazonium ion	
mg/dl	4.93		
Calcium	mmol/l	3.21	Cresolphthalein complexone
	mg/dl	12.9	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.20	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.17	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
	mmol/l	7.15	Cholesterol Oxidase - IDMS
mg/dl	276		
Cholinesterase	U/l	5380	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	486	CK-NAC serum start (DGKC) 37°C
	U/l	304	CK-NAC serum start (DGKC) 30°C
	U/l	207	CK-NAC serum start (DGKC) 25°C
	U/l	490	CK-NAC substrate start (DGKC) 37°C
	U/l	307	CK-NAC substrate start (DGKC) 30°C
	U/l	208	CK-NAC substrate start (DGKC) 25°C
	U/l	490	CK-NAC (IFCC) 37°C
	U/l	307	CK-NAC (IFCC) 30°C
	U/l	208	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	357	Alkaline picrate with deproteinization
	mg/dl	4.03	
	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	377	Roche Creatinine Plus
	mg/dl	4.25	
	µmol/l	361	Jaffe rate blanked
	mg/dl	4.08	
µmol/l	385	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.35		
µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.26		
µmol/l	369	IDMS traceable	
mg/dl	4.17		
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	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	16.1	Hexokinase
	mg/dl	291	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	44.7	Colorimetric with ppt.
	µg/dl	250	
	µmol/l	45.0	Colorimetric without ppt.
	µg/dl	252	
Lactate	mmol/l	5.50	Colorimetric Lactate Oxidase
	mg/dl	49.6	
LD (LDH)	U/l	387	L->P 37°C
	U/l	279	L->P 30°C
	U/l	196	L->P 25°C
	U/l	382	L->P IFCC 37°C
	U/l	276	L->P IFCC 30°C
	U/l	194	L->P IFCC 25°C
Lipase	U/l	57	Roche Colorimetric 37°C
Lithium	mmol/l	2.11	Ion selective electrode
	mg/dl	1.47	
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.76	Chlorphosphonazo III
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate enzymatic
	mg/dl	7.01	
	mmol/l	2.25	Phosphomolybdate UV
mg/dl	6.98		
Potassium	mmol/l	6.12	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
	g/l	46.1	Biuret reaction kinetic
	g/dl	4.61	
Sodium	mmol/l	155	ISE method - indirect
TIBC	µmol/l	44.4	FE+UIBC(saturation with iron)
	µg/dl	248	
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.98	L/G Kinase EP. no correction
	mg/dl	264	
	mmol/l	2.90	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	257	
mmol/l	2.94	Lipase/Glycerol Dehydrogenase	
mg/dl	260		
Urea	mmol/l	18.0	Urease end point
	mg/dl	108	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	
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	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.8	Bromocresol Green
	g/dl	3.28	
Alkaline Phosphatase	U/l	363	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	150	Tris buffer without P5P 37°C
AST (GOT)	U/l	154	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	92.2	Diazo with Sulphanilic Acid
	mg/dl	5.39	
Calcium	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Cholesterol	mmol/l	7.41	Cholesterol Oxidase - Abell Kendall
	mg/dl	286	
	mmol/l	7.28	Cholesterol Oxidase - IDMS
	mg/dl	281	
CK Total	U/l	495	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	338	Alkaline picrate no deproteinization
	mg/dl	3.82	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.20	
Jaffe rate blanked	µmol/l	358	Jaffe rate blanked
	mg/dl	4.04	
gamma-GT	U/l	180	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.9	Hexokinase
	mg/dl	287	
	mmol/l	16.1	Glucose oxidase
	mg/dl	290	
LD (LDH)	U/l	382	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Protein Total	g/l	50.7	Biuret reaction end point
	g/dl	5.07	
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.591	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.93	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.550	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.24	

CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.9	Bromocresol Green
	g/dl	3.19	
Alkaline Phosphatase	U/l	352	AMP optimised to IFCC 37°C
	U/l	274	AMP optimised to IFCC 30°C
	U/l	225	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	146	Tris buffer without P5P 37°C
	U/l	108	Tris buffer without P5P 30°C
	U/l	82	Tris buffer without P5P 25°C
Amylase Total	U/l	265	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 Total	µmol/l	88.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.17	
	µmol/l	94.0	Diazo with Sulphanilic Acid
	mg/dl	5.50	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.25	Arsenazo III
	mg/dl	13.0	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.29	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	
Cholinesterase	U/l	4940	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	503	CK-NAC (IFCC) 37°C
	U/l	315	CK-NAC (IFCC) 30°C
	U/l	214	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	338	Alkaline picrate no deproteinization
	mg/dl	3.82	
	µmol/l	345	Jaffe rate blanked
	mg/dl	3.90	
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	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.9	Glucose oxidase
	mg/dl	287	

CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	43.1	Colorimetric without ppt.
	µg/dl	241	
LD (LDH)	U/l	389	L->P IFCC 37°C
	U/l	281	L->P IFCC 30°C
	U/l	197	L->P IFCC 25°C
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.04	ISE method - direct
	mmol/l	6.17	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Sodium	mmol/l	157	ISE method - indirect
Triglycerides	mmol/l	2.92	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.90	Lipase/Glycerol Dehydrogenase
Urea	mmol/l	18.8	Urease end point
	mg/dl	113	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
Uric Acid (Urate)	mmol/l	18.9	BUN
	mg/dl	53.0	
	mmol/l	0.558	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.37	
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	
	mmol/l	0.534	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.97	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.9	Bromocresol Green
	g/dl	3.29	
Alkaline Phosphatase	U/l	380	AMP optimised to IFCC 37°C
	U/l	296	AMP optimised to IFCC 30°C
	U/l	243	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	294	I.L. 2-chloro-pNPG3 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 Total	µmol/l	92.4	Diazo with Sulphanilic Acid
	mg/dl	5.40	
	µmol/l	96.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.63	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.28	Arsenazo III
	mg/dl	13.1	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	7.30	Cholesterol Oxidase - Abell Kendall
	mg/dl	282	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
Cholinesterase	U/l	5296	Colorimetric Butyrylthiocholine 37°C
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	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
	µmol/l	386	Creatinine PAP method
	mg/dl	4.36	
gamma-GT	U/l	171	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	135	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	106	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	174	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	137	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	43.3	Colorimetric without ppt.
	µg/dl	242	
LD (LDH)	U/l	701	P->L Scandinavian & Dutch 37°C
	U/l	506	P->L Scandinavian & Dutch 30°C
	U/l	355	P->L Scandinavian & Dutch 25°C
	U/l	716	P->L German methods 37°C
	U/l	517	P->L German methods 30°C
	U/l	363	P->L German methods 25°C
Lipase	U/l	57	Other Colorimetric 37°C
Magnesium	mmol/l	1.82	Enzymatic
	mg/dl	4.42	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	48.0	Biuret reaction end point
	g/dl	4.80	
Sodium	mmol/l	157	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
Urea	mmol/l	19.7	Urease end point
	mg/dl	118	
	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.509	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.55	
	mmol/l	0.513	Uricase peroxidase no ascorbate oxidase
mg/dl	8.62		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.0	Bromocresol Green
	g/dl	3.20	
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	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	155	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	90.0	Diazo with Sulphanilic Acid
	mg/dl	5.26	
	µmol/l	86.0	Nitrobenzenediazonium salt
	mg/dl	5.03	
Calcium	mmol/l	3.29	Arsenazo III
	mg/dl	13.2	
Chloride	mmol/l	116	ISE direct
Cholesterol	mmol/l	7.28	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	
	mmol/l	7.18	Cholesterol Oxidase - IDMS
	mg/dl	277	
CK Total	U/l	498	CK-NAC (IFCC) 37°C
	U/l	312	CK-NAC (IFCC) 30°C
	U/l	212	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	372	Enzymatic UV method
	mg/dl	4.20	
gamma-GT	U/l	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.3	Hexokinase
	mg/dl	294	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
Iron	µmol/l	44.1	Colorimetric with ppt.
	µg/dl	247	
	µmol/l	46.1	Colorimetric without ppt.
	µg/dl	258	
LD (LDH)	U/l	385	L->P IFCC 37°C
	U/l	278	L->P IFCC 30°C
	U/l	195	L->P IFCC 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.64	Xylidyl Blue
	mg/dl	3.99	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate enzymatic
	mg/dl	7.07	
	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.02	ISE method - direct
Protein Total	g/l	48.7	Biuret reaction end point
	g/dl	4.87	
Sodium	mmol/l	154	ISE method - direct
Triglycerides	mmol/l	3.03	Lipase/GPO-PAP no correction
	mg/dl	268	
	mmol/l	3.01	Lipase/Glycerol Dehydrogenase
	mg/dl	266	
Urea	mmol/l	18.2	Urease end point
	mg/dl	109	
	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
mg/dl	52.2		
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.549	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
mg/dl	9.17		

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS SERIES Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.8	Bromocresol Green
	g/dl	3.18	
	g/l	31.2	Bromocresol Purple
	g/dl	3.12	
Alkaline Phosphatase	U/l	395	AMP optimised to IFCC 37°C
	U/l	308	AMP optimised to IFCC 30°C
	U/l	252	AMP optimised to IFCC 25°C
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	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 Total	µmol/l	87.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.14	
	µmol/l	95.4	Diazo with Sulphanilic Acid
	mg/dl	5.58	
	µmol/l	91.7	Oxidation to Biliverdin/Vanadate
	mg/dl	5.37	
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	2.98	Ion selective electrode
	mg/dl	11.9	
	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.17	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
		mmol/l	7.25
	mg/dl	280	
Cholinesterase	U/l	5449	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	537	CK-NAC substrate start (DGKC) 37°C
	U/l	336	CK-NAC substrate start (DGKC) 30°C
	U/l	228	CK-NAC substrate start (DGKC) 25°C
	U/l	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	362	Alkaline picrate no deproteinization
	mg/dl	4.10	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS SERIES Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Creatinine	μmol/l	381	Enzymatic UV method
	mg/dl	4.31	
	μmol/l	384	Creatinine PAP method
	mg/dl	4.34	
	μmol/l	355	Jaffe rate blanked
	mg/dl	4.01	
gamma-GT	U/l	178	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	140	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	110	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	140	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.2	Hexokinase
	mg/dl	292	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
	Iron	μmol/l	42.8
μg/dl		239	
μmol/l		44.1	Colorimetric without ppt.
	μg/dl	247	
	Lactate	mmol/l	5.29
mg/dl		47.7	
LD (LDH)	U/l	779	P->L German methods 37°C
	U/l	562	P->L German methods 30°C
	U/l	395	P->L German methods 25°C
	U/l	370	L->P IFCC 37°C
	U/l	267	L->P IFCC 30°C
	U/l	188	L->P IFCC 25°C
Magnesium	mmol/l	1.67	Calmagite
	mg/dl	4.06	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	Phosphate Inorganic	mmol/l	2.10
mg/dl		6.51	
mmol/l		2.09	Phosphomolybdate UV
	mg/dl	6.48	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	50.2	Biuret reaction end point
	g/dl	5.02	
	g/l	49.9	Biuret reaction kinetic
	g/dl	4.99	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS SERIES Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.83	L/G Kinase EP. no correction
	mg/dl	250	
	mmol/l	2.85	Lipase/Glycerol Dehydrogenase
	mg/dl	252	
Urea	mmol/l	18.9	Urease end point
	mg/dl	114	
	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	18.3	Urease hypochlorite
	mg/dl	110	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.544	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.14	
	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	
	mmol/l	0.542	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	

CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.7	Bromocresol Green
	g/dl	3.27	
ALT (GPT)	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
AST (GOT)	U/l	150	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 Total	µmol/l	92.8	Diazo with Sulphanilic Acid
	mg/dl	5.43	
	µmol/l	91.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.34	
Calcium	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.46	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
CK Total	U/l	503	CK-NAC (IFCC) 37°C
	U/l	315	CK-NAC (IFCC) 30°C
	U/l	214	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	330	Alkaline picrate no deproteinization
	mg/dl	3.73	
	µmol/l	354	
gamma-GT	U/l	171	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	135	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	106	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
Glucose	mmol/l	15.9	Glucose oxidase
	mg/dl	287	
Iron	µmol/l	43.5	Colorimetric without ppt.
	µg/dl	243	
LD (LDH)	U/l	719	P->L German methods 37°C
	U/l	519	P->L German methods 30°C
	U/l	365	P->L German methods 25°C
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Protein Total	g/l	49.2	Biuret reaction end point
	g/dl	4.92	

CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.561	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.7	Bromocresol Green
	g/dl	3.37	
Alkaline Phosphatase	U/l	349	Roche Integra AMP buffer 37°C
	U/l	272	Roche Integra AMP buffer 30°C
	U/l	223	Roche Integra AMP buffer 25°C
	U/l	347	AMP optimised to IFCC 37°C
	U/l	270	AMP optimised to IFCC 30°C
	U/l	222	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	270	Other Roche 2-chloro-pNPG7 37°C
	U/l	273	Roche liquid stable pNPG7 37°C
AST (GOT)	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
Bilirubin Direct	µmol/l	38.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.27	
	µmol/l	37.6	Diazo with Sulphanilic Acid
	mg/dl	2.20	
	µmol/l	37.2	Roche DPD JG standardised
	mg/dl	2.17	
Bilirubin Total	µmol/l	82.6	Diazo with Sulphanilic Acid
	mg/dl	4.83	
	µmol/l	84.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.95	
	µmol/l	82.5	Diazonium ion
	mg/dl	4.83	
Calcium	mmol/l	3.31	Cresolphthalein complexone
	mg/dl	13.3	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.14	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	7.12	Cholesterol Oxidase - IDMS
	mg/dl	275	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	7.28	Cholesterol Dehydrogenase
	mg/dl	281	
CK Total	U/l	485	CK-NAC (IFCC) 37°C
	U/l	304	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	362	Alkaline picrate no deproteinization
	mg/dl	4.09	
	µmol/l	368	Roche Creatinine Plus
	mg/dl	4.16	
	µmol/l	353	Jaffe rate blanked
	mg/dl	3.99	
µmol/l	377	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.26		
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	174	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	137	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.1	Hexokinase
	mg/dl	290	
	mmol/l	16.3	Glucose oxidase
	mg/dl	294	
Iron	µmol/l	45.1	Colorimetric without ppt.
	µg/dl	252	
LD (LDH)	U/l	383	L->P IFCC 37°C
	U/l	277	L->P IFCC 30°C
	U/l	194	L->P IFCC 25°C
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.77	Chlorphosphonazo III
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.04	ISE method - indirect
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	262	
	mmol/l	2.93	L/G Kinase EP. no correction
	mg/dl	259	
	mmol/l	2.91	Lipase/Glycerol Dehydrogenase
	mg/dl	258	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
	mmol/l	0.539	Uricase peroxidase with ascorbate oxidase
Uric Acid (Urate)	mg/dl	9.06	
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.5	Bromocresol Green
	g/dl	3.35	
	g/l	32.5	Bromocresol Purple
	g/dl	3.25	
	g/l	30.3	Turbidimetric Assays
	g/dl	3.03	
Alkaline Phosphatase	U/l	346	Roche Integra AMP buffer 37°C
	U/l	270	Roche Integra AMP buffer 30°C
	U/l	221	Roche Integra AMP buffer 25°C
	U/l	346	AMP optimised to IFCC 37°C
	U/l	270	AMP optimised to IFCC 30°C
	U/l	221	AMP optimised to IFCC 25°C
	U/l	341	Colorimetric 37°C
	U/l	266	Colorimetric 30°C
	U/l	218	Colorimetric 25°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	243	Immunoinhibition EPS substrate 37°C
	U/l	242	Roche EPS Liquid 37°C
Amylase Total	U/l	272	Randox Liquid Ethylidene pNPG7 37°C
	U/l	273	Roche Integra 2-chloro-pNPG7 37°C
	U/l	269	Other Roche 2-chloro-pNPG7 37°C
	U/l	270	Roche liquid stable pNPG7 37°C
AST (GOT)	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
Bicarbonate	mmol/l	13.3	Colorimetric
	mmol/l	13.9	Enzymatic
Bile Acids	µmol/l	39.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	35.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.10	
	µmol/l	36.1	Diazo with Sulphanilic Acid
	mg/dl	2.11	
	µmol/l	36.5	Roche DPD JG standardised
	mg/dl	2.14	
	µmol/l	35.5	Diazo with Dichloroaniline (DCA)
mg/dl	2.08		
Bilirubin Total	µmol/l	82.4	Diazo with Dichloroaniline (DCA)
	mg/dl	4.82	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	82.7	Diazo with Sulphanilic Acid
	mg/dl	4.84	
	µmol/l	82.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.85	
	µmol/l	82.7	Diazonium ion
	mg/dl	4.84	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	7.22	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	
	mmol/l	7.22	Cholesterol Oxidase - IDMS
	mg/dl	279	
	mmol/l	7.27	Cholesterol Dehydrogenase
	mg/dl	281	
Cholinesterase	U/l	5259	Colorimetric Benzoylcholine 37°C
	U/l	5269	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	502	CK-NAC serum start (DGKC) 37°C
	U/l	314	CK-NAC serum start (DGKC) 30°C
	U/l	213	CK-NAC serum start (DGKC) 25°C
	U/l	487	CK-NAC substrate start (DGKC) 37°C
	U/l	305	CK-NAC substrate start (DGKC) 30°C
	U/l	207	CK-NAC substrate start (DGKC) 25°C
	U/l	492	CK-NAC (IFCC) 37°C
	U/l	308	CK-NAC (IFCC) 30°C
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	385	Enzymatic UV method
	mg/dl	4.35	
	µmol/l	387	Creatinine PAP method
	mg/dl	4.37	
	µmol/l	381	Roche Creatinine Plus
	mg/dl	4.31	
µmol/l	370	Jaffe rate blanked	
mg/dl	4.18		
µmol/l	369	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.17		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Creatinine	µmol/l	388	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.38	
	µmol/l	367	IDMS traceable
	mg/dl	4.14	
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	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	15.6	Glucose dehydrogenase
	mg/dl	281	
	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	45.5	Colorimetric with ppt.
	µg/dl	254	
	µmol/l	45.0	Colorimetric without ppt.
	µg/dl	252	
Lactate	mmol/l	5.45	Colorimetric Lactate Oxidase
	mg/dl	49.1	
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	61	Roche Colorimetric 37°C
	U/l	62	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.97	Ion selective electrode
	mg/dl	1.37	
	mmol/l	2.06	Spectrophotometric
Magnesium	mg/dl	1.43	
	mmol/l	1.80	Arsenazo III
	mg/dl	4.37	
	mmol/l	1.79	Atomic absorption
	mg/dl	4.35	
	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
mmol/l	1.77	Methylthymol blue	
mg/dl	4.30		
mmol/l	1.79	Chlorphosphonazo III	
mg/dl	4.35		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.79	Enzymatic
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate enzymatic
	mg/dl	6.79	
	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	6.16	ISE method - indirect
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	
	g/l	47.2	Biuret reaction kinetic
	g/dl	4.72	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	44.6	FE+UIBC(saturation with iron)
	µg/dl	249	
	µmol/l	45.9	Direct Colorimetric
	µg/dl	257	
	µmol/l	41.9	Calculated from Transferrin
	µg/dl	234	
Triglycerides	mmol/l	2.92	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.95	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	261	
	mmol/l	2.93	L/G Kinase EP. no correction
	mg/dl	259	
	mmol/l	2.97	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	263	
mmol/l	2.95	Lipase/Glycerol Dehydrogenase	
mg/dl	261		
Urea	mmol/l	18.5	Urease end point
	mg/dl	111	
	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
mg/dl	52.8		
Uric Acid (Urate)	mmol/l	0.545	Uricase catalase 340nm
	mg/dl	9.16	
	mmol/l	0.537	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.535	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	
	mmol/l	0.534	Uricase Peroxidase with ascorbate oxidase @ 546nm
mg/dl	8.97		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c303/501/502/503 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Zinc	µmol/l	32.3	Colorimetric with deproteinisation
	µg/dl	211	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.3	Bromocresol Green
	g/dl	3.33	
	g/l	33.4	Bromocresol Purple
	g/dl	3.34	
	g/l	33.6	Turbidimetric Assays
	g/dl	3.36	
Alkaline Phosphatase	U/l	342	Roche Integra AMP buffer 37°C
	U/l	266	Roche Integra AMP buffer 30°C
	U/l	219	Roche Integra AMP buffer 25°C
	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	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	269	Immunoinhibition EPS substrate 37°C
	U/l	249	Roche EPS Liquid 37°C
Amylase Total	U/l	273	Other Roche 2-chloro-pNPG7 37°C
	U/l	272	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	140	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	67	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.0	Enzymatic
Bilirubin Direct	µmol/l	34.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.04	
	µmol/l	34.5	Diazo with Sulphanilic Acid
	mg/dl	2.02	
	µmol/l	35.4	Roche DPD JG standardised
	mg/dl	2.07	
Bilirubin Total	µmol/l	83.4	Diazo with Sulphanilic Acid
	mg/dl	4.88	
	µmol/l	83.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.85	
	µmol/l	82.8	Diazonium ion
	mg/dl	4.84	
Calcium	mmol/l	3.21	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.26	Arsenazo III
	mg/dl	13.1	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	7.25	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.29	Cholesterol Oxidase - IDMS
	mg/dl	281	
CK Total	U/l	502	CK-NAC substrate start (DGKC) 37°C
	U/l	314	CK-NAC substrate start (DGKC) 30°C
	U/l	213	CK-NAC substrate start (DGKC) 25°C
	U/l	498	CK-NAC (IFCC) 37°C
	U/l	312	CK-NAC (IFCC) 30°C
	U/l	212	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	376	Alkaline picrate no deproteinization
	mg/dl	4.25	
	µmol/l	385	Enzymatic UV method
	mg/dl	4.35	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.29	
	µmol/l	379	Jaffe rate blanked
	mg/dl	4.28	
µmol/l	401	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.53		
gamma-GT	U/l	173	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	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
Glucose	mmol/l	16.0	Hexokinase
	mg/dl	288	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
Iron	µmol/l	44.8	Colorimetric with ppt.
	µg/dl	250	
	µmol/l	44.5	Colorimetric without ppt.
	µg/dl	249	
LD (LDH)	U/l	377	L->P 37°C
	U/l	272	L->P 30°C
	U/l	191	L->P 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods	
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	
Magnesium	mmol/l	1.79	Atomic absorption	
	mg/dl	4.35		
	mmol/l	1.79	Xylidyl Blue	
	mg/dl	4.35		
Phosphate Inorganic	mmol/l	1.81	Chlorphosphonazo III	
	mg/dl	4.40		
	mmol/l	2.21	Phosphomolybdate enzymatic	
	mg/dl	6.85		
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV	
	mg/dl	6.82		
Potassium	mmol/l	6.14	ISE method - indirect	
Protein Total	g/l	47.2	Biuret reaction end point	
	g/dl	4.72		
	g/l	47.9	Biuret reaction kinetic	
	g/dl	4.79		
Sodium	mmol/l	156	ISE method - indirect	
TIBC	µmol/l	43.8	FE+UIBC(saturation with iron)	
	µg/dl	245		
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction	
	mg/dl	260		
	mmol/l	2.93	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	259		
	mmol/l	2.94	L/G Kinase EP. no correction	
	mg/dl	260		
Triglycerides	mmol/l	2.98	L/G kinase EP. 0.11 mmol/l correction	
	mg/dl	264		
	mmol/l	2.95	Lipase/Glycerol Dehydrogenase	
	mg/dl	261		
	Urea	mmol/l	18.9	Urease end point
		mg/dl	114	
mmol/l		18.9	Urease kinetic	
mg/dl		114		
Urea	mmol/l	18.9	BUN	
	mg/dl	53.0		
	mmol/l	0.540	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.07		
Uric Acid (Urate)	mmol/l	0.541	Uricase peroxidase no ascorbate oxidase	
	mg/dl	9.09		
	mmol/l	0.549	Spectrophotometric at 280-290	
	mg/dl	9.22		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l mg/dl	0.540 9.07	Uricase Peroxidase with ascorbate oxidase @ 546nm

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	33.4	Bromocresol Green
	g/dl	3.34	
	g/l	30.4	Bromocresol Purple
	g/dl	3.04	
Alkaline Phosphatase	U/l	335	Roche Integra AMP buffer 37°C
	U/l	261	Roche Integra AMP buffer 30°C
	U/l	214	Roche Integra AMP buffer 25°C
	U/l	344	AMP optimised to IFCC 37°C
	U/l	268	AMP optimised to IFCC 30°C
	U/l	220	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	141	Tris buffer with P5P 37°C
	U/l	104	Tris buffer with P5P 30°C
	U/l	79	Tris buffer with P5P 25°C
	U/l	137	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	243	Immunoinhibition EPS substrate 37°C
	U/l	244	Roche EPS Liquid 37°C
Amylase Total	U/l	270	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	140	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	67	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.5	Enzymatic
Bilirubin Direct	µmol/l	36.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	2.15	
	µmol/l	37.3	Roche DPD JG standardised
	mg/dl	2.18	
Bilirubin Total	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
	µmol/l	83.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.89	
	µmol/l	84.1	Diazonium ion
	mg/dl	4.92	
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.20	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.23	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	7.24	Cholesterol Oxidase - IDMS
	mg/dl	279	
Cholinesterase	U/l	5213	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	473	CK-NAC substrate start (DGKC) 37°C
	U/l	296	CK-NAC substrate start (DGKC) 30°C
	U/l	201	CK-NAC substrate start (DGKC) 25°C
	U/l	484	CK-NAC (IFCC) 37°C
	U/l	303	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	388	Roche Creatinine Plus
	mg/dl	4.38	
	µmol/l	402	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.54	
	µmol/l	393	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.44	
µmol/l	380	IDMS traceable	
mg/dl	4.30		
gamma-GT	U/l	177	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	139	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	109	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	15.8	Hexokinase
	mg/dl	285	
Iron	µmol/l	43.6	Colorimetric without ppt.
	µg/dl	244	
Lactate	mmol/l	5.43	Colorimetric Lactate Oxidase
	mg/dl	48.9	
LD (LDH)	U/l	379	L->P IFCC 37°C
	U/l	274	L->P IFCC 30°C
	U/l	192	L->P IFCC 25°C
Lithium	mmol/l	2.06	Spectrophotometric
	mg/dl	1.43	
Magnesium	mmol/l	1.80	Xylidyl Blue
	mg/dl	4.37	
	mmol/l	1.81	Chlorphosphonazo III
	mg/dl	4.40	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate UV
	mg/dl	6.73	
Potassium	mmol/l	6.16	ISE method - indirect
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	44.2	FE+UIBC(saturation with iron)
	µg/dl	247	
Triglycerides	mmol/l	2.92	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.93	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	259	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	
Urea	mmol/l	2.92	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	
	mmol/l	2.97	Lipase/Glycerol Dehydrogenase
	mg/dl	263	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
Uric Acid (Urate)	mmol/l	18.5	BUN
	mg/dl	51.9	
	mmol/l	0.526	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.84	
	mmol/l	0.527	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.85	
Uric Acid (Urate)	mmol/l	0.525	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.82	

CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	32.5	Bromocresol Green
	g/dl	3.25	
Alkaline Phosphatase	U/l	579	Diethanolamine buffer DEA 37°C
	U/l	395	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	288	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	302	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	155	Tris buffer without P5P 37°C
Bile Acids	µmol/l	39.4	5th Generation Colorimetric
Bilirubin Direct	µmol/l	35.7	Diazo with Sulphanilic Acid
	mg/dl	2.09	
	µmol/l	34.6	Oxidation to Biliverdin/Vanadate
	mg/dl	2.02	
Bilirubin Total	µmol/l	92.5	Diazo with Sulphanilic Acid
	mg/dl	5.41	
	µmol/l	98.1	Oxidation to Biliverdin/Vanadate
	mg/dl	5.74	
Calcium	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	304	
CK Total	U/l	519	CK-NAC substrate start (DGKC) 37°C
	U/l	525	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	324	Alkaline picrate no deproteinization
	mg/dl	3.66	
	µmol/l	388	Enzymatic UV method
	mg/dl	4.38	
gamma-GT	U/l	193	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	
	mmol/l	16.2	Glucose oxidase
	mg/dl	292	
Iron	µmol/l	45.4	Colorimetric without ppt.
	µg/dl	254	
Lactate	mmol/l	5.41	Colorimetric Lactate Oxidase
	mg/dl	48.7	
LD (LDH)	U/l	765	P->L German methods 37°C
	U/l	376	L->P IFCC 37°C
Lipase	U/l	79	Randox Colorimetric 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.29	Enzymatic
Protein Total	g/l	49.5	Biuret reaction end point
	g/dl	4.95	
Sodium	mmol/l	156	Enzymatic
TIBC	µmol/l	46.9	Direct Colorimetric
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
Uric Acid (Urate)	mmol/l	0.582	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.78	
	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
Alkaline Phosphatase	U/l	333	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	156	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	256	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	282	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	153	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.3	Enzymatic
Bilirubin Direct	µmol/l	34.8	Oxidation to Biliverdin/Vanadate
	mg/dl	2.03	
Bilirubin Total	µmol/l	101	Oxidation to Biliverdin/Vanadate
	mg/dl	5.93	
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.32	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
	mmol/l	7.25	Cholesterol Oxidase - IDMS
mg/dl	280		
Cholinesterase	U/l	5960	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	506	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.06	
	µmol/l	379	Enzymatic UV method
	mg/dl	4.28	
	µmol/l	382	Creatinine PAP method
	mg/dl	4.32	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.05	
µmol/l	397	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.49		
gamma-GT	U/l	173	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	43.8	Colorimetric without ppt.
	µg/dl	245	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	
LD (LDH)	U/l	374	L->P 37°C
	U/l	376	Siemens Dimension L-P Non IFCC 37°C
	U/l	372	L->P IFCC 37°C
Lipase	U/l	68	Other Colorimetric 37°C
Lithium	mmol/l	1.94	Spectrophotometric
	mg/dl	1.35	
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	6.18	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
	g/l	47.0	Biuret reaction kinetic
	g/dl	4.70	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	43.8	FE+UIBC(saturation with iron)
	µg/dl	245	
Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
	mg/dl	267	
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.1	Urease kinetic
	mg/dl	115	
mmol/l	19.1	BUN	
mg/dl	53.6		
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.547	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	
mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	9.12		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Atellica Solution Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.6	Bromocresol Green
	g/dl	3.16	
	g/l	31.4	Bromocresol Purple
	g/dl	3.14	
Alkaline Phosphatase	U/l	327	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	157	Tris buffer without P5P 37°C
	U/l	159	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	286	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	316	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	153	Tris buffer without P5P 37°C
	U/l	153	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.3	Enzymatic
Bilirubin Direct	µmol/l	37.0	Oxidation to Biliverdin/Vanadate
	mg/dl	2.16	
Bilirubin Total	µmol/l	104	Oxidation to Biliverdin/Vanadate
	mg/dl	6.08	
Calcium	mmol/l	3.27	Cresolphthalein complexone
	mg/dl	13.1	
	mmol/l	3.17	Arsenazo III
mg/dl	12.7		
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.33	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
	mmol/l	7.30	Cholesterol Oxidase - IDMS
mg/dl	282		
Cholinesterase	U/l	6680	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	498	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.16	
	µmol/l	383	Enzymatic UV method
	mg/dl	4.33	
	µmol/l	382	Creatinine PAP method
	mg/dl	4.32	
	µmol/l	371	Jaffe rate blanked
	mg/dl	4.20	
µmol/l	391	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.42		
µmol/l	384	IDMS traceable	
mg/dl	4.34		

CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Atellica Solution Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
gamma-GT	U/l	168	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	282	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	µmol/l	45.4	Colorimetric with ppt.
	µg/dl	254	
	µmol/l	44.8	Colorimetric without ppt.
	µg/dl	250	
Lactate	mmol/l	5.48	Colorimetric Lactate Oxidase
	mg/dl	49.4	
LD (LDH)	U/l	374	L->P 37°C
	U/l	378	Siemens Dimension L-P Non IFCC 37°C
	U/l	377	L->P IFCC 37°C
Lipase	U/l	70	Other Colorimetric 37°C
Lithium	mmol/l	1.91	Spectrophotometric
	mg/dl	1.33	
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	48.1	Biuret reaction end point
	g/dl	4.81	
	g/l	48.3	Biuret reaction kinetic
	g/dl	4.83	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	45.5	FE+UIBC(saturation with iron)
	µg/dl	254	
	µmol/l	46.6	Direct Colorimetric
	µg/dl	260	
Triglycerides	mmol/l	3.01	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	3.03	L/G Kinase EP. no correction
	mg/dl	268	
Urea	mmol/l	19.1	Urease end point
	mg/dl	115	
	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.545	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Atellica Solution Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.555	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	31.1	Bromocresol Green
	g/dl	3.11	
	g/l	30.2	Bromocresol Purple
	g/dl	3.02	
Alkaline Phosphatase	U/l	336	Siemens Dimension AMP buffer 37°C
	U/l	339	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	151	Tris buffer with P5P 37°C
	U/l	152	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	319	Siemens - maltopenta/hexaoside 37°C
	U/l	325	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	175	Tris buffer with P5P 37°C
	U/l	178	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.1	Enzymatic
Bilirubin Direct	µmol/l	22.8	Diazo with Sulphanilic Acid
	mg/dl	1.33	
	µmol/l	22.3	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.30	
Bilirubin Total	µmol/l	91.7	Diazo with Sulphanilic Acid
	mg/dl	5.36	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
	mmol/l	6.95	Dimension-Siemens reagents
	mg/dl	268	
Cholinesterase	U/l	9354	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	488	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	381	Alkaline picrate no deproteinization
	mg/dl	4.31	
	µmol/l	391	Enzymatic UV method
	mg/dl	4.42	
	µmol/l	387	Creatinine PAP method
	mg/dl	4.38	
	µmol/l	386	Jaffe rate blanked
	mg/dl	4.36	
µmol/l	382	IDMS traceable	
mg/dl	4.32		
gamma-GT	U/l	189	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
gamma-GT	U/l	214	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	16.0	Hexokinase
	mg/dl	288	
	mmol/l	16.2	Glucose oxidase
	mg/dl	292	
Iron	µmol/l	41.8	Colorimetric with ppt.
	µg/dl	234	
	µmol/l	41.8	Colorimetric without ppt.
	µg/dl	234	
Lactate	mmol/l	5.38	UV LDH
	mg/dl	48.5	
LD (LDH)	U/l	354	Siemens Dimension L-P Non IFCC 37°C
	U/l	361	L->P IFCC 37°C
Lipase	U/l	63	Siemens Dimension Colorimetric (LIP Kit) 37°C
Magnesium	mmol/l	1.77	Methylthymol blue
	mg/dl	4.30	
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	6.13	ISE method - indirect
Protein Total	g/l	49.0	Biuret reaction end point
	g/dl	4.90	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	38.1	FE+UIBC(saturation with iron)
	µg/dl	213	
	µmol/l	38.4	Direct Colorimetric
	µg/dl	215	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.92	L/G Kinase EP. no correction
	mg/dl	258	
	mmol/l	2.89	Lipase/Glycerol Dehydrogenase
	mg/dl	256	
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.551	Uricase catalase 340nm
	mg/dl	9.26	
	mmol/l	0.542	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.544	Spectrophotometric at 280-290
	mg/dl	9.14	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
	g/l	30.4	Bromocresol Purple
	g/dl	3.04	
Alkaline Phosphatase	U/l	336	Siemens Dimension AMP buffer 37°C
	U/l	334	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	Tris buffer with P5P 37°C
	U/l	155	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	241	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	329	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	178	Tris buffer with P5P 37°C
	U/l	178	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	25.6	Diazo with Sulphanilic Acid
	mg/dl	1.50	
	µmol/l	22.5	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.32	
Bilirubin Total	µmol/l	92.0	Diazo with Sulphanilic Acid
	mg/dl	5.38	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	6.81	Cholesterol Oxidase - Abell Kendall
	mg/dl	263	
	mmol/l	6.90	Dimension-Siemens reagents
	mg/dl	266	
CK Total	U/l	493	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	382	Alkaline picrate no deproteinization
	mg/dl	4.32	
	µmol/l	383	Creatinine PAP method
	mg/dl	4.33	
	µmol/l	390	Jaffe rate blanked
	mg/dl	4.40	
µmol/l	392	IDMS traceable	
mg/dl	4.42		
gamma-GT	U/l	192	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	212	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	16.0	Hexokinase
	mg/dl	288	
Iron	µmol/l	42.3	Colorimetric with ppt.
	µg/dl	237	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1326UE Cat. No. CAL2351

Size 20 x 5 ml Expiry 2025-09-28

Analyte	unit	Target	methods
Iron	µmol/l	42.0	Colorimetric without ppt.
	µg/dl	235	
Lactate	mmol/l	5.41	UV LDH
	mg/dl	48.7	
LD (LDH)	U/l	347	Siemens Dimension L-P Non IFCC 37°C
	U/l	364	L->P IFCC 37°C
Lipase	U/l	63	Siemens Dimension Colorimetric (LIP Kit) 37°C
Magnesium	mmol/l	1.78	Methylthymol blue
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate enzymatic
	mg/dl	7.07	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	49.1	Biuret reaction end point
	g/dl	4.91	
Sodium	mmol/l	155	ISE method - indirect
TIBC	µmol/l	39.2	Removal of excess free iron
	µg/dl	219	
	µmol/l	37.7	FE+UIBC(saturation with iron)
	µg/dl	211	
	µmol/l	39.1	Direct Colorimetric
	µg/dl	219	
Triglycerides	mmol/l	2.93	Lipase/GPO-PAP no correction
	mg/dl	259	
	mmol/l	2.96	L/G Kinase EP. no correction
	mg/dl	262	
	mmol/l	2.87	Lipase/Glycerol Dehydrogenase
	mg/dl	254	
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.546	Uricase catalase 340nm
	mg/dl	9.17	
	mmol/l	0.550	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.543	Spectrophotometric at 280-290
	mg/dl	9.12	