

# PRODUCT INFORMATION

Calibration Serum Level 3

CAL2351

Lot 1155UE

As a result of our continuous post-market surveillance activities, Randox have realigned the **RX Series** calibration target for the below analytes to their corresponding reference materials. A comparable negative shift in recovery will be observed with patient, quality control and proficiency material up to the stated values in Table 1 below.

Table 1.

Analyte	Reference Material	% Adjustment
Calcium	NIST SRM 909 Reference Material NIST SRM 956 Reference Material	-5.5
Glucose	NIST SRM 917 Reference Material NIST SRM 965 Reference Material	-5.0
Magnesium	NIST SRM 909 Reference Material	-4.0
Inorganic Phosphate	Internal Master	-6.0
Urea	NIST SRM 909 Reference Material NIST SRM 912 Reference Material	-3.0

## **PRODUCT INFORMATION**

CAL2351

1155UE

Please note that while Total Acid Phosphatase is present in CAL2351 - Calibration Serum Level 3 lot 1155UE, values are not available for this analyte.

CCS6783

## CALIBRATION SERUM LEVEL 3 (CAL 3)

<b>CAT. NO.</b>	CAL 235 I	<b>LOT NO.</b>	I 155UE
<b>SIZE</b>	20 x 5ml	<b>EXPIRY:</b>	2023-05-28
<b>GTIN:</b>	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 235 I 20 x 5ml

### MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

### LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle. For Total and Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25 µl - 30 µl) of 0.7M Acetic acid solution to 1 ml of the serum exactly 30 minutes after reconstitution. After stabilisation, Total & Prostatic Acid Phosphatase are stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at -20°C.

Alkaline Phosphatase is stable for 3 days at 2 - 8°C and levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum be allowed to stand for 1 hour at +15°C to +25°C before measurement.

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable 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 - 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](mailto: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.

The presence of a vertical bar in the margin indicates a technical update from the previous revision.

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## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/l	325	AMP optimised to IFCC 37°C
	U/l	320	AMP non-optimised 37°C
	U/l	309	Colorimetric 37°C
ALT (GPT)	U/l	143	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	265	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	338	Abbott Architect IFCC Cal. 37°C
	U/l	322	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	144	Tris buffer without P5P 37°C
Bile Acids	µmol/l	45.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.72	
	µmol/l	29.2	Diazo with Sulphanilic Acid
	mg/dl	1.71	
Bilirubin Total	µmol/l	29.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.72	
	µmol/l	88.9	Diazo with Sulphanilic Acid
	mg/dl	5.20	
Calcium	µmol/l	89.7	Diazo with Sulphanilic Acid
	mg/dl	5.25	
	µmol/l	87.9	Diazonium ion
	mg/dl	5.14	
Chloride	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.17	Arsenazo III
Cholesterol	mmol/l	119	ISE indirect
	mg/dl	12.7	
	mmol/l	7.11	Cholesterol Oxidase - Abell Kendall
	mg/dl	274	
Cholinesterase	mmol/l	7.13	Cholesterol Oxidase - IDMS
	mg/dl	275	
	U/l	5874	Colorimetric Butyrylthiocholine 37°C
	CK Total	U/l	494
U/l		491	CK-NAC substrate start (DGKC) 37°C
U/l		497	CK-NAC (IFCC) 37°C
U/l		511	Monothioglycerol 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods	
CK Total	U/l	496	Abbott CK-NAC (IFCC) 37°C	
Copper	µmol/l	20.3	Colorimetric	
	µg/dl	129		
Creatinine	µmol/l	386	Alkaline picrate with deproteinization	
	mg/dl	4.36		
	µmol/l	389	Alkaline picrate no deproteinization	
	mg/dl	4.39		
	µmol/l	378	Enzymatic UV method	
	mg/dl	4.27		
µmol/l	385	Jaffe rate blanked		
mg/dl	4.35			
gamma-GT	µmol/l	389	IDMS traceable	
	mg/dl	4.40		
	U/l	162	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C	
	U/l	164		
	U/l	164		
	Glucose	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
U/l		164		
U/l		164		
Iron		mmol/l	15.2	Hexokinase
		mg/dl	274	
		mmol/l	15.4	Glucose oxidase
	mg/dl	278		
	Lactate	µmol/l	40.9	Colorimetric with ppt.
		µg/dl	229	
µmol/l		40.6	Colorimetric without ppt.	
µg/dl		227		
LD (LDH)		mmol/l	5.53	Colorimetric Lactate Oxidase
		mg/dl	49.8	
Lipase	U/l	362	L->P 37°C	
	U/l	366		
Lithium	U/l	61	Other Colorimetric 37°C	
	U/l	61		
Lithium	mmol/l	2.07	Spectrophotometric	
	mg/dl	1.44		
	Magnesium	mmol/l	1.71	Arsenazo III
		mg/dl	4.16	
Magnesium	mmol/l	1.74	Enzymatic	
	mg/dl	4.23		
	Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate enzymatic
		mg/dl	6.85	
mmol/l		2.19	Phosphomolybdate UV	
mg/dl		6.79		
Potassium	mmol/l	6.05	ISE method - indirect	
Protein Total	g/l	44.2	Biuret reaction end point	
	g/dl	4.42		
	g/l	44.1	Biuret reaction kinetic	
	g/dl	4.41		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	43.9	FE+UIBC(saturation with iron)
	µg/dl	245	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
UIBC	µmol/l	4.31	Direct Colorimetric
	µg/dl	24.1	
Urea	mmol/l	20.7	Urease end point
	mg/dl	124	
	mmol/l	20.6	Urease kinetic
	mg/dl	124	
	mmol/l	20.6	BUN
	mg/dl	57.8	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.550	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.549	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.22	
Zinc	µmol/l	32.1	Colorimetric with deproteinisation
	µg/dl	210	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.7	Bromocresol Green
	g/dl	2.87	
ALT (GPT)	U/l	162	Tris buffer without P5P 37°C
AST (GOT)	U/l	159	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.0	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	28.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	
Bilirubin Total	µmol/l	91.7	Diazo with Dichloroaniline (DCA)
	mg/dl	5.37	
Calcium	mmol/l	3.44	Arsenazo III
	mg/dl	13.8	
Chloride	mmol/l	127	ISE direct
Cholesterol	mmol/l	7.33	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	
CK Total	U/l	490	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	383	Enzymatic UV method
	mg/dl	4.33	
gamma-GT	U/l	176	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.8	Hexokinase
	mg/dl	302	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.5	Colorimetric without ppt.
	µg/dl	215	
LD (LDH)	U/l	713	P->L German methods 37°C
	U/l	435	L->P IFCC 37°C
Lipase	U/l	53	Other Colorimetric 37°C
Magnesium	mmol/l	1.66	Xylidyl Blue
	mg/dl	4.03	
Phosphate Inorganic	mmol/l	2.36	Phosphomolybdate UV
	mg/dl	7.32	
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
Sodium	mmol/l	164	ISE method - direct
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.514	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.64	
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.551	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.26	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	27.3	Bromocresol Green
	g/dl	2.73	
	g/l	27.0	Bromocresol Purple
	g/dl	2.70	
Alkaline Phosphatase	U/l	394	Diethanolamine buffer DEA 37°C
	U/l	390	AMP optimised to IFCC 37°C
	U/l	366	AMP non-optimised 37°C
ALT (GPT)	U/l	148	Tris buffer without P5P 37°C
	U/l	153	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	254	Immunoinhibition EPS substrate 37°C
	U/l	268	Roche EPS Liquid 37°C
Amylase Total	U/l	287	pNP Maltotrioxide substrates 37°C
	U/l	301	Randox Liquid Ethylidene pNPG7 37°C
	U/l	282	Roche liquid stable pNPG7 37°C
	U/l	298	Beckman Coulter - blocked pNPG7 37°C
	U/l	303	Beckman Synchron AMY7 37°C
	U/l	290	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
	U/l	161	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	15.1	Enzymatic
Bilirubin Direct	µmol/l	21.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.25	
	µmol/l	21.2	Diazo/ Sulphanilic Beckman DxC
Bilirubin Total	mg/dl	1.24	Diazo with Dichloroaniline (DCA)
	µmol/l	89.2	
	mg/dl	5.22	Diazo with Sulphanilic Acid
	µmol/l	86.5	
	µmol/l	88.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.16	
	µmol/l	94.7	Oxidation to Biliverdin/Vanadate
	mg/dl	5.54	
Calcium	µmol/l	87.1	DPD (Beckman AU)
	mg/dl	5.10	
Calcium	mmol/l	3.23	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.19	Ion selective electrode
	mg/dl	12.8	
	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Chloride	mmol/l	117	Colorimetric
	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.26	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
mmol/l	7.23	Cholesterol Dehydrogenase	
mg/dl	279		
Cholinesterase	U/l	4851	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	523	CK-NAC (IFCC) 37°C
	U/l	504	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	349	Alkaline picrate with deproteinization
	mg/dl	3.94	
	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	372	Enzymatic UV method
	mg/dl	4.20	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.20	
	µmol/l	353	Jaffe rate blanked
	mg/dl	3.99	
µmol/l	385	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.35		
µmol/l	379	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.28		
µmol/l	368	IDMS traceable	
mg/dl	4.16		
D-3-Hydroxybutyrate	mmol/l	1.16	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	168	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	Gamma glutamyl-4-nitroanilide 37°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	161	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	162	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	31	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.3	GOD/02-Beckman method
	mg/dl	276	
	mmol/l	15.6	Glucose dehydrogenase
	mg/dl	281	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
mmol/l	15.5	Glucose oxidase	
mg/dl	279		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Iron	µmol/l	39.9	Colorimetric with ppt.
	µg/dl	223	
	µmol/l	40.3	Colorimetric without ppt.
	µg/dl	225	
Lactate	mmol/l	5.24	Colorimetric Lactate Oxidase
	mg/dl	47.2	
LD (LDH)	U/l	374	L->P 37°C
	U/l	823	P->L Scandinavian & Dutch 37°C
	U/l	372	L->P IFCC 37°C
	U/l	369	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	66	Other Colorimetric 37°C
Lithium	mmol/l	2.01	Ion selective electrode
	mg/dl	1.40	
	mmol/l	2.08	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.79	Calmagite
	mg/dl	4.35	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate enzymatic
	mg/dl	6.88	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
	mmol/l	2.23	Beckman PHOSm (365nm)
	mg/dl	6.91	
Potassium	mmol/l	6.02	ISE method - indirect
Protein Total	g/l	43.7	Biuret reaction end point
	g/dl	4.37	
	g/l	43.8	Biuret reaction kinetic
	g/dl	4.38	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	40.1	FE+UIBC(saturation with iron)
	µg/dl	224	
	µmol/l	39.0	Direct Colorimetric
	µg/dl	218	
	µmol/l	35.6	Calculated from Transferrin
	µg/dl	199	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
	mmol/l	2.81	L/G Kinase EP. no correction
	mg/dl	249	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.90	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	257	
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	20.4	Beckman-Conductivity
	mg/dl	123	
	mmol/l	20.7	Urease end point
	mg/dl	124	
	mmol/l	20.7	Urease kinetic
	mg/dl	124	
	mmol/l	20.7	BUN
	mg/dl	58.1	
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.565	Spectrophotometric at 280-290
	mg/dl	9.49	
	mmol/l	0.558	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
	g/l	28.7	Bromocresol Purple
	g/dl	2.87	
Alkaline Phosphatase	U/l	347	AMP optimised to IFCC 37°C
	U/l	345	AMP non-optimised 37°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
Amylase Total	U/l	312	Beckman Coulter - blocked pNPG7 37°C
	U/l	304	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	140	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	16.3	Diazo/ Sulphanilic Beckman DxC
	mg/dl	0.956	
Bilirubin Total	µmol/l	86.4	Diazo with Sulphanilic Acid
	mg/dl	5.06	
Calcium	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.24	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	
Cholinesterase	U/l	4889	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	522	CK-NAC (IFCC) 37°C
	U/l	509	Monothioglycerol 37°C
Creatinine	µmol/l	369	Alkaline picrate no deproteinization
	mg/dl	4.17	
	µmol/l	366	Jaffe rate blanked
	mg/dl	4.14	
IDMS traceable	µmol/l	371	IDMS traceable
	mg/dl	4.19	
gamma-GT	U/l	129	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.1	GOD/02-Beckman method
	mg/dl	271	
	mmol/l	15.0	Hexokinase
	mg/dl	270	
Glucose oxidase	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	40.4	Colorimetric without ppt.
	µg/dl	226	
Lactate	mmol/l	4.93	Colorimetric Lactate Oxidase
	mg/dl	44.4	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
LD (LDH)	U/l	295	L->P 37°C
	U/l	436	L->P IFCC 37°C
Lipase	U/l	75	Other Colorimetric 37°C
Magnesium	mmol/l	1.71	Calmagite
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.05	ISE method - indirect
Protein Total	g/l	42.8	Biuret reaction end point
	g/dl	4.28	
	g/l	44.0	Biuret reaction kinetic
	g/dl	4.40	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	38.7	Removal of excess free iron
	µg/dl	216	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.88	L/G Kinase EP. no correction
Urea	mmol/l	20.4	Beckman-Conductivity
	mg/dl	123	
	mmol/l	20.9	Urease kinetic
	mg/dl	126	
	mmol/l	20.9	BUN
	mg/dl	58.7	
Uric Acid (Urate)	mmol/l	0.533	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.95	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.5	Bromocresol Green
	g/dl	2.85	
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	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	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	83.1	Diazo with Sulphanilic Acid
	mg/dl	4.86	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
CK Total	U/l	518	CK-NAC (IFCC) 37°C
	U/l	324	CK-NAC (IFCC) 30°C
	U/l	220	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	343	
gamma-GT	U/l	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.8	Colorimetric without ppt.
	µg/dl	217	
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.04	
	mmol/l	0.530	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.90	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/l	442	Diethanolamine buffer DEA 37°C
	U/l	344	Diethanolamine buffer DEA 30°C
	U/l	282	Diethanolamine buffer DEA 25°C
	U/l	298	AMP optimised to IFCC 37°C
	U/l	232	AMP optimised to IFCC 30°C
	U/l	190	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	151	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	85	Tris buffer without P5P 25°C
AST (GOT)	U/l	165	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
	mmol/l	7.09	Cholesterol Oxidase - IDMS
	mg/dl	274	
Creatinine	µmol/l	333	Alkaline picrate no deproteinization
	mg/dl	3.76	
	µmol/l	340	Jaffe rate blanked
	mg/dl	3.84	
gamma-GT	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Protein Total	g/l	44.2	Biuret reaction end point
	g/dl	4.42	
	g/l	43.5	Biuret reaction kinetic
	g/dl	4.35	
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.56	L/G Kinase EP. no correction
	mg/dl	227	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.555	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	
Uric Acid (Urate)	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
Alkaline Phosphatase	U/l	519	Diethanolamine buffer DEA 37°C
	U/l	404	Diethanolamine buffer DEA 30°C
	U/l	332	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	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
	U/l	143	Phosphate buffer DGKC 37°C
	U/l	97	Phosphate buffer DGKC 30°C
	U/l	68	Phosphate buffer DGKC 25°C
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
Bilirubin Total	µmol/l	85.1	Diazo with Dichloroaniline (DCA)
	mg/dl	4.98	
	µmol/l	79.8	Diazo with Sulphanilic Acid
	mg/dl	4.67	
	µmol/l	80.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.68	
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.05	Arsenazo III
mg/dl	12.2		
Chloride	mmol/l	117	Colorimetric
	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.14	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	6.94	Cholesterol Oxidase - IDMS
mg/dl	268		
Cholinesterase	U/l	4958	Colorimetric Butyrylthiocholine 37°C
CK Total	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	356	Alkaline picrate no deproteinization
	mg/dl	4.03	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	351	Jaffe rate blanked
	mg/dl	3.96	
	µmol/l	398	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.50	
gamma-GT	U/l	155	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	122	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	37.8	Colorimetric without ppt.
	µg/dl	211	
LD (LDH)	U/l	672	P->L Scandinavian & Dutch 37°C
	U/l	485	P->L Scandinavian & Dutch 30°C
	U/l	341	P->L Scandinavian & Dutch 25°C
	U/l	693	P->L SFBC 37°C
	U/l	500	P->L SFBC 30°C
	U/l	351	P->L SFBC 25°C
Lipase	U/l	67	Other Colorimetric 37°C
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	5.85	ISE method - direct
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	19.8	Urease end point
	mg/dl	119	
	mmol/l	20.6	Urease kinetic
	mg/dl	124	
Uric Acid (Urate)	mmol/l	20.6	BUN
	mg/dl	57.8	
	mmol/l	0.507	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.52	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	29.9	Bromocresol Purple
	g/dl	2.99	
	g/l	28.7	Turbidimetric Assays
	g/dl	2.87	
Alkaline Phosphatase	U/l	286	Roche Integra AMP buffer 37°C
	U/l	223	Roche Integra AMP buffer 30°C
	U/l	183	Roche Integra AMP buffer 25°C
	U/l	284	AMP optimised to IFCC 37°C
	U/l	221	AMP optimised to IFCC 30°C
	U/l	181	AMP optimised to IFCC 25°C
ALT (GPT)	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	266	Immunoinhibition EPS substrate 37°C
	U/l	268	Roche EPS Liquid 37°C
Amylase Total	U/l	289	Roche Integra 2-chloro-pNPG7 37°C
	U/l	285	Roche liquid stable pNPG7 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
Bicarbonate	mmol/l	13.9	Enzymatic
Bilirubin Direct	µmol/l	30.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	
	µmol/l	30.1	Diazo with Sulphanilic Acid
	mg/dl	1.76	
	µmol/l	30.0	Roche JG factored
	mg/dl	1.76	
	µmol/l	30.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.78	
Bilirubin Total	µmol/l	77.1	Diazo with Dichloroaniline (DCA)
	mg/dl	4.51	
	µmol/l	77.5	Diazo with Sulphanilic Acid
	mg/dl	4.53	
	µmol/l	77.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.52	
	µmol/l	76.7	Diazonium ion
	mg/dl	4.49	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	
mmol/l	3.20	NM-BAPTA	
mg/dl	12.8		
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
	mmol/l	6.93	Cholesterol Oxidase - IDMS
mg/dl	267		
Cholinesterase	U/l	5114	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	497	CK-NAC substrate start (DGKC) 37°C
	U/l	311	CK-NAC substrate start (DGKC) 30°C
	U/l	211	CK-NAC substrate start (DGKC) 25°C
	U/l	481	CK-NAC (IFCC) 37°C
	U/l	301	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	364	Alkaline picrate with deproteinization
	mg/dl	4.11	
	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.13	
	µmol/l	379	Enzymatic UV method
	mg/dl	4.28	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.15	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.05	
µmol/l	393	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.44		
µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.26		
µmol/l	370	IDMS traceable	
mg/dl	4.19		
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	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	280	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	41.0	Colorimetric with ppt.
	µg/dl	229	
	µmol/l	41.0	Colorimetric without ppt.
	µg/dl	229	
Lactate	mmol/l	5.44	Colorimetric Lactate Oxidase
	mg/dl	49.0	
LD (LDH)	U/l	388	L->P 37°C
	U/l	280	L->P 30°C
	U/l	197	L->P 25°C
	U/l	677	P->L German methods 37°C
	U/l	489	P->L German methods 30°C
	U/l	343	P->L German methods 25°C
	U/l	381	L->P IFCC 37°C
	U/l	275	L->P IFCC 30°C
Lipase	U/l	65	Roche Turbidimetric with colipase 37°C
	U/l	65	Roche Turbidimetric with colipase 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	1.77	Chlorphosphonazo III
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate enzymatic
	mg/dl	7.01	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	42.0	Biuret reaction end point
	g/dl	4.20	
	g/l	42.0	Biuret reaction kinetic
	g/dl	4.20	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	42.7	FE+UIBC(saturation with iron)
	µg/dl	239	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.89	L/G Kinase EP. no correction
mg/dl	256	L/G Kinase EP. no correction	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.92	Lipase/Glycerol Dehydrogenase
	mg/dl	258	
Urea	mmol/l	19.7	Urease end point
	mg/dl	118	
	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.556	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.34	
	mmol/l	0.556	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	
	mmol/l	0.551	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.26	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	466	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	144	Tris buffer without P5P 37°C
AST (GOT)	U/l	143	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	83.4	Diazo with Sulphanilic Acid
	mg/dl	4.88	
Calcium	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
CK Total	U/l	534	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.04	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.20	
	µmol/l	343	Jaffe rate blanked
	mg/dl	3.88	
gamma-GT	U/l	164	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	
LD (LDH)	U/l	356	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.545	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	
	mmol/l	0.574	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.64	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
Alkaline Phosphatase	U/l	284	AMP optimised to IFCC 37°C
	U/l	221	AMP optimised to IFCC 30°C
	U/l	181	AMP optimised to IFCC 25°C
	U/l	340	Randox AMP 37°C
	U/l	265	Randox AMP 30°C
	U/l	217	Randox AMP 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
Amylase Pancreatic	U/l	290	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	273	Roche liquid stable pNPG7 37°C
	U/l	312	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	154	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bile Acids	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Total	µmol/l	86.3	Diazo with Dichloroaniline (DCA)
	mg/dl	5.05	
	µmol/l	87.9	Diazo with Sulphanilic Acid
	mg/dl	5.14	
Calcium	mmol/l	3.23	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase - Abell Kendall
	mg/dl	274	
CK Total	U/l	537	CK-NAC (IFCC) 37°C
	U/l	336	CK-NAC (IFCC) 30°C
	U/l	228	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	342	Alkaline picrate with deproteinization
	mg/dl	3.86	
	µmol/l	331	Alkaline picrate no deproteinization
	mg/dl	3.74	
	µmol/l	337	Jaffe rate blanked
	mg/dl	3.81	
gamma-GT	U/l	162	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	180	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	142	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	111	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	39.8	Colorimetric without ppt.
	µg/dl	222	
LD (LDH)	U/l	391	L->P IFCC 37°C
	U/l	282	L->P IFCC 30°C
	U/l	198	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	160	ISE method - indirect
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.89	L/G Kinase EP. no correction
	mg/dl	256	
Urea	mmol/l	2.96	Lipase/Glycerol Dehydrogenase
	mg/dl	262	
	mmol/l	20.6	Urease end point
	mg/dl	124	
Urea	mmol/l	20.5	Urease kinetic
	mg/dl	123	
	mmol/l	20.5	BUN
	mg/dl	57.5	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.533	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.95	
Uric Acid (Urate)	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
Alkaline Phosphatase	U/l	339	AMP optimised to IFCC 37°C
	U/l	264	AMP optimised to IFCC 30°C
	U/l	217	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 Total	U/l	306	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	143	Tris buffer without P5P 37°C
	U/l	97	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	
	µmol/l	91.7	Dichlorophenyl Diazonium (DPD)
mg/dl	5.37		
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.18	Arsenazo III
mg/dl	12.7		
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
Cholinesterase	U/l	5035	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	466	CK-NAC (IFCC) 37°C
	U/l	292	CK-NAC (IFCC) 30°C
	U/l	198	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	382	Creatinine PAP method
mg/dl	4.32		
gamma-GT	U/l	160	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Iron	µmol/l	39.3	Colorimetric without ppt.
	µg/dl	220	
LD (LDH)	U/l	742	P->L Scandinavian & Dutch 37°C
	U/l	536	P->L Scandinavian & Dutch 30°C
	U/l	376	P->L Scandinavian & Dutch 25°C
	U/l	722	P->L German methods 37°C
	U/l	521	P->L German methods 30°C
	U/l	366	P->L German methods 25°C
Lipase	U/l	70	Other Colorimetric 37°C
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.77	Enzymatic
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate UV
	mg/dl	6.73	
Potassium	mmol/l	6.03	ISE method - indirect
Protein Total	g/l	43.7	Biuret reaction end point
	g/dl	4.37	
Sodium	mmol/l	159	ISE method - indirect
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	
Urea	mmol/l	20.5	Urease end point
	mg/dl	123	
	mmol/l	20.8	Urease kinetic
	mg/dl	125	
	mmol/l	20.8	BUN
	mg/dl	58.4	
Uric Acid (Urate)	mmol/l	0.512	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.60	
	mmol/l	0.535	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.3	Bromocresol Green
	g/dl	2.83	
Alkaline Phosphatase	U/l	312	AMP optimised to IFCC 37°C
	U/l	243	AMP optimised to IFCC 30°C
	U/l	199	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	165	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.9	Diazo with Sulphanilic Acid
	mg/dl	5.14	
	µmol/l	81.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.79	
	µmol/l	87.8	Nitrobenzenediazonium salt
	mg/dl	5.14	
Calcium	mmol/l	3.25	Arsenazo III
	mg/dl	13.0	
Chloride	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.25	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.35	Cholesterol Oxidase - IDMS
	mg/dl	284	
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	348	Alkaline picrate no deproteinization
	mg/dl	3.93	
	µmol/l	374	Enzymatic UV method
gamma-GT	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	100	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.2	Hexokinase
	mg/dl	292	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	38.9	Colorimetric without ppt.
	µg/dl	217	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
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
Lipase	U/l	62	Other Colorimetric 37°C
Magnesium	mmol/l	1.60	Xylidyl Blue
	mg/dl	3.89	
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate enzymatic
	mg/dl	7.47	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	5.88	ISE method - direct
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
Sodium	mmol/l	154	ISE method - direct
Triglycerides	mmol/l	2.98	Lipase/GPO-PAP no correction
	mg/dl	264	
	mmol/l	2.94	L/G Kinase EP. no correction
	mg/dl	260	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.4	Urease kinetic
	mg/dl	117	
Uric Acid (Urate)	mmol/l	19.4	BUN
	mg/dl	54.4	
	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
Uric Acid (Urate)	mmol/l	0.569	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
a-HBDH	U/l	394	Oxobutyrate < 10 mmol/l 37°C
	U/l	297	Oxobutyrate < 10 mmol/l 30°C
	U/l	223	Oxobutyrate < 10 mmol/l 25°C
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
	g/l	27.6	Bromocresol Purple
	g/dl	2.76	
	g/l	27.2	Turbidimetric Assays
Alkaline Phosphatase	U/l	463	Diethanolamine buffer DEA 37°C
	U/l	361	Diethanolamine buffer DEA 30°C
	U/l	296	Diethanolamine buffer DEA 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
	U/l	331	AMP non-optimised 37°C
	U/l	258	AMP non-optimised 30°C
ALT (GPT)	U/l	139	Colorimetric 37°C
	U/l	103	Colorimetric 30°C
	U/l	78	Colorimetric 25°C
	U/l	149	Tris buffer with P5P 37°C
	U/l	110	Tris buffer with P5P 30°C
	U/l	84	Tris buffer with P5P 25°C
	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
	U/l	145	Tris buffer SCE 37°C
	U/l	107	Tris buffer SCE 30°C
	U/l	82	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	264	Immunoinhibition EPS substrate 37°C
	U/l	260	Roche EPS Liquid 37°C
	U/l	290	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	301	pNP Maltotrioxide substrates 37°C
	U/l	304	Siemens - blocked pNPG7 37°C
	U/l	238	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	312	Randox Liquid Ethylidene pNPG7 37°C
	U/l	339	Siemens - maltopenta/hexaoside 37°C
	U/l	319	Siemens 2-chloro-pNP linked substrate 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Amylase Total	U/l	284	Roche Integra 2-chloro-pNPG7 37°C
	U/l	280	Other Roche 2-chloro-pNPG7 37°C
	U/l	278	Roche liquid stable pNPG7 37°C
	U/l	343	Siemens 2-chloro-pNPG3 37°C
	U/l	299	Beckman Coulter - blocked pNPG7 37°C
	U/l	304	Beckman Synchron AMY7 37°C
	U/l	307	I.L. 2-chloro-pNPG3 37°C
	U/l	336	Abbott Architect IFCC Cal. 37°C
	U/l	320	Abbott Architect Non-IFCC Cal. 37°C
	U/l	290	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	148	Colorimetric 37°C
	U/l	100	Colorimetric 30°C
	U/l	70	Colorimetric 25°C
	U/l	184	Tris buffer with P5P 37°C
	U/l	124	Tris buffer with P5P 30°C
	U/l	88	Tris buffer with P5P 25°C
	U/l	151	Tris buffer without P5P 37°C
	U/l	102	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
	U/l	152	Phosphate buffer DGKC 37°C
	U/l	103	Phosphate buffer DGKC 30°C
	U/l	72	Phosphate buffer DGKC 25°C
	U/l	155	Tris buffer with P5P NVKC 37°C
	U/l	105	Tris buffer with P5P NVKC 30°C
	U/l	74	Tris buffer with P5P NVKC 25°C
	U/l	151	Tris buffer SCE 37°C
U/l	102	Tris buffer SCE 30°C	
U/l	72	Tris buffer SCE 25°C	
Bicarbonate	mmol/l	14.6	Colorimetric
	mmol/l	14.8	Enzymatic
Bile Acids	µmol/l	43.8	4th Generation Colorimetric
	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	28.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	
	µmol/l	31.1	Oxidation to Biliverdin/Vanadate
	mg/dl	1.82	
Bilirubin Total	µmol/l	86.2	Diazo with Dichloroaniline (DCA)
	mg/dl	5.04	
	µmol/l	84.8	Diazo with Sulphanilic Acid
	mg/dl	4.96	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods	
Bilirubin Total	µmol/l	81.5	Dichlorophenyl Diazonium (DPD)	
	mg/dl	4.77		
	µmol/l	86.1	Nitrobenzenediazonium salt	
	mg/dl	5.03		
	µmol/l	81.1	Diazonium ion	
	mg/dl	4.74		
Calcium	µmol/l	93.9	Oxidation to Biliverdin/Vanadate	
	mg/dl	5.49		
	µmol/l	93.7	Modified Jendrassik	
	mg/dl	5.48		
	Calcium	mmol/l	3.18	Cresolphthalein complexone
		mg/dl	12.7	
mmol/l		3.13	Ion selective electrode	
mg/dl		12.5		
mmol/l		3.08	Methylthymol blue	
mg/dl		12.3		
mmol/l		3.17	Arsenazo III	
mg/dl	12.7			
Chloride	mmol/l	3.12	Phosphonazo	
	mg/dl	12.5		
	mmol/l	3.21	NM-BAPTA	
mg/dl	12.9			
Chloride	mmol/l	119	Colorimetric	
	mmol/l	118	ISE indirect	
	mmol/l	118	ISE direct	
	mmol/l	130	Optical Fluorescence	
Cholesterol	mmol/l	7.12	Cholesterol Oxidase - Abell Kendall	
	mg/dl	275		
	mmol/l	7.08	Cholesterol Oxidase - IDMS	
mg/dl	273			
Cholesterol	mmol/l	7.16	Cholesterol Dehydrogenase	
	mg/dl	276		
	U/l	5059	Colorimetric Benzoylcholine 37°C	
Cholinesterase	U/l	5093	Colorimetric Butyrylthiocholine 37°C	
	U/l	494	CK-NAC serum start (DGKC) 37°C	
CK Total	U/l	309	CK-NAC serum start (DGKC) 30°C	
	U/l	210	CK-NAC serum start (DGKC) 25°C	
	U/l	489	CK-NAC substrate start (DGKC) 37°C	
	U/l	306	CK-NAC substrate start (DGKC) 30°C	
	U/l	208	CK-NAC substrate start (DGKC) 25°C	
	U/l	493	CK-NAC (IFCC) 37°C	
	U/l	309	CK-NAC (IFCC) 30°C	
	U/l	210	CK-NAC (IFCC) 25°C	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
CK Total	U/l	509	Monothioglycerol 37°C
	U/l	319	Monothioglycerol 30°C
	U/l	216	Monothioglycerol 25°C
Copper	µmol/l	25.4	Atomic absorption
	µg/dl	162	
	µmol/l	25.0	Colorimetric
	µg/dl	159	
Creatinine	µmol/l	354	Alkaline picrate with deproteinization
	mg/dl	4.00	
	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.04	
	µmol/l	370	Enzymatic UV method
	mg/dl	4.18	
	µmol/l	369	Creatinine PAP method
	mg/dl	4.17	
	µmol/l	354	Jaffe rate blanked
	mg/dl	4.00	
	µmol/l	399	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.51	
	µmol/l	381	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.31	
	µmol/l	373	IDMS traceable
	mg/dl	4.21	
D-3-Hydroxybutyrate	mmol/l	1.19	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	161	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	127	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	146	Gamma glutamyl-4-nitroanilide 37°C
	U/l	115	Gamma glutamyl-4-nitroanilide 30°C
	U/l	90	Gamma glutamyl-4-nitroanilide 25°C
	U/l	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	180	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	142	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	111	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	GLDH	U/l	32
U/l		25	Triethanolamine buffer 50 mmol 30°C
U/l		20	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Glucose dehydrogenase
	mg/dl	276	
	mmol/l	15.4	Hexokinase
	mg/dl	278	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	39.6	Colorimetric with ppt.
	µg/dl	221	
	µmol/l	40.3	Colorimetric without ppt.
	µg/dl	225	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	
	mmol/l	5.48	UV LDH
	mg/dl	49.4	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	354	L->P 37°C
	U/l	256	L->P 30°C
	U/l	179	L->P 25°C
	U/l	742	P->L Scandinavian & Dutch 37°C
	U/l	536	P->L Scandinavian & Dutch 30°C
	U/l	376	P->L Scandinavian & Dutch 25°C
	U/l	709	P->L German methods 37°C
	U/l	512	P->L German methods 30°C
	U/l	359	P->L German methods 25°C
	U/l	723	P->L SFBC 37°C
	U/l	522	P->L SFBC 30°C
	U/l	367	P->L SFBC 25°C
	Lipase	U/l	66
U/l		54	Roche Colorimetric 37°C
U/l		95	Randox Colorimetric 37°C
Lithium	mmol/l	2.00	Flame photometry
	mg/dl	1.39	
	mmol/l	2.10	Ion selective electrode
	mg/dl	1.46	
	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	
	mmol/l	2.14	Randox Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.69	Calmagite
	mg/dl	4.11	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.74	Methylthymol blue
	mg/dl	4.23	
mmol/l	1.77	Chlorphosphonazo III	
mg/dl	4.30		
Osmolality	mmol/l	1.75	Enzymatic
	mg/dl	4.25	
Osmolality	mOsm/kg	348	Calculated
	mOsm/kg	381	Freezing point depression
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.25	Enzymatic
	mmol/l	5.85	Flame photometry
	mmol/l	5.99	ISE method - direct
	mmol/l	6.07	ISE method - indirect
	mmol/l	6.32	Optical Fluorescence
	mmol/l	5.53	Colorimetric
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
	g/l	43.9	Biuret reaction kinetic
	g/dl	4.39	
Sodium	mmol/l	159	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	157	ISE method - direct
	mmol/l	159	ISE method - indirect
	mmol/l	158	Optical Fluorescence
	mmol/l	152	Colorimetric
TIBC	µmol/l	38.0	Removal of excess free iron
	µg/dl	212	
	µmol/l	42.0	FE+UIBC(saturation with iron)
	µg/dl	235	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.86	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	253	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.85	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	252	
	mmol/l	2.87	Lipase/Glycerol Dehydrogenase
	mg/dl	254	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	20.3	Urease kinetic
	mg/dl	122	
	mmol/l	19.5	Urease hypochlorite
	mg/dl	117	
Uric Acid (Urate)	mmol/l	0.553	Uricase catalase 340nm
	mg/dl	9.29	
	mmol/l	0.567	Reduction methods
	mg/dl	9.53	
	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.546	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	
Zinc	mmol/l	0.553	Spectrophotometric at 280-290
	mg/dl	9.29	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	
	µmol/l	34.6	Atomic absorption
	µg/dl	226	
	µmol/l	38.2	Colorimetric with deproteinisation
	µg/dl	249	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
Alkaline Phosphatase	U/l	362	AMP optimised to IFCC 37°C
	U/l	282	AMP optimised to IFCC 30°C
	U/l	231	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	153	Tris buffer without P5P 37°C
	U/l	103	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.8	Enzymatic
Bilirubin Total	µmol/l	88.6	Diazo with Dichloroaniline (DCA)
	mg/dl	5.18	
	µmol/l	87.2	Diazo with Sulphanilic Acid
	mg/dl	5.10	
	µmol/l	86.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.06	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.21	Ion selective electrode
	mg/dl	12.9	
	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	120	ISE direct
Cholesterol	mmol/l	7.19	Cholesterol Oxidase - Abell Kendall
	mg/dl	278	
	mmol/l	7.01	Cholesterol Oxidase - IDMS
	mg/dl	271	
Cholinesterase	U/l	5119	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	565	CK-NAC substrate start (DGKC) 37°C
	U/l	354	CK-NAC substrate start (DGKC) 30°C
	U/l	240	CK-NAC substrate start (DGKC) 25°C
	U/l	509	CK-NAC (IFCC) 37°C
	U/l	319	CK-NAC (IFCC) 30°C
	U/l	216	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	341	Alkaline picrate with deproteinization
	mg/dl	3.85	
	µmol/l	354	Alkaline picrate no deproteinization
	mg/dl	4.00	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods	
Creatinine	µmol/l	383	Enzymatic UV method	
	mg/dl	4.33		
	µmol/l	374	Creatinine PAP method	
	mg/dl	4.22		
	µmol/l	344	Jaffe rate blanked	
	mg/dl	3.89		
	gamma-GT	U/l	166	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	131	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l		102	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
U/l		166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
U/l		131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
U/l		102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
Glucose	mmol/l	15.4	Hexokinase	
	mg/dl	278		
	mmol/l	15.4	Glucose oxidase	
	mg/dl	278		
Iron	µmol/l	37.4	Colorimetric with ppt.	
	µg/dl	209		
	µmol/l	39.6	Colorimetric without ppt.	
	µg/dl	221		
LD (LDH)	U/l	727	P->L German methods 37°C	
	U/l	525	P->L German methods 30°C	
	U/l	369	P->L German methods 25°C	
	U/l	377	L->P IFCC 37°C	
	U/l	272	L->P IFCC 30°C	
	U/l	191	L->P IFCC 25°C	
Magnesium	mmol/l	1.73	Xylidyl Blue	
	mg/dl	4.20		
	mmol/l	1.84	Enzymatic	
	mg/dl	4.47		
Phosphate Inorganic	mmol/l	2.03	Phosphomolybdate enzymatic	
	mg/dl	6.29		
	mmol/l	2.09	Phosphomolybdate UV	
	mg/dl	6.48		
Potassium	mmol/l	5.97	ISE method - direct	
Protein Total	g/l	45.3	Biuret reaction end point	
	g/dl	4.53		
	g/l	45.7	Biuret reaction kinetic	
	g/dl	4.57		
Sodium	mmol/l	159	ISE method - direct	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction	
	mg/dl	247		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
	mmol/l	2.79	Lipase/Glycerol Dehydrogenase
	mg/dl	247	
Urea	mmol/l	20.4	Urease end point
	mg/dl	123	
	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/l	360	AMP optimised to IFCC 37°C
	U/l	280	AMP optimised to IFCC 30°C
	U/l	230	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	154	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	91.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.33	
	µmol/l	85.7	Diazo with Sulphanilic Acid
	mg/dl	5.01	
	µmol/l	92.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.40	
µmol/l	98.5	Oxidation to Biliverdin/Vanadate	
mg/dl	5.76		
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.47	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
CK Total	U/l	536	CK-NAC (IFCC) 37°C
	U/l	336	CK-NAC (IFCC) 30°C
	U/l	228	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	343	Alkaline picrate no deproteinization
	mg/dl	3.88	
	µmol/l	380	Enzymatic UV method
	mg/dl	4.30	
	µmol/l	340	Jaffe rate blanked
	mg/dl	3.85	
gamma-GT	U/l	175	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	138	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	108	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	15.4	Glucose oxidase
	mg/dl	277	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Iron	µmol/l	40.8	Colorimetric without ppt.
	µg/dl	228	
LD (LDH)	U/l	775	P->L German methods 37°C
	U/l	560	P->L German methods 30°C
	U/l	393	P->L German methods 25°C
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Protein Total	g/l	45.3	Biuret reaction end point
	g/dl	4.53	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.86	L/G Kinase EP. no correction
	mg/dl	253	
Urea	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.539	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.06	
	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
	g/l	28.9	Bromocresol Purple
	g/dl	2.89	
	g/l	26.1	Turbidimetric Assays
	g/dl	2.61	
Alkaline Phosphatase	U/l	276	Roche Integra AMP buffer 37°C
	U/l	215	Roche Integra AMP buffer 30°C
	U/l	176	Roche Integra AMP buffer 25°C
	U/l	279	AMP optimised to IFCC 37°C
	U/l	217	AMP optimised to IFCC 30°C
	U/l	178	AMP optimised to IFCC 25°C
	U/l	276	Colorimetric 37°C
	U/l	215	Colorimetric 30°C
	U/l	176	Colorimetric 25°C
ALT (GPT)	U/l	140	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	267	Immunoinhibition EPS substrate 37°C
	U/l	256	Roche EPS Liquid 37°C
Amylase Total	U/l	275	Randox Liquid Ethylidene pNPG7 37°C
	U/l	277	Roche Integra 2-chloro-pNPG7 37°C
	U/l	276	Other Roche 2-chloro-pNPG7 37°C
	U/l	277	Roche liquid stable pNPG7 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
Bicarbonate	mmol/l	14.2	Colorimetric
	mmol/l	14.1	Enzymatic
Bile Acids	µmol/l	40.5	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.74	
	µmol/l	29.9	Diazo with Sulphanilic Acid
	mg/dl	1.75	
	µmol/l	29.7	Roche JG factored
	mg/dl	1.74	
	µmol/l	29.4	Diazo with Dichloroaniline (DCA)
mg/dl	1.72		
Bilirubin Total	µmol/l	79.9	Diazo with Dichloroaniline (DCA)
	mg/dl	4.67	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	79.7	Diazo with Sulphanilic Acid
	mg/dl	4.66	
	µmol/l	79.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.65	
	µmol/l	77.7	Nitrobenzenediazonium salt
	mg/dl	4.55	
	µmol/l	79.5	Diazonium ion
	mg/dl	4.65	
Calcium	mmol/l	3.21	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.91	Cholesterol Oxidase - Abell Kendall
	mg/dl	267	
	mmol/l	6.87	Cholesterol Oxidase - IDMS
mg/dl	265		
Cholinesterase	U/l	5055	Colorimetric Benzoylcholine 37°C
	U/l	5028	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	478	CK-NAC serum start (DGKC) 37°C
	U/l	299	CK-NAC serum start (DGKC) 30°C
	U/l	203	CK-NAC serum start (DGKC) 25°C
	U/l	477	CK-NAC substrate start (DGKC) 37°C
	U/l	299	CK-NAC substrate start (DGKC) 30°C
	U/l	203	CK-NAC substrate start (DGKC) 25°C
	U/l	479	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
	Creatinine	µmol/l	375
mg/dl		4.24	
µmol/l		378	Enzymatic UV method
mg/dl		4.27	
µmol/l		380	Roche Creatinine Plus
mg/dl		4.30	
µmol/l		374	Jaffe rate blanked
mg/dl		4.23	
µmol/l		399	Jaffe rate blanked comp. (-26 µmol/l)
mg/dl		4.51	
µmol/l		393	Jaffe rate blanked compensated (-18 µmol/l)
mg/dl	4.44		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	381	IDMS traceable
	mg/dl	4.30	
gamma-GT	U/l	156	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	123	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Glucose dehydrogenase
	mg/dl	276	
	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	40.4	Colorimetric with ppt.
	µg/dl	226	
	µmol/l	40.8	Colorimetric without ppt.
	µg/dl	228	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	372	L->P 37°C
	U/l	269	L->P 30°C
	U/l	189	L->P 25°C
	U/l	681	P->L Scandinavian & Dutch 37°C
	U/l	492	P->L Scandinavian & Dutch 30°C
	U/l	345	P->L Scandinavian & Dutch 25°C
	U/l	693	P->L German methods 37°C
	U/l	500	P->L German methods 30°C
	U/l	351	P->L German methods 25°C
	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	53	Roche Colorimetric 37°C
	U/l	54	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	2.05	Flame photometry
	mg/dl	1.42	
	mmol/l	2.09	Ion selective electrode
	mg/dl	1.45	
	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.81	Arsenazo III
	mg/dl	4.40	
	mmol/l	1.73	Atomic absorption
	mg/dl	4.20	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate enzymatic
	mg/dl	6.85	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	43.9	Biuret reaction end point
	g/dl	4.39	
	g/l	44.1	Biuret reaction kinetic
	g/dl	4.41	
Sodium	mmol/l	159	ISE method - indirect
TIBC	μmol/l	42.2	FE+UIBC(saturation with iron)
	μg/dl	236	
	μmol/l	42.8	Direct Colorimetric
	μg/dl	239	
	μmol/l	44.1	Calculated from Transferrin
μg/dl	247		
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
	mmol/l	2.87	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	254	
	mmol/l	2.86	L/G Kinase EP. no correction
	mg/dl	253	
mmol/l	2.86	L/G kinase EP. 0.11 mmol/l correction	
mg/dl	253		
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
Urea	mmol/l	20.2	Urease end point
	mg/dl	121	
	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.547	Uricase catalase 340nm
	mg/dl	9.19	
	mmol/l	0.535	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.99	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	
	mmol/l	0.535	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.99	
Zinc	µmol/l	35.4	Colorimetric with deproteinisation
	µg/dl	231	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/l	278	Roche Integra AMP buffer 37°C
	U/l	217	Roche Integra AMP buffer 30°C
	U/l	178	Roche Integra AMP buffer 25°C
	U/l	309	AMP optimised to IFCC 37°C
	U/l	241	AMP optimised to IFCC 30°C
	U/l	197	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	135	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	258	Roche EPS Liquid 37°C
Amylase Total	U/l	288	Other Roche 2-chloro-pNPG7 37°C
	U/l	284	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	147	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
	µmol/l	29.7	Diazo with Sulphanilic Acid
	mg/dl	1.74	
	µmol/l	31.2	Roche JG factored
	mg/dl	1.83	
Bilirubin Total	µmol/l	75.3	Diazo with Sulphanilic Acid
	mg/dl	4.41	
	µmol/l	75.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.43	
	µmol/l	79.3	Diazonium ion
	mg/dl	4.64	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.37	Arsenazo III
	mg/dl	13.5	
	mmol/l	3.20	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.05	Cholesterol Oxidase - Abell Kendall
	mg/dl	272	
	mmol/l	6.92	Cholesterol Oxidase - IDMS
	mg/dl	267	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
CK Total	U/l	478	CK-NAC (IFCC) 37°C
	U/l	299	CK-NAC (IFCC) 30°C
	U/l	203	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.11	
	µmol/l	362	Jaffe rate blanked
	mg/dl	4.09	
gamma-GT	U/l	154	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	121	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	95	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	100	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	280	
	mmol/l	15.5	Glucose oxidase
mg/dl	279		
Iron	µmol/l	42.0	Colorimetric without ppt.
	µg/dl	235	
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
Magnesium	mmol/l	1.71	Chlorphosphonazo III
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate enzymatic
	mg/dl	7.22	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.04	ISE method - indirect
Protein Total	g/l	45.1	Biuret reaction end point
	g/dl	4.51	
Sodium	mmol/l	158	ISE method - indirect
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.90	L/G Kinase EP. no correction
mg/dl	257		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.96	Lipase/Glycerol Dehydrogenase
	mg/dl	262	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	30.0	Bromocresol Green
	g/dl	3.00	
	g/l	29.1	Bromocresol Purple
	g/dl	2.91	
Alkaline Phosphatase	U/l	272	Roche Integra AMP buffer 37°C
	U/l	212	Roche Integra AMP buffer 30°C
	U/l	174	Roche Integra AMP buffer 25°C
	U/l	277	AMP optimised to IFCC 37°C
	U/l	216	AMP optimised to IFCC 30°C
	U/l	177	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	140	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	271	Immunoinhibition EPS substrate 37°C
	U/l	259	Roche EPS Liquid 37°C
Amylase Total	U/l	282	Other Roche 2-chloro-pNPG7 37°C
	U/l	279	Roche liquid stable pNPG7 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
Bicarbonate	mmol/l	14.2	Enzymatic
Bilirubin Direct	µmol/l	28.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	
	µmol/l	28.8	Diazo with Sulphanilic Acid
	mg/dl	1.68	
Bilirubin Total	µmol/l	28.6	Roche JG factored
	mg/dl	1.67	
	µmol/l	84.3	Diazo with Dichloroaniline (DCA)
	mg/dl	4.93	
Bilirubin Total	µmol/l	80.1	Diazo with Sulphanilic Acid
	mg/dl	4.69	
	µmol/l	80.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.68	
Calcium	µmol/l	79.2	Diazonium ion
	mg/dl	4.63	
	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
Calcium	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
	mmol/l	6.98	Cholesterol Oxidase - IDMS
	mg/dl	269	
Cholinesterase	U/l	4942	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	488	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	483	CK-NAC (IFCC) 37°C
	U/l	302	CK-NAC (IFCC) 30°C
	U/l	205	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	381	Alkaline picrate no deproteinization
	mg/dl	4.30	
	µmol/l	383	Roche Creatinine Plus
	mg/dl	4.33	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.27	
gamma-GT	U/l	157	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	124	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	40.5	Colorimetric with ppt.
	µg/dl	226	
	µmol/l	40.6	Colorimetric without ppt.
	µg/dl	227	
Lactate	mmol/l	5.40	Colorimetric Lactate Oxidase
	mg/dl	48.7	
LD (LDH)	U/l	666	P->L German methods 37°C
	U/l	481	P->L German methods 30°C
	U/l	338	P->L German methods 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
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
Lipase	U/l	63	Roche Turbidimetric with colipase 37°C
Magnesium	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
	mmol/l	2.26	Phosphomolybdate enzymatic
	mg/dl	7.01	
Potassium	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
	mmol/l	6.10	ISE method - indirect
	g/l	43.8	Biuret reaction end point
Protein Total	g/dl	4.38	
	g/l	45.5	Biuret reaction kinetic
	g/dl	4.55	
	mmol/l	159	ISE method - indirect
TIBC	µmol/l	41.0	FE+UIBC(saturation with iron)
	µg/dl	229	
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
	mmol/l	2.87	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	254	
	mmol/l	2.91	L/G Kinase EP. no correction
	mg/dl	258	
Urea	mmol/l	2.90	Lipase/Glycerol Dehydrogenase
	mg/dl	257	
	mmol/l	20.6	Urease end point
	mg/dl	124	
	mmol/l	20.3	Urease kinetic
	mg/dl	122	
Uric Acid (Urate)	mmol/l	20.3	BUN
	mg/dl	57.0	
	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
Uric Acid (Urate)	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	27.9	Turbidimetric Assays
	g/dl	2.79	
Alkaline Phosphatase	U/l	270	Roche Integra AMP buffer 37°C
	U/l	210	Roche Integra AMP buffer 30°C
	U/l	173	Roche Integra AMP buffer 25°C
ALT (GPT)	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	140	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	254	Immuno-inhibition EPS substrate 37°C
	U/l	257	Roche EPS Liquid 37°C
Amylase Total	U/l	278	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	203	Tris buffer with P5P 37°C
	U/l	137	Tris buffer with P5P 30°C
	U/l	97	Tris buffer with P5P 25°C
	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
Bicarbonate	mmol/l	15.0	Enzymatic
Bilirubin Direct	µmol/l	30.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.79	
	µmol/l	29.8	Roche JG factored
Bilirubin Total	mg/dl	1.75	
	µmol/l	79.0	Diazo with Sulphanilic Acid
	mg/dl	4.62	
	µmol/l	78.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.59	
	µmol/l	78.2	Diazonium ion
Calcium	mg/dl	4.58	
	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.19	NM-BAPTA
Chloride	mg/dl	12.8	
	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	266	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	6.89	Cholesterol Oxidase - IDMS
	mg/dl	266	
Cholinesterase	U/l	5058	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	479	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Copper	µmol/l	25.6	Colorimetric
	µg/dl	163	
Creatinine	µmol/l	369	Enzymatic UV method
	mg/dl	4.17	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.30	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	µmol/l	400	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.52	
µmol/l	391	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.42		
gamma-GT	U/l	151	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	119	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	93	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
HDL - Cholesterol	mmol/l	3.26	Direct HDL Roche 4th Generation
	mg/dl	126	
Iron	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	376	L->P IFCC 37°C
	U/l	271	L->P IFCC 30°C
	U/l	191	L->P IFCC 25°C
Lithium	mmol/l	2.10	Spectrophotometric
	mg/dl	1.46	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
Osmolality	mOsm/kg	348	Calculated
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	43.6	Biuret reaction end point
	g/dl	4.36	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	44.4	FE+UIBC(saturation with iron)
	µg/dl	248	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.83	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
	mmol/l	2.93	L/G Kinase EP. no correction
mg/dl	259		
mmol/l	2.83	L/G kinase EP. 0.11 mmol/l correction	
mg/dl	250		
Urea	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	20.0	BUN
mg/dl	56.1		
Uric Acid (Urate)	mmol/l	0.529	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.89	
	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	
	mmol/l	0.530	Uricase Peroxidase with ascorbate oxidase @ 546nm
mg/dl	8.90		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.7	Bromocresol Green
	g/dl	2.87	
Alkaline Phosphatase	U/l	527	Diethanolamine buffer DEA 37°C
	U/l	340	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	290	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	312	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
Bile Acids	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.9	Diazo with Sulphanilic Acid
	mg/dl	1.63	
	µmol/l	28.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.67	
Bilirubin Total	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
	µmol/l	90.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.30	
Calcium	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	7.59	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	
CK Total	U/l	541	CK-NAC substrate start (DGKC) 37°C
	U/l	562	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	329	Alkaline picrate no deproteinization
	mg/dl	3.72	
	µmol/l	381	Enzymatic UV method
mg/dl	4.31		
gamma-GT	U/l	180	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.6	Hexokinase
	mg/dl	263	
	mmol/l	14.8	Glucose oxidase
mg/dl	267		
Iron	µmol/l	41.5	Colorimetric without ppt.
	µg/dl	232	
Lactate	mmol/l	5.25	Colorimetric Lactate Oxidase
	mg/dl	47.3	
LD (LDH)	U/l	775	P->L German methods 37°C
	U/l	367	L->P IFCC 37°C
Lipase	U/l	95	Randox Colorimetric 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Lithium	mmol/l	2.14	Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.11	Phosphomolybdate UV
	mg/dl	6.54	
Potassium	mmol/l	6.25	Enzymatic
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	
Sodium	mmol/l	159	Enzymatic
TIBC	µmol/l	46.6	Direct Colorimetric
	µg/dl	260	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.6	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.542	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	404	Diethanolamine buffer DEA 37°C
	U/l	296	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	155	Tris buffer without P5P 37°C
	U/l	152	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	269	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	299	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	159	Tris buffer without P5P 37°C
	U/l	154	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.3	Enzymatic
Bilirubin Direct	µmol/l	26.8	Diazo with Sulphanilic Acid
	mg/dl	1.57	
	µmol/l	30.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	
Bilirubin Total	µmol/l	99.1	Diazo with Sulphanilic Acid
	mg/dl	5.80	
	µmol/l	95.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.58	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	120	ISE indirect
	mg/dl	276	
	mmol/l	7.05	
	mg/dl	272	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	7.05	Cholesterol Oxidase - IDMS
	mg/dl	272	
Cholinesterase	U/l	5821	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	515	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	359	Alkaline picrate no deproteinization
	mg/dl	4.06	
	µmol/l	367	Enzymatic UV method
	mg/dl	4.15	
	µmol/l	371	Creatinine PAP method
	mg/dl	4.19	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.05	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Creatinine	µmol/l	389	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.40	
	µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.26	
	µmol/l	364	IDMS traceable
	mg/dl	4.11	
gamma-GT	U/l	166	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	39.4	Colorimetric with ppt.
	µg/dl	220	
	µmol/l	40.3	Colorimetric without ppt.
	µg/dl	225	
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase
	mg/dl	48.8	
LD (LDH)	U/l	356	L->P 37°C
	U/l	723	P->L German methods 37°C
	U/l	372	L->P IFCC 37°C
Lipase	U/l	90	Other Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	42.9	Biuret reaction end point
	g/dl	4.29	
	g/l	43.7	Biuret reaction kinetic
	g/dl	4.37	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	44.4	Removal of excess free iron
	µg/dl	248	
	µmol/l	45.1	FE+UIBC(saturation with iron)
	µg/dl	252	
	µmol/l	45.4	Direct Colorimetric
	µg/dl	254	
Triglycerides	mmol/l	2.93	Lipase/GPO-PAP no correction
	mg/dl	259	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.87	L/G Kinase EP. no correction
	mg/dl	254	
Urea	mmol/l	20.8	Urease end point
	mg/dl	125	
	mmol/l	20.8	Urease kinetic
	mg/dl	125	
	mmol/l	20.8	BUN
	mg/dl	58.4	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.572	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.61	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	27.4	Bromocresol Green
	g/dl	2.74	
	g/l	27.0	Bromocresol Purple
	g/dl	2.70	
Alkaline Phosphatase	U/l	304	Siemens Dimension AMP buffer 37°C
	U/l	304	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	153	Tris buffer with P5P 37°C
	U/l	153	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	347	Siemens - maltopenta/hexaoside 37°C
	U/l	342	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	191	Tris buffer with P5P 37°C
	U/l	191	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.9	Enzymatic
Bilirubin Direct	µmol/l	17.9	Diazo with Sulphanilic Acid
	mg/dl	1.05	
	µmol/l	17.5	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.02	
Bilirubin Total	µmol/l	83.2	Diazo with Sulphanilic Acid
	mg/dl	4.87	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	6.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	267	
	mmol/l	6.88	Dimension-Siemens reagents
	mg/dl	266	
Cholinesterase	U/l	8643	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	481	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	374	Alkaline picrate no deproteinization
	mg/dl	4.23	
	µmol/l	375	Enzymatic UV method
	mg/dl	4.23	
	µmol/l	374	Creatinine PAP method
	mg/dl	4.22	
	µmol/l	371	Jaffe rate blanked
	mg/dl	4.19	
µmol/l	373	IDMS traceable	
mg/dl	4.21		
gamma-GT	U/l	175	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C



## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	198	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
Iron	µmol/l	38.8	Colorimetric with ppt.
	µg/dl	217	
	µmol/l	38.8	Colorimetric without ppt.
	µg/dl	217	
Lactate	mmol/l	5.49	UV LDH
	mg/dl	49.5	
LD (LDH)	U/l	355	L->P 37°C
	U/l	352	Siemens Dimension L-P Non IFCC 37°C
	U/l	359	L->P IFCC 37°C
Lipase	U/l	264	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.73	Methylthymol blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
	mg/dl	6.98	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	45.3	Biuret reaction end point
	g/dl	4.53	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	37.0	FE+UIBC(saturation with iron)
	µg/dl	207	
	µmol/l	37.4	Direct Colorimetric
	µg/dl	209	
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
mmol/l	2.79	Lipase/Glycerol Dehydrogenase	
mg/dl	247		
Urea	mmol/l	20.7	Urease end point
	mg/dl	124	
	mmol/l	20.9	Urease kinetic
	mg/dl	126	
	mmol/l	20.9	BUN
	mg/dl	58.7	
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.554	Spectrophotometric at 280-290
	mg/dl	9.31	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	26.8	Bromocresol Green
	g/dl	2.68	
	g/l	27.1	Bromocresol Purple
	g/dl	2.71	
Alkaline Phosphatase	U/l	304	Siemens Dimension AMP buffer 37°C
	U/l	309	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	155	Tris buffer with P5P 37°C
	U/l	155	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	261	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	337	Siemens - maltopenta/hexaoside 37°C
	U/l	344	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	196	Tris buffer with P5P 37°C
	U/l	192	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.1	Enzymatic
Bilirubin Direct	µmol/l	17.6	Diazo with Sulphanilic Acid
	mg/dl	1.03	
	µmol/l	17.8	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.04	
Bilirubin Total	µmol/l	84.0	Diazo with Sulphanilic Acid
	mg/dl	4.91	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	6.89	Cholesterol Oxidase - Abell Kendall
	mg/dl	266	
	mmol/l	6.85	Dimension-Siemens reagents
	mg/dl	264	
Cholinesterase	U/l	8877	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	484	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.26	
	µmol/l	365	Enzymatic UV method
	mg/dl	4.12	
	µmol/l	371	Creatinine PAP method
	mg/dl	4.19	
	µmol/l	383	Jaffe rate blanked
	mg/dl	4.32	
µmol/l	371	IDMS traceable	
mg/dl	4.20		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
gamma-GT	U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	197	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.2	Glucose dehydrogenase
	mg/dl	274	
	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	38.8	Colorimetric with ppt.
	µg/dl	217	
	µmol/l	38.8	Colorimetric without ppt.
	µg/dl	217	
Lactate	mmol/l	5.45	Colorimetric Lactate Oxidase
	mg/dl	49.1	
	mmol/l	5.44	UV LDH
	mg/dl	49.0	
LD (LDH)	U/l	354	Siemens Dimension L-P Non IFCC 37°C
	U/l	357	L->P IFCC 37°C
Lipase	U/l	267	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.33	Spectrophotometric
	mg/dl	1.62	
Magnesium	mmol/l	1.74	Methylthymol blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
	mg/dl	6.98	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.05	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	37.4	Removal of excess free iron
	µg/dl	209	
	µmol/l	38.5	FE+UIBC(saturation with iron)
	µg/dl	215	
	µmol/l	37.7	Direct Colorimetric
	µg/dl	211	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.79	L/G Kinase EP. no correction
	mg/dl	247	
	mmol/l	2.85	Lipase/Glycerol Dehydrogenase
	mg/dl	252	
Urea	mmol/l	20.8	Urease kinetic
	mg/dl	125	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Urea	mmol/l	20.8	BUN
	mg/dl	58.4	
Uric Acid (Urate)	mmol/l	0.554	Uricase catalase 340nm
	mg/dl	9.31	
	mmol/l	0.549	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.22	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
mmol/l	0.552	Spectrophotometric at 280-290	
mg/dl	9.27		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Albumin	g/l	27.3	Bromocresol Purple
	g/dl	2.73	
Alkaline Phosphatase	U/l	317	Siemens Dimension AMP buffer 37°C
	U/l	316	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	152	Tris buffer with P5P 37°C
Amylase Total	U/l	340	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	196	Tris buffer with P5P 37°C
	U/l	199	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.0	Enzymatic
Bilirubin Direct	µmol/l	19.7	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.15	
Bilirubin Total	µmol/l	83.0	Diazo with Sulphanilic Acid
	mg/dl	4.85	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	123	ISE indirect
Cholesterol	mmol/l	6.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	268	
	mmol/l	6.81	Dimension-Siemens reagents
mg/dl	263		
CK Total	U/l	493	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	383	Alkaline picrate no deproteinization
	mg/dl	4.33	
gamma-GT	U/l	206	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	272	
Iron	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
LD (LDH)	U/l	363	L->P IFCC 37°C
Lipase	U/l	329	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.85	Methylthymol blue
	mg/dl	4.50	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.02	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
Sodium	mmol/l	161	ISE method - indirect
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 1155UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2023-05-28

Analyte	unit	Target	methods
Urea	mmol/l	20.5	Urease kinetic
	mg/dl	123	
	mmol/l	20.5	BUN
	mg/dl	57.5	
Uric Acid (Urate)	mmol/l	0.564	Uricase catalase 340nm
	mg/dl	9.48	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	