

## CALIBRATION SERUM LEVEL 3 (CAL 3)

**CAT. NO.** CAL 2351

**LOT NO.** 1085UE

**SIZE:** 20 x 5ml

**EXPIRY:** 2021-08-28

**GTIN:** 05055273200966

### INTENDED USE

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

### SAFETY PRECAUTIONS AND WARNINGS

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests.

However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.

For *in vitro* diagnostic use only.

### STORAGE AND STABILITY

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

### PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

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

### MATERIALS PROVIDED

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

### MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

### LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle.

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

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

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 1 day at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.

Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components. Different lot numbers of this calibrator should not be interchanged, as the values assigned to the calibrators vary from lot to lot.

**VALUE ASSIGNMENT**

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

If an instrument specific value is not available, refer to the Mean of all Instruments section. If necessary, contact Randox Laboratories - Technical Services, Northern Ireland, tel: +44 (0) 28 9445 1070 or email [Technical.Services@randox.com](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.

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## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
	g/l	30.1	Bromocresol Purple
	g/dl	3.01	
Alkaline Phosphatase	U/l	319	AMP optimised to IFCC 37°C
	U/l	316	AMP non-optimised 37°C
	U/l	307	Colorimetric 37°C
ALT (GPT)	U/l	148	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	265	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	351	Abbott Architect IFCC Cal. 37°C
	U/l	333	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	149	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.3	Enzymatic
Bile Acids	µmol/l	45.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	29.6	Diazo with Sulphanilic Acid
	mg/dl	1.73	
	µmol/l	29.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	96.2	Diazo with Dichloroaniline (DCA)
	mg/dl	5.63	
	µmol/l	96.9	Diazo with Sulphanilic Acid
	mg/dl	5.67	
	µmol/l	92.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.43	
	µmol/l	99.6	Nitrobenzenediazonium salt
	mg/dl	5.83	
	µmol/l	95.0	Diazonium ion
	mg/dl	5.56	
Calcium	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	120	ISE indirect
Cholesterol	mmol/l	7.28	Cholesterol Oxidase
	mg/dl	281	
	mmol/l	7.40	Cholesterol Dehydrogenase
	mg/dl	286	
Cholinesterase	U/l	5609	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	507	CK-NAC serum start (DGKC) 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
CK Total	U/l	504	CK-NAC substrate start (DGKC) 37°C
	U/l	505	CK-NAC (IFCC) 37°C
	U/l	515	Monothioglycerol 37°C
Copper	µmol/l	20.5	Colorimetric
	µg/dl	130	
Creatinine	µmol/l	386	Alkaline picrate with deproteinization
	mg/dl	4.36	
	µmol/l	385	Alkaline picrate no deproteinization
	mg/dl	4.35	
	µmol/l	384	Enzymatic UV method
	mg/dl	4.34	
µmol/l	380	Jaffe rate blanked	
mg/dl	4.30		
IDMS traceable	µmol/l	386	IDMS traceable
	mg/dl	4.37	
gamma-GT	U/l	167	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	168	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	41.4	Colorimetric with ppt.
	µg/dl	231	
	µmol/l	40.7	Colorimetric without ppt.
	µg/dl	228	
Lactate	mmol/l	5.47	Colorimetric Lactate Oxidase
	mg/dl	49.3	
LD (LDH)	U/l	354	L->P 37°C
	U/l	356	L->P IFCC 37°C
Lipase	U/l	53	Other Colorimetric 37°C
Lithium	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
mmol/l	1.75	Enzymatic	
mg/dl	4.25		
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Potassium	mmol/l	6.22	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
	g/l	45.4	Biuret reaction kinetic
	g/dl	4.54	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	44.4	FE+UIBC(saturation with iron)
	µg/dl	248	
	µmol/l	33.8	Calculated from Transferrin
	µg/dl	189	
Triglycerides	mmol/l	3.07	Lipase/GPO-PAP no correction
	mg/dl	272	
	mmol/l	3.11	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	275	
	mmol/l	3.09	L/G Kinase EP. no correction
	mg/dl	273	
	mmol/l	3.06	Lipase/Glycerol Dehydrogenase
	mg/dl	271	
Urea	mmol/l	20.6	Urease end point
	mg/dl	124	
	mmol/l	20.5	Urease kinetic
	mg/dl	123	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
Zinc	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	
Zinc	µmol/l	33.5	Colorimetric with deproteinisation
	µg/dl	219	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
Alkaline Phosphatase	U/l	329	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	165	Tris buffer without P5P 37°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	
Bilirubin Total	µmol/l	99.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.80	
Calcium	mmol/l	3.25	Arsenazo III
	mg/dl	13.0	
Chloride	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.49	Cholesterol Oxidase
	mg/dl	289	
CK Total	U/l	483	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	363	Alkaline picrate no deproteinization
	mg/dl	4.10	
gamma-GT	U/l	169	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	38.9	Colorimetric without ppt.
	µg/dl	217	
LD (LDH)	U/l	377	L->P IFCC 37°C
Lipase	U/l	46	Other Colorimetric 37°C
Magnesium	mmol/l	1.62	Xylidyl Blue
	mg/dl	3.94	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Potassium	mmol/l	5.93	ISE method - direct
Protein Total	g/l	46.1	Biuret reaction end point
	g/dl	4.61	
Sodium	mmol/l	157	ISE method - direct
Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
	mg/dl	267	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.530	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.90	
	mmol/l	0.517	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.69	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
	g/l	28.8	Bromocresol Purple
	g/dl	2.88	
Alkaline Phosphatase	U/l	377	AMP optimised to IFCC 37°C
	U/l	336	AMP non-optimised 37°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
	U/l	155	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	268	Immunoinhibition EPS substrate 37°C
	U/l	269	Roche EPS Liquid 37°C
Amylase Total	U/l	286	pNP Maltotrioxide substrates 37°C
	U/l	304	Randox Liquid Ethylidene pNPG7 37°C
	U/l	307	Roche liquid stable pNPG7 37°C
	U/l	301	Beckman Coulter - blocked pNPG7 37°C
	U/l	303	Beckman Synchron AMY7 37°C
	U/l	294	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	162	Tris buffer without P5P 37°C
	U/l	160	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	15.2	Enzymatic
Bilirubin Direct	µmol/l	24.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.44	
	µmol/l	25.5	Diazo with Sulphanilic Acid
	mg/dl	1.49	
Bilirubin Total	µmol/l	95.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.61	
	µmol/l	92.7	Diazo with Sulphanilic Acid
	mg/dl	5.42	
	µmol/l	93.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.45	
	µmol/l	88.4	Diazonium ion
	mg/dl	5.17	
	µmol/l	99.3	Oxidation to Biliverdin/Vanadate
	mg/dl	5.81	
µmol/l	92.6	DPD (Beckman AU)	
mg/dl	5.42		
Calcium	mmol/l	3.26	Cresolphthalein complexone
	mg/dl	13.1	
	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Chloride	mmol/l	118	Colorimetric
	mmol/l	120	ISE indirect
Cholesterol	mmol/l	7.48	Cholesterol Oxidase
	mg/dl	289	
	mmol/l	7.56	Cholesterol Dehydrogenase
	mg/dl	292	
Cholinesterase	U/l	4657	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	511	CK-NAC (IFCC) 37°C
	U/l	523	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	355	Alkaline picrate with deproteinization
	mg/dl	4.01	
	µmol/l	353	Alkaline picrate no deproteinization
	mg/dl	3.98	
	µmol/l	373	Enzymatic UV method
	mg/dl	4.22	
	µmol/l	378	Creatinine PAP method
	mg/dl	4.27	
	µmol/l	351	Jaffe rate blanked
	mg/dl	3.97	
	µmol/l	381	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.31	
D-3-Hydroxybutyrate	µmol/l	376	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.25	
µmol/l	354	IDMS traceable	
	mg/dl	4.00	
D-3-Hydroxybutyrate	mmol/l	1.16	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	170	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	169	Gamma glutamyl-4-nitroanilide 37°C
	U/l	170	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	172	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	168	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	36	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.7	GOD/02-Beckman method
	mg/dl	284	
	mmol/l	15.5	Glucose dehydrogenase
	mg/dl	279	
	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	41.5	Colorimetric with ppt.
	µg/dl	232	
	µmol/l	41.9	Colorimetric without ppt.
	µg/dl	234	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Lactate	mmol/l	5.28	Colorimetric Lactate Oxidase	
	mg/dl	47.6		
LD (LDH)	U/l	349	L->P 37°C	
	U/l	793	P->L Scandinavian & Dutch 37°C	
	U/l	366	L->P IFCC 37°C	
	U/l	373	L to P Beckman (Extinction Coeff) 37°C	
Lipase	U/l	57	Other Colorimetric 37°C	
Lithium	mmol/l	2.00	Ion selective electrode	
	mg/dl	1.39		
	mmol/l	2.10	Spectrophotometric	
	mg/dl	1.46		
Magnesium	mmol/l	1.79	Xylidyl Blue	
	mg/dl	4.35		
	mmol/l	1.82	Methylthymol blue	
	mg/dl	4.42		
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic	
	mg/dl	6.98		
	mmol/l	2.27	Phosphomolybdate UV	
	mg/dl	7.04		
	mmol/l	2.31	Beckman PHOSm (365nm)	
	mg/dl	7.16		
Potassium	mmol/l	6.22	ISE method - indirect	
Protein Total	g/l	45.5	Biuret reaction end point	
	g/dl	4.55		
	g/l	45.6	Biuret reaction kinetic	
	g/dl	4.56		
Sodium	mmol/l	159	ISE method - indirect	
TIBC	µmol/l	41.5	FE+UIBC(saturation with iron)	
	µg/dl	232		
	µmol/l	39.6	Direct Colorimetric	
	µg/dl	221		
	µmol/l	33.2	Calculated from Transferrin	
	µg/dl	186		
	Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
		mg/dl	267	
mmol/l		2.99	Lipase/GPO-PAP 0.11mmol/l correction	
mg/dl		265		
mmol/l		3.02	L/G Kinase EP. no correction	
mg/dl		267		
mmol/l		2.87	L/G kinase EP. 0.11 mmol/l correction	
mg/dl		254		
mmol/l	3.02	Lipase/Glycerol Dehydrogenase		
mg/dl	267			

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	20.4	Beckman-Conductivity
	mg/dl	123	
	mmol/l	20.4	Urease end point
	mg/dl	123	
	mmol/l	20.5	Urease kinetic
	mg/dl	123	
Uric Acid (Urate)	mmol/l	0.566	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.51	
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.548	Spectrophotometric at 280-290
	mg/dl	9.21	
	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	
Zinc	µmol/l	35.2	Colorimetric with deproteinisation
	µg/dl	230	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.5	Bromocresol Purple
	g/dl	3.15	
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
AST (GOT)	U/l	149	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	84.7	Diazo with Sulphanilic Acid
	mg/dl	4.95	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.61	Cholesterol Oxidase
	mg/dl	294	
CK Total	U/l	483	CK-NAC (IFCC) 37°C
	U/l	302	CK-NAC (IFCC) 30°C
	U/l	205	CK-NAC (IFCC) 25°C
Iron	µmol/l	41.8	Colorimetric without ppt.
	µg/dl	234	
Magnesium	mmol/l	1.68	Calmagite
	mg/dl	4.08	
Potassium	mmol/l	6.33	ISE method - indirect
Sodium	mmol/l	155	ISE method - indirect
Uric Acid (Urate)	mmol/l	0.525	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.82	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
	g/l	30.9	Bromocresol Purple
	g/dl	3.09	
Alkaline Phosphatase	U/l	349	AMP optimised to IFCC 37°C
	U/l	335	AMP non-optimised 37°C
ALT (GPT)	U/l	141	Tris buffer without P5P 37°C
Amylase Total	U/l	309	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	308	Beckman Coulter - blocked pNPG7 37°C
	U/l	303	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	145	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.8	Differential rate pH change
Bilirubin Total	µmol/l	91.6	Diazo with Sulphanilic Acid
	mg/dl	5.36	
Calcium	mmol/l	3.16	Ion selective electrode
	mg/dl	12.7	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.58	Cholesterol Oxidase
	mg/dl	293	
Cholinesterase	U/l	4895	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	498	CK-NAC (IFCC) 37°C
	U/l	505	Monothioglycerol 37°C
Creatinine	µmol/l	366	Alkaline picrate no deproteinization
	mg/dl	4.13	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	µmol/l	372	IDMS traceable
	mg/dl	4.20	
gamma-GT	U/l	140	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	134	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.2	Oxygen electrode
	mg/dl	274	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	42.1	Colorimetric without ppt.
	µg/dl	235	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman DxC600/800® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lactate	mmol/l	4.81	Colorimetric Lactate Oxidase
	mg/dl	43.3	
LD (LDH)	U/l	292	L->P 37°C
	U/l	358	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lipase	U/l	66	Other Colorimetric 37°C
Lithium	mmol/l	2.17	Spectrophotometric
	mg/dl	1.51	
Magnesium	mmol/l	1.70	Calmagite
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.22	ISE method - indirect
Protein Total	g/l	44.9	Biuret reaction end point
	g/dl	4.49	
	g/l	45.1	Biuret reaction kinetic
	g/dl	4.51	
Sodium	mmol/l	157	ISE method - indirect
Triglycerides	mmol/l	3.06	Lipase/GPO-PAP no correction
	mg/dl	271	
	mmol/l	3.23	L/G Kinase EP. no correction
	mg/dl	286	
Urea	mmol/l	19.6	Beckman-Conductivity
	mg/dl	118	
	mmol/l	20.6	Urease kinetic
	mg/dl	124	
	mmol/l	20.6	BUN
	mg/dl	57.8	
Uric Acid (Urate)	mmol/l	0.527	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.85	
	mmol/l	0.528	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.87	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.2	Bromocresol Green
	g/dl	3.12	
Alkaline Phosphatase	U/l	336	AMP optimised to IFCC 37°C
	U/l	262	AMP optimised to IFCC 30°C
	U/l	215	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
	U/l	113	Tris buffer without P5P 30°C
	U/l	86	Tris buffer without P5P 25°C
AST (GOT)	U/l	160	Tris buffer without P5P 37°C
	U/l	108	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	92.4	Diazo with Sulphanilic Acid
	mg/dl	5.41	
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	7.37	Cholesterol Oxidase
	mg/dl	284	
Creatinine	µmol/l	341	Alkaline picrate no deproteinization
	mg/dl	3.85	
	µmol/l	344	Jaffe rate blanked
	mg/dl	3.89	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Phosphate Inorganic	mmol/l	2.47	Phosphomolybdate UV
	mg/dl	7.66	
Protein Total	g/l	46.4	Biuret reaction end point
	g/dl	4.64	
Triglycerides	mmol/l	2.99	Lipase/GPO-PAP no correction
	mg/dl	265	
	mmol/l	2.96	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	262	
Urea	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.533	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.95	
	mmol/l	0.535	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.516	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.67	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.5	Bromocresol Green
	g/dl	3.15	
ALT (GPT)	U/l	155	Tris buffer without P5P 37°C
	U/l	115	Tris buffer without P5P 30°C
	U/l	87	Tris buffer without P5P 25°C
AST (GOT)	U/l	166	Tris buffer without P5P 37°C
	U/l	112	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	108	Dichlorophenyl Diazonium (DPD)
	mg/dl	6.30	
Calcium	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	7.34	Cholesterol Oxidase
	mg/dl	283	
CK Total	U/l	588	CK-NAC (IFCC) 37°C
	U/l	368	CK-NAC (IFCC) 30°C
	U/l	250	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	335	Alkaline picrate no deproteinization
	mg/dl	3.79	
gamma-GT	U/l	164	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	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	Glucose oxidase
	mg/dl	278	
LD (LDH)	U/l	698	P->L German methods 37°C
	U/l	504	P->L German methods 30°C
	U/l	354	P->L German methods 25°C
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.94	L/G Kinase EP. no correction
	mg/dl	260	
Urea	mmol/l	19.2	Urease end point
	mg/dl	116	
	mmol/l	18.6	Urease kinetic
	mg/dl	112	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	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	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
Alkaline Phosphatase	U/l	499	Diethanolamine buffer DEA 37°C
	U/l	389	Diethanolamine buffer DEA 30°C
	U/l	319	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
	U/l	113	Tris buffer without P5P 30°C
	U/l	86	Tris buffer without P5P 25°C
AST (GOT)	U/l	161	Tris buffer without P5P 37°C
	U/l	109	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	29.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	27.8	Diazo with Sulphanilic Acid
	mg/dl	1.63	
Bilirubin Total	µmol/l	93.4	Diazo with Dichloroaniline (DCA)
	mg/dl	5.46	
	µmol/l	86.7	Diazo with Sulphanilic Acid
	mg/dl	5.07	
	µmol/l	88.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.16	
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	119	Colorimetric
Cholesterol	mmol/l	7.33	Cholesterol Oxidase
	mg/dl	283	
Cholinesterase	U/l	4999	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	491	CK-NAC (IFCC) 37°C
	U/l	307	CK-NAC (IFCC) 30°C
	U/l	209	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	342	Alkaline picrate no deproteinization
	mg/dl	3.86	
	µmol/l	342	Jaffe rate blanked
	mg/dl	3.87	
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

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
gamma-GT	U/l	154	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	121	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	95	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
LD (LDH)	U/l	662	P->L Scandinavian & Dutch 37°C
	U/l	478	P->L Scandinavian & Dutch 30°C
	U/l	336	P->L Scandinavian & Dutch 25°C
	U/l	664	P->L SFBC 37°C
	U/l	479	P->L SFBC 30°C
	U/l	337	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	6.03	ISE method - direct
Protein Total	g/l	47.6	Biuret reaction end point
	g/dl	4.76	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	2.99	L/G Kinase EP. no correction
	mg/dl	265	
Urea	mmol/l	20.6	Urease kinetic
	mg/dl	124	
	mmol/l	20.6	BUN
	mg/dl	57.8	
Uric Acid (Urate)	mmol/l	0.525	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.82	
	mmol/l	0.525	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.82	
	mmol/l	0.533	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.95	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.1	Bromocresol Green
	g/dl	3.21	
	g/l	31.8	Bromocresol Purple
	g/dl	3.18	
Alkaline Phosphatase	U/l	277	Roche Integra AMP buffer 37°C
	U/l	216	Roche Integra AMP buffer 30°C
	U/l	177	Roche Integra AMP buffer 25°C
	U/l	282	AMP optimised to IFCC 37°C
	U/l	220	AMP optimised to IFCC 30°C
	U/l	180	AMP optimised to IFCC 25°C
	U/l	284	Colorimetric 37°C
	U/l	221	Colorimetric 30°C
ALT (GPT)	U/l	144	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	274	Immunoinhibition EPS substrate 37°C
	U/l	271	Roche EPS Liquid 37°C
Amylase Total	U/l	294	Roche Integra 2-chloro-pNPG7 37°C
	U/l	290	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	154	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.3	Enzymatic
Bilirubin Direct	µmol/l	32.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.90	
	µmol/l	32.6	Diazo with Sulphanilic Acid
	mg/dl	1.91	
	µmol/l	32.9	Roche JG factored
	mg/dl	1.93	
µmol/l	33.6	Diazo with Dichloroaniline (DCA)	
mg/dl	1.97		
Bilirubin Total	µmol/l	80.5	Diazo with Dichloroaniline (DCA)
	mg/dl	4.71	
	µmol/l	82.6	Diazo with Sulphanilic Acid
	mg/dl	4.83	
	µmol/l	82.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.82	
µmol/l	82.7	Diazonium ion	
mg/dl	4.84		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
	mmol/l	3.24	NM-BAPTA
	mg/dl	13.0	
Chloride	mmol/l	121	ISE indirect
Cholesterol	mmol/l	7.18	Cholesterol Oxidase
	mg/dl	277	
CK Total	U/l	476	CK-NAC serum start (DGKC) 37°C
	U/l	298	CK-NAC serum start (DGKC) 30°C
	U/l	202	CK-NAC serum start (DGKC) 25°C
	U/l	480	CK-NAC substrate start (DGKC) 37°C
	U/l	300	CK-NAC substrate start (DGKC) 30°C
	U/l	204	CK-NAC substrate start (DGKC) 25°C
	U/l	476	CK-NAC (IFCC) 37°C
	U/l	298	CK-NAC (IFCC) 30°C
	U/l	202	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	359	Alkaline picrate with deproteinization
	mg/dl	4.06	
	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	371	Enzymatic UV method
	mg/dl	4.19	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.15	
	µmol/l	362	Jaffe rate blanked
	mg/dl	4.09	
µmol/l	382	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.32		
µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.26		
µmol/l	358	IDMS traceable	
mg/dl	4.05		
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	170	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	134	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	105	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Glucose	mmol/l	15.6	Glucose oxidase	
	mg/dl	281		
Iron	µmol/l	42.7	Colorimetric with ppt.	
	µg/dl	239		
	µmol/l	42.4	Colorimetric without ppt.	
	µg/dl	237		
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase	
	mg/dl	48.8		
LD (LDH)	U/l	380	L->P 37°C	
	U/l	274	L->P 30°C	
	U/l	193	L->P 25°C	
	U/l	674	P->L German methods 37°C	
	U/l	487	P->L German methods 30°C	
	U/l	342	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	
Lipase	U/l	54	Roche Colorimetric 37°C	
	U/l	55	Roche Turbidimetric with colipase 37°C	
Lithium	mmol/l	2.12	Ion selective electrode	
	mg/dl	1.47		
Magnesium	mmol/l	1.75	Calmagite	
	mg/dl	4.25		
	mmol/l	1.78	Xylidyl Blue	
	mg/dl	4.33		
Phosphate Inorganic	mmol/l	1.78	Chlorphosphonazo III	
	mg/dl	4.33		
	Phosphate Inorganic	mmol/l	2.34	Phosphomolybdate enzymatic
		mg/dl	7.25	
mmol/l		2.33	Phosphomolybdate UV	
mg/dl	7.22			
Potassium	mmol/l	6.29	ISE method - indirect	
Protein Total	g/l	42.9	Biuret reaction end point	
	g/dl	4.29		
	g/l	42.6	Biuret reaction kinetic	
	g/dl	4.26		
Sodium	mmol/l	158	ISE method - indirect	
TIBC	µmol/l	42.7	FE+UIBC(saturation with iron)	
	µg/dl	239		
Triglycerides	mmol/l	3.07	Lipase/GPO-PAP no correction	
	mg/dl	272		
	mmol/l	3.01	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	266		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	3.07	L/G Kinase EP. no correction
	mg/dl	272	
	mmol/l	3.05	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	270	
	mmol/l	3.07	Lipase/Glycerol Dehydrogenase
	mg/dl	272	
Urea	mmol/l	19.8	Urease end point
	mg/dl	119	
	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.555	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.7	Bromocresol Green
	g/dl	3.27	
Alkaline Phosphatase	U/l	459	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
AST (GOT)	U/l	153	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	26.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.52	
Bilirubin Total	µmol/l	93.2	Diazo with Sulphanilic Acid
	mg/dl	5.45	
Calcium	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
Cholesterol	mmol/l	7.43	Cholesterol Oxidase
	mg/dl	287	
Creatinine	µmol/l	345	Alkaline picrate no deproteinization
	mg/dl	3.89	
	µmol/l	379	Creatinine PAP method
	mg/dl	4.28	
	µmol/l	350	Jaffe rate blanked
	mg/dl	3.95	
gamma-GT	U/l	170	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
LD (LDH)	U/l	390	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	
Triglycerides	mmol/l	2.93	Lipase/GPO-PAP no correction
	mg/dl	259	
	mmol/l	3.08	L/G Kinase EP. no correction
	mg/dl	273	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.522	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.77	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	25.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
Alkaline Phosphatase	U/l	283	AMP optimised to IFCC 37°C
	U/l	220	AMP optimised to IFCC 30°C
	U/l	181	AMP optimised to IFCC 25°C
	U/l	329	Randox AMP 37°C
	U/l	256	Randox AMP 30°C
	U/l	210	Randox AMP 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
Amylase Pancreatic	U/l	298	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	280	Roche liquid stable pNPG7 37°C
	U/l	320	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	156	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bile Acids	µmol/l	43.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	29.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	93.1	Diazo with Sulphanilic Acid
	mg/dl	5.45	
	µmol/l	87.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.10	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.32	Cholesterol Oxidase
	mg/dl	283	
Cholinesterase	U/l	4674	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	480	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	370	Creatinine PAP method
	mg/dl	4.19	
	µmol/l	338	Jaffe rate blanked
	mg/dl	3.82	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	400	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.52	
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	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	182	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	143	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	41.6	Colorimetric without ppt.
	µg/dl	233	
LD (LDH)	U/l	371	L->P IFCC 37°C
	U/l	268	L->P IFCC 30°C
	U/l	188	L->P IFCC 25°C
Magnesium	mmol/l	1.81	Xylidyl Blue
	mg/dl	4.40	
Phosphate Inorganic	mmol/l	2.34	Phosphomolybdate UV
	mg/dl	7.25	
Potassium	mmol/l	6.34	ISE method - indirect
Protein Total	g/l	46.1	Biuret reaction end point
	g/dl	4.61	
Sodium	mmol/l	160	ISE method - indirect
Triglycerides	mmol/l	2.95	Lipase/GPO-PAP no correction
	mg/dl	261	
	mmol/l	3.01	L/G Kinase EP. no correction
	mg/dl	266	
	mmol/l	2.94	Lipase/Glycerol Dehydrogenase
	mg/dl	260	
Urea	mmol/l	21.1	Urease end point
	mg/dl	127	
	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.546	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.529	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.89	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.1	Bromocresol Green
	g/dl	3.11	
Alkaline Phosphatase	U/l	465	Diethanolamine buffer DEA 37°C
	U/l	362	Diethanolamine buffer DEA 30°C
	U/l	297	Diethanolamine buffer DEA 25°C
	U/l	331	AMP optimised to IFCC 37°C
	U/l	258	AMP optimised to IFCC 30°C
	U/l	212	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	142	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	80	Tris buffer without P5P 25°C
Amylase Total	U/l	321	I.L. 2-chloro-pNPG3 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	94.4	Diazo with Sulphanilic Acid
	mg/dl	5.52	
	µmol/l	95.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.58	
Calcium	mmol/l	3.29	Cresolphthalein complexone
	mg/dl	13.2	
	mmol/l	3.28	Arsenazo III
	mg/dl	13.1	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.34	Cholesterol Oxidase
	mg/dl	283	
Cholinesterase	U/l	5036	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	449	CK-NAC (IFCC) 37°C
	U/l	281	CK-NAC (IFCC) 30°C
	U/l	191	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	355	Alkaline picrate no deproteinization
	mg/dl	4.01	
	µmol/l	395	Creatinine PAP method
	mg/dl	4.46	
gamma-GT	µmol/l	398	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.50	
	U/l	160	
gamma-GT	U/l	126	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
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	14.8	Hexokinase
	mg/dl	266	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	40.7	Colorimetric with ppt.
	µg/dl	228	
	µmol/l	41.1	Colorimetric without ppt.
	µg/dl	230	
LD (LDH)	U/l	708	P->L German methods 37°C
	U/l	511	P->L German methods 30°C
	U/l	359	P->L German methods 25°C
	U/l	728	P->L SFBC 37°C
	U/l	526	P->L SFBC 30°C
	U/l	369	P->L SFBC 25°C
Lipase	U/l	62	Other Colorimetric 37°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
	mmol/l	1.79	Enzymatic
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	3.11	Lipase/GPO-PAP no correction
	mg/dl	275	
	mmol/l	3.08	L/G Kinase EP. no correction
	mg/dl	273	
Urea	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.505	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.48	
	mmol/l	0.523	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.79	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
Alkaline Phosphatase	U/l	373	Diethanolamine buffer DEA 37°C
	U/l	291	Diethanolamine buffer DEA 30°C
	U/l	238	Diethanolamine buffer DEA 25°C
	U/l	310	AMP optimised to IFCC 37°C
	U/l	241	AMP optimised to IFCC 30°C
	U/l	198	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	157	Tris buffer without P5P 37°C
	U/l	116	Tris buffer without P5P 30°C
	U/l	88	Tris buffer without P5P 25°C
AST (GOT)	U/l	170	Tris buffer without P5P 37°C
	U/l	115	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	26.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.55	
Bilirubin Total	µmol/l	91.2	Nitrobenzenediazonium salt
	mg/dl	5.34	
Calcium	mmol/l	3.31	Arsenazo III
	mg/dl	13.3	
Chloride	mmol/l	120	ISE direct
Cholesterol	mmol/l	7.34	Cholesterol Oxidase
	mg/dl	283	
CK Total	U/l	506	CK-NAC (IFCC) 37°C
	U/l	317	CK-NAC (IFCC) 30°C
	U/l	215	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	377	Enzymatic UV method
	mg/dl	4.26	
	µmol/l	344	Jaffe rate blanked
	mg/dl	3.88	
µmol/l	368	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.16		
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	284	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Iron	µmol/l	40.3	Colorimetric without ppt.
	µg/dl	225	
LD (LDH)	U/l	755	P->L Scandinavian & Dutch 37°C
	U/l	545	P->L Scandinavian & Dutch 30°C
	U/l	383	P->L Scandinavian & Dutch 25°C
	U/l	362	L->P IFCC 37°C
	U/l	261	L->P IFCC 30°C
	U/l	184	L->P IFCC 25°C
Magnesium	mmol/l	1.53	Xylidyl Blue
	mg/dl	3.72	
Phosphate Inorganic	mmol/l	2.35	Phosphomolybdate UV
	mg/dl	7.29	
Potassium	mmol/l	6.05	ISE method - direct
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	157	ISE method - direct
Triglycerides	mmol/l	3.07	Lipase/GPO-PAP no correction
	mg/dl	272	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.5	Urease kinetic
	mg/dl	117	
	mmol/l	19.5	BUN
	mg/dl	54.7	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.528	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.87	
	mmol/l	0.554	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.31	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

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
Acid Phosphatase (Total)	U/l	25.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
	g/l	29.9	Bromocresol Purple
	g/dl	2.99	
	g/l	29.6	Turbidimetric Assays
g/dl	2.96		
Alkaline Phosphatase	U/l	429	Diethanolamine buffer DEA 37°C
	U/l	334	Diethanolamine buffer DEA 30°C
	U/l	274	Diethanolamine buffer DEA 25°C
	U/l	333	AMP optimised to IFCC 37°C
	U/l	259	AMP optimised to IFCC 30°C
	U/l	213	AMP optimised to IFCC 25°C
	U/l	333	AMP non-optimised 37°C
	U/l	259	AMP non-optimised 30°C
	U/l	213	AMP non-optimised 25°C
ALT (GPT)	U/l	157	Tris buffer with P5P 37°C
	U/l	116	Tris buffer with P5P 30°C
	U/l	88	Tris buffer with P5P 25°C
	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
	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	267	Immunoinhibition EPS substrate 37°C
	U/l	264	Roche EPS Liquid 37°C
	U/l	298	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	324	pNP Maltotriose substrates 37°C
	U/l	301	Siemens - blocked pNPG7 37°C
	U/l	243	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	320	Randox Liquid Ethylidene pNPG7 37°C
	U/l	313	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	289	Roche Integra 2-chloro-pNPG7 37°C
	U/l	283	Other Roche 2-chloro-pNPG7 37°C
	U/l	282	Roche liquid stable pNPG7 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Amylase Total	U/l	355	Siemens 2-chloro-pNPG3 37°C
	U/l	301	Beckman Coulter - blocked pNPG7 37°C
	U/l	303	Beckman Synchron AMY7 37°C
	U/l	325	I.L. 2-chloro-pNPG3 37°C
	U/l	283	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	189	Tris buffer with P5P 37°C
	U/l	128	Tris buffer with P5P 30°C
	U/l	90	Tris buffer with P5P 25°C
	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
	U/l	153	Tris buffer SCE 37°C
	U/l	103	Tris buffer SCE 30°C
	U/l	73	Tris buffer SCE 25°C
Bicarbonate	mmol/l	14.8	Colorimetric
	mmol/l	14.0	Differential rate pH change
	mmol/l	14.9	Enzymatic
Bile Acids	µmol/l	46.0	4th Generation Colorimetric
	µmol/l	43.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	
	µmol/l	31.5	Diazo with Sulphanilic Acid
	mg/dl	1.84	
	µmol/l	29.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
	µmol/l	33.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.98	
Bilirubin Total	µmol/l	95.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.60	
	µmol/l	91.9	Diazo with Sulphanilic Acid
	mg/dl	5.37	
	µmol/l	88.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.16	
	µmol/l	89.9	Nitrobenzenediazonium salt
	mg/dl	5.26	
	µmol/l	87.8	Diazonium ion
	mg/dl	5.14	
	µmol/l	101	Oxidation to Biliverdin/Vanadate
	mg/dl	5.89	
	µmol/l	101	Modified Jendrassik
	mg/dl	5.91	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.13	Methylthymol blue
	mg/dl	12.5	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
mmol/l	3.15	Phosphonazo	
mg/dl	12.6		
Chloride	mmol/l	119	Colorimetric
	mmol/l	119	ISE indirect
	mmol/l	119	ISE direct
	mmol/l	132	Optical Fluorescence
Cholesterol	mmol/l	7.32	Cholesterol Oxidase
	mg/dl	283	
	mmol/l	7.32	Cholesterol Dehydrogenase
	mg/dl	283	
Cholinesterase	U/l	4977	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	497	CK-NAC serum start (DGKC) 37°C
	U/l	311	CK-NAC serum start (DGKC) 30°C
	U/l	211	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	486	CK-NAC (IFCC) 37°C
	U/l	304	CK-NAC (IFCC) 30°C
	U/l	207	CK-NAC (IFCC) 25°C
	U/l	509	Monothioglycerol 37°C
	U/l	319	Monothioglycerol 30°C
	U/l	216	Monothioglycerol 25°C
	U/l	466	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	292	Dithioerythritol (DTE) IFCC correlated 30°C
U/l	198	Dithioerythritol (DTE) IFCC correlated 25°C	
Copper	µmol/l	26.0	Atomic absorption
	µg/dl	165	
	µmol/l	25.4	Colorimetric
	µg/dl	162	
Creatinine	µmol/l	353	Alkaline picrate with deproteinization
	mg/dl	3.99	
	µmol/l	355	Alkaline picrate no deproteinization
	mg/dl	4.02	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	371	Enzymatic UV method
	mg/dl	4.20	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.21	
	µmol/l	347	Jaffe rate blanked
	mg/dl	3.92	
	µmol/l	395	Jaffe rate blanked comp. (-26 µmol/l)
mg/dl	4.46		
	µmol/l	378	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.27	
	µmol/l	367	IDMS traceable
	mg/dl	4.15	
D-3-Hydroxybutyrate	mmol/l	1.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	162	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	145	Gamma glutamyl-4-nitroanilide 37°C
	U/l	114	Gamma glutamyl-4-nitroanilide 30°C
	U/l	89	Gamma glutamyl-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
	U/l	182	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	143	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	112	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	37	Triethanolamine buffer 50 mmol 37°C
	U/l	28	Triethanolamine buffer 50 mmol 30°C
	U/l	23	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.4	Glucose dehydrogenase
	mg/dl	278	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.3	Oxygen electrode
	mg/dl	276	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	40.9	Colorimetric with ppt.
	µg/dl	229	
	µmol/l	41.5	Colorimetric without ppt.
	µg/dl	232	
	mmol/l	5.37	Colorimetric Lactate Oxidase
Lactate	mg/dl	48.4	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lactate	mmol/l	5.15	Ion selective electrode
	mg/dl	46.4	
	mmol/l	5.44	UV LDH
	mg/dl	49.0	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	347	L->P 37°C
	U/l	251	L->P 30°C
	U/l	176	L->P 25°C
	U/l	730	P->L Scandinavian & Dutch 37°C
	U/l	527	P->L Scandinavian & Dutch 30°C
	U/l	370	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	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	51
U/l		82	Randox Colorimetric 37°C
Lithium	mmol/l	2.13	Flame photometry
	mg/dl	1.48	
	mmol/l	2.11	Ion selective electrode
	mg/dl	1.47	
	mmol/l	2.11	Spectrophotometric
	mg/dl	1.47	
mmol/l	2.14	Randox Colorimetric	
mg/dl	1.49		
Magnesium	mmol/l	1.75	Arsenazo III
	mg/dl	4.25	
	mmol/l	1.78	Atomic absorption
	mg/dl	4.33	
	mmol/l	1.67	Calmagite
	mg/dl	4.06	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.77	Methylthymol blue
mg/dl	4.30		
mmol/l	1.77	Chlorphosphonazo III	
mg/dl	4.30		
mmol/l	1.76	Enzymatic	
mg/dl	4.28		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Osmolality	mOsm/kg	348	Calculated	
	mOsm/kg	381	Freezing point depression	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic	
	mg/dl	7.04		
	mmol/l	2.27	Phosphomolybdate UV	
	mg/dl	7.04		
Potassium	mmol/l	6.40	Enzymatic	
	mmol/l	6.07	Flame photometry	
	mmol/l	6.17	ISE method - direct	
	mmol/l	6.26	ISE method - indirect	
	mmol/l	6.48	Optical Fluorescence	
Protein Total	g/l	46.0	Biuret reaction end point	
	g/dl	4.60		
	g/l	45.1	Biuret reaction kinetic	
	g/dl	4.51		
Sodium	mmol/l	160	Enzymatic	
	mmol/l	158	Flame photometry	
	mmol/l	157	ISE method - direct	
	mmol/l	159	ISE method - indirect	
	mmol/l	161	Optical Fluorescence	
	mmol/l	149	Colorimetric	
TIBC	µmol/l	37.6	Removal of excess free iron	
	µg/dl	210		
	µmol/l	41.6	FE+UIBC(saturation with iron)	
	µg/dl	233		
	µmol/l	37.8	Direct Colorimetric	
	µg/dl	211		
Triglycerides	mmol/l	3.01	Lipase/GPO-PAP no correction	
	mg/dl	266		
	mmol/l	2.97	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	263		
	mmol/l	3.03	L/G Kinase EP. no correction	
	mg/dl	268		
Urea	mmol/l	2.96	L/G kinase EP. 0.11 mmol/l correction	
	mg/dl	262		
	mmol/l	3.00	Lipase/Glycerol Dehydrogenase	
	mg/dl	266		
	Urea	mmol/l	19.8	Urease end point
		mg/dl	119	
mmol/l		20.1	Urease kinetic	
	mg/dl	121		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	19.0	Urease hypochlorite
	mg/dl	114	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.543	Uricase catalase 340nm
	mg/dl	9.12	
	mmol/l	0.550	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
	mmol/l	0.545	Spectrophotometric at 280-290
	mg/dl	9.16	
	mmol/l	0.541	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.09	
Zinc	µmol/l	36.7	Colorimetric with deproteinisation
	µg/dl	240	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.2	Bromocresol Green
	g/dl	3.12	
Alkaline Phosphatase	U/l	341	AMP optimised to IFCC 37°C
	U/l	266	AMP optimised to IFCC 30°C
	U/l	218	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	156	Tris buffer without P5P 37°C
	U/l	115	Tris buffer without P5P 30°C
	U/l	88	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
Bicarbonate	mmol/l	14.3	Enzymatic
Bilirubin Total	µmol/l	97.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.67	
	µmol/l	95.2	Diazo with Sulphanilic Acid
	mg/dl	5.57	
	µmol/l	91.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.33	
µmol/l	96.8	Oxidation to Biliverdin/Vanadate	
mg/dl	5.67		
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.19	Ion selective electrode
	mg/dl	12.8	
	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	122	ISE direct
Cholesterol	mmol/l	7.39	Cholesterol Oxidase
	mg/dl	285	
Cholinesterase	U/l	5179	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	497	CK-NAC (IFCC) 37°C
	U/l	311	CK-NAC (IFCC) 30°C
	U/l	211	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	343	Alkaline picrate with deproteinization
	mg/dl	3.88	
	µmol/l	354	Alkaline picrate no deproteinization
	mg/dl	4.00	
	µmol/l	358	Enzymatic UV method
	mg/dl	4.04	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	μmol/l	362	Creatinine PAP method
	mg/dl	4.08	
	μmol/l	396	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.47	
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	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	μmol/l	38.1	Colorimetric with ppt.
	μg/dl	213	
	μmol/l	41.1	Colorimetric without ppt.
	μg/dl	230	
Lactate	mmol/l	5.26	Colorimetric Lactate Oxidase
	mg/dl	47.4	
LD (LDH)	U/l	671	P->L SFBC 37°C
	U/l	484	P->L SFBC 30°C
	U/l	340	P->L SFBC 25°C
	U/l	361	L->P IFCC 37°C
	U/l	261	L->P IFCC 30°C
	U/l	183	L->P IFCC 25°C
Lipase	U/l	55	Other Colorimetric 37°C
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.08	Phosphomolybdate enzymatic
	mg/dl	6.45	
	mmol/l	2.15	Phosphomolybdate UV
	mg/dl	6.67	
Potassium	mmol/l	6.18	ISE method - direct
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	
Sodium	mmol/l	161	ISE method - direct
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
	mmol/l	3.01	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	266	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.89	Lipase/Glycerol Dehydrogenase
	mg/dl	256	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	17.6	Urease hypochlorite
	mg/dl	106	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.530	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.90	
	mmol/l	0.539	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.06	
	mmol/l	0.536	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.00	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.1	Bromocresol Green
	g/dl	3.11	
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
Amylase Pancreatic	U/l	305	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	322	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
	U/l	106	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	34.9	Oxidation to Biliverdin/Vanadate
	mg/dl	2.04	
Bilirubin Total	µmol/l	94.4	Diazo with Sulphanilic Acid
	mg/dl	5.52	
	µmol/l	94.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.54	
	µmol/l	110	Oxidation to Biliverdin/Vanadate
	mg/dl	6.43	
Calcium	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.45	Cholesterol Oxidase
	mg/dl	288	
CK Total	U/l	533	CK-NAC (IFCC) 37°C
	U/l	334	CK-NAC (IFCC) 30°C
	U/l	227	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	342	Jaffe rate blanked
	mg/dl	3.87	
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
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	280	
LD (LDH)	U/l	746	P->L German methods 37°C
	U/l	539	P->L German methods 30°C
	U/l	378	P->L German methods 25°C
Lipase	U/l	80	Other Colorimetric 37°C
Magnesium	mmol/l	1.66	Xylidyl Blue
	mg/dl	4.03	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Protein Total	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.98	L/G Kinase EP. no correction
	mg/dl	264	
Urea	mmol/l	20.4	Urease kinetic
	mg/dl	123	
	mmol/l	20.4	BUN
	mg/dl	57.3	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.547	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	
	mmol/l	0.534	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.97	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.2	Bromocresol Green
	g/dl	3.22	
	g/l	31.4	Bromocresol Purple
	g/dl	3.14	
	g/l	28.2	Turbidimetric Assays
	g/dl	2.82	
Alkaline Phosphatase	U/l	269	Roche Integra AMP buffer 37°C
	U/l	210	Roche Integra AMP buffer 30°C
	U/l	172	Roche Integra AMP buffer 25°C
	U/l	271	AMP optimised to IFCC 37°C
	U/l	211	AMP optimised to IFCC 30°C
	U/l	173	AMP optimised to IFCC 25°C
	U/l	271	Colorimetric 37°C
	U/l	211	Colorimetric 30°C
	U/l	173	Colorimetric 25°C
ALT (GPT)	U/l	145	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	82	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	268	Immunoinhibition EPS substrate 37°C
	U/l	261	Roche EPS Liquid 37°C
Amylase Total	U/l	277	Randox Liquid Ethylidene pNPG7 37°C
	U/l	280	Roche Integra 2-chloro-pNPG7 37°C
	U/l	283	Other Roche 2-chloro-pNPG7 37°C
	U/l	279	Roche liquid stable pNPG7 37°C
	U/l	281	BM/Roche Colorimetric 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
Bicarbonate	mmol/l	13.9	Colorimetric
	mmol/l	14.4	Enzymatic
Bilirubin Direct	µmol/l	32.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.90	
	µmol/l	32.6	Diazo with Sulphanilic Acid
	mg/dl	1.90	
	µmol/l	32.4	Roche JG factored
	mg/dl	1.90	
µmol/l	30.9	Diazo with Dichloroaniline (DCA)	
mg/dl	1.81		
Bilirubin Total	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.03	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Bilirubin Total	µmol/l	86.5	Dichlorophenyl Diazonium (DPD)	
	mg/dl	5.06		
	µmol/l	87.9	Nitrobenzenediazonium salt	
	mg/dl	5.14		
	µmol/l	86.5	Diazonium ion	
	mg/dl	5.06		
	Calcium	mmol/l	3.23	Cresolphthalein complexone
		mg/dl	12.9	
mmol/l		3.25	Arsenazo III	
mg/dl		13.0		
	mmol/l	3.23	NM-BAPTA	
	mg/dl	12.9		
Chloride	mmol/l	117	ISE indirect	
Cholesterol	mmol/l	7.10	Cholesterol Oxidase	
	mg/dl	274		
Cholinesterase	U/l	4973	Colorimetric Benzoylcholine 37°C	
	U/l	4912	Colorimetric Butyrylthiocholine 37°C	
CK Total	U/l	470	CK-NAC serum start (DGKC) 37°C	
	U/l	294	CK-NAC serum start (DGKC) 30°C	
	U/l	200	CK-NAC serum start (DGKC) 25°C	
	U/l	467	CK-NAC substrate start (DGKC) 37°C	
	U/l	292	CK-NAC substrate start (DGKC) 30°C	
	U/l	198	CK-NAC substrate start (DGKC) 25°C	
	U/l	474	CK-NAC (IFCC) 37°C	
	U/l	297	CK-NAC (IFCC) 30°C	
Creatinine	µmol/l	371	Alkaline picrate with deproteinization	
	mg/dl	4.19		
	µmol/l	373	Alkaline picrate no deproteinization	
	mg/dl	4.22		
	µmol/l	379	Enzymatic UV method	
	mg/dl	4.28		
	µmol/l	380	Roche Creatinine Plus	
	mg/dl	4.30		
	µmol/l	375	Jaffe rate blanked	
	mg/dl	4.24		
µmol/l	396	Jaffe rate blanked comp. (-26 µmol/l)		
mg/dl	4.47			
µmol/l	388	Jaffe rate blanked compensated (-18 µmol/l)		
mg/dl	4.38			
µmol/l	377	IDMS traceable		
mg/dl	4.27			

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
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	173	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
Glucose	mmol/l	15.4	Glucose dehydrogenase	
	mg/dl	278		
	mmol/l	15.5	Hexokinase	
	mg/dl	279		
Iron	mmol/l	15.5	Glucose oxidase	
	mg/dl	279		
	µmol/l	41.5	Colorimetric with ppt.	
	µg/dl	232		
Iron	µmol/l	42.0	Colorimetric without ppt.	
	µg/dl	235		
	Lactate	mmol/l	5.41	Colorimetric Lactate Oxidase
	mg/dl	48.7		
LD (LDH)	U/l	366	L->P 37°C	
	U/l	264	L->P 30°C	
	U/l	186	L->P 25°C	
	U/l	676	P->L Scandinavian & Dutch 37°C	
	U/l	488	P->L Scandinavian & Dutch 30°C	
	U/l	343	P->L Scandinavian & Dutch 25°C	
	U/l	679	P->L German methods 37°C	
	U/l	490	P->L German methods 30°C	
	U/l	344	P->L German methods 25°C	
	U/l	368	L->P IFCC 37°C	
	U/l	266	L->P IFCC 30°C	
	U/l	187	L->P IFCC 25°C	
Lipase	U/l	50	Roche Colorimetric 37°C	
	U/l	50	Roche Turbidimetric with colipase 37°C	
Lithium	mmol/l	2.10	Spectrophotometric	
	mg/dl	1.46		
Magnesium	mmol/l	1.77	Arsenazo III	
	mg/dl	4.30		
	mmol/l	1.75	Atomic absorption	
	mg/dl	4.25		
	mmol/l	1.77	Xylidyl Blue	
	mg/dl	4.30		
Magnesium	mmol/l	1.76	Chlorphosphonazo III	
	mg/dl	4.28		
	mmol/l	1.79	Enzymatic	
	mg/dl	4.35		



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate enzymatic	
	mg/dl	7.07		
	mmol/l	2.27	Phosphomolybdate UV	
	mg/dl	7.04		
Potassium	mmol/l	6.33	ISE method - indirect	
Protein Total	g/l	45.4	Biuret reaction end point	
	g/dl	4.54		
	g/l	45.6	Biuret reaction kinetic	
	g/dl	4.56		
Sodium	mmol/l	160	ISE method - indirect	
TIBC	µmol/l	41.7	FE+UIBC(saturation with iron)	
	µg/dl	233		
	µmol/l	40.9	Direct Colorimetric	
	µg/dl	229		
	µmol/l	40.9	Calculated from Transferrin	
	µg/dl	229		
	Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
		mg/dl	267	
mmol/l		3.00	Lipase/GPO-PAP 0.11mmol/l correction	
mg/dl		266		
mmol/l		3.01	L/G Kinase EP. no correction	
mg/dl		266		
mmol/l		3.03	L/G kinase EP. 0.11 mmol/l correction	
mg/dl		268		
mmol/l	3.01	Lipase/Glycerol Dehydrogenase		
mg/dl	266			
Urea	mmol/l	20.1	Urease end point	
	mg/dl	121		
	mmol/l	20.0	Urease kinetic	
	mg/dl	120		
mmol/l	20.0	BUN		
mg/dl	56.1			
Uric Acid (Urate)	mmol/l	0.540	Uricase catalase 340nm	
	mg/dl	9.07		
	mmol/l	0.536	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.00		
	mmol/l	0.534	Uricase peroxidase no ascorbate oxidase	
	mg/dl	8.97		
	mmol/l	0.532	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	8.94		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.0	Bromocresol Green
	g/dl	3.20	
	g/l	29.5	Bromocresol Purple
	g/dl	2.95	
Alkaline Phosphatase	U/l	280	Roche Integra AMP buffer 37°C
	U/l	218	Roche Integra AMP buffer 30°C
	U/l	179	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	142	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	80	Tris buffer without P5P 25°C
Amylase Total	U/l	290	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	151	Tris buffer without P5P 37°C
	U/l	102	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	33.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.96	
	µmol/l	32.3	Diazo with Sulphanilic Acid
	mg/dl	1.89	
	µmol/l	34.1	Roche JG factored
	mg/dl	1.99	
µmol/l	32.3	Diazo with Dichloroaniline (DCA)	
mg/dl	1.89		
Bilirubin Total	µmol/l	80.8	Diazo with Sulphanilic Acid
	mg/dl	4.73	
	µmol/l	82.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	
µmol/l	81.0	Diazonium ion	
mg/dl	4.74		
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.26	Arsenazo III
	mg/dl	13.1	
mmol/l	3.23	NM-BAPTA	
mg/dl	12.9		
Chloride	mmol/l	120	ISE indirect
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
CK Total	U/l	474	CK-NAC (IFCC) 37°C
	U/l	297	CK-NAC (IFCC) 30°C
	U/l	201	CK-NAC (IFCC) 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	357	Alkaline picrate no deproteinization
	mg/dl	4.03	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.11	
	µmol/l	353	Jaffe rate blanked
	mg/dl	3.99	
µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.29		
µmol/l	372	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.20		
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	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	
	mmol/l	15.3	Glucose oxidase
mg/dl	276		
Iron	µmol/l	42.2	Colorimetric without ppt.
	µg/dl	236	
LD (LDH)	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	54	Roche Colorimetric 37°C
Magnesium	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.34	Phosphomolybdate enzymatic
	mg/dl	7.25	
	mmol/l	2.33	Phosphomolybdate UV
mg/dl	7.22		
Potassium	mmol/l	6.22	ISE method - indirect
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	3.06	Lipase/GPO-PAP no correction
	mg/dl	271	
	mmol/l	3.05	Lipase/GPO-PAP 0.11 mmol/l correction
	mg/dl	270	
	mmol/l	3.08	L/G Kinase EP. no correction
	mg/dl	273	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.97	Lipase/Glycerol Dehydrogenase
	mg/dl	263	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.550	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	
	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)

Roche Cobas C311® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.0	Bromocresol Green
	g/dl	3.20	
	g/l	31.5	Bromocresol Purple
	g/dl	3.15	
Alkaline Phosphatase	U/l	265	Roche Integra AMP buffer 37°C
	U/l	206	Roche Integra AMP buffer 30°C
	U/l	169	Roche Integra AMP buffer 25°C
	U/l	269	AMP optimised to IFCC 37°C
	U/l	210	AMP optimised to IFCC 30°C
	U/l	172	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	81	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	277	Immuno-inhibition EPS substrate 37°C
	U/l	264	Roche EPS Liquid 37°C
Amylase Total	U/l	282	Roche Integra 2-chloro-pNPG7 37°C
	U/l	278	Other Roche 2-chloro-pNPG7 37°C
	U/l	284	Roche liquid stable pNPG7 37°C
	U/l	280	BM/Roche Colorimetric pNPG7 37°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	14.1	Enzymatic
Bilirubin Direct	µmol/l	31.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.83	
	µmol/l	31.3	Diazo with Sulphanilic Acid
	mg/dl	1.83	
	µmol/l	31.2	Roche JG factored
	mg/dl	1.82	
	µmol/l	31.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.83	
Bilirubin Total	µmol/l	90.2	Diazo with Dichloroaniline (DCA)
	mg/dl	5.28	
	µmol/l	86.0	Diazo with Sulphanilic Acid
	mg/dl	5.03	
	µmol/l	87.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.11	
	µmol/l	86.4	Diazonium ion
	mg/dl	5.05	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.25	Arsenazo III
	mg/dl	13.0	
mmol/l	3.25	NM-BAPTA	
mg/dl	13.0		
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
Cholinesterase	U/l	4809	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	476	CK-NAC substrate start (DGKC) 37°C
	U/l	298	CK-NAC substrate start (DGKC) 30°C
	U/l	202	CK-NAC substrate start (DGKC) 25°C
	U/l	480	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.26	
	µmol/l	385	Roche Creatinine Plus
	mg/dl	4.35	
	µmol/l	373	Jaffe rate blanked
	mg/dl	4.22	
µmol/l	401	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.53		
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	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	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.8	Glucose oxidase
mg/dl	285		
Iron	µmol/l	41.6	Colorimetric with ppt.
	µg/dl	232	
	µmol/l	41.8	Colorimetric without ppt.
	µg/dl	234	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	
LD (LDH)	U/l	364	L->P 37°C
	U/l	263	L->P 30°C
	U/l	185	L->P 25°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
LD (LDH)	U/l	674	P->L German methods 37°C	
	U/l	487	P->L German methods 30°C	
	U/l	342	P->L German methods 25°C	
	U/l	366	L->P IFCC 37°C	
	U/l	264	L->P IFCC 30°C	
	U/l	186	L->P IFCC 25°C	
Lipase	U/l	50	Roche Colorimetric 37°C	
	U/l	49	Roche Turbidimetric with colipase 37°C	
Magnesium	mmol/l	1.79	Atomic absorption	
	mg/dl	4.35		
	mmol/l	1.77	Xylidyl Blue	
	mg/dl	4.30		
	mmol/l	1.80	Chlorphosphonazo III	
	mg/dl	4.37		
	Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate enzymatic
		mg/dl	7.10	
	mmol/l	2.28	Phosphomolybdate UV	
	mg/dl	7.07		
Potassium	mmol/l	6.30	ISE method - indirect	
Protein Total	g/l	45.5	Biuret reaction end point	
	g/dl	4.55		
	g/l	46.0	Biuret reaction kinetic	
	g/dl	4.60		
Sodium	mmol/l	159	ISE method - indirect	
TIBC	µmol/l	41.9	FE+UIBC(saturation with iron)	
	µg/dl	234		
	µmol/l	41.8	Direct Colorimetric	
	µg/dl	234		
Triglycerides	mmol/l	3.03	Lipase/GPO-PAP no correction	
	mg/dl	268		
	mmol/l	3.06	Lipase/GPO-PAP 0.11 mmol/l correction	
	mg/dl	271		
	mmol/l	3.03	L/G Kinase EP. no correction	
	mg/dl	268		
	mmol/l	3.06	Lipase/Glycerol Dehydrogenase	
	mg/dl	271		
Urea	mmol/l	20.0	Urease end point	
	mg/dl	120		
	mmol/l	20.1	Urease kinetic	
	mg/dl	121		
	mmol/l	20.1	BUN	
	mg/dl	56.4		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.541	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
mmol/l	0.541	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	9.09		



## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.1	Bromocresol Green
	g/dl	3.21	
Alkaline Phosphatase	U/l	254	Roche Integra AMP buffer 37°C
	U/l	198	Roche Integra AMP buffer 30°C
	U/l	162	Roche Integra AMP buffer 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 Pancreatic	U/l	266	Immunoinhibition EPS substrate 37°C
	U/l	260	Roche EPS Liquid 37°C
Amylase Total	U/l	283	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	155	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.8	Enzymatic
Bilirubin Direct	µmol/l	33.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.94	
	µmol/l	33.0	Roche JG factored
	mg/dl	1.93	
Bilirubin Total	µmol/l	85.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.00	
	µmol/l	85.4	Diazonium ion
	mg/dl	5.00	
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
Cholinesterase	U/l	4813	Colorimetric Butrylthiocholine 37°C
CK Total	U/l	468	CK-NAC substrate start (DGKC) 37°C
	U/l	293	CK-NAC substrate start (DGKC) 30°C
	U/l	199	CK-NAC substrate start (DGKC) 25°C
	U/l	464	CK-NAC (IFCC) 37°C
	U/l	290	CK-NAC (IFCC) 30°C
	U/l	197	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	386	Enzymatic UV method
	mg/dl	4.36	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods	
Creatinine	µmol/l	378	Roche Creatinine Plus	
	mg/dl	4.28		
	µmol/l	400	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	4.52		
	µmol/l	387	IDMS traceable	
	mg/dl	4.37		
	gamma-GT	U/l	148	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l		91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
U/l		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	15.6	Hexokinase	
	mg/dl	280		
Iron	µmol/l	41.1	Colorimetric without ppt.	
	µg/dl	230		
Lactate	mmol/l	5.33	Colorimetric Lactate Oxidase	
	mg/dl	48.0		
LD (LDH)	U/l	371	L->P IFCC 37°C	
	U/l	268	L->P IFCC 30°C	
	U/l	188	L->P IFCC 25°C	
Lipase	U/l	49	Roche Colorimetric 37°C	
Magnesium	mmol/l	1.77	Xylidyl Blue	
	mg/dl	4.30		
	mmol/l	1.75	Chlorphosphonazo III	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV	
	mg/dl	6.98		
Potassium	mmol/l	6.39	ISE method - indirect	
Protein Total	g/l	45.5	Biuret reaction end point	
	g/dl	4.55		
Sodium	mmol/l	161	ISE method - indirect	
TIBC	µmol/l	41.6	FE+UIBC(saturation with iron)	
	µg/dl	233		
Triglycerides	mmol/l	3.04	Lipase/GPO-PAP no correction	
	mg/dl	269		
	mmol/l	3.02	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	267		
	mmol/l	3.03	L/G Kinase EP. no correction	
	mg/dl	268		
	mmol/l	2.99	L/G kinase EP. 0.11 mmol/l correction	
	mg/dl	265		
Urea	mmol/l	19.7	Urease kinetic	
	mg/dl	118		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.523	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.79	
	mmol/l	0.531	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.92	
mmol/l	0.527	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	8.85		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.7	Bromocresol Green
	g/dl	3.17	
Alkaline Phosphatase	U/l	500	Diethanolamine buffer DEA 37°C
	U/l	329	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	153	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	298	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	320	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	161	Tris buffer without P5P 37°C
Bile Acids	µmol/l	43.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	32.4	Diazo with Sulphanilic Acid
	mg/dl	1.90	
	µmol/l	32.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.90	
Bilirubin Total	µmol/l	90.6	Diazo with Sulphanilic Acid
	mg/dl	5.30	
	µmol/l	97.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.70	
Calcium	mmol/l	3.28	Arsenazo III
	mg/dl	13.1	
Cholesterol	mmol/l	7.80	Cholesterol Oxidase
	mg/dl	301	
CK Total	U/l	512	CK-NAC substrate start (DGKC) 37°C
	U/l	544	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	331	Alkaline picrate no deproteinization
	mg/dl	3.74	
	µmol/l	380	Enzymatic UV method
	mg/dl	4.29	
gamma-GT	U/l	182	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.0	Hexokinase
	mg/dl	288	
	mmol/l	16.0	Glucose oxidase
	mg/dl	288	
Iron	µmol/l	42.7	Colorimetric without ppt.
	µg/dl	239	
Lactate	mmol/l	5.26	Colorimetric Lactate Oxidase
	mg/dl	47.4	
LD (LDH)	U/l	747	P->L German methods 37°C
	U/l	356	L->P IFCC 37°C
Lipase	U/l	82	Randox Colorimetric 37°C

## CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lithium	mmol/l	2.14	Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.34	Phosphomolybdate UV
	mg/dl	7.25	
Potassium	mmol/l	6.40	Enzymatic
Protein Total	g/l	47.8	Biuret reaction end point
	g/dl	4.78	
Sodium	mmol/l	160	Enzymatic
TIBC	µmol/l	44.7	Direct Colorimetric
	µg/dl	250	
Triglycerides	mmol/l	3.10	Lipase/GPO-PAP no correction
	mg/dl	274	
Urea	mmol/l	20.5	Urease kinetic
	mg/dl	123	
	mmol/l	20.5	BUN
Uric Acid (Urate)	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	
	mmol/l	0.574	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.64	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.0	Bromocresol Green
	g/dl	3.00	
	g/l	29.0	Bromocresol Purple
	g/dl	2.90	
Alkaline Phosphatase	U/l	290	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	159	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	271	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	303	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	164	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.4	Enzymatic
Bile Acids	µmol/l	46.0	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	34.1	Oxidation to Biliverdin/Vanadate
	mg/dl	2.00	
Bilirubin Total	µmol/l	105	Diazo with Sulphanilic Acid
	mg/dl	6.12	
	µmol/l	102	Oxidation to Biliverdin/Vanadate
	mg/dl	5.98	
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Chloride	mmol/l	122	ISE indirect
Cholesterol	mmol/l	7.40	Cholesterol Oxidase
	mg/dl	286	
Cholinesterase	U/l	5568	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	494	CK-NAC substrate start (DGKC) 37°C
	U/l	502	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	357	Alkaline picrate no deproteinization
	mg/dl	4.03	
	µmol/l	363	Enzymatic UV method
	mg/dl	4.10	
	µmol/l	369	Creatinine PAP method
	mg/dl	4.18	
	µmol/l	365	Jaffe rate blanked
	mg/dl	4.12	
µmol/l	382	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	4.32		
µmol/l	380	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	4.29		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	368	IDMS traceable
	mg/dl	4.15	
gamma-GT	U/l	166	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	41.4	Colorimetric without ppt.
	µg/dl	231	
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase
	mg/dl	48.8	
LD (LDH)	U/l	365	L->P 37°C
	U/l	693	P->L German methods 37°C
	U/l	361	Siemens Dimension L-P Non IFCC 37°C
	U/l	363	L->P IFCC 37°C
Lipase	U/l	73	Other Colorimetric 37°C
Lithium	mmol/l	2.09	Spectrophotometric
	mg/dl	1.45	
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	6.34	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
	g/l	45.3	Biuret reaction kinetic
	g/dl	4.53	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	40.1	Removal of excess free iron
	µg/dl	224	
	µmol/l	41.5	FE+UIBC(saturation with iron)
	µg/dl	232	
	µmol/l	42.2	Direct Colorimetric
	µg/dl	236	
Triglycerides	mmol/l	3.10	Lipase/GPO-PAP no correction
	mg/dl	274	
	mmol/l	3.10	L/G Kinase EP. no correction
	mg/dl	274	
Urea	mmol/l	20.5	Urease end point
	mg/dl	123	
	mmol/l	20.5	Urease kinetic
	mg/dl	123	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	20.5	BUN
	mg/dl	57.5	
Uric Acid (Urate)	mmol/l	0.550	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	
mmol/l	0.550	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	9.24		



## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
	g/l	29.5	Bromocresol Purple
	g/dl	2.95	
Alkaline Phosphatase	U/l	296	Siemens Dimension AMP buffer 37°C
	U/l	293	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	161	Tris buffer with P5P 37°C
	U/l	160	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	353	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	187	Tris buffer with P5P 37°C
	U/l	188	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.1	Enzymatic
Bilirubin Direct	µmol/l	18.9	Diazo with Sulphanilic Acid
	mg/dl	1.11	
Bilirubin Total	µmol/l	89.9	Diazo with Sulphanilic Acid
	mg/dl	5.26	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.03	Cholesterol Oxidase
	mg/dl	271	
	mmol/l	7.11	Dimension-Siemens reagents
	mg/dl	274	
Cholinesterase	U/l	8346	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	469	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	371	Alkaline picrate no deproteinization
	mg/dl	4.20	
	µmol/l	372	Enzymatic UV method
	mg/dl	4.21	
	µmol/l	366	Jaffe rate blanked
	mg/dl	4.14	
µmol/l	376	IDMS traceable	
mg/dl	4.25		
gamma-GT	U/l	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	202	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.4	Oxygen electrode
	mg/dl	278	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Iron	µmol/l	40.3	Colorimetric with ppt.
	µg/dl	225	
	µmol/l	39.9	Colorimetric without ppt.
	µg/dl	223	
Lactate	mmol/l	5.42	UV LDH
	mg/dl	48.8	
LD (LDH)	U/l	353	Siemens Dimension L-P Non IFCC 37°C
	U/l	348	L->P IFCC 37°C
Lipase	U/l	239	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.75	Methylthymol blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.30	ISE method - indirect
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	36.5	FE+UIBC(saturation with iron)
	µg/dl	204	
	µmol/l	36.7	Direct Colorimetric
	µg/dl	205	
Triglycerides	mmol/l	3.02	Lipase/GPO-PAP no correction
	mg/dl	267	
	mmol/l	3.02	L/G Kinase EP. no correction
	mg/dl	267	
	mmol/l	3.06	Lipase/Glycerol Dehydrogenase
	mg/dl	271	
Urea	mmol/l	20.6	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	0.543	Uricase catalase 340nm
	mg/dl	9.12	
	mmol/l	0.541	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.546	Spectrophotometric at 280-290
	mg/dl	9.17	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	29.3	Bromocresol Purple
	g/dl	2.93	
Alkaline Phosphatase	U/l	294	Siemens Dimension AMP buffer 37°C
	U/l	296	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	161	Tris buffer with P5P 37°C
	U/l	160	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	264	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	356	Siemens - maltopenta/hexaoside 37°C
	U/l	355	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	192	Tris buffer with P5P 37°C
	U/l	192	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.3	Enzymatic
Bilirubin Total	µmol/l	90.4	Diazo with Sulphanilic Acid
	mg/dl	5.29	
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.06	Cholesterol Oxidase
	mg/dl	273	
	mmol/l	7.06	Dimension-Siemens reagents
	mg/dl	273	
Cholinesterase	U/l	8675	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	471	CK-NAC (IFCC) 37°C
	U/l	464	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	381	Alkaline picrate with deproteinization
	mg/dl	4.31	
	µmol/l	376	Alkaline picrate no deproteinization
	mg/dl	4.24	
	µmol/l	372	Enzymatic UV method
	mg/dl	4.20	
	µmol/l	372	Creatinine PAP method
	mg/dl	4.21	
µmol/l	371	Jaffe rate blanked	
mg/dl	4.20		
µmol/l	379	IDMS traceable	
mg/dl	4.29		

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
gamma-GT	U/l	183	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	201	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.1	Glucose dehydrogenase
	mg/dl	272	
	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
	µmol/l	40.0	Colorimetric with ppt.
	µg/dl	224	
Lactate	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
	mmol/l	5.57	Colorimetric Lactate Oxidase
	mg/dl	50.2	
LD (LDH)	mmol/l	5.36	UV LDH
	mg/dl	48.3	
	U/l	351	Siemens Dimension L-P Non IFCC 37°C
	U/l	347	L->P IFCC 37°C
Lipase	U/l	238	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.23	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	36.2	Removal of excess free iron
	µg/dl	202	
	µmol/l	36.6	FE+UIBC(saturation with iron)
	µg/dl	205	
	µmol/l	36.6	Direct Colorimetric
	µg/dl	205	
Triglycerides	mmol/l	3.01	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	3.00	L/G Kinase EP. no correction
	mg/dl	266	
Urea	mmol/l	3.02	Lipase/Glycerol Dehydrogenase
	mg/dl	267	
Urea	mmol/l	20.2	Urease end point
	mg/dl	121	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

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	0.541	Uricase catalase 340nm
	mg/dl	9.09	
	mmol/l	0.542	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.11	
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
	mmol/l	0.544	Spectrophotometric at 280-290
	mg/dl	9.14	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	30.0	Bromocresol Purple
	g/dl	3.00	
Alkaline Phosphatase	U/l	310	Siemens Dimension AMP buffer 37°C
	U/l	311	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	157	Tris buffer with P5P 37°C
	U/l	153	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	348	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	193	Tris buffer with P5P 37°C
	U/l	193	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.0	Enzymatic
Bilirubin Total	µmol/l	90.2	Diazo with Sulphanilic Acid
	mg/dl	5.28	
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
Chloride	mmol/l	124	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase
	mg/dl	269	
	mmol/l	7.06	Dimension-Siemens reagents
mg/dl	273		
CK Total	U/l	476	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	379	Alkaline picrate no deproteinization
	mg/dl	4.28	
gamma-GT	U/l	199	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
Iron	µmol/l	41.3	Colorimetric without ppt.
	µg/dl	231	
Lactate	mmol/l	5.57	UV LDH
	mg/dl	50.2	
LD (LDH)	U/l	358	L->P IFCC 37°C
Lipase	U/l	298	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.83	Methylthymol blue
	mg/dl	4.45	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.17	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Sodium	mmol/l	159	ISE method - indirect

## CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	3.23	Lipase/GPO-PAP no correction
	mg/dl	286	
Urea	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.549	Uricase catalase 340nm
	mg/dl	9.22	
	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.545	Spectrophotometric at 280-290
	mg/dl	9.16	

## CALIBRATION SERUM LEVEL 3 (CAL 3)

URIT 8000 Series Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
ALT (GPT)	U/l	155	Tris buffer without P5P 37°C
	U/l	115	Tris buffer without P5P 30°C
	U/l	87	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
Cholesterol	mmol/l	7.33	Cholesterol Oxidase
	mg/dl	283	
gamma-GT	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.513	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.62	



## CALIBRATION SERUM LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot. No. 1085UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	32.5	Bromocresol Green
	g/dl	3.25	
Alkaline Phosphatase	U/l	434	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	149	Tris buffer without P5P 37°C
AST (GOT)	U/l	148	Tris buffer without P5P 37°C
Calcium	mmol/l	3.01	Arsenazo III
	mg/dl	12.1	
Cholesterol	mmol/l	7.40	Cholesterol Oxidase
	mg/dl	286	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
Urea	mmol/l	19.4	Urease kinetic
	mg/dl	116	
	mmol/l	19.4	BUN
Uric Acid (Urate)	mmol/l	0.547	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	