

CALIBRATION SERUM - LEVEL 2 (CAL 2)

CAT. NO. CAL 2350 **GTIN:** 05055273200959 **SIZE:** 20 x 5ml
LOT NO. 1488UN **EXPIRY:** 2023-04-28

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 5ml 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 2
Cat No. CAL 2350 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 (25µl - 30µl) of 0.7M Acetic acid solution to 1ml 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 2 days at +2°C to +8°C and levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.

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

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 calibrator material should be aliquoted into polypropylene tubes 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 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.

NOTES

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- (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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Rev. 24 Jan 23 pq

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.9	Bromocresol Green
	g/dl	4.19	
	g/l	44.3	Bromocresol Purple
	g/dl	4.43	
Alkaline Phosphatase	U/l	166	AMP optimised to IFCC 37°C
	U/l	165	AMP non-optimised 37°C
	U/l	161	Colorimetric 37°C
ALT (GPT)	U/l	38	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	67	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	100	Abbott Architect IFCC Cal. 37°C
	U/l	95	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
Bile Acids	µmol/l	25.5	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	19.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.16	
	µmol/l	19.5	Diazo with Sulphanilic Acid
	mg/dl	1.14	
	µmol/l	19.3	Diazo with Dichloroaniline (DCA)
Bilirubin Total	mg/dl	1.13	Diazo with Dichloroaniline (DCA)
	µmol/l	25.7	
	mg/dl	1.50	Diazo with Sulphanilic Acid
	µmol/l	25.6	
	mg/dl	1.50	Dichlorophenyl Diazonium (DPD)
	µmol/l	25.7	
	mg/dl	1.50	Diazonium ion
	µmol/l	25.2	
Calcium	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
Chloride	mmol/l	101	ISE indirect
Cholesterol	mmol/l	3.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	153	
	mmol/l	4.00	Cholesterol Oxidase - IDMS
	mg/dl	154	
	mmol/l	3.98	Cholesterol Dehydrogenase
	mg/dl	154	
Cholinesterase	U/l	6236	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	208	CK-NAC serum start (DGKC) 37°C
	U/l	211	CK-NAC substrate start (DGKC) 37°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
CK Total	U/l	205	CK-NAC (IFCC) 37°C
	U/l	213	Monothioglycerol 37°C
	U/l	208	Abbott CK-NAC (IFCC) 37°C
Creatinine	μmol/l	139	Alkaline picrate with deproteinization
	mg/dl	1.57	
	μmol/l	136	Alkaline picrate no deproteinization
	mg/dl	1.54	
	μmol/l	134	Enzymatic UV method
	mg/dl	1.52	
	μmol/l	136	Jaffe rate blanked
gamma-GT	mg/dl	1.53	
	μmol/l	133	IDMS traceable
	mg/dl	1.51	
Glucose	U/l	53	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	53	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	53	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Iron	mmol/l	5.90	Hexokinase
	mg/dl	106	
	mmol/l	6.03	Glucose oxidase
Lactate	mg/dl	109	
	μmol/l	21.3	Colorimetric with ppt.
	μg/dl	119	
LD (LDH)	μmol/l	21.0	Colorimetric without ppt.
	μg/dl	117	
	mmol/l	1.59	Colorimetric Lactate Oxidase
Lipase	mg/dl	14.3	
	U/l	194	L->P 37°C
	U/l	198	L->P IFCC 37°C
Lithium	U/l	35	Other Colorimetric 37°C
	mmol/l	1.04	Spectrophotometric
	mg/dl	0.722	
Magnesium	mmol/l	0.839	Arsenazo III
	mg/dl	2.04	
	mmol/l	0.847	Xylidyl Blue
	mg/dl	2.06	
	mmol/l	0.848	Enzymatic
Phosphate Inorganic	mg/dl	2.06	
	mmol/l	1.40	Phosphomolybdate enzymatic
	mg/dl	4.34	
	mmol/l	1.39	Phosphomolybdate UV
Potassium	mg/dl	4.31	
	mmol/l	3.98	ISE method - indirect
Protein Total	g/l	57.9	Biuret reaction end point
	g/dl	5.79	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Protein Total	g/l	57.6	Biuret reaction kinetic
	g/dl	5.76	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	36.5	FE+UIBC(saturation with iron)
	µg/dl	204	
	µmol/l	38.8	Calculated from Transferrin
	µg/dl	217	
Triglycerides	mmol/l	1.02	Lipase/GPO-PAP no correction
	mg/dl	90.3	
	mmol/l	0.975	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	86.3	
	mmol/l	1.04	L/G Kinase EP. no correction
	mg/dl	92.1	
Urea	mmol/l	1.01	Lipase/Glycerol Dehydrogenase
	mg/dl	89.4	
	µmol/l	14.9	Direct Colorimetric
	µg/dl	83.0	
Uric Acid (Urate)	mmol/l	7.60	Urease end point
	mg/dl	45.7	
	mmol/l	7.47	Urease kinetic
	mg/dl	44.9	
Zinc	mmol/l	7.47	BUN
	mg/dl	21.0	
	mmol/l	0.348	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.85	
Zinc	mmol/l	0.348	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	
	mmol/l	0.350	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	
Zinc	µmol/l	20.4	Colorimetric with deproteinisation
	µg/dl	133	

CALIBRATION SERUM LEVEL 2 (CAL 2)

ABX Pentra 400® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	40.0	Bromocresol Green
	g/dl	4.00	
Alkaline Phosphatase	U/l	162	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	41	Tris buffer without P5P 37°C
AST (GOT)	U/l	36	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	20.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.21	
Bilirubin Total	µmol/l	27.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.61	
Calcium	mmol/l	2.17	Arsenazo III
	mg/dl	8.70	
Chloride	mmol/l	102	ISE direct
Cholesterol	mmol/l	4.03	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	
CK Total	U/l	206	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	137	Alkaline picrate no deproteinization
	mg/dl	1.54	
gamma-GT	U/l	52	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	55	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.99	Hexokinase
	mg/dl	108	
	mmol/l	6.18	Glucose oxidase
Iron	µmol/l	19.5	Colorimetric without ppt.
	µg/dl	109	
LD (LDH)	U/l	373	P->L German methods 37°C
	U/l	220	L->P IFCC 37°C
Lipase	U/l	29	Other Colorimetric 37°C
Magnesium	mmol/l	0.874	Xylidyl Blue
	mg/dl	2.12	
Phosphate Inorganic	mmol/l	1.51	Phosphomolybdate UV
	mg/dl	4.68	
Potassium	mmol/l	3.93	ISE method - direct
Protein Total	g/l	57.6	Biuret reaction end point
	g/dl	5.76	
Sodium	mmol/l	141	ISE method - direct
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
Urea	mmol/l	6.94	Urease kinetic
	mg/dl	41.7	

CALIBRATION SERUM LEVEL 2 (CAL 2)

ABX Pentra 400® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	6.94	BUN
	mg/dl	19.5	
Uric Acid (Urate)	mmol/l	0.336	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	
	mmol/l	0.332	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.58	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	40.0	Bromocresol Green
	g/dl	4.00	
	g/l	41.5	Bromocresol Purple
	g/dl	4.15	
Alkaline Phosphatase	U/l	138	Roche Integra AMP buffer 37°C
	U/l	195	AMP optimised to IFCC 37°C
	U/l	176	AMP non-optimised 37°C
ALT (GPT)	U/l	39	Colorimetric 37°C
	U/l	39	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	65	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	83	Randox Liquid Ethylidene pNPG7 37°C
	U/l	86	Roche liquid stable pNPG7 37°C
	U/l	91	Beckman Coulter - blocked pNPG7 37°C
	U/l	91	Beckman Synchron AMY7 37°C
	U/l	87	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	35	Colorimetric 37°C
	U/l	37	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.5	Enzymatic
Bilirubin Direct	µmol/l	19.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.12	
	µmol/l	18.6	Diazo with Sulphanilic Acid
	mg/dl	1.09	
	µmol/l	19.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.11	
Bilirubin Total	µmol/l	19.6	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.14	
	µmol/l	28.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	
	µmol/l	28.6	Diazo with Sulphanilic Acid
	mg/dl	1.67	
Bilirubin Total	µmol/l	29.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	25.7	Diazonium ion
	mg/dl	1.50	
	µmol/l	29.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.70	
Calcium	µmol/l	29.5	DPD (Beckman AU)
	mg/dl	1.73	
Calcium	mmol/l	2.18	Cresolphthalein complexone
	mg/dl	8.74	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Calcium	mmol/l	2.25	Ion selective electrode
	mg/dl	9.02	
	mmol/l	2.22	Arsenazo III
	mg/dl	8.90	
	mmol/l	2.23	NM-BAPTA
	mg/dl	8.94	
	mmol/l	99.7	Colorimetric
	mmol/l	99.5	ISE indirect
Cholesterol	mmol/l	4.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
	mmol/l	4.05	Cholesterol Oxidase - IDMS
	mg/dl	156	
	mmol/l	3.92	Cholesterol Dehydrogenase
	mg/dl	151	
Cholinesterase	U/l	5106	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	212	CK-NAC (IFCC) 37°C
	U/l	206	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	μmol/l	129	Alkaline picrate with deproteinization
	mg/dl	1.45	
	μmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	μmol/l	138	Enzymatic UV method
	mg/dl	1.56	
	μmol/l	141	Creatinine PAP method
	mg/dl	1.59	
	μmol/l	132	Jaffe rate blanked
	mg/dl	1.50	
	μmol/l	160	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.81	
gamma-GT	μmol/l	145	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.64	
	μmol/l	129	IDMS traceable
	mg/dl	1.46	
	U/l	55	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	55	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	54	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	18	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.02	GOD/02-Beckman method
	mg/dl	108	
	mmol/l	6.06	Glucose dehydrogenase
	mg/dl	109	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.12	Hexokinase
	mg/dl	110	
	mmol/l	6.14	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	21.1	Colorimetric with ppt.
	µg/dl	118	
	µmol/l	21.4	Colorimetric without ppt.
	µg/dl	120	
Lactate	mmol/l	1.52	Colorimetric Lactate Oxidase
	mg/dl	13.7	
LD (LDH)	U/l	199	L->P 37°C
	U/l	434	P->L Scandinavian & Dutch 37°C
	U/l	202	L->P IFCC 37°C
	U/l	203	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	33	Other Colorimetric 37°C
Lithium	mmol/l	1.04	Ion selective electrode
	mg/dl	0.722	
	mmol/l	1.02	Spectrophotometric
	mg/dl	0.711	
Magnesium	mmol/l	0.878	Xylidyl Blue
	mg/dl	2.13	
Phosphate Inorganic	mmol/l	1.38	Phosphomolybdate enzymatic
	mg/dl	4.28	
	mmol/l	1.39	Phosphomolybdate UV
	mg/dl	4.31	
	mmol/l	1.41	Beckman PHOSm (365nm)
	mg/dl	4.37	
Potassium	mmol/l	3.98	ISE method - indirect
Protein Total	g/l	57.4	Biuret reaction end point
	g/dl	5.74	
	g/l	57.5	Biuret reaction kinetic
	g/dl	5.75	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	40.4	FE+UIBC(saturation with iron)
	µg/dl	226	
	µmol/l	40.4	Direct Colorimetric
	µg/dl	226	
	µmol/l	37.7	Calculated from Transferrin
	µg/dl	211	
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
	mmol/l	1.08	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.04	L/G Kinase EP. no correction
	mg/dl	92.0	
	mmol/l	1.05	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	92.9	
	mmol/l	1.06	Lipase/Glycerol Dehydrogenase
	mg/dl	93.8	
UIBC	µmol/l	19.5	Direct Colorimetric
	µg/dl	109	
Urea	mmol/l	7.74	Beckman-Conductivity
	mg/dl	46.5	
	mmol/l	7.81	Urease end point
	mg/dl	46.9	
	mmol/l	7.67	Urease kinetic
	mg/dl	46.1	
Uric Acid (Urate)	mmol/l	7.67	BUN
	mg/dl	21.5	
	mmol/l	0.353	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.93	
	mmol/l	0.349	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	
	mmol/l	0.353	Spectrophotometric at 280-290
	mg/dl	5.93	
	mmol/l	0.352	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.91	
Zinc	µmol/l	21.4	Colorimetric with deproteinisation
	µg/dl	140	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman DxC600/800® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.0	Bromocresol Green
	g/dl	4.30	
	g/l	44.2	Bromocresol Purple
	g/dl	4.42	
Alkaline Phosphatase	U/l	177	AMP optimised to IFCC 37°C
	U/l	171	AMP non-optimised 37°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
Amylase Total	U/l	93	Beckman Coulter - blocked pNPG7 37°C
	U/l	93	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	33	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.8	Differential rate pH change
Bilirubin Direct	µmol/l	13.6	Diazo/ Sulphanilic Beckman DxC
	mg/dl	0.796	
Bilirubin Total	µmol/l	29.6	Diazo with Sulphanilic Acid
	mg/dl	1.73	
Calcium	mmol/l	2.14	Ion selective electrode
	mg/dl	8.58	
	mmol/l	2.11	Arsenazo III
	mg/dl	8.46	
Chloride	mmol/l	99.7	ISE indirect
Cholesterol	mmol/l	3.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
Cholinesterase	U/l	5345	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	217	CK-NAC (IFCC) 37°C
	U/l	218	Monothioglycerol 37°C
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	134	Jaffe rate blanked
	mg/dl	1.51	
	µmol/l	130	IDMS traceable
	mg/dl	1.47	
gamma-GT	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	44	Gamma glutamyl-4-nitroanilide 37°C
	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.93	GOD/02-Beckman method
	mg/dl	107	
	mmol/l	5.89	Hexokinase
	mg/dl	106	
	mmol/l	5.84	Oxygen electrode
	mg/dl	105	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman DxC600/800® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Glucose	mmol/l	5.81	Glucose oxidase
	mg/dl	105	
Iron	µmol/l	20.5	Colorimetric without ppt.
	µg/dl	115	
Lactate	mmol/l	1.50	Colorimetric Lactate Oxidase
	mg/dl	13.5	
LD (LDH)	U/l	164	L->P 37°C
	U/l	538	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	238	L->P IFCC 37°C
Lipase	U/l	37	Other Colorimetric 37°C
Lithium	mmol/l	1.01	Spectrophotometric
	mg/dl	0.701	
Magnesium	mmol/l	0.853	Calmagite
	mg/dl	2.07	
Phosphate Inorganic	mmol/l	1.40	Phosphomolybdate UV
	mg/dl	4.34	
Potassium	mmol/l	3.91	ISE method - indirect
Protein Total	g/l	58.9	Biuret reaction CX4/5/7
	g/dl	5.89	
	g/l	58.0	Biuret reaction end point
	g/dl	5.80	
	g/l	58.2	Biuret reaction kinetic
	g/dl	5.82	
Sodium	mmol/l	141	ISE method - indirect
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
	mmol/l	1.10	L/G Kinase EP. no correction
Urea	mmol/l	7.39	Beckman-Conductivity
	mg/dl	44.4	
	mmol/l	7.77	Urease kinetic
	mg/dl	46.7	
	mmol/l	7.77	BUN
	mg/dl	21.8	
Uric Acid (Urate)	mmol/l	0.336	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	
	mmol/l	0.334	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A15 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.9	Bromocresol Green
	g/dl	4.19	
Alkaline Phosphatase	U/l	173	AMP optimised to IFCC 37°C
	U/l	135	AMP optimised to IFCC 30°C
	U/l	111	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	40	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	Tris buffer without P5P 37°C
	U/l	26	Tris buffer without P5P 30°C
	U/l	18	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	27.2	Diazo with Sulphanilic Acid
	mg/dl	1.59	
Calcium	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
Cholesterol	mmol/l	3.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
Creatinine	µmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	Jaffe rate blanked
	µmol/l	131	
	mg/dl	1.48	
gamma-GT	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.05	Glucose oxidase
	mg/dl	109	
Magnesium	mmol/l	0.878	Xylidyl Blue
	mg/dl	2.13	
Protein Total	g/l	58.5	Biuret reaction end point
	g/dl	5.85	
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
Urea	mmol/l	6.63	Urease end point
	mg/dl	39.8	
	mmol/l	7.14	Urease kinetic
	mg/dl	42.9	
	mmol/l	7.14	BUN
	mg/dl	20.0	
Uric Acid (Urate)	mmol/l	0.352	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A15 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.345	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A25 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	42.4	Bromocresol Green
	g/dl	4.24	
ALT (GPT)	U/l	40	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	Tris buffer without P5P 37°C
	U/l	26	Tris buffer without P5P 30°C
	U/l	18	Tris buffer without P5P 25°C
Calcium	mmol/l	2.11	Arsenazo III
	mg/dl	8.46	
Cholesterol	mmol/l	4.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
Cholinesterase	U/l	4864	Colorimetric Butyrylthiocholine 37°C
Creatinine	μmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	
gamma-GT	U/l	49	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.16	Glucose oxidase
	mg/dl	111	
Protein Total	g/l	58.7	Biuret reaction end point
	g/dl	5.87	
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
Urea	mmol/l	7.12	Urease end point
	mg/dl	42.8	
	mmol/l	7.05	Urease kinetic
	mg/dl	42.4	
	mmol/l	7.05	BUN
	mg/dl	19.8	
Uric Acid (Urate)	mmol/l	0.349	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	
	mmol/l	0.352	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	40.9	Bromocresol Green
	g/dl	4.09	
Alkaline Phosphatase	U/l	272	Diethanolamine buffer DEA 37°C
	U/l	212	Diethanolamine buffer DEA 30°C
	U/l	174	Diethanolamine buffer DEA 25°C
	U/l	163	AMP optimised to IFCC 37°C
	U/l	127	AMP optimised to IFCC 30°C
	U/l	104	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
AST (GOT)	U/l	36	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	15.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.913	
Bilirubin Total	µmol/l	27.3	Diazo with Sulphanilic Acid
	mg/dl	1.60	
	µmol/l	23.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.37	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.27	Arsenazo III
	mg/dl	9.10	
Chloride	mmol/l	104	Colorimetric
Cholesterol	mmol/l	3.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	153	
	mmol/l	4.09	Cholesterol Oxidase - IDMS
	mg/dl	158	
Cholinesterase	U/l	5243	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	207	CK-NAC (IFCC) 37°C
	U/l	130	CK-NAC (IFCC) 30°C
	U/l	88	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	134	Jaffe rate blanked
	mg/dl	1.52	
gamma-GT	U/l	53	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	42	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	33	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
gamma-GT	U/l	51	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.00	Glucose oxidase
	mg/dl	108	
Iron	µmol/l	19.7	Colorimetric with ppt.
	µg/dl	110	
	µmol/l	20.7	Colorimetric without ppt.
	µg/dl	116	
LD (LDH)	U/l	357	P->L Scandinavian & Dutch 37°C
	U/l	258	P->L Scandinavian & Dutch 30°C
	U/l	181	P->L Scandinavian & Dutch 25°C
	U/l	371	P->L German methods 37°C
	U/l	268	P->L German methods 30°C
	U/l	188	P->L German methods 25°C
	U/l	389	P->L SFBC 37°C
	U/l	281	P->L SFBC 30°C
	U/l	197	P->L SFBC 25°C
Magnesium	mmol/l	0.885	Xylidyl Blue
	mg/dl	2.15	
Phosphate Inorganic	mmol/l	1.44	Phosphomolybdate UV
	mg/dl	4.46	
Potassium	mmol/l	3.89	ISE method - direct
Protein Total	g/l	59.4	Biuret reaction end point
	g/dl	5.94	
Sodium	mmol/l	139	ISE method - direct
Triglycerides	mmol/l	1.05	Lipase/GPO-PAP no correction
	mg/dl	92.9	
Urea	mmol/l	7.47	Urease end point
	mg/dl	44.9	
	mmol/l	7.81	Urease kinetic
	mg/dl	46.9	
	mmol/l	7.81	BUN
	mg/dl	21.9	
Uric Acid (Urate)	mmol/l	0.340	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	
	mmol/l	0.330	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.54	
	mmol/l	0.358	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.01	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.4	Bromocresol Green
	g/dl	4.34	
	g/l	44.3	Bromocresol Purple
	g/dl	4.43	
	g/l	42.1	Turbidimetric Assays
	g/dl	4.21	
Alkaline Phosphatase	U/l	147	Roche Integra AMP buffer 37°C
	U/l	115	Roche Integra AMP buffer 30°C
	U/l	94	Roche Integra AMP buffer 25°C
	U/l	146	AMP optimised to IFCC 37°C
	U/l	114	AMP optimised to IFCC 30°C
	U/l	93	AMP optimised to IFCC 25°C
	U/l	143	Colorimetric 37°C
	U/l	111	Colorimetric 30°C
	U/l	91	Colorimetric 25°C
ALT (GPT)	U/l	35	Tris buffer without P5P 37°C
	U/l	26	Tris buffer without P5P 30°C
	U/l	20	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	70	Roche EPS Liquid 37°C
Amylase Total	U/l	89	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	33	Tris buffer without P5P 37°C
	U/l	22	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.0	Enzymatic
Bilirubin Direct	µmol/l	17.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	
	µmol/l	18.2	Diazo with Sulphanilic Acid
	mg/dl	1.06	
	µmol/l	18.1	Roche JG factored
	mg/dl	1.06	
	µmol/l	18.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.07	
Bilirubin Total	µmol/l	24.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.41	
	µmol/l	24.3	Diazo with Sulphanilic Acid
	mg/dl	1.42	
	µmol/l	24.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.43	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	24.3	Diazonium ion
	mg/dl	1.42	
Calcium	mmol/l	2.17	Cresolphthalein complexone
	mg/dl	8.70	
	mmol/l	2.16	Arsenazo III
	mg/dl	8.66	
	mmol/l	2.17	NM-BAPTA
	mg/dl	8.70	
Chloride	mmol/l	100	ISE indirect
Cholesterol	mmol/l	3.86	Cholesterol Oxidase - Abell Kendall
	mg/dl	149	
	mmol/l	3.84	Cholesterol Oxidase - IDMS
	mg/dl	148	
CK Total	U/l	198	CK-NAC serum start (DGKC) 37°C
	U/l	124	CK-NAC serum start (DGKC) 30°C
	U/l	84	CK-NAC serum start (DGKC) 25°C
	U/l	195	CK-NAC substrate start (DGKC) 37°C
	U/l	122	CK-NAC substrate start (DGKC) 30°C
	U/l	83	CK-NAC substrate start (DGKC) 25°C
	U/l	197	CK-NAC (IFCC) 37°C
	U/l	123	CK-NAC (IFCC) 30°C
	U/l	84	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	Alkaline picrate with deproteinization
	mg/dl	1.47	
	µmol/l	129	Alkaline picrate no deproteinization
	mg/dl	1.46	
	µmol/l	134	Enzymatic UV method
	mg/dl	1.52	
	µmol/l	132	Roche Creatinine Plus
	mg/dl	1.49	
	µmol/l	131	Jaffe rate blanked
	mg/dl	1.48	
	µmol/l	156	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.76	
	µmol/l	148	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.67	
	µmol/l	128	IDMS traceable
	mg/dl	1.44	
gamma-GT	U/l	50	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.15	Hexokinase
	mg/dl	111	
	mmol/l	6.08	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	22.1	Colorimetric with ppt.
	µg/dl	123	
	µmol/l	22.0	Colorimetric without ppt.
	µg/dl	123	
Lactate	mmol/l	1.62	Colorimetric Lactate Oxidase
	mg/dl	14.6	
LD (LDH)	U/l	209	L->P 37°C
	U/l	151	L->P 30°C
	U/l	106	L->P 25°C
	U/l	381	P->L German methods 37°C
	U/l	275	P->L German methods 30°C
	U/l	193	P->L German methods 25°C
	U/l	210	L->P IFCC 37°C
	U/l	152	L->P IFCC 30°C
	U/l	106	L->P IFCC 25°C
Lipase	U/l	29	Roche Colorimetric 37°C
	U/l	30	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.04	Ion selective electrode
	mg/dl	0.722	
Magnesium	mmol/l	0.895	Calmagite
	mg/dl	2.17	
	mmol/l	0.880	Xylidyl Blue
	mg/dl	2.14	
	mmol/l	0.889	Chlorphosphonazo III
	mg/dl	2.16	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate enzymatic
	mg/dl	4.50	
	mmol/l	1.46	Phosphomolybdate UV
	mg/dl	4.53	
Potassium	mmol/l	3.98	ISE method - indirect
Protein Total	g/l	55.1	Biuret reaction end point
	g/dl	5.51	
	g/l	54.3	Biuret reaction kinetic
	g/dl	5.43	
Sodium	mmol/l	141	ISE method - indirect
TIBC	µmol/l	37.6	FE+UIBC(saturation with iron)
	µg/dl	210	
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	93.8	
	mmol/l	1.06	L/G Kinase EP. no correction
	mg/dl	93.8	
	mmol/l	1.08	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	95.6	
	mmol/l	1.07	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	
UIBC	μmol/l	15.7	Direct Colorimetric
	μg/dl	87.8	
Urea	mmol/l	7.46	Urease end point
	mg/dl	44.8	
	mmol/l	7.22	Urease kinetic
	mg/dl	43.4	
	mmol/l	7.22	BUN
	mg/dl	20.3	
Uric Acid (Urate)	mmol/l	0.352	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.350	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	
	mmol/l	0.350	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Elitech/Vitalab Selectra Series Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.0	Bromocresol Green
	g/dl	4.30	
Alkaline Phosphatase	U/l	250	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	24.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.43	
Calcium	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
Cholesterol	mmol/l	3.91	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	
Creatinine	µmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	
	µmol/l	131	Creatinine PAP method
	mg/dl	1.48	
	µmol/l	133	Jaffe rate blanked
	mg/dl	1.50	
gamma-GT	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.25	Hexokinase
	mg/dl	113	
	mmol/l	6.22	Glucose oxidase
	mg/dl	112	
Protein Total	g/l	58.6	Biuret reaction end point
	g/dl	5.86	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	mmol/l	1.14	L/G Kinase EP. no correction
	mg/dl	101	
Urea	mmol/l	7.41	Urease kinetic
	mg/dl	44.5	
	mmol/l	7.41	BUN
	mg/dl	20.8	
Uric Acid (Urate)	mmol/l	0.360	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.05	
	mmol/l	0.354	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.95	
	mmol/l	0.352	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.91	

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	11.1	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	42.0	Bromocresol Green
	g/dl	4.20	
Alkaline Phosphatase	U/l	145	AMP optimised to IFCC 37°C
	U/l	113	AMP optimised to IFCC 30°C
	U/l	93	AMP optimised to IFCC 25°C
	U/l	178	Randox AMP 37°C
	U/l	139	Randox AMP 30°C
	U/l	114	Randox AMP 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	79	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	87	Roche liquid stable pNPG7 37°C
	U/l	95	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	36	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
	U/l	42	Phosphate buffer DGKC 37°C
	U/l	28	Phosphate buffer DGKC 30°C
	U/l	20	Phosphate buffer DGKC 25°C
Bile Acids	µmol/l	24.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	18.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.09	
	µmol/l	18.9	Diazo with Sulphanilic Acid
	mg/dl	1.11	
	µmol/l	18.9	Diazo with Dichloroaniline (DCA)
Bilirubin Total	mg/dl	1.10	
	µmol/l	26.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.56	
	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	µmol/l	26.4	Dichlorophenyl Diazonium (DPD)
Calcium	mg/dl	1.54	
	mmol/l	2.20	Cresolphthalein complexone
	mg/dl	8.82	
	mmol/l	2.16	Arsenazo III
Chloride	mg/dl	8.66	
	mmol/l	103	Colorimetric

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Chloride	mmol/l	97.4	ISE indirect
Cholesterol	mmol/l	3.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
Cholinesterase	U/l	5040	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	208	CK-NAC (IFCC) 37°C
	U/l	130	CK-NAC (IFCC) 30°C
	U/l	88	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	133	Alkaline picrate no deproteinization
	mg/dl	1.50	
	µmol/l	133	Jaffe rate blanked
	mg/dl	1.50	
	µmol/l	162	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.83	
gamma-GT	U/l	51	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	58	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	36	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	6.10	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	21.4	Colorimetric without ppt.
	µg/dl	120	
LD (LDH)	U/l	388	P->L German methods 37°C
	U/l	280	P->L German methods 30°C
	U/l	197	P->L German methods 25°C
	U/l	210	L->P IFCC 37°C
	U/l	152	L->P IFCC 30°C
	U/l	106	L->P IFCC 25°C
Magnesium	mmol/l	0.861	Xylidyl Blue
	mg/dl	2.09	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate UV
	mg/dl	4.50	
Potassium	mmol/l	4.03	ISE method - indirect
Protein Total	g/l	58.2	Biuret reaction end point
	g/dl	5.82	
Sodium	mmol/l	143	ISE method - indirect
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
	mmol/l	1.11	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	98.2	

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.09	L/G Kinase EP. no correction
	mg/dl	96.5	
	mmol/l	1.13	Lipase/Glycerol Dehydrogenase
	mg/dl	100	
Urea	mmol/l	7.65	Urease kinetic
	mg/dl	46.0	
	mmol/l	7.65	BUN
	mg/dl	21.5	
Uric Acid (Urate)	mmol/l	0.352	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.349	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	
	mmol/l	0.348	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.85	

CALIBRATION SERUM LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.3	Bromocresol Green
	g/dl	4.13	
Alkaline Phosphatase	U/l	260	Diethanolamine buffer DEA 37°C
	U/l	203	Diethanolamine buffer DEA 30°C
	U/l	166	Diethanolamine buffer DEA 25°C
	U/l	172	AMP optimised to IFCC 37°C
	U/l	134	AMP optimised to IFCC 30°C
	U/l	110	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	36	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	20	Tris buffer without P5P 25°C
Amylase Total	U/l	90	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	13.1	Diazo with Sulphanilic Acid
	mg/dl	0.766	
Bilirubin Total	µmol/l	28.0	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	27.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.62	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.11	Arsenazo III
	mg/dl	8.46	
Chloride	mmol/l	97.4	ISE indirect
Cholesterol	mmol/l	3.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
Cholinesterase	U/l	5335	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	183	CK-NAC (IFCC) 37°C
	U/l	115	CK-NAC (IFCC) 30°C
	U/l	78	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	134	Alkaline picrate no deproteinization
	mg/dl	1.51	
	µmol/l	135	Creatinine PAP method
	mg/dl	1.52	
gamma-GT	U/l	51	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
gamma-GT	U/l	51	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.10	Hexokinase
	mg/dl	110	
	mmol/l	6.08	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	20.8	Colorimetric without ppt.
	µg/dl	116	
LD (LDH)	U/l	398	P->L German methods 37°C
	U/l	287	P->L German methods 30°C
	U/l	202	P->L German methods 25°C
	U/l	422	P->L SFBC 37°C
	U/l	305	P->L SFBC 30°C
	U/l	214	P->L SFBC 25°C
Lipase	U/l	34	Other Colorimetric 37°C
Magnesium	mmol/l	0.876	Xylidyl Blue
	mg/dl	2.13	
	mmol/l	0.874	Enzymatic
	mg/dl	2.12	
Phosphate Inorganic	mmol/l	1.38	Phosphomolybdate UV
	mg/dl	4.28	
Potassium	mmol/l	3.99	ISE method - indirect
Protein Total	g/l	57.2	Biuret reaction end point
	g/dl	5.72	
Sodium	mmol/l	142	ISE method - indirect
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.08	L/G Kinase EP. no correction
	mg/dl	95.6	
Urea	mmol/l	7.74	Urease kinetic
	mg/dl	46.5	
	mmol/l	7.74	BUN
	mg/dl	21.7	
Uric Acid (Urate)	mmol/l	0.329	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.53	
	mmol/l	0.334	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	40.4	Bromocresol Green
	g/dl	4.04	
Alkaline Phosphatase	U/l	167	AMP optimised to IFCC 37°C
	U/l	130	AMP optimised to IFCC 30°C
	U/l	107	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	40	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
AST (GOT)	U/l	39	Tris buffer without P5P 37°C
	U/l	26	Tris buffer without P5P 30°C
	U/l	19	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.00	
Bilirubin Total	µmol/l	26.5	Diazo with Sulphanilic Acid
	mg/dl	1.55	
	µmol/l	25.6	Nitrobenzenediazonium salt
	mg/dl	1.50	
Calcium	mmol/l	2.17	Arsenazo III
	mg/dl	8.70	
Chloride	mmol/l	101	ISE direct
Cholesterol	mmol/l	3.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
	mmol/l	3.95	Cholesterol Oxidase - IDMS
	mg/dl	152	
CK Total	U/l	215	CK-NAC (IFCC) 37°C
	U/l	135	CK-NAC (IFCC) 30°C
	U/l	91	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	139	Enzymatic UV method
	mg/dl	1.57	
	µmol/l	131	Jaffe rate blanked
	mg/dl	1.48	
	µmol/l	146	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.65	
gamma-GT	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.20	Hexokinase
	mg/dl	112	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.15	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	21.8	Colorimetric without ppt.
	µg/dl	122	
LD (LDH)	U/l	214	L->P IFCC 37°C
	U/l	155	L->P IFCC 30°C
	U/l	108	L->P IFCC 25°C
Magnesium	mmol/l	0.897	Xylidyl Blue
	mg/dl	2.18	
Phosphate Inorganic	mmol/l	1.47	Phosphomolybdate UV
	mg/dl	4.56	
Potassium	mmol/l	3.91	ISE method - direct
Protein Total	g/l	57.8	Biuret reaction end point
	g/dl	5.78	
Sodium	mmol/l	139	ISE method - direct
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
Urea	mmol/l	7.68	Urease end point
	mg/dl	46.2	
	mmol/l	7.40	Urease kinetic
	mg/dl	44.5	
	mmol/l	7.40	BUN
	mg/dl	20.8	
Uric Acid (Urate)	mmol/l	0.358	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.01	
	mmol/l	0.360	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.05	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	11.1	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	41.4	Bromocresol Green
	g/dl	4.14	
	g/l	43.4	
	g/dl	4.34	Bromocresol Purple
	g/l	41.6	
	g/dl	4.16	
Alkaline Phosphatase	U/l	247	Diethanolamine buffer DEA 37°C
	U/l	192	Diethanolamine buffer DEA 30°C
	U/l	158	Diethanolamine buffer DEA 25°C
	U/l	175	AMP optimised to IFCC 37°C
	U/l	136	AMP optimised to IFCC 30°C
	U/l	112	AMP optimised to IFCC 25°C
	U/l	177	AMP non-optimised 37°C
	U/l	138	AMP non-optimised 30°C
	U/l	113	AMP non-optimised 25°C
ALT (GPT)	U/l	36	Colorimetric 37°C
	U/l	27	Colorimetric 30°C
	U/l	20	Colorimetric 25°C
	U/l	42	Tris buffer with P5P 37°C
	U/l	31	Tris buffer with P5P 30°C
	U/l	24	Tris buffer with P5P 25°C
	U/l	38	Tris buffer without P5P 37°C
	U/l	28	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
	U/l	39	Phosphate buffer DGKC 37°C
	U/l	29	Phosphate buffer DGKC 30°C
	U/l	22	Phosphate buffer DGKC 25°C
	U/l	39	Tris buffer with P5P NVKC 37°C
	U/l	29	Tris buffer with P5P NVKC 30°C
	U/l	22	Tris buffer with P5P NVKC 25°C
	U/l	37	Tris buffer SCE 37°C
	U/l	27	Tris buffer SCE 30°C
	U/l	21	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	69	Immunoinhibition EPS substrate 37°C
	U/l	68	Roche EPS Liquid 37°C
	U/l	79	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	93	pNP Maltotrioxide substrates 37°C
	U/l	91	Siemens - blocked pNPG7 37°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Amylase Total	U/l	73	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	95	Randox Liquid Ethylidene pNPG7 37°C
	U/l	94	Siemens - maltopenta/hexaoside 37°C
	U/l	82	Saccharogenic 37°C
	U/l	85	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	89	Roche Integra 2-chloro-pNPG7 37°C
	U/l	88	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	Roche liquid stable pNPG7 37°C
	U/l	97	Siemens 2-chloro-pNPG3 37°C
	U/l	91	Beckman Coulter - blocked pNPG7 37°C
	U/l	93	Beckman Synchron AMY7 37°C
	U/l	91	I.L. 2-chloro-pNPG3 37°C
	U/l	100	Abbott Architect IFCC Cal. 37°C
	U/l	95	Abbott Architect Non-IFCC Cal. 37°C
	U/l	87	Beckman CNPG3 (Extinction Coeff) 37°C
	U/l	89	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	34	Colorimetric 37°C
	U/l	23	Colorimetric 30°C
	U/l	16	Colorimetric 25°C
	U/l	51	Tris buffer with P5P 37°C
	U/l	34	Tris buffer with P5P 30°C
	U/l	24	Tris buffer with P5P 25°C
	U/l	35	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
	U/l	37	Phosphate buffer DGKC 37°C
	U/l	25	Phosphate buffer DGKC 30°C
	U/l	18	Phosphate buffer DGKC 25°C
	U/l	35	Tris buffer with P5P NVKC 37°C
	U/l	24	Tris buffer with P5P NVKC 30°C
	U/l	17	Tris buffer with P5P NVKC 25°C
	U/l	36	Tris buffer SCE 37°C
	U/l	24	Tris buffer SCE 30°C
	U/l	17	Tris buffer SCE 25°C
Bicarbonate	mmol/l	14.4	Colorimetric
	mmol/l	14.1	Differential rate pH change
	mmol/l	14.4	Enzymatic
	mmol/l	15.5	Ion selective electrode
Bile Acids	µmol/l	26.0	4th Generation Colorimetric
	µmol/l	24.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	18.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.10	
	µmol/l	17.4	Diazo with Sulphanilic Acid
	mg/dl	1.02	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Bilirubin Direct	μmol/l	19.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.11	
	μmol/l	17.4	Oxidation to Biliverdin/Vanadate
	mg/dl	1.02	
	μmol/l	13.8	Modified Jendrassik
	mg/dl	0.810	
Bilirubin Total	μmol/l	29.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.74	
	μmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	μmol/l	26.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	
	μmol/l	25.7	Nitrobenzenediazonium salt
	mg/dl	1.50	
	μmol/l	25.1	Diazonium ion
	mg/dl	1.47	
	μmol/l	28.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.67	
	μmol/l	31.3	Modified Jendrassik
	mg/dl	1.83	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.15	Ion selective electrode
	mg/dl	8.62	
	mmol/l	2.16	Methylthymol blue
	mg/dl	8.66	
	mmol/l	2.21	Arsenazo III
	mg/dl	8.86	
	mmol/l	2.16	Phosphonazo
	mg/dl	8.66	
	mmol/l	2.18	NM-BAPTA
	mg/dl	8.74	
Chloride	mmol/l	101	Colorimetric
	mmol/l	99.1	ISE indirect
	mmol/l	100	ISE direct
	mmol/l	110	Optical Fluorescence
Cholesterol	mmol/l	3.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
	mmol/l	3.94	Cholesterol Oxidase - IDMS
	mg/dl	152	
	mmol/l	3.94	Cholesterol Dehydrogenase
	mg/dl	152	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Cholinesterase	U/l	5044	Colorimetric Benzoylcholine 37°C
	U/l	5213	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	203	CK-NAC serum start (DGKC) 37°C
	U/l	127	CK-NAC serum start (DGKC) 30°C
	U/l	86	CK-NAC serum start (DGKC) 25°C
	U/l	198	CK-NAC substrate start (DGKC) 37°C
	U/l	124	CK-NAC substrate start (DGKC) 30°C
	U/l	84	CK-NAC substrate start (DGKC) 25°C
	U/l	201	CK-NAC (IFCC) 37°C
	U/l	126	CK-NAC (IFCC) 30°C
	U/l	85	CK-NAC (IFCC) 25°C
	U/l	216	Monothioglycerol 37°C
	U/l	135	Monothioglycerol 30°C
	U/l	92	Monothioglycerol 25°C
	U/l	197	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	123	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	84	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	18.4	Atomic absorption
	µg/dl	117	
	µmol/l	17.8	Colorimetric
	µg/dl	113	
Creatinine	µmol/l	132	Alkaline picrate with deproteinization
	mg/dl	1.49	
	µmol/l	133	Alkaline picrate no deproteinization
	mg/dl	1.51	
	µmol/l	134	Enzymatic UV method
	mg/dl	1.52	
	µmol/l	134	Creatinine PAP method
	mg/dl	1.51	
	µmol/l	132	Jaffe rate blanked
	mg/dl	1.50	
	µmol/l	160	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.81	
	µmol/l	148	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.67	
	µmol/l	134	IDMS traceable
	mg/dl	1.51	
gamma-GT	U/l	51	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	48	Gamma glutamyl-4-nitroanilide 37°C
	U/l	38	Gamma glutamyl-4-nitroanilide 30°C
	U/l	30	Gamma glutamyl-4-nitroanilide 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
gamma-GT	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	53	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	42	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C
	U/l	33	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C
	U/l	58	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	36	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	17	Triethanolamine buffer 50 mmol 37°C
	U/l	13	Triethanolamine buffer 50 mmol 30°C
	U/l	11	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.08	Glucose dehydrogenase
	mg/dl	110	
	mmol/l	6.08	Hexokinase
	mg/dl	110	
	mmol/l	6.00	Oxygen electrode
	mg/dl	108	
Glucose	mmol/l	6.07	Glucose oxidase
	mg/dl	109	
Iron	µmol/l	21.0	Colorimetric with ppt.
	µg/dl	117	
	µmol/l	21.3	Colorimetric without ppt.
	µg/dl	119	
Lactate	mmol/l	1.57	Colorimetric Lactate Oxidase
	mg/dl	14.1	
	mmol/l	1.57	Enzymatic Electrode
	mg/dl	14.1	
	mmol/l	1.56	Ion selective electrode
	mg/dl	14.1	
	mmol/l	1.57	UV LDH
	mg/dl	14.1	
LAP	U/l	16	NAGEL 37°C
LD (LDH)	U/l	192	L->P 37°C
	U/l	139	L->P 30°C
	U/l	97	L->P 25°C
	U/l	408	P->L Scandinavian & Dutch 37°C
	U/l	295	P->L Scandinavian & Dutch 30°C
	U/l	207	P->L Scandinavian & Dutch 25°C
	U/l	393	P->L German methods 37°C
	U/l	284	P->L German methods 30°C
	U/l	199	P->L German methods 25°C
	U/l	392	P->L SFBC 37°C
	U/l	283	P->L SFBC 30°C
	U/l	199	P->L SFBC 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
LD (LDH)	U/l	202	L->P IFCC 37°C
	U/l	146	L->P IFCC 30°C
	U/l	102	L->P IFCC 25°C
Lipase	U/l	34	Other Colorimetric 37°C
	U/l	28	Roche Colorimetric 37°C
	U/l	39	Randox Colorimetric 37°C
Lithium	mmol/l	1.03	Ion selective electrode
	mg/dl	0.716	
	mmol/l	1.05	Spectrophotometric
	mg/dl	0.726	
Magnesium	mmol/l	0.845	Arsenazo III
	mg/dl	2.05	
	mmol/l	0.864	Atomic absorption
	mg/dl	2.10	
	mmol/l	0.852	Calmagite
	mg/dl	2.07	
	mmol/l	0.873	Xylidyl Blue
	mg/dl	2.12	
	mmol/l	0.847	Methylthymol blue
	mg/dl	2.06	
	mmol/l	0.873	Chlorphosphonazo III
	mg/dl	2.12	
Osmolality	mmol/l	0.851	Enzymatic
	mg/dl	2.07	
Osmolality	mOsm/kg	293	Calculated
	mOsm/kg	312	Freezing point depression
Phosphate Inorganic	mmol/l	1.42	Phosphomolybdate enzymatic
	mg/dl	4.40	
	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Potassium	mmol/l	3.94	Enzymatic
	mmol/l	3.99	Flame photometry
	mmol/l	3.94	ISE method - direct
	mmol/l	3.99	ISE method - indirect
	mmol/l	3.95	Optical Fluorescence
	mmol/l	3.86	Colorimetric
Protein Total	g/l	57.9	Biuret reaction end point
	g/dl	5.79	
	g/l	58.0	Biuret reaction kinetic
	g/dl	5.80	
Sodium	mmol/l	145	Enzymatic

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Sodium	mmol/l	142	Flame photometry
	mmol/l	140	ISE method - direct
	mmol/l	142	ISE method - indirect
	mmol/l	139	Optical Fluorescence
	mmol/l	141	Colorimetric
TIBC	μmol/l	36.0	Removal of excess free iron
	μg/dl	201	
	μmol/l	37.6	FE+UIBC(saturation with iron)
	μg/dl	210	
	μmol/l	38.4	Direct Colorimetric
	μg/dl	215	
	μmol/l	40.2	Calculated from Transferrin
	μg/dl	225	
Triglycerides	μmol/l	47.5	Randox Direct
	μg/dl	266	
	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	
	mmol/l	1.08	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	
	mmol/l	1.06	L/G Kinase EP. no correction
	mg/dl	93.8	
Urea	mmol/l	1.08	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	95.6	
	mmol/l	1.07	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	
	mmol/l	7.59	Beckman-Conductivity
	mg/dl	45.6	
	mmol/l	7.55	Urease end point
	mg/dl	45.4	
Uric Acid (Urate)	mmol/l	7.52	Urease kinetic
	mg/dl	45.2	
	mmol/l	7.37	Urease hypochlorite
	mg/dl	44.3	
	mmol/l	7.52	BUN
	mg/dl	21.1	
	mmol/l	0.346	Uricase catalase 340nm
	mg/dl	5.81	
	mmol/l	0.344	Reduction methods
	mg/dl	5.78	
	mmol/l	0.348	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.85	
	mmol/l	0.343	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.349	Spectrophotometric at 280-290
	mg/dl	5.86	
	mmol/l	0.344	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.78	
Zinc	µmol/l	21.4	Atomic absorption
	µg/dl	140	
	µmol/l	21.2	Colorimetric with deproteinisation
	µg/dl	138	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.6	Bromocresol Green
	g/dl	4.16	
Alkaline Phosphatase	U/l	180	AMP optimised to IFCC 37°C
	U/l	140	AMP optimised to IFCC 30°C
	U/l	115	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	40	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
AST (GOT)	U/l	36	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.2	Enzymatic
Bilirubin Direct	µmol/l	18.8	Diazo with Sulphanilic Acid
	mg/dl	1.10	
	µmol/l	18.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.08	
Bilirubin Total	µmol/l	26.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.54	
	µmol/l	28.0	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	26.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	
	µmol/l	26.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.56	
Calcium	mmol/l	2.29	Cresolphthalein complexone
	mg/dl	9.18	
	mmol/l	2.13	Ion selective electrode
	mg/dl	8.54	
	mmol/l	2.22	Arsenazo III
	mg/dl	8.90	
Chloride	mmol/l	98.7	Colorimetric
	mmol/l	98.9	ISE direct
Cholesterol	mmol/l	3.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	153	
	mmol/l	3.92	Cholesterol Oxidase - IDMS
	mg/dl	151	
CK Total	U/l	203	CK-NAC (IFCC) 37°C
	U/l	127	CK-NAC (IFCC) 30°C
	U/l	86	CK-NAC (IFCC) 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Creatinine	μmol/l	132	Alkaline picrate with deproteinization
	mg/dl	1.49	
	μmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	μmol/l	126	Enzymatic UV method
	mg/dl	1.42	
	μmol/l	132	Creatinine PAP method
	mg/dl	1.49	
gamma-GT	μmol/l	129	Jaffe rate blanked
	mg/dl	1.46	
	μmol/l	158	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.79	
	μmol/l	137	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.55	
Glucose	U/l	53	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	42	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	33	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Iron	mmol/l	6.11	Hexokinase
	mg/dl	110	
Lactate	mmol/l	6.15	Glucose oxidase
	mg/dl	111	
LD (LDH)	μmol/l	21.0	Colorimetric without ppt.
	μg/dl	117	
Lactate	mmol/l	1.52	Colorimetric Lactate Oxidase
	mg/dl	13.7	
LD (LDH)	U/l	390	P->L German methods 37°C
	U/l	282	P->L German methods 30°C
	U/l	198	P->L German methods 25°C
	U/l	207	L->P IFCC 37°C
	U/l	149	L->P IFCC 30°C
	U/l	105	L->P IFCC 25°C
Magnesium	mmol/l	0.905	Xylidyl Blue
	mg/dl	2.20	
	mmol/l	0.851	Enzymatic
Phosphate Inorganic	mg/dl	2.07	
	mmol/l	1.39	Phosphomolybdate enzymatic
	mg/dl	4.31	
Potassium	mmol/l	1.40	Phosphomolybdate UV
	mg/dl	4.34	
Potassium	mmol/l	3.91	ISE method - direct

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Protein Total	g/l	58.0	Biuret reaction end point
	g/dl	5.80	
Sodium	mmol/l	143	ISE method - direct
Triglycerides	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	
	mmol/l	1.04	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	92.0	
	mmol/l	1.06	L/G Kinase EP. no correction
	mg/dl	93.8	
Urea	mmol/l	1.09	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	
	mmol/l	7.66	Urease end point
	mg/dl	46.0	
	mmol/l	7.55	Urease kinetic
	mg/dl	45.4	
	mmol/l	6.98	Urease hypochlorite
	mg/dl	41.9	
	mmol/l	7.55	BUN
	mg/dl	21.2	
Uric Acid (Urate)	mmol/l	0.343	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	
	mmol/l	0.344	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.78	
	mmol/l	0.343	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	

CALIBRATION SERUM LEVEL 2 (CAL 2)

PRESTIGE 24i Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.2	Bromocresol Green
	g/dl	4.12	
Alkaline Phosphatase	U/l	178	AMP optimised to IFCC 37°C
	U/l	139	AMP optimised to IFCC 30°C
	U/l	114	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
Amylase Total	U/l	95	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
	U/l	25	Tris buffer without P5P 30°C
	U/l	18	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	19.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.11	
	µmol/l	16.9	Oxidation to Biliverdin/Vanadate
	mg/dl	0.987	
Bilirubin Total	µmol/l	27.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.59	
	µmol/l	28.7	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	28.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	
	µmol/l	29.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.69	
Calcium	mmol/l	2.09	Cresolphthalein complexone
	mg/dl	8.38	
	mmol/l	2.20	Arsenazo III
	mg/dl	8.82	
	mmol/l	4.06	Cholesterol Oxidase - Abell Kendall
Cholesterol	mg/dl	157	
	mmol/l	157	
CK Total	U/l	211	CK-NAC (IFCC) 37°C
	U/l	132	CK-NAC (IFCC) 30°C
	U/l	90	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	129	Jaffe rate blanked
	mg/dl	1.46	
gamma-GT	U/l	56	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

PRESTIGE 24i Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
gamma-GT	U/l	53	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.17	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	20.6	Colorimetric without ppt.
	µg/dl	115	
LD (LDH)	U/l	413	P->L German methods 37°C
	U/l	298	P->L German methods 30°C
	U/l	209	P->L German methods 25°C
Magnesium	mmol/l	0.879	Xylidyl Blue
	mg/dl	2.14	
Phosphate Inorganic	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Protein Total	g/l	57.8	Biuret reaction end point
	g/dl	5.78	
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
	mmol/l	1.08	L/G Kinase EP. no correction
Urea	mmol/l	7.62	Urease kinetic
	mg/dl	45.8	
	mmol/l	7.62	BUN
Uric Acid (Urate)	mmol/l	0.342	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.345	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.80	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	15.2	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	15.4	Naphthyl phosphate substrate End point 37°C
Albumin	g/l	43.1	Bromocresol Green
	g/dl	4.31	
	g/l	43.6	Bromocresol Purple
	g/dl	4.36	
	g/l	41.0	Turbidimetric Assays
	g/dl	4.10	
Alkaline Phosphatase	U/l	143	Roche Integra AMP buffer 37°C
	U/l	111	Roche Integra AMP buffer 30°C
	U/l	91	Roche Integra AMP buffer 25°C
	U/l	142	AMP optimised to IFCC 37°C
	U/l	111	AMP optimised to IFCC 30°C
	U/l	91	AMP optimised to IFCC 25°C
	U/l	143	Colorimetric 37°C
	U/l	111	Colorimetric 30°C
	U/l	91	Colorimetric 25°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	67	Roche EPS Liquid 37°C
Amylase Total	U/l	86	Randox Liquid Ethylidene pNPG7 37°C
	U/l	86	Roche Integra 2-chloro-pNPG7 37°C
	U/l	87	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	Roche liquid stable pNPG7 37°C
	U/l	87	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.3	Colorimetric
	mmol/l	14.0	Enzymatic
Bile Acids	µmol/l	23.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	18.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.09	
	µmol/l	18.6	Diazo with Sulphanilic Acid
	mg/dl	1.09	
	µmol/l	18.4	Roche JG factored
	mg/dl	1.08	
	µmol/l	17.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.04	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Bilirubin Total	μmol/l	25.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.51	
	μmol/l	25.4	Diazo with Sulphanilic Acid
	mg/dl	1.49	
	μmol/l	25.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.50	
Calcium	μmol/l	25.0	Nitrobenzenediazonium salt
	mg/dl	1.46	
	μmol/l	25.4	Diazonium ion
	mg/dl	1.49	
	mmol/l	2.18	Cresolphthalein complexone
	mg/dl	8.74	
Chloride	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
	mmol/l	2.19	NM-BAPTA
	mg/dl	8.78	
Chloride	mmol/l	96.5	ISE indirect
Cholesterol	mmol/l	3.86	Cholesterol Oxidase - Abell Kendall
	mg/dl	149	
	mmol/l	3.85	Cholesterol Oxidase - IDMS
	mg/dl	149	
Cholinesterase	U/l	5087	Colorimetric Benzoylcholine 37°C
	U/l	5040	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	195	CK-NAC serum start (DGKC) 37°C
	U/l	122	CK-NAC serum start (DGKC) 30°C
	U/l	83	CK-NAC serum start (DGKC) 25°C
	U/l	196	CK-NAC substrate start (DGKC) 37°C
	U/l	123	CK-NAC substrate start (DGKC) 30°C
	U/l	83	CK-NAC substrate start (DGKC) 25°C
	U/l	198	CK-NAC (IFCC) 37°C
	U/l	124	CK-NAC (IFCC) 30°C
Copper	U/l	84	CK-NAC (IFCC) 25°C
	μmol/l	16.5	Colorimetric
Creatinine	μg/dl	105	
	μmol/l	130	Alkaline picrate with deproteinization
	mg/dl	1.47	
	μmol/l	134	Alkaline picrate no deproteinization
	mg/dl	1.51	
	μmol/l	137	Enzymatic UV method
	mg/dl	1.55	
Creatinine	μmol/l	138	Roche Creatinine Plus
	mg/dl	1.56	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Creatinine	μmol/l	134	Jaffe rate blanked
	mg/dl	1.52	
	μmol/l	160	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.81	
	μmol/l	153	Jaffe rate blanked compensated (-18 μmol/l)
gamma-GT	mg/dl	1.73	
	μmol/l	135	IDMS traceable
	mg/dl	1.53	
	U/l	49	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	U/l	30	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	6.00	Glucose dehydrogenase
Iron	mg/dl	108	
	mmol/l	6.09	Hexokinase
	mg/dl	110	
	mmol/l	6.06	Glucose oxidase
	mg/dl	109	
Lactate	μmol/l	21.7	Colorimetric with ppt.
	μg/dl	121	
	μmol/l	21.7	Colorimetric without ppt.
	μg/dl	121	
	mmol/l	1.57	Colorimetric Lactate Oxidase
LD (LDH)	mg/dl	14.1	
	U/l	205	L->P 37°C
	U/l	148	L->P 30°C
	U/l	104	L->P 25°C
	U/l	384	P->L Scandinavian & Dutch 37°C
Lipase	U/l	277	P->L Scandinavian & Dutch 30°C
	U/l	195	P->L Scandinavian & Dutch 25°C
	U/l	389	P->L German methods 37°C
	U/l	281	P->L German methods 30°C
	U/l	197	P->L German methods 25°C
Lithium	U/l	204	L->P IFCC 37°C
	U/l	147	L->P IFCC 30°C
	U/l	103	L->P IFCC 25°C
	U/l	29	Other Colorimetric 37°C
	U/l	28	Roche Colorimetric 37°C
Lipase	U/l	29	Roche Turbidimetric with colipase 37°C
	mmol/l	1.03	Ion selective electrode
	mg/dl	0.718	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Lithium	mmol/l	1.04	Spectrophotometric
	mg/dl	0.722	
Magnesium	mmol/l	0.860	Arsenazo III
	mg/dl	2.09	
	mmol/l	0.866	Atomic absorption
	mg/dl	2.10	
	mmol/l	0.871	Xylidyl Blue
	mg/dl	2.12	
Phosphate Inorganic	mmol/l	0.868	Chlorphosphonazo III
	mg/dl	2.11	
	mmol/l	0.880	Enzymatic
	mg/dl	2.14	
	mmol/l	1.42	Phosphomolybdate enzymatic
	mg/dl	4.40	
Potassium	mmol/l	4.05	ISE method - indirect
	mg/dl	4.37	
Protein Total	mmol/l	1.41	Phosphomolybdate UV
	mg/dl	4.37	
	g/l	58.1	Biuret reaction end point
	g/dl	5.81	
Sodium	g/l	58.8	Biuret reaction kinetic
	g/dl	5.88	
	mmol/l	143	ISE method - indirect
	mg/dl	205	
TIBC	μmol/l	36.6	FE+UIBC(saturation with iron)
	μg/dl	205	
	μmol/l	36.5	Direct Colorimetric
	μg/dl	204	
Triglycerides	μmol/l	44.1	Calculated from Transferrin
	μg/dl	247	
	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
	mmol/l	1.09	Lipase/GPO-PAP 0.11 mmol/l correction
	mg/dl	96.5	
UIBC	mmol/l	1.08	L/G Kinase EP. no correction
	mg/dl	95.6	
	mmol/l	1.10	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	97.4	
	mmol/l	1.09	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	
Urea	μmol/l	14.6	Direct Colorimetric
	μg/dl	81.8	
Urea	mmol/l	7.38	Urease end point
	mg/dl	44.4	
	mmol/l	7.45	Urease kinetic
	mg/dl	44.8	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	7.45	BUN
	mg/dl	20.9	
Uric Acid (Urate)	mmol/l	0.341	Uricase catalase 340nm
	mg/dl	5.73	
	mmol/l	0.340	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	
	mmol/l	0.339	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	
	mmol/l	0.338	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	42.9	Bromocresol Green
	g/dl	4.29	
	g/l	41.4	Bromocresol Purple
	g/dl	4.14	
Alkaline Phosphatase	U/l	146	Roche Integra AMP buffer 37°C
	U/l	114	Roche Integra AMP buffer 30°C
	U/l	93	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	36	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	20	Tris buffer without P5P 25°C
Amylase Total	U/l	90	Other Roche 2-chloro-pNPG7 37°C
	U/l	90	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	
	µmol/l	17.3	Diazo with Sulphanilic Acid
	mg/dl	1.01	
	µmol/l	17.6	Roche JG factored
	mg/dl	1.03	
Bilirubin Total	µmol/l	17.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.01	
	µmol/l	25.0	Diazo with Sulphanilic Acid
	mg/dl	1.46	
	µmol/l	24.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.42	
Calcium	µmol/l	24.3	Diazonium ion
	mg/dl	1.42	
	mmol/l	2.21	Cresolphthalein complexone
	mg/dl	8.86	
	mmol/l	2.28	Arsenazo III
	mg/dl	9.14	
Chloride	mmol/l	2.18	NM-BAPTA
	mg/dl	8.74	
	mmol/l	102	ISE indirect
	mg/dl	188	
Cholesterol	mmol/l	3.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	150	
	mmol/l	3.83	Cholesterol Oxidase - IDMS
	mg/dl	148	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
CK Total	U/l	195	CK-NAC (IFCC) 37°C
	U/l	122	CK-NAC (IFCC) 30°C
	U/l	83	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	Roche Creatinine Plus
	mg/dl	1.47	
	µmol/l	155	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.75	
	µmol/l	152	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.72	
gamma-GT	U/l	52	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	41	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	32	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	Hexokinase
	mg/dl	112	
	mmol/l	6.21	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	22.3	Colorimetric without ppt.
	µg/dl	125	
LD (LDH)	U/l	212	L->P IFCC 37°C
	U/l	153	L->P IFCC 30°C
	U/l	107	L->P IFCC 25°C
Lipase	U/l	29	Roche Colorimetric 37°C
Magnesium	mmol/l	0.889	Xylidyl Blue
	mg/dl	2.16	
	mmol/l	0.884	Chlorphosphonazo III
	mg/dl	2.15	
Phosphate Inorganic	mmol/l	1.46	Phosphomolybdate enzymatic
	mg/dl	4.53	
	mmol/l	1.46	Phosphomolybdate UV
	mg/dl	4.53	
Potassium	mmol/l	4.01	ISE method - indirect
Protein Total	g/l	58.5	Biuret reaction end point
	g/dl	5.85	
Sodium	mmol/l	142	ISE method - indirect
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
	mmol/l	1.10	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	
	mmol/l	1.10	L/G Kinase EP. no correction
	mg/dl	97.4	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.09	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	
Urea	mmol/l	7.23	Urease kinetic
	mg/dl	43.5	
	mmol/l	7.23	BUN
	mg/dl	20.3	
Uric Acid (Urate)	mmol/l	0.346	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.81	
	mmol/l	0.348	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	
	mmol/l	0.340	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.71	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.1	Bromocresol Green
	g/dl	4.31	
	g/l	42.9	Bromocresol Purple
	g/dl	4.29	
Alkaline Phosphatase	U/l	141	Roche Integra AMP buffer 37°C
	U/l	110	Roche Integra AMP buffer 30°C
	U/l	90	Roche Integra AMP buffer 25°C
	U/l	141	AMP optimised to IFCC 37°C
	U/l	110	AMP optimised to IFCC 30°C
	U/l	90	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	84	Immuno-inhibition EPS substrate 37°C
	U/l	68	Roche EPS Liquid 37°C
Amylase Total	U/l	88	Roche Integra 2-chloro-pNPG7 37°C
	U/l	87	Other Roche 2-chloro-pNPG7 37°C
	U/l	88	Roche liquid stable pNPG7 37°C
	U/l	88	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.7	Enzymatic
Bilirubin Direct	µmol/l	18.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.11	
	µmol/l	18.6	Diazo with Sulphanilic Acid
	mg/dl	1.09	
	µmol/l	18.8	Roche JG factored
	mg/dl	1.10	
	µmol/l	18.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.10	
Bilirubin Total	µmol/l	25.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.50	
	µmol/l	25.6	Diazo with Sulphanilic Acid
	mg/dl	1.50	
	µmol/l	25.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	
	µmol/l	25.7	Diazonium ion
	mg/dl	1.50	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Calcium	mmol/l	2.19	Cresolphthalein complexone
	mg/dl	8.78	
	mmol/l	2.18	Arsenazo III
	mg/dl	8.74	
	mmol/l	2.18	NM-BAPTA
	mg/dl	8.74	
Chloride	mmol/l	96.6	ISE indirect
Cholesterol	mmol/l	3.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	150	
	mmol/l	3.88	Cholesterol Oxidase - IDMS
	mg/dl	150	
Cholinesterase	U/l	5087	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	200	CK-NAC substrate start (DGKC) 37°C
	U/l	125	CK-NAC substrate start (DGKC) 30°C
	U/l	85	CK-NAC substrate start (DGKC) 25°C
	U/l	197	CK-NAC (IFCC) 37°C
	U/l	123	CK-NAC (IFCC) 30°C
	U/l	84	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	137	Alkaline picrate no deproteinization
	mg/dl	1.55	
	µmol/l	137	Roche Creatinine Plus
	mg/dl	1.55	
	µmol/l	136	Jaffe rate blanked
	mg/dl	1.54	
	µmol/l	161	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.82	
gamma-GT	µmol/l	154	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.74	
	U/l	49	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	55	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
Glucose	U/l	34	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	6.09	Hexokinase
	mg/dl	110	
	mmol/l	6.15	Glucose oxidase
Iron	mg/dl	111	
	µmol/l	21.7	Colorimetric with ppt.
	µg/dl	121	
	µmol/l	21.6	Colorimetric without ppt.
	µg/dl	121	
Lactate	mmol/l	1.61	Colorimetric Lactate Oxidase
	mg/dl	14.5	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
LD (LDH)	U/l	209	L->P 37°C
	U/l	151	L->P 30°C
	U/l	106	L->P 25°C
	U/l	384	P->L German methods 37°C
	U/l	277	P->L German methods 30°C
	U/l	195	P->L German methods 25°C
	U/l	205	L->P IFCC 37°C
	U/l	148	L->P IFCC 30°C
	U/l	104	L->P IFCC 25°C
Lipase	U/l	28	Roche Colorimetric 37°C
	U/l	28	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.10	Spectrophotometric
	mg/dl	0.760	
Magnesium	mmol/l	0.860	Atomic absorption
	mg/dl	2.09	
	mmol/l	0.865	Xylidyl Blue
	mg/dl	2.10	
	mmol/l	0.864	Chlorphosphonazo III
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate enzymatic
	mg/dl	4.43	
	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Potassium	mmol/l	4.05	ISE method - indirect
Protein Total	g/l	58.2	Biuret reaction end point
	g/dl	5.82	
	g/l	60.0	Biuret reaction kinetic
	g/dl	6.00	
Sodium	mmol/l	143	ISE method - indirect
TIBC	μmol/l	36.9	FE+UIBC(saturation with iron)
	μg/dl	206	
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.09	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	96.5	
	mmol/l	1.08	L/G Kinase EP. no correction
	mg/dl	95.6	
	mmol/l	1.08	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	
UIBC	μmol/l	15.9	Direct Colorimetric
	μg/dl	88.9	
Urea	mmol/l	7.58	Urease end point
	mg/dl	45.6	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	7.55	Urease kinetic
	mg/dl	45.4	
	mmol/l	7.55	BUN
	mg/dl	21.2	
Uric Acid (Urate)	mmol/l	0.345	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	
	mmol/l	0.342	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.341	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.73	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.1	Bromocresol Green
	g/dl	4.31	
Alkaline Phosphatase	U/l	135	Roche Integra AMP buffer 37°C
	U/l	105	Roche Integra AMP buffer 30°C
	U/l	86	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	Colorimetric 37°C
	U/l	26	Colorimetric 30°C
	U/l	20	Colorimetric 25°C
	U/l	36	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	20	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	Immunoinhibition EPS substrate 37°C
	U/l	66	Roche EPS Liquid 37°C
Amylase Total	U/l	87	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	33	Colorimetric 37°C
	U/l	22	Colorimetric 30°C
	U/l	16	Colorimetric 25°C
	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.9	Enzymatic
Bilirubin Direct	µmol/l	18.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	
	µmol/l	18.3	Roche JG factored
	mg/dl	1.07	
Bilirubin Total	µmol/l	26.8	Diazo with Sulphanilic Acid
	mg/dl	1.57	
	µmol/l	24.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.45	
	µmol/l	24.8	Diazonium ion
	mg/dl	1.45	
Calcium	mmol/l	2.18	Cresolphthalein complexone
	mg/dl	8.74	
	mmol/l	2.18	NM-BAPTA
	mg/dl	8.74	
Chloride	mmol/l	97.7	ISE indirect
Cholesterol	mmol/l	3.84	Cholesterol Oxidase - Abell Kendall
	mg/dl	148	
	mmol/l	3.84	Cholesterol Oxidase - IDMS
	mg/dl	148	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Cholinesterase	U/l	5013	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	188	CK-NAC substrate start (DGKC) 37°C
	U/l	118	CK-NAC substrate start (DGKC) 30°C
	U/l	80	CK-NAC substrate start (DGKC) 25°C
	U/l	195	CK-NAC (IFCC) 37°C
	U/l	122	CK-NAC (IFCC) 30°C
	U/l	83	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	142	Enzymatic UV method
	mg/dl	1.61	
	µmol/l	139	Roche Creatinine Plus
	mg/dl	1.57	
	µmol/l	136	Jaffe rate blanked
	mg/dl	1.54	
	µmol/l	162	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.83	
gamma-GT	µmol/l	154	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.74	
	µmol/l	137	IDMS traceable
	mg/dl	1.55	
	U/l	48	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	U/l	30	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	54	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Iron	mmol/l	6.13	Hexokinase
	mg/dl	110	
Lactate	µmol/l	21.0	Colorimetric without ppt.
	µg/dl	117	
Lipase	mmol/l	1.59	Colorimetric Lactate Oxidase
	mg/dl	14.3	
LD (LDH)	U/l	205	L->P IFCC 37°C
	U/l	148	L->P IFCC 30°C
	U/l	104	L->P IFCC 25°C
Lipase	U/l	27	Roche Colorimetric 37°C
Lithium	mmol/l	1.05	Spectrophotometric
	mg/dl	0.729	
Magnesium	mmol/l	0.867	Xylidyl Blue
	mg/dl	2.11	
	mmol/l	0.878	Chlorphosphonazo III
Phosphate Inorganic	mg/dl	2.13	
	mmol/l	1.39	Phosphomolybdate UV
	mg/dl	4.31	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Potassium	mmol/l	4.05	ISE method - indirect
Protein Total	g/l	57.7	Biuret reaction end point
	g/dl	5.77	
Sodium	mmol/l	143	ISE method - indirect
TIBC	μmol/l	37.7	FE+UIBC(saturation with iron)
	μg/dl	211	
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
	mmol/l	1.07	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	
	mmol/l	1.10	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	97.4	
UIBC	μmol/l	16.5	Direct Colorimetric
	μg/dl	92.5	
Urea	mmol/l	7.34	Urease kinetic
	mg/dl	44.1	
	mmol/l	7.34	BUN
	mg/dl	20.6	
Uric Acid (Urate)	mmol/l	0.335	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	
	mmol/l	0.335	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	
	mmol/l	0.333	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.59	

CALIBRATION SERUM LEVEL 2 (CAL 2)

RX SERIES® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Creatinine	μmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	40.6	Bromocresol Green
	g/dl	4.06	
	g/l	42.3	Bromocresol Purple
	g/dl	4.23	
Alkaline Phosphatase	U/l	213	Diethanolamine buffer DEA 37°C
	U/l	155	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	68	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	92	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	39	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.4	Enzymatic
Bilirubin Direct	µmol/l	17.1	Oxidation to Biliverdin/Vanadate
	mg/dl	1.00	
Bilirubin Total	µmol/l	29.1	Diazo with Sulphanilic Acid
	mg/dl	1.70	
	µmol/l	28.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.68	
Calcium	mmol/l	2.14	Cresolphthalein complexone
	mg/dl	8.58	
	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
Chloride	mmol/l	101	ISE indirect
Cholesterol	mmol/l	3.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
Cholinesterase	U/l	6165	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	CK-NAC substrate start (DGKC) 37°C
	U/l	207	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	135	Alkaline picrate no deproteinization
	mg/dl	1.53	
	µmol/l	133	Enzymatic UV method
	mg/dl	1.50	
	µmol/l	131	Creatinine PAP method
	mg/dl	1.48	
	µmol/l	134	Jaffe rate blanked
	mg/dl	1.51	
	µmol/l	157	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.77	
	µmol/l	154	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.74	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Creatinine	μmol/l	130	IDMS traceable
	mg/dl	1.47	
gamma-GT	U/l	54	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	55	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.91	Hexokinase
	mg/dl	106	
	mmol/l	6.03	Glucose oxidase
	mg/dl	109	
Iron	μmol/l	20.9	Colorimetric with ppt.
	μg/dl	117	
	μmol/l	21.0	Colorimetric without ppt.
	μg/dl	117	
Lactate	mmol/l	1.46	Colorimetric Lactate Oxidase
	mg/dl	13.2	
LD (LDH)	U/l	202	L->P 37°C
	U/l	396	P->L German methods 37°C
	U/l	206	L->P IFCC 37°C
Lipase	U/l	38	Other Colorimetric 37°C
Lithium	mmol/l	1.07	Spectrophotometric
	mg/dl	0.740	
Magnesium	mmol/l	0.870	Xylidyl Blue
	mg/dl	2.11	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate UV
	mg/dl	4.43	
Potassium	mmol/l	4.02	ISE method - indirect
Protein Total	g/l	56.2	Biuret reaction end point
	g/dl	5.62	
	g/l	58.4	Biuret reaction kinetic
	g/dl	5.84	
Sodium	mmol/l	143	ISE method - indirect
TIBC	μmol/l	48.0	Removal of excess free iron
	μg/dl	268	
	μmol/l	44.3	FE+UIBC(saturation with iron)
	μg/dl	248	
	μmol/l	45.2	Direct Colorimetric
	μg/dl	253	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	mmol/l	1.13	L/G Kinase EP. no correction
	mg/dl	100	
Urea	mmol/l	7.89	Urease end point
	mg/dl	47.4	
	mmol/l	7.76	Urease kinetic
	mg/dl	46.6	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	7.76	BUN
	mg/dl	21.8	
Uric Acid (Urate)	mmol/l	0.342	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.350	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	
	mmol/l	0.352	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.91	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.0	Bromocresol Green
	g/dl	4.10	
	g/l	43.5	Bromocresol Purple
	g/dl	4.35	
Alkaline Phosphatase	U/l	158	Siemens Dimension AMP buffer 37°C
	U/l	156	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	Tris buffer with P5P 37°C
	U/l	45	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	97	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	53	Tris buffer with P5P 37°C
	U/l	53	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.2	Enzymatic
Bilirubin Direct	µmol/l	13.2	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.771	
Bilirubin Total	µmol/l	26.8	Diazo with Sulphanilic Acid
	mg/dl	1.57	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
Chloride	mmol/l	99.3	ISE indirect
Cholesterol	mmol/l	3.64	Cholesterol Oxidase - Abell Kendall
	mg/dl	141	
	mmol/l	3.62	Dimension-Siemens reagents
	mg/dl	140	
Cholinesterase	U/l	8914	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	197	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	139	Alkaline picrate no deproteinization
	mg/dl	1.57	
	µmol/l	136	Enzymatic UV method
	mg/dl	1.54	
	µmol/l	136	Creatinine PAP method
	mg/dl	1.54	
	µmol/l	140	Jaffe rate blanked
	mg/dl	1.58	
gamma-GT	µmol/l	138	IDMS traceable
	mg/dl	1.56	
	U/l	59	
	U/l	68	
Glucose	mmol/l	6.08	Hexokinase
	mg/dl	110	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.08	Oxygen electrode
	mg/dl	110	
Iron	µmol/l	20.4	Colorimetric with ppt.
	µg/dl	114	
	µmol/l	20.4	Colorimetric without ppt.
	µg/dl	114	
Lactate	mmol/l	1.58	UV LDH
	mg/dl	14.2	
LD (LDH)	U/l	191	L->P 37°C
	U/l	190	Siemens Dimension L-P Non IFCC 37°C
	U/l	193	L->P IFCC 37°C
Lipase	U/l	129	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.847	Methylthymol blue
	mg/dl	2.06	
Phosphate Inorganic	mmol/l	1.49	Phosphomolybdate enzymatic
	mg/dl	4.62	
	mmol/l	1.47	Phosphomolybdate UV
	mg/dl	4.56	
Potassium	mmol/l	3.96	ISE method - indirect
Protein Total	g/l	59.7	Biuret reaction end point
	g/dl	5.97	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	31.9	Removal of excess free iron
	µg/dl	178	
	µmol/l	34.6	FE+UIBC(saturation with iron)
	µg/dl	193	
	µmol/l	36.0	Direct Colorimetric
	µg/dl	201	
Triglycerides	mmol/l	1.00	Lipase/GPO-PAP no correction
	mg/dl	88.5	
	mmol/l	1.01	L/G Kinase EP. no correction
	mg/dl	89.4	
	mmol/l	1.00	Lipase/Glycerol Dehydrogenase
	mg/dl	88.5	
Urea	mmol/l	7.85	Urease end point
	mg/dl	47.2	
	mmol/l	7.73	Urease kinetic
	mg/dl	46.5	
	mmol/l	7.73	BUN
	mg/dl	21.7	
Uric Acid (Urate)	mmol/l	0.346	Uricase catalase 340nm
	mg/dl	5.81	
	mmol/l	0.349	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.86	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.349	Spectrophotometric at 280-290
	mg/dl	5.86	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	43.7	Bromocresol Green
	g/dl	4.37	
	g/l	43.2	Bromocresol Purple
	g/dl	4.32	
Alkaline Phosphatase	U/l	157	Siemens Dimension AMP buffer 37°C
	U/l	158	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	Tris buffer with P5P 37°C
	U/l	45	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	69	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	101	Siemens - maltopenta/hexaoxide 37°C
	U/l	97	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	54	Tris buffer with P5P 37°C
	U/l	53	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.7	Enzymatic
Bilirubin Direct	µmol/l	13.1	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.765	
Bilirubin Total	µmol/l	27.1	Diazo with Sulphanilic Acid
	mg/dl	1.58	
Calcium	mmol/l	2.11	Cresolphthalein complexone
	mg/dl	8.46	
	mmol/l	1.99	Arsenazo III
	mg/dl	7.98	
Chloride	mmol/l	99.1	ISE indirect
Cholesterol	mmol/l	3.62	Cholesterol Oxidase - Abell Kendall
	mg/dl	140	
	mmol/l	3.63	Dimension-Siemens reagents
	mg/dl	140	
Cholinesterase	U/l	9177	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	197	CK-NAC (IFCC) 37°C
	U/l	197	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	137	Alkaline picrate with deproteinization
	mg/dl	1.54	
	µmol/l	140	Alkaline picrate no deproteinization
	mg/dl	1.59	
	µmol/l	135	Enzymatic UV method
	mg/dl	1.53	
	µmol/l	135	Creatinine PAP method
	mg/dl	1.52	
	µmol/l	140	Jaffe rate blanked
	mg/dl	1.59	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Creatinine	μmol/l	139	IDMS traceable
	mg/dl	1.57	
gamma-GT	U/l	60	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	66	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	5.95	Glucose dehydrogenase
	mg/dl	107	
	mmol/l	6.15	Hexokinase
	mg/dl	111	
Iron	μmol/l	20.4	Colorimetric with ppt.
	μg/dl	114	
	μmol/l	20.4	Colorimetric without ppt.
	μg/dl	114	
Lactate	mmol/l	1.58	Colorimetric Lactate Oxidase
	mg/dl	14.2	
	mmol/l	1.55	UV LDH
	mg/dl	14.0	
LD (LDH)	U/l	190	Siemens Dimension L-P Non IFCC 37°C
	U/l	193	L->P IFCC 37°C
Lipase	U/l	129	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.09	Spectrophotometric
	mg/dl	0.754	
Magnesium	mmol/l	0.842	Methylthymol blue
	mg/dl	2.05	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate enzymatic
	mg/dl	4.50	
	mmol/l	1.46	Phosphomolybdate UV
	mg/dl	4.53	
Potassium	mmol/l	3.93	ISE method - indirect
Protein Total	g/l	59.5	Biuret reaction end point
	g/dl	5.95	
Sodium	mmol/l	141	ISE method - indirect
TIBC	μmol/l	35.2	Removal of excess free iron
	μg/dl	197	
	μmol/l	35.1	FE+UIBC(saturation with iron)
	μg/dl	196	
	μmol/l	35.3	Direct Colorimetric
	μg/dl	197	
Triglycerides	mmol/l	1.01	Lipase/GPO-PAP no correction
	mg/dl	89.4	
	mmol/l	1.00	L/G Kinase EP. no correction
	mg/dl	88.5	
	mmol/l	1.01	Lipase/Glycerol Dehydrogenase
	mg/dl	89.4	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	7.48	Urease end point
	mg/dl	45.0	
	mmol/l	7.68	Urease kinetic
	mg/dl	46.2	
	mmol/l	7.68	BUN
	mg/dl	21.6	
Uric Acid (Urate)	mmol/l	0.347	Uricase catalase 340nm
	mg/dl	5.83	
	mmol/l	0.345	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.80	
	mmol/l	0.348	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	
	mmol/l	0.348	Spectrophotometric at 280-290
	mg/dl	5.85	
	mmol/l	0.338	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION Vista® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	44.2	Bromocresol Purple
	g/dl	4.42	
Alkaline Phosphatase	U/l	168	Siemens Dimension AMP buffer 37°C
	U/l	162	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	44	Tris buffer with P5P 37°C
Amylase Total	U/l	96	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	53	Tris buffer with P5P 37°C
	U/l	55	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.8	Enzymatic
Bilirubin Direct	µmol/l	13.3	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.778	
Bilirubin Total	µmol/l	27.3	Diazo with Sulphanilic Acid
	mg/dl	1.60	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
Chloride	mmol/l	104	ISE indirect
Cholesterol	mmol/l	3.71	Cholesterol Oxidase - Abell Kendall
	mg/dl	143	
	mmol/l	3.70	Dimension-Siemens reagents
	mg/dl	143	
CK Total	U/l	199	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	140	Alkaline picrate no deproteinization
	mg/dl	1.58	
gamma-GT	U/l	66	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.04	Hexokinase
	mg/dl	109	
Iron	µmol/l	21.1	Colorimetric without ppt.
	µg/dl	118	
LD (LDH)	U/l	195	L->P IFCC 37°C
Lipase	U/l	144	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.896	Methylthymol blue
	mg/dl	2.18	
Phosphate Inorganic	mmol/l	1.39	Phosphomolybdate UV
	mg/dl	4.31	
Potassium	mmol/l	3.96	ISE method - indirect
Protein Total	g/l	60.3	Biuret reaction end point
	g/dl	6.03	
Sodium	mmol/l	143	ISE method - indirect
Triglycerides	mmol/l	1.14	Lipase/GPO-PAP no correction
	mg/dl	101	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION Vista® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Urea	mmol/l	7.66	Urease kinetic
	mg/dl	46.0	
	mmol/l	7.66	BUN
	mg/dl	21.5	
Uric Acid (Urate)	mmol/l	0.350	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	

CALIBRATION SERUM LEVEL 2 (CAL 2)

VITALAB FLEXOR® Lot. No. 1488UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2023-04-28

Analyte	unit	Target	methods
Albumin	g/l	41.5	Bromocresol Green
	g/dl	4.15	
Alkaline Phosphatase	U/l	253	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
Calcium	mmol/l	2.17	Arsenazo III
	mg/dl	8.70	
Cholesterol	mmol/l	3.92	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	
Glucose	mmol/l	6.27	Glucose oxidase
	mg/dl	113	
Protein Total	g/l	56.1	Biuret reaction end point
	g/dl	5.61	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
Urea	mmol/l	7.52	Urease kinetic
	mg/dl	45.2	
	mmol/l	7.52	BUN
	mg/dl	21.1	
Uric Acid (Urate)	mmol/l	0.347	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.83	