CALIBRATION SERUM - LEVEL 2 (CAL 2)

CAT. NO. CAL 2350 **LOT NO.** 1452UN
SIZE: 20 x 5ml **EXPIRY:** 2021-08-28

GTIN: 05055273200959

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 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.
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.

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

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Abbott Architect c/ci Systems® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.2	Bromocresol Green
	g/dl	4.12	
	g/l	42.1	Bromocresol Purple
	g/dl	4.21	
Alkaline Phosphatase	U/l	155	AMP optimised to IFCC 37°C
	U/l	156	AMP non-optimised 37°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	62	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	98	Abbott Architect IFCC Cal. 37°C
	U/l	93	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	33	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.2	Enzymatic
Bilirubin Direct	µmol/l	19.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	
	µmol/l	19.3	Diazo with Sulphanilic Acid
	mg/dl	1.13	
	µmol/l	19.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.13	
Bilirubin Total	µmol/l	26.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.54	
	µmol/l	26.3	Diazo with Sulphanilic Acid
	mg/dl	1.54	
	µmol/l	26.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	
	µmol/l	26.1	Nitrobenzenediazonium salt
	mg/dl	1.53	
	µmol/l	25.1	Diazonium ion
	mg/dl	1.47	
Calcium	mmol/l	2.15	Arsenazo III
	mg/dl	8.62	
Chloride	mmol/l	96.3	ISE indirect
Cholesterol	mmol/l	4.04	Cholesterol Oxidase
	mg/dl	156	
Cholinesterase	U/l	6751	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	197	CK-NAC serum start (DGKC) 37°C
	U/l	191	CK-NAC substrate start (DGKC) 37°C
	U/l	191	CK-NAC (IFCC) 37°C
	U/l	190	Monothioglycerol 37°C
	U/l	198	Creatinine phosphate substrate Start 37°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Abbott Architect c/ci Systems® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	126	Alkaline picrate with deproteinization
	mg/dl	1.43	
	µmol/l	126	Alkaline picrate no deproteinization
	mg/dl	1.42	
	µmol/l	119	Enzymatic UV method
	mg/dl	1.35	
	µmol/l	129	Jaffe rate blanked
	mg/dl	1.45	
	µmol/l	125	IDMS traceable
	mg/dl	1.42	
gamma-GT	U/l	47	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	47	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	47	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.07	Hexokinase
	mg/dl	109	
	mmol/l	6.12	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	19.7	Colorimetric with ppt.
	µg/dl	110	
	µmol/l	19.5	Colorimetric without ppt.
	µg/dl	109	
Lactate	mmol/l	1.49	Colorimetric Lactate Oxidase
	mg/dl	13.4	
LD (LDH)	U/l	204	L->P 37°C
	U/l	207	L->P IFCC 37°C
Lipase	U/l	39	Other Colorimetric 37°C
Lithium	mmol/l	1.04	Spectrophotometric
	mg/dl	0.722	
Magnesium	mmol/l	0.920	Arsenazo III
	mg/dl	2.24	
	mmol/l	0.945	Xylidyl Blue
	mg/dl	2.30	
	mmol/l	0.898	Enzymatic
	mg/dl	2.18	
Phosphate Inorganic	mmol/l	1.32	Phosphomolybdate enzymatic
	mg/dl	4.09	
	mmol/l	1.31	Phosphomolybdate UV
	mg/dl	4.06	
Potassium	mmol/l	3.93	ISE method - indirect
Protein Total	g/l	59.6	Biuret reaction end point
	g/dl	5.96	
	g/l	59.6	Biuret reaction kinetic
	g/dl	5.96	

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Abbott Architect c/ci Systems® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Sodium	mmol/l	144	ISE method - indirect
TIBC	µmol/l	43.1	FE+UIBC(saturation with iron)
	µg/dl	241	
	µmol/l	41.2	Calculated from Transferrin
	µg/dl	230	
Triglycerides	mmol/l	1.03	Lipase/GPO-PAP no correction
	mg/dl	91.2	
	mmol/l	1.01	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	89.4	
	mmol/l	1.02	L/G Kinase EP. no correction
	mg/dl	90.3	
	mmol/l	1.04	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	
UIBC	µmol/l	23.6	Direct Colorimetric
	µg/dl	132	
Urea	mmol/l	7.18	Urease end point
	mg/dl	43.2	
	mmol/l	7.15	Urease kinetic
	mg/dl	43.0	
	mmol/l	7.15	BUN
	mg/dl	20.1	
Uric Acid (Urate)	mmol/l	0.337	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.66	
	mmol/l	0.335	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	
	mmol/l	0.338	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	
Zinc	µmol/l	22.4	Colorimetric with deproteinisation
	µg/dl	146	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

ABX Pentra 400® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.2	Bromocresol Green
	g/dl	4.12	
Alkaline Phosphatase	U/l	151	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	Tris buffer without P5P 37°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	22.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.29	
Bilirubin Total	µmol/l	27.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.58	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
	mmol/l	2.18	Arsenazo III
	mg/dl	8.74	
Chloride	mmol/l	95.5	ISE direct
Cholesterol	mmol/l	4.22	Cholesterol Oxidase
	mg/dl	163	
CK Total	U/l	201	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	137	Alkaline picrate no deproteinization
	mg/dl	1.54	
	µmol/l	130	Jaffe rate blanked
	mg/dl	1.46	
gamma-GT	U/l	49	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.32	Hexokinase
	mg/dl	114	
	mmol/l	6.31	Glucose oxidase
	mg/dl	114	
Iron	µmol/l	18.0	Colorimetric without ppt.
	µg/dl	101	
LD (LDH)	U/l	410	P->L German methods 37°C
	U/l	221	L->P IFCC 37°C
Lipase	U/l	34	Other Colorimetric 37°C
Magnesium	mmol/l	0.901	Xylidyl Blue
	mg/dl	2.19	
Phosphate Inorganic	mmol/l	1.51	Phosphomolybdate UV
	mg/dl	4.68	
Potassium	mmol/l	3.94	ISE method - direct
Protein Total	g/l	61.0	Biuret reaction end point
	g/dl	6.10	
Sodium	mmol/l	142	ISE method - direct

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ABX Pentra 400® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.16	Lipase/GPO-PAP no correction
	mg/dl	103	
Urea	mmol/l	6.97	Urease kinetic
	mg/dl	41.9	
	mmol/l	6.97	BUN
	mg/dl	19.6	
Uric Acid (Urate)	mmol/l	0.326	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.48	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	40.5	Bromocresol Green
	g/dl	4.05	
Alkaline Phosphatase	U/l	190	Diethanolamine buffer DEA 37°C
	U/l	189	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	40	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	61	Immunoinhibition EPS substrate 37°C
	U/l	62	Roche EPS Liquid 37°C
	U/l	61	Beckman Synchron/CX/LXi/DxC 37°C
Amylase Total	U/l	84	pNP Maltotrioside substrates 37°C
	U/l	81	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	85	Roche liquid stable pNPG7 37°C
	U/l	86	Beckman Coulter - blocked pNPG7 37°C
	U/l	85	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.7	Enzymatic
Bilirubin Direct	µmol/l	19.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.16	
	µmol/l	19.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.15	
Bilirubin Total	µmol/l	28.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	
	µmol/l	28.8	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	30.0	Diazonium ion
	mg/dl	1.76	
	µmol/l	28.9	DPD (Beckman AU)
	mg/dl	1.69	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.24	Ion selective electrode
	mg/dl	8.98	
	mmol/l	2.18	Arsenazo III
	mg/dl	8.74	
Chloride	mmol/l	95.4	Colorimetric
	mmol/l	94.8	ISE indirect
Cholesterol	mmol/l	4.12	Cholesterol Oxidase
	mg/dl	159	
	mmol/l	4.07	Cholesterol Dehydrogenase
	mg/dl	157	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
CK Total	U/l	200	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	123	Alkaline picrate with deproteinization
	mg/dl	1.39	
	µmol/l	124	Alkaline picrate no deproteinization
	mg/dl	1.40	
	µmol/l	125	Enzymatic UV method
	mg/dl	1.41	
	µmol/l	122	Creatinine PAP method
	mg/dl	1.38	
	µmol/l	126	Jaffe rate blanked
	mg/dl	1.42	
	µmol/l	149	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.68	
	µmol/l	133	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.50	
	µmol/l	121	IDMS traceable
	mg/dl	1.36	
gamma-GT	U/l	48	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	47	Gamma glutamyl-4-nitroanilide 37°C
	U/l	49	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	47	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
GLDH	U/l	15	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.53	GOD/02-Beckman method
	mg/dl	118	
	mmol/l	6.23	Glucose dehydrogenase
	mg/dl	112	
	mmol/l	6.26	Hexokinase
	mg/dl	113	
	mmol/l	6.34	Glucose oxidase
	mg/dl	114	
Iron	µmol/l	19.5	Colorimetric with ppt.
	µg/dl	109	
	µmol/l	19.3	Colorimetric without ppt.
	µg/dl	108	
Lactate	mmol/l	1.41	Colorimetric Lactate Oxidase
	mg/dl	12.7	
LD (LDH)	U/l	205	L->P 37°C
	U/l	456	P->L Scandinavian & Dutch 37°C
	U/l	422	P->L German methods 37°C
	U/l	211	L->P IFCC 37°C
Lipase	U/l	38	Other Colorimetric 37°C
Lithium	mmol/l	1.01	Ion selective electrode
	mg/dl	0.701	

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Beckman Coulter AU Series® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lithium	mmol/l	1.02	Spectrophotometric
	mg/dl	0.710	
Magnesium	mmol/l	0.953	Xylidyl Blue
	mg/dl	2.32	
	mmol/l	0.933	Methylthymol blue
	mg/dl	2.27	
Phosphate Inorganic	mmol/l	1.34	Phosphomolybdate enzymatic
	mg/dl	4.15	
	mmol/l	1.36	Phosphomolybdate UV
	mg/dl	4.22	
	mmol/l	1.34	Beckman PHOSm (365nm)
	mg/dl	4.15	
Potassium	mmol/l	3.94	ISE method - indirect
Protein Total	g/l	58.8	Biuret reaction end point
	g/dl	5.88	
	g/l	59.6	Biuret reaction kinetic
	g/dl	5.96	
Sodium	mmol/l	144	ISE method - indirect
TIBC	µmol/l	46.6	FE+UIBC(saturation with iron)
	µg/dl	260	
	µmol/l	45.9	Direct Colorimetric
	µg/dl	257	
	µmol/l	41.0	Calculated from Transferrin
	µg/dl	229	
Triglycerides	mmol/l	1.11	Lipase/GPO-PAP no correction
	mg/dl	98.2	
	mmol/l	1.13	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	100	
	mmol/l	1.11	L/G Kinase EP. no correction
	mg/dl	98.2	
	mmol/l	1.11	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	98.2	
	mmol/l	1.13	Lipase/Glycerol Dehydrogenase
	mg/dl	100	
UIBC	µmol/l	27.5	Direct Colorimetric
	µg/dl	154	
Urea	mmol/l	7.23	Beckman-Conductivity
	mg/dl	43.5	
	mmol/l	7.30	Urease end point
	mg/dl	43.9	
	mmol/l	7.31	Urease kinetic
	mg/dl	43.9	
	mmol/l	7.34	Urease hypochlorite
	mg/dl	44.1	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	7.31	BUN
	mg/dl	20.5	
Uric Acid (Urate)	mmol/l	0.347	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.83	
	mmol/l	0.343	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	
	mmol/l	0.346	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.2	Bromocresol Green
	g/dl	4.32	
	g/l	44.9	Bromocresol Purple
	g/dl	4.49	
Alkaline Phosphatase	U/l	161	AMP optimised to IFCC 37°C
	U/l	161	AMP non-optimised 37°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
	U/l	37	Tris buffer SCE 37°C
Amylase Total	U/l	90	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	89	Beckman Coulter - blocked pNPG7 37°C
	U/l	90	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	33	Tris buffer without P5P 37°C
	U/l	32	Tris buffer SCE 37°C
Bicarbonate	mmol/l	15.1	Differential rate pH change
Bilirubin Direct	µmol/l	13.5	Diazo with Sulphanilic Acid
	mg/dl	0.791	
Bilirubin Total	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
Calcium	mmol/l	2.11	Ion selective electrode
	mg/dl	8.46	
	mmol/l	2.11	Arsenazo III
	mg/dl	8.46	
Chloride	mmol/l	95.4	ISE indirect
Cholesterol	mmol/l	3.90	Cholesterol Oxidase
	mg/dl	151	
Cholinesterase	U/l	5790	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	CK-NAC substrate start (DGKC) 37°C
	U/l	199	CK-NAC (IFCC) 37°C
	U/l	196	Monothioglycerol 37°C
	U/l	196	Creatinine phosphate substrate Start 37°C
Creatinine	µmol/l	120	Alkaline picrate no deproteinization
	mg/dl	1.35	
	µmol/l	119	Jaffe rate blanked
	mg/dl	1.35	
	µmol/l	120	IDMS traceable
	mg/dl	1.35	
gamma-GT	U/l	38	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	5.94	GOD/02-Beckman method
	mg/dl	107	

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Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.03	Hexokinase
	mg/dl	109	
	mmol/l	6.01	Oxygen electrode
	mg/dl	108	
	mmol/l	5.96	Glucose oxidase
	mg/dl	107	
Iron	µmol/l	17.8	Colorimetric without ppt.
	µg/dl	99.5	
Lactate	mmol/l	1.40	Colorimetric Lactate Oxidase
	mg/dl	12.6	
LD (LDH)	U/l	178	L->P 37°C
	U/l	540	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lithium	mmol/l	0.980	Spectrophotometric
	mg/dl	0.681	
Magnesium	mmol/l	0.927	Calmagite
	mg/dl	2.25	
Phosphate Inorganic	mmol/l	1.38	Phosphomolybdate UV
	mg/dl	4.28	
	mmol/l	1.35	Beckman PHOSm (365nm)
	mg/dl	4.19	
Potassium	mmol/l	3.85	ISE method - indirect
Protein Total	g/l	59.6	Biuret reaction CX4/5/7
	g/dl	5.96	
	g/l	58.8	Biuret reaction end point
	g/dl	5.88	
	g/l	57.1	Biuret reaction kinetic
	g/dl	5.71	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	44.5	Removal of excess free iron
	µg/dl	249	
	µmol/l	45.5	FE+UIBC(saturation with iron)
	µg/dl	254	
Triglycerides	mmol/l	1.15	Lipase/GPO-PAP no correction
	mg/dl	102	
	mmol/l	1.18	L/G Kinase EP. no correction
	mg/dl	104	
Urea	mmol/l	6.75	Beckman-Conductivity
	mg/dl	40.6	
	mmol/l	7.40	Urease kinetic
	mg/dl	44.5	
	mmol/l	7.40	BUN
	mg/dl	20.8	

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RANDOX

CALIBRATION SERUM - LEVEL 2 (CAL 2)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.321	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.39	
	mmol/l	0.322	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.41	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

BIOSYSTEMS A15 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.9	Bromocresol Green
	g/dl	4.19	
Alkaline Phosphatase	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
Bilirubin Total	µmol/l	26.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	
Calcium	mmol/l	2.31	Cresolphthalein complexone
	mg/dl	9.26	
	mmol/l	2.20	Arsenazo III
	mg/dl	8.82	
Cholesterol	mmol/l	4.11	Cholesterol Oxidase
	mg/dl	159	
Creatinine	µmol/l	135	Jaffe rate blanked
	mg/dl	1.52	
gamma-GT	U/l	50	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	31	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.33	Glucose oxidase
	mg/dl	114	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate UV
	mg/dl	4.50	
Protein Total	g/l	60.4	Biuret reaction end point
	g/dl	6.04	
Triglycerides	mmol/l	1.11	Lipase/GPO-PAP no correction
	mg/dl	98.2	
Urea	mmol/l	7.98	Urease end point
	mg/dl	48.0	
	mmol/l	7.08	Urease kinetic
	mg/dl	42.6	
	mmol/l	7.08	BUN
	mg/dl	19.9	
Uric Acid (Urate)	mmol/l	0.342	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.346	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

BIOSYSTEMS A25 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.4	Bromocresol Green
	g/dl	4.14	
Alkaline Phosphatase	U/l	155	AMP optimised to IFCC 37°C
	U/l	121	AMP optimised to IFCC 30°C
	U/l	99	AMP optimised to IFCC 25°C
AST (GOT)	U/l	40	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	19	Tris buffer without P5P 25°C
Cholesterol	mmol/l	4.16	Cholesterol Oxidase
	mg/dl	161	
CK Total	U/l	210	CK-NAC (IFCC) 37°C
	U/l	131	CK-NAC (IFCC) 30°C
	U/l	89	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	124	Alkaline picrate no deproteinization
	mg/dl	1.40	
gamma-GT	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.39	Glucose oxidase
	mg/dl	115	
Protein Total	g/l	59.1	Biuret reaction end point
	g/dl	5.91	
Triglycerides	mmol/l	1.12	Lipase/GPO-PAP no correction
	mg/dl	99.1	
Urea	mmol/l	7.16	Urease end point
	mg/dl	43.0	
	mmol/l	6.72	Urease kinetic
	mg/dl	40.4	
	mmol/l	6.72	BUN
	mg/dl	18.9	
Uric Acid (Urate)	mmol/l	0.367	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.17	
	mmol/l	0.365	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.13	
	mmol/l	0.405	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.80	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	42.5	Bromocresol Green
	g/dl	4.25	
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 Total	µmol/l	30.9	Diazo with Sulphanilic Acid
	mg/dl	1.81	
	µmol/l	23.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.35	
Calcium	mmol/l	2.17	Cresolphthalein complexone
	mg/dl	8.70	
	mmol/l	2.23	Arsenazo III
	mg/dl	8.94	
Chloride	mmol/l	98.1	Colorimetric
Cholesterol	mmol/l	4.10	Cholesterol Oxidase
	mg/dl	158	
Cholinesterase	U/l	5455	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	129	Alkaline picrate no deproteinization
	mg/dl	1.46	
	µmol/l	132	Jaffe rate blanked
	mg/dl	1.49	
gamma-GT	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.25	Glucose oxidase
	mg/dl	113	
Iron	µmol/l	17.7	Colorimetric without ppt.
	µg/dl	98.9	
LD (LDH)	U/l	373	P->L Scandinavian & Dutch 37°C
	U/l	269	P->L Scandinavian & Dutch 30°C
	U/l	189	P->L Scandinavian & Dutch 25°C
	U/l	415	P->L SFBC 37°C
	U/l	300	P->L SFBC 30°C
	U/l	210	P->L SFBC 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Magnesium	mmol/l	0.949	Xylidyl Blue
	mg/dl	2.31	
Phosphate Inorganic	mmol/l	1.48	Phosphomolybdate UV
	mg/dl	4.59	
Potassium	mmol/l	3.96	ISE method - direct
Protein Total	g/l	62.1	Biuret reaction end point
	g/dl	6.21	
Sodium	mmol/l	139	ISE method - direct
Triglycerides	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	
Urea	mmol/l	7.58	Urease kinetic
	mg/dl	45.6	
	mmol/l	7.58	BUN
	mg/dl	21.3	
Uric Acid (Urate)	mmol/l	0.343	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	
	mmol/l	0.337	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	
	mmol/l	0.349	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.86	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.7	Bromocresol Green
	g/dl	4.37	
	g/l	44.4	Bromocresol Purple
	g/dl	4.44	
	g/l	42.3	Turbidimetric Assays
	g/dl	4.23	
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	140	AMP optimised to IFCC 37°C
	U/l	109	AMP optimised to IFCC 30°C
	U/l	89	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	34	Tris buffer without P5P 37°C
	U/l	25	Tris buffer without P5P 30°C
	U/l	19	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	65	Roche EPS Liquid 37°C
Amylase Total	U/l	86	Roche Integra 2-chloro-pNPG7 37°C
	U/l	86	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	Tris buffer without P5P 37°C
	U/l	22	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.4	Enzymatic
Bilirubin Direct	µmol/l	18.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	
	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	18.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	
Bilirubin Total	µmol/l	24.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.46	
	µmol/l	24.4	Diazo with Sulphanilic Acid
	mg/dl	1.43	
	µmol/l	24.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.42	
	µmol/l	24.3	Diazonium ion
	mg/dl	1.42	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Calcium	mmol/l	2.14	Arsenazo III
	mg/dl	8.58	
	mmol/l	2.14	NM-BAPTA
	mg/dl	8.58	
Chloride	mmol/l	95.6	ISE indirect
Cholesterol	mmol/l	4.03	Cholesterol Oxidase
	mg/dl	156	
Cholinesterase	U/l	5527	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	181	CK-NAC serum start (DGKC) 37°C
	U/l	113	CK-NAC serum start (DGKC) 30°C
	U/l	77	CK-NAC serum start (DGKC) 25°C
	U/l	186	CK-NAC substrate start (DGKC) 37°C
	U/l	116	CK-NAC substrate start (DGKC) 30°C
	U/l	79	CK-NAC substrate start (DGKC) 25°C
	U/l	189	CK-NAC (IFCC) 37°C
	U/l	118	CK-NAC (IFCC) 30°C
	U/l	80	CK-NAC (IFCC) 25°C
	U/l	200	Creatinine phosphate substrate Start 37°C
	U/l	125	Creatinine phosphate substrate Start 30°C
	U/l	85	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	120	Alkaline picrate with deproteinization
	mg/dl	1.35	
	µmol/l	122	Alkaline picrate no deproteinization
	mg/dl	1.38	
	µmol/l	122	Enzymatic UV method
	mg/dl	1.38	
	µmol/l	123	Roche Creatinine Plus
	mg/dl	1.39	
	µmol/l	119	Jaffe rate blanked
	mg/dl	1.35	
	µmol/l	147	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.66	
	µmol/l	139	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.57	
gamma-GT	U/l	45	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.43	Glucose dehydrogenase
	mg/dl	116	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.26	Hexokinase
	mg/dl	113	
	mmol/l	6.34	Glucose oxidase
	mg/dl	114	
Iron	µmol/l	19.6	Colorimetric with ppt.
	µg/dl	110	
	µmol/l	19.3	Colorimetric without ppt.
	µg/dl	108	
Lactate	mmol/l	1.49	Colorimetric Lactate Oxidase
	mg/dl	13.4	
LD (LDH)	U/l	399	P->L German methods 37°C
	U/l	288	P->L German methods 30°C
	U/l	202	P->L German methods 25°C
	U/l	221	L->P IFCC 37°C
	U/l	160	L->P IFCC 30°C
	U/l	112	L->P IFCC 25°C
Lipase	U/l	34	Roche Colorimetric 37°C
Lithium	mmol/l	1.00	Ion selective electrode
	mg/dl	0.694	
Magnesium	mmol/l	0.956	Xylidyl Blue
	mg/dl	2.32	
	mmol/l	0.955	Chlorphosphonazo III
	mg/dl	2.32	
Phosphate Inorganic	mmol/l	1.39	Phosphomolybdate enzymatic
	mg/dl	4.31	
	mmol/l	1.41	Phosphomolybdate UV
	mg/dl	4.37	
Potassium	mmol/l	3.92	ISE method - indirect
Protein Total	g/l	56.8	Biuret reaction end point
	g/dl	5.68	
	g/l	56.0	Biuret reaction kinetic
	g/dl	5.60	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	43.1	FE+UIBC(saturation with iron)
	µg/dl	241	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	mmol/l	1.10	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	
	mmol/l	1.12	L/G Kinase EP. no correction
	mg/dl	99.1	
	mmol/l	1.08	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	95.6	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.11	Lipase/Glycerol Dehydrogenase
	mg/dl	98.2	
UIBC	µmol/l	23.6	Direct Colorimetric
	µg/dl	132	
Urea	mmol/l	6.83	Urease end point
	mg/dl	41.0	
	mmol/l	6.84	Urease kinetic
	mg/dl	41.1	
	mmol/l	6.84	BUN
	mg/dl	19.2	
Uric Acid (Urate)	mmol/l	0.339	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.70	
	mmol/l	0.342	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.339	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Elitech/Vitalab Selectra Series Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.1	Bromocresol Green
	g/dl	4.31	
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	20.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.20	
Bilirubin Total	µmol/l	26.2	Diazo with Sulphanilic Acid
	mg/dl	1.53	
Calcium	mmol/l	2.23	Arsenazo III
	mg/dl	8.94	
Cholesterol	mmol/l	4.12	Cholesterol Oxidase
	mg/dl	159	
Creatinine	µmol/l	120	Alkaline picrate no deproteinization
	mg/dl	1.35	
	µmol/l	118	Creatinine PAP method
	mg/dl	1.33	
	µmol/l	114	Jaffe rate blanked
	mg/dl	1.29	
gamma-GT	U/l	47	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.51	Glucose oxidase
	mg/dl	117	
LD (LDH)	U/l	226	L->P IFCC 37°C
Magnesium	mmol/l	0.912	Calmagite
	mg/dl	2.22	
Phosphate Inorganic	mmol/l	1.46	Phosphomolybdate UV
	mg/dl	4.53	
Protein Total	g/l	59.3	Biuret reaction end point
	g/dl	5.93	
Triglycerides	mmol/l	1.17	Lipase/GPO-PAP no correction
	mg/dl	104	
	mmol/l	1.13	L/G Kinase EP. no correction
	mg/dl	100	
Urea	mmol/l	7.25	Urease kinetic
	mg/dl	43.6	
	mmol/l	7.25	BUN
	mg/dl	20.3	
Uric Acid (Urate)	mmol/l	0.365	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.13	
	mmol/l	0.374	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.28	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	4.86	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	8.44	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	13.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	41.0	Bromocresol Green
	g/dl	4.10	
Alkaline Phosphatase	U/l	132	Roche Integra AMP buffer 37°C
	U/l	103	Roche Integra AMP buffer 30°C
	U/l	84	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
	U/l	176	Randox AMP 37°C
	U/l	137	Randox AMP 30°C
	U/l	112	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	61	Roche EPS Liquid 37°C
	U/l	75	Randox liquid pNPG7 37°C
Amylase Total	U/l	83	Roche liquid stable pNPG7 37°C
	U/l	92	Randox liquid 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
Bile Acids	µmol/l	23.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	18.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	
	µmol/l	18.7	Diazo with Sulphanilic Acid
	mg/dl	1.09	
	µmol/l	19.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.15	
Bilirubin Total	µmol/l	27.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.62	
	µmol/l	27.2	Diazo with Sulphanilic Acid
	mg/dl	1.59	
	µmol/l	26.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	
	µmol/l	25.5	Diazonium ion
	mg/dl	1.49	

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RANDOX

CALIBRATION SERUM - LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Calcium	mmol/l	2.17	Cresolphthalein complexone
	mg/dl	8.70	
	mmol/l	2.28	Arsenazo III
	mg/dl	9.14	
Chloride	mmol/l	94.6	Colorimetric
	mmol/l	91.9	ISE indirect
Cholesterol	mmol/l	4.07	Cholesterol Oxidase
	mg/dl	157	
Cholinesterase	U/l	5544	Colorimetric Butyrylthiocholine 37°C
CK Total	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	136	Alkaline picrate with deproteinization
	mg/dl	1.54	
	µmol/l	126	Alkaline picrate no deproteinization
	mg/dl	1.43	
	µmol/l	142	Creatinine PAP method
	mg/dl	1.61	
	µmol/l	133	Jaffe rate blanked
	mg/dl	1.50	
	µmol/l	149	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.68	
gamma-GT	U/l	46	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	47	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	37	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	29	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	51	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	6.30	Hexokinase
	mg/dl	114	
	mmol/l	6.27	Glucose oxidase
	mg/dl	113	
Iron	µmol/l	19.0	Colorimetric without ppt.
	µg/dl	106	
LD (LDH)	U/l	416	P->L German methods 37°C
	U/l	300	P->L German methods 30°C
	U/l	211	P->L German methods 25°C
	U/l	216	L->P IFCC 37°C
	U/l	156	L->P IFCC 30°C
	U/l	110	L->P IFCC 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lipase	U/l	32	Roche Colorimetric 37°C
Magnesium	mmol/l	0.936	Xylidyl Blue
	mg/dl	2.27	
Phosphate Inorganic	mmol/l	1.41	Phosphomolybdate UV
	mg/dl	4.37	
Potassium	mmol/l	4.03	ISE method - indirect
Protein Total	g/l	58.7	Biuret reaction end point
	g/dl	5.87	
Sodium	mmol/l	145	ISE method - indirect
Triglycerides	mmol/l	1.12	Lipase/GPO-PAP no correction
	mg/dl	99.1	
	mmol/l	1.14	L/G Kinase EP. no correction
	mg/dl	101	
	mmol/l	1.06	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	93.8	
Urea	mmol/l	7.53	Urease end point
	mg/dl	45.3	
	mmol/l	7.48	Urease kinetic
	mg/dl	45.0	
	mmol/l	7.48	BUN
	mg/dl	21.0	
Uric Acid (Urate)	mmol/l	0.350	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	
	mmol/l	0.337	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	
	mmol/l	0.342	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.75	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.0	Bromocresol Green
	g/dl	4.10	
Alkaline Phosphatase	U/l	245	Diethanolamine buffer DEA 37°C
	U/l	191	Diethanolamine buffer DEA 30°C
	U/l	157	Diethanolamine buffer DEA 25°C
	U/l	170	AMP optimised to IFCC 37°C
	U/l	132	AMP optimised to IFCC 30°C
	U/l	109	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 Total	U/l	87	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	13.0	Diazo with Sulphanilic Acid
	mg/dl	0.761	
Bilirubin Total	µmol/l	28.2	Diazo with Sulphanilic Acid
	mg/dl	1.65	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
Chloride	mmol/l	93.3	ISE indirect
Cholesterol	mmol/l	4.03	Cholesterol Oxidase
	mg/dl	156	
Cholinesterase	U/l	5786	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	176	CK-NAC (IFCC) 37°C
	U/l	110	CK-NAC (IFCC) 30°C
	U/l	75	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	120	Alkaline picrate no deproteinization
	mg/dl	1.36	
	µmol/l	126	Enzymatic UV method
	mg/dl	1.42	
	µmol/l	121	Jaffe rate blanked
	mg/dl	1.37	
	µmol/l	157	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.77	
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
gamma-GT	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.35	Hexokinase
	mg/dl	114	
	mmol/l	6.19	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	19.2	Colorimetric without ppt.
	µg/dl	107	
LD (LDH)	U/l	412	P->L German methods 37°C
	U/l	297	P->L German methods 30°C
	U/l	209	P->L German methods 25°C
Magnesium	mmol/l	0.948	Xylidyl Blue
	mg/dl	2.30	
	mmol/l	0.949	Enzymatic
	mg/dl	2.31	
Phosphate Inorganic	mmol/l	1.36	Phosphomolybdate UV
	mg/dl	4.22	
Potassium	mmol/l	4.00	ISE method - indirect
Protein Total	g/l	59.5	Biuret reaction end point
	g/dl	5.95	
Sodium	mmol/l	144	ISE method - indirect
Triglycerides	mmol/l	1.12	Lipase/GPO-PAP no correction
	mg/dl	99.1	
	mmol/l	1.12	L/G Kinase EP. no correction
	mg/dl	99.1	
Urea	mmol/l	7.29	Urease end point
	mg/dl	43.8	
	mmol/l	7.24	Urease kinetic
	mg/dl	43.5	
	mmol/l	7.29	BUN
	mg/dl	20.5	
Uric Acid (Urate)	mmol/l	0.333	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.59	
	mmol/l	0.316	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.31	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	40.5	Bromocresol Green
	g/dl	4.05	
Alkaline Phosphatase	U/l	155	AMP optimised to IFCC 37°C
	U/l	121	AMP optimised to IFCC 30°C
	U/l	99	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	41	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 Direct	µmol/l	17.9	Diazo with Sulphanilic Acid
	mg/dl	1.05	
Bilirubin Total	µmol/l	23.3	Nitrobenzenediazonium salt
	mg/dl	1.37	
Calcium	mmol/l	2.20	Arsenazo III
	mg/dl	8.82	
Chloride	mmol/l	99.7	Colorimetric
	mmol/l	99.3	ISE direct
Cholesterol	mmol/l	3.95	Cholesterol Oxidase
	mg/dl	152	
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	125	Alkaline picrate no deproteinization
	mg/dl	1.41	
	µmol/l	124	Enzymatic UV method
	mg/dl	1.40	
	µmol/l	155	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.75	
gamma-GT	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.43	Hexokinase
	mg/dl	116	
	mmol/l	6.16	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	20.2	Colorimetric without ppt.
	µg/dl	113	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
LD (LDH)	U/l	415	P->L SFBC 37°C
	U/l	300	P->L SFBC 30°C
	U/l	210	P->L SFBC 25°C
	U/l	232	L->P IFCC 37°C
	U/l	168	L->P IFCC 30°C
	U/l	118	L->P IFCC 25°C
Magnesium	mmol/l	0.916	Xylidyl Blue
	mg/dl	2.23	
Phosphate Inorganic	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Potassium	mmol/l	3.78	ISE method - direct
Protein Total	g/l	59.6	Biuret reaction end point
	g/dl	5.96	
Sodium	mmol/l	139	ISE method - direct
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
Urea	mmol/l	7.17	Urease end point
	mg/dl	43.1	
	mmol/l	7.08	Urease kinetic
	mg/dl	42.6	
	mmol/l	7.08	BUN
	mg/dl	19.9	
Uric Acid (Urate)	mmol/l	0.352	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.357	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.00	
	mmol/l	0.355	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.96	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	4.86	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	8.44	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	13.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	41.6	Bromocresol Green
	g/dl	4.16	
	g/l	43.6	Bromocresol Purple
	g/dl	4.36	
	g/l	42.1	Turbidimetric Assays
	g/dl	4.21	
Alkaline Phosphatase	U/l	235	Diethanolamine buffer DEA 37°C
	U/l	183	Diethanolamine buffer DEA 30°C
	U/l	150	Diethanolamine buffer DEA 25°C
	U/l	170	AMP optimised to IFCC 37°C
	U/l	132	AMP optimised to IFCC 30°C
	U/l	109	AMP optimised to IFCC 25°C
	U/l	168	AMP non-optimised 37°C
	U/l	131	AMP non-optimised 30°C
	U/l	107	AMP non-optimised 25°C
ALT (GPT)	U/l	47	Tris buffer with P5P 37°C
	U/l	35	Tris buffer with P5P 30°C
	U/l	26	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	36	Tris buffer SCE 37°C
	U/l	27	Tris buffer SCE 30°C
	U/l	20	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	66	Immunoinhibition EPS substrate 37°C
	U/l	63	Roche EPS Liquid 37°C
	U/l	75	Randox liquid pNPG7 37°C
Amylase Total	U/l	85	pNP Maltotrioside substrates 37°C
	U/l	86	Siemens - blocked pNPG7 37°C
	U/l	82	bioMerieux - blocked pNPG7 37°C
	U/l	70	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	92	Randox Liquid Ethylidene pNPG7 37°C
	U/l	88	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	88	Siemens - maltopenta/hexaoside 37°C
	U/l	76	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	86	Roche Integra 2-chloro-pNPG7 37°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Amylase Total	U/l	84	Other Roche 2-chloro-pNPG7 37°C
	U/l	84	Roche liquid stable pNPG7 37°C
	U/l	94	Siemens 2-chloro-pNPG3 37°C
	U/l	80	bioMerieux 2-chloro-pNPG3 37°C
	U/l	87	Beckman Coulter - blocked pNPG7 37°C
	U/l	90	Beckman Synchron AMY7 37°C
	U/l	80	Agappe - CNPG3 37°C
	U/l	88	I.L. 2-chloro-pNPG3 37°C
	U/l	98	Abbott Architect IFCC Cal. 37°C
	U/l	93	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	53	Tris buffer with P5P 37°C
	U/l	36	Tris buffer with P5P 30°C
	U/l	25	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	35	Tris buffer SCE 37°C
	U/l	24	Tris buffer SCE 30°C
	U/l	17	Tris buffer SCE 25°C
Bicarbonate	mmol/l	16.1	Colorimetric
	mmol/l	15.2	Differential rate pH change
	mmol/l	15.9	Enzymatic
Bile Acids	µmol/l	27.4	4th Generation Colorimetric
	µmol/l	23.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	19.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	
	µmol/l	21.3	Diazo with Sulphanilic Acid
	mg/dl	1.25	
	µmol/l	19.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.13	
	µmol/l	17.0	Oxidation to Biliverdin/Vanadate
	mg/dl	0.995	
	µmol/l	16.1	Modified Jendrassik
	mg/dl	0.940	
Bilirubin Total	µmol/l	32.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.91	
	µmol/l	28.0	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	27.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	
	µmol/l	24.3	Nitrobenzenediazonium salt
	mg/dl	1.42	
	µmol/l	24.8	Diazonium ion
	mg/dl	1.45	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	27.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	
	µmol/l	32.8	Modified Jendrassik
	mg/dl	1.92	
Calcium	mmol/l	2.14	Cresolphthalein complexone
	mg/dl	8.58	
	mmol/l	2.12	Ion selective electrode
	mg/dl	8.50	
	mmol/l	2.13	Methylthymol blue
	mg/dl	8.54	
	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
	mmol/l	2.15	Phosphonazo
	mg/dl	8.62	
	mmol/l	2.15	NM-BAPTA
	mg/dl	8.62	
Chloride	mmol/l	97.9	Colorimetric
	mmol/l	94.1	ISE indirect
	mmol/l	96.3	ISE direct
	mmol/l	108	Optical Fluorescence
Cholesterol	mmol/l	4.06	Cholesterol Oxidase
	mg/dl	157	
	mmol/l	4.10	Cholesterol Dehydrogenase
	mg/dl	158	
Cholinesterase	U/l	5561	Colorimetric Benzoylcholine 37°C
	U/l	5638	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	194	CK-NAC serum start (DGKC) 37°C
	U/l	121	CK-NAC serum start (DGKC) 30°C
	U/l	82	CK-NAC serum start (DGKC) 25°C
	U/l	189	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	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C
	U/l	196	Monothioglycerol 37°C
	U/l	123	Monothioglycerol 30°C
	U/l	83	Monothioglycerol 25°C
	U/l	186	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	116	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	79	Dithioerythritol (DTE) IFCC correlated 25°C
	U/l	192	Creatinine phosphate substrate Start 37°C
	U/l	120	Creatinine phosphate substrate Start 30°C
	U/l	82	Creatinine phosphate substrate Start 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Copper	µmol/l	15.7	Atomic absorption
	µg/dl	99.8	
	µmol/l	15.6	Colorimetric
	µg/dl	99.2	
Creatinine	µmol/l	126	Alkaline picrate with deproteinization
	mg/dl	1.42	
	µmol/l	125	Alkaline picrate no deproteinization
	mg/dl	1.42	
	µmol/l	124	Enzymatic UV method
	mg/dl	1.40	
	µmol/l	121	Creatinine PAP method
	mg/dl	1.37	
	µmol/l	125	Jaffe rate blanked
	mg/dl	1.42	
	µmol/l	151	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.71	
	µmol/l	136	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.54	
	µmol/l	122	IDMS traceable
	mg/dl	1.38	
gamma-GT	U/l	46	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	43	Gamma glutamyl-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl-4-nitroanilide 25°C
	U/l	49	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	51	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	40	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	14	Triethanolamine buffer 50 mmol 37°C
	U/l	11	Triethanolamine buffer 50 mmol 30°C
	U/l	9	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	6.35	Glucose dehydrogenase
	mg/dl	114	
	mmol/l	6.21	Hexokinase
	mg/dl	112	
	mmol/l	5.99	Oxygen electrode
	mg/dl	108	

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RANDOX

CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.23	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	18.7	Colorimetric with ppt.
	µg/dl	105	
	µmol/l	19.1	Colorimetric without ppt.
	µg/dl	107	
Lactate	mmol/l	1.43	Colorimetric Lactate Oxidase
	mg/dl	12.9	
	mmol/l	1.44	Enzymatic Electrode
	mg/dl	13.0	
	mmol/l	1.42	UV LDH
	mg/dl	12.8	
LAP	U/l	16	NAGEL 37°C
LD (LDH)	U/l	198	L->P 37°C
	U/l	143	L->P 30°C
	U/l	100	L->P 25°C
	U/l	413	P->L Scandinavian & Dutch 37°C
	U/l	298	P->L Scandinavian & Dutch 30°C
	U/l	209	P->L Scandinavian & Dutch 25°C
	U/l	410	P->L German methods 37°C
	U/l	296	P->L German methods 30°C
	U/l	208	P->L German methods 25°C
	U/l	402	P->L SFBC 37°C
	U/l	290	P->L SFBC 30°C
	U/l	204	P->L SFBC 25°C
	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	37	Other Colorimetric 37°C
	U/l	31	Roche Colorimetric 37°C
	U/l	40	Randox Colorimetric 37°C
Lithium	mmol/l	1.05	Flame photometry
	mg/dl	0.730	
	mmol/l	1.02	Ion selective electrode
	mg/dl	0.710	
	mmol/l	1.04	Spectrophotometric
	mg/dl	0.722	
Magnesium	mmol/l	0.920	Arsenazo III
	mg/dl	2.24	
	mmol/l	0.922	Atomic absorption
	mg/dl	2.24	
	mmol/l	0.922	Calmagite
	mg/dl	2.24	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Magnesium	mmol/l	0.947	Xylidyl Blue
	mg/dl	2.30	
	mmol/l	0.916	Methylthymol blue
	mg/dl	2.23	
	mmol/l	0.948	Chlorphosphonazo III
	mg/dl	2.30	
	mmol/l	0.902	Enzymatic
	mg/dl	2.19	
Osmolality	mOsm/kg	294	Calculated
	mOsm/kg	306	Freezing point depression
Phosphate Inorganic	mmol/l	1.38	Phosphomolybdate enzymatic
	mg/dl	4.28	
	mmol/l	1.38	Phosphomolybdate UV
	mg/dl	4.28	
Potassium	mmol/l	3.83	Enzymatic
	mmol/l	3.91	Flame photometry
	mmol/l	3.89	ISE method - direct
	mmol/l	3.95	ISE method - indirect
	mmol/l	3.86	Optical Fluorescence
	mmol/l	3.78	Colorimetric
Protein Total	g/l	59.4	Biuret reaction end point
	g/dl	5.94	
	g/l	58.5	Biuret reaction kinetic
	g/dl	5.85	
Sodium	mmol/l	145	Enzymatic
	mmol/l	142	Flame photometry
	mmol/l	141	ISE method - direct
	mmol/l	144	ISE method - indirect
	mmol/l	137	Optical Fluorescence
	mmol/l	139	Colorimetric
TIBC	µmol/l	41.6	Removal of excess free iron
	µg/dl	233	
	µmol/l	43.7	FE+UIBC(saturation with iron)
	µg/dl	244	
	µmol/l	41.0	Direct Colorimetric
	µg/dl	229	
	µmol/l	50.9	Randox Direct
	µg/dl	285	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	mmol/l	1.10	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	
	mmol/l	1.09	L/G Kinase EP. no correction
	mg/dl	96.5	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MEAN OF ALL INSTRUMENTS Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.11	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	98.2	
	mmol/l	1.09	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	
Urea	mmol/l	7.22	Urease end point
	mg/dl	43.4	
	mmol/l	7.21	Urease kinetic
	mg/dl	43.3	
	mmol/l	7.36	Urease hypochlorite
	mg/dl	44.2	
	mmol/l	7.21	BUN
	mg/dl	20.2	
Uric Acid (Urate)	mmol/l	0.338	Uricase catalase 340nm
	mg/dl	5.68	
	mmol/l	0.342	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.75	
	mmol/l	0.337	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	
	mmol/l	0.334	Spectrophotometric at 280-290
	mg/dl	5.61	
	mmol/l	0.337	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.66	
Zinc	µmol/l	23.5	Colorimetric with deproteinisation
	µg/dl	153	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.8	Bromocresol Green
	g/dl	4.18	
Alkaline Phosphatase	U/l	242	Diethanolamine buffer DEA 37°C
	U/l	189	Diethanolamine buffer DEA 30°C
	U/l	155	Diethanolamine buffer DEA 25°C
	U/l	169	AMP optimised to IFCC 37°C
	U/l	132	AMP optimised to IFCC 30°C
	U/l	108	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	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
Bicarbonate	mmol/l	16.4	Enzymatic
Bilirubin Total	µmol/l	27.6	Diazo with Sulphanilic Acid
	mg/dl	1.61	
Calcium	mmol/l	2.22	Cresolphthalein complexone
	mg/dl	8.90	
	mmol/l	2.22	Arsenazo III
	mg/dl	8.90	
Chloride	mmol/l	96.2	ISE direct
Cholesterol	mmol/l	4.05	Cholesterol Oxidase
	mg/dl	156	
CK Total	U/l	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	133	Alkaline picrate with deproteinization
	mg/dl	1.50	
	µmol/l	124	Alkaline picrate no deproteinization
	mg/dl	1.40	
	µmol/l	125	Enzymatic UV method
	mg/dl	1.41	
	µmol/l	125	Creatinine PAP method
	mg/dl	1.42	
	µmol/l	121	Jaffe rate blanked
	mg/dl	1.37	
	µmol/l	160	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.81	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
gamma-GT	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.48	Glucose dehydrogenase
	mg/dl	117	
	mmol/l	6.09	Hexokinase
	mg/dl	110	
	mmol/l	6.28	Glucose oxidase
	mg/dl	113	
Iron	µmol/l	18.3	Colorimetric without ppt.
	µg/dl	102	
Lactate	mmol/l	1.39	Colorimetric Lactate Oxidase
	mg/dl	12.5	
LD (LDH)	U/l	417	P->L Scandinavian & Dutch 37°C
	U/l	301	P->L Scandinavian & Dutch 30°C
	U/l	211	P->L Scandinavian & Dutch 25°C
	U/l	415	P->L SFBC 37°C
	U/l	300	P->L SFBC 30°C
	U/l	210	P->L SFBC 25°C
	U/l	213	L->P IFCC 37°C
	U/l	154	L->P IFCC 30°C
	U/l	108	L->P IFCC 25°C
Magnesium	mmol/l	0.948	Xylidyl Blue
	mg/dl	2.30	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate enzymatic
	mg/dl	4.43	
	mmol/l	1.40	Phosphomolybdate UV
	mg/dl	4.34	
Potassium	mmol/l	3.81	ISE method - direct
Protein Total	g/l	59.9	Biuret reaction end point
	g/dl	5.99	
Sodium	mmol/l	141	ISE method - direct
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	mmol/l	1.12	L/G Kinase EP. no correction
	mg/dl	99.1	
	mmol/l	1.08	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	
Urea	mmol/l	7.05	Urease end point
	mg/dl	42.4	
	mmol/l	7.31	Urease kinetic
	mg/dl	43.9	
	mmol/l	7.31	BUN
	mg/dl	20.5	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.343	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.76	
	mmol/l	0.345	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.80	
	mmol/l	0.329	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.53	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

PRESTIGE 24i Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	41.1	Bromocresol Green
	g/dl	4.11	
Alkaline Phosphatase	U/l	240	Diethanolamine buffer DEA 37°C
	U/l	187	Diethanolamine buffer DEA 30°C
	U/l	153	Diethanolamine buffer DEA 25°C
	U/l	168	AMP optimised to IFCC 37°C
	U/l	131	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
Amylase Total	U/l	93	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	19.8	Diazo with Sulphanilic Acid
	mg/dl	1.16	
	µmol/l	18.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	
	µmol/l	17.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.04	
Bilirubin Total	µmol/l	27.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.59	
	µmol/l	29.8	Diazo with Sulphanilic Acid
	mg/dl	1.74	
	µmol/l	28.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.68	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
	mmol/l	2.19	Arsenazo III
	mg/dl	8.78	
Chloride	mmol/l	99.2	Colorimetric
Cholesterol	mmol/l	4.22	Cholesterol Oxidase
	mg/dl	163	
CK Total	U/l	199	CK-NAC serum start (DGKC) 37°C
	U/l	125	CK-NAC serum start (DGKC) 30°C
	U/l	85	CK-NAC serum start (DGKC) 25°C
	U/l	198	CK-NAC (IFCC) 37°C
	U/l	124	CK-NAC (IFCC) 30°C
	U/l	84	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

PRESTIGE 24i Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	128	Alkaline picrate no deproteinization
	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	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	6.38	Glucose oxidase
	mg/dl	115	
Iron	µmol/l	19.8	Colorimetric without ppt.
	µg/dl	111	
LD (LDH)	U/l	394	P->L German methods 37°C
	U/l	284	P->L German methods 30°C
	U/l	200	P->L German methods 25°C
Magnesium	mmol/l	0.935	Xylidyl Blue
	mg/dl	2.27	
Protein Total	g/l	60.4	Biuret reaction end point
	g/dl	6.04	
Triglycerides	mmol/l	1.11	Lipase/GPO-PAP no correction
	mg/dl	98.2	
Urea	mmol/l	7.28	Urease kinetic
	mg/dl	43.8	
	mmol/l	7.28	BUN
	mg/dl	20.4	
Uric Acid (Urate)	mmol/l	0.349	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	
	mmol/l	0.338	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	
	mmol/l	0.347	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.3	Bromocresol Green
	g/dl	4.33	
	g/l	43.5	Bromocresol Purple
	g/dl	4.35	
	g/l	41.7	Turbidimetric Assays
	g/dl	4.17	
Alkaline Phosphatase	U/l	138	Roche Integra AMP buffer 37°C
	U/l	108	Roche Integra AMP buffer 30°C
	U/l	88	Roche Integra AMP buffer 25°C
	U/l	137	AMP optimised to IFCC 37°C
	U/l	107	AMP optimised to IFCC 30°C
	U/l	88	AMP optimised to IFCC 25°C
	U/l	135	Colorimetric 37°C
	U/l	105	Colorimetric 30°C
	U/l	86	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	62	Immunoinhibition EPS substrate 37°C
	U/l	63	Roche EPS Liquid 37°C
Amylase Total	U/l	82	Randox Liquid Ethylidene pNPG7 37°C
	U/l	83	Roche Integra 2-chloro-pNPG7 37°C
	U/l	84	Other Roche 2-chloro-pNPG7 37°C
	U/l	84	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	Tris buffer without P5P 37°C
	U/l	22	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.1	Colorimetric
	mmol/l	15.7	Enzymatic
Bile Acids	µmol/l	23.9	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	19.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.11	
	µmol/l	19.2	Diazo with Sulphanilic Acid
	mg/dl	1.12	
	µmol/l	18.7	Roche JG factored
	mg/dl	1.09	
	µmol/l	19.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.11	
Bilirubin Total	µmol/l	26.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	24.6	Diazo with Sulphanilic Acid
	mg/dl	1.44	
	µmol/l	24.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.45	
	µmol/l	24.6	Diazonium ion
	mg/dl	1.44	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.16	Arsenazo III
	mg/dl	8.66	
	mmol/l	2.15	NM-BAPTA
	mg/dl	8.62	
Chloride	mmol/l	90.3	ISE indirect
Cholesterol	mmol/l	3.99	Cholesterol Oxidase
	mg/dl	154	
Cholinesterase	U/l	5561	Colorimetric Benzoylcholine 37°C
	U/l	5490	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	181	CK-NAC serum start (DGKC) 37°C
	U/l	113	CK-NAC serum start (DGKC) 30°C
	U/l	77	CK-NAC serum start (DGKC) 25°C
	U/l	184	CK-NAC substrate start (DGKC) 37°C
	U/l	115	CK-NAC substrate start (DGKC) 30°C
	U/l	78	CK-NAC substrate start (DGKC) 25°C
	U/l	186	CK-NAC (IFCC) 37°C
	U/l	116	CK-NAC (IFCC) 30°C
	U/l	79	CK-NAC (IFCC) 25°C
	U/l	193	Creatinine phosphate substrate Start 37°C
	U/l	121	Creatinine phosphate substrate Start 30°C
	U/l	82	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	124	Alkaline picrate no deproteinization
	mg/dl	1.41	
	µmol/l	126	Enzymatic UV method
	mg/dl	1.43	
	µmol/l	125	Roche Creatinine Plus
	mg/dl	1.42	
	µmol/l	124	Jaffe rate blanked
	mg/dl	1.40	
	µmol/l	151	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.71	
	µmol/l	142	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.60	
	µmol/l	125	IDMS traceable
	mg/dl	1.41	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
gamma-GT	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	Gamma glutamyl-4-nitroanilide 37°C
	U/l	40	Gamma glutamyl-4-nitroanilide 30°C
	U/l	31	Gamma glutamyl-4-nitroanilide 25°C
	U/l	49	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.14	Glucose dehydrogenase
	mg/dl	111	
	mmol/l	6.17	Hexokinase
	mg/dl	111	
	mmol/l	6.18	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	19.1	Colorimetric with ppt.
	µg/dl	107	
	µmol/l	19.2	Colorimetric without ppt.
	µg/dl	107	
Lactate	mmol/l	1.41	Colorimetric Lactate Oxidase
	mg/dl	12.7	
LD (LDH)	U/l	216	L->P 37°C
	U/l	156	L->P 30°C
	U/l	110	L->P 25°C
	U/l	413	P->L Scandinavian & Dutch 37°C
	U/l	298	P->L Scandinavian & Dutch 30°C
	U/l	209	P->L Scandinavian & Dutch 25°C
	U/l	407	P->L German methods 37°C
	U/l	294	P->L German methods 30°C
	U/l	206	P->L German methods 25°C
	U/l	214	L->P IFCC 37°C
	U/l	155	L->P IFCC 30°C
	U/l	108	L->P IFCC 25°C
Lipase	U/l	31	Other Colorimetric 37°C
	U/l	31	Roche Colorimetric 37°C
	U/l	31	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.04	Ion selective electrode
	mg/dl	0.723	
	mmol/l	1.04	Spectrophotometric
	mg/dl	0.723	
Magnesium	mmol/l	0.914	Arsenazo III
	mg/dl	2.22	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Magnesium	mmol/l	0.913	Atomic absorption
	mg/dl	2.22	
	mmol/l	0.943	Xylidyl Blue
	mg/dl	2.29	
	mmol/l	0.945	Chlorphosphonazo III
	mg/dl	2.30	
Phosphate Inorganic	mmol/l	1.37	Phosphomolybdate enzymatic
	mg/dl	4.25	
	mmol/l	1.37	Phosphomolybdate UV
	mg/dl	4.25	
Potassium	mmol/l	4.00	ISE method - indirect
Protein Total	g/l	58.9	Biuret reaction end point
	g/dl	5.89	
	g/l	58.7	Biuret reaction kinetic
	g/dl	5.87	
Sodium	mmol/l	145	ISE method - indirect
TIBC	µmol/l	42.5	FE+UIBC(saturation with iron)
	µg/dl	237	
	µmol/l	44.5	Calculated from Transferrin
	µg/dl	249	
Triglycerides	mmol/l	1.10	Lipase/GPO-PAP no correction
	mg/dl	97.4	
	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	
	mmol/l	1.15	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	102	
	mmol/l	1.10	Lipase/Glycerol Dehydrogenase
	mg/dl	97.4	
UIBC	µmol/l	23.1	Direct Colorimetric
	µg/dl	129	
Urea	mmol/l	7.07	Urease end point
	mg/dl	42.5	
	mmol/l	7.05	Urease kinetic
	mg/dl	42.4	
	mmol/l	7.05	BUN
	mg/dl	19.8	
Uric Acid (Urate)	mmol/l	0.328	Uricase catalase 340nm
	mg/dl	5.51	
	mmol/l	0.331	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.56	
	mmol/l	0.331	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.56	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas 6000 c501 e601 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.331	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.56	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.4	Bromocresol Green
	g/dl	4.34	
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
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 Total	U/l	86	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	Tris buffer without P5P 37°C
	U/l	22	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.07	
	µmol/l	17.1	Diazo with Sulphanilic Acid
	mg/dl	1.00	
	µmol/l	18.7	Roche JG factored
	mg/dl	1.10	
	µmol/l	18.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.06	
Bilirubin Total	µmol/l	23.6	Diazo with Sulphanilic Acid
	mg/dl	1.38	
	µmol/l	24.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.44	
	µmol/l	24.3	Diazonium ion
	mg/dl	1.42	
Calcium	mmol/l	2.18	Cresolphthalein complexone
	mg/dl	8.74	
	mmol/l	2.21	NM-BAPTA
	mg/dl	8.86	
Chloride	mmol/l	96.8	ISE indirect
Cholesterol	mmol/l	4.06	Cholesterol Oxidase
	mg/dl	157	
CK Total	U/l	186	CK-NAC (IFCC) 37°C
	U/l	116	CK-NAC (IFCC) 30°C
	U/l	79	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	126	Alkaline picrate no deproteinization
	mg/dl	1.42	
	µmol/l	119	Roche Creatinine Plus
	mg/dl	1.34	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	116	Jaffe rate blanked
	mg/dl	1.32	
	µmol/l	152	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.72	
	µmol/l	141	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.59	
gamma-GT	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.29	Hexokinase
	mg/dl	113	
Iron	µmol/l	19.7	Colorimetric without ppt.
	µg/dl	110	
LD (LDH)	U/l	220	L->P IFCC 37°C
	U/l	159	L->P IFCC 30°C
	U/l	112	L->P IFCC 25°C
Lipase	U/l	32	Roche Colorimetric 37°C
Magnesium	mmol/l	0.933	Chlorphosphonazo III
	mg/dl	2.27	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate UV
	mg/dl	4.43	
Potassium	mmol/l	3.98	ISE method - indirect
Protein Total	g/l	60.6	Biuret reaction end point
	g/dl	6.06	
Sodium	mmol/l	143	ISE method - indirect
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.12	L/G Kinase EP. no correction
	mg/dl	99.1	
Urea	mmol/l	6.85	Urease kinetic
	mg/dl	41.2	
	mmol/l	6.85	BUN
	mg/dl	19.2	
Uric Acid (Urate)	mmol/l	0.337	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.66	
	mmol/l	0.338	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	
	mmol/l	0.338	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.3	Bromocresol Green
	g/dl	4.33	
	g/l	43.3	Bromocresol Purple
	g/dl	4.33	
Alkaline Phosphatase	U/l	136	Roche Integra AMP buffer 37°C
	U/l	106	Roche Integra AMP buffer 30°C
	U/l	87	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 Pancreatic	U/l	64	Roche EPS Liquid 37°C
Amylase Total	U/l	85	Roche Integra 2-chloro-pNPG7 37°C
	U/l	85	Other Roche 2-chloro-pNPG7 37°C
	U/l	85	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	14.8	Enzymatic
Bilirubin Direct	µmol/l	19.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.12	
	µmol/l	19.3	Diazo with Sulphanilic Acid
	mg/dl	1.13	
	µmol/l	19.1	Roche JG factored
	mg/dl	1.12	
Bilirubin Total	µmol/l	24.5	Diazo with Sulphanilic Acid
	mg/dl	1.44	
	µmol/l	24.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.45	
	µmol/l	25.3	Diazonium ion
	mg/dl	1.48	
Calcium	mmol/l	2.17	Cresolphthalein complexone
	mg/dl	8.70	
	mmol/l	2.15	Arsenazo III
	mg/dl	8.62	
	mmol/l	2.16	NM-BAPTA
	mg/dl	8.66	
Chloride	mmol/l	90.1	ISE indirect
Cholesterol	mmol/l	4.03	Cholesterol Oxidase
	mg/dl	156	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Cholinesterase	U/l	5452	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	CK-NAC substrate start (DGKC) 37°C
	U/l	120	CK-NAC substrate start (DGKC) 30°C
	U/l	82	CK-NAC substrate start (DGKC) 25°C
	U/l	189	CK-NAC (IFCC) 37°C
	U/l	118	CK-NAC (IFCC) 30°C
	U/l	80	CK-NAC (IFCC) 25°C
	U/l	193	Creatinine phosphate substrate Start 37°C
	U/l	121	Creatinine phosphate substrate Start 30°C
	U/l	82	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	127	Alkaline picrate no deproteinization
	mg/dl	1.43	
	µmol/l	128	Roche Creatinine Plus
	mg/dl	1.44	
	µmol/l	125	Jaffe rate blanked
	mg/dl	1.42	
	µmol/l	152	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.72	
	µmol/l	143	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.62	
gamma-GT	U/l	45	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	49	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	Hexokinase
	mg/dl	112	
	mmol/l	6.20	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	19.1	Colorimetric with ppt.
	µg/dl	107	
	µmol/l	19.0	Colorimetric without ppt.
	µg/dl	106	
Lactate	mmol/l	1.41	Colorimetric Lactate Oxidase
	mg/dl	12.7	
LD (LDH)	U/l	213	L->P 37°C
	U/l	154	L->P 30°C
	U/l	108	L->P 25°C
	U/l	407	P->L German methods 37°C
	U/l	294	P->L German methods 30°C
	U/l	206	P->L German methods 25°C
	U/l	212	L->P IFCC 37°C
	U/l	153	L->P IFCC 30°C
	U/l	107	L->P IFCC 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Lipase	U/l	30	Roche Colorimetric 37°C
	U/l	30	Roche Turbidimetric with colipase 37°C
Magnesium	mmol/l	0.933	Atomic absorption
	mg/dl	2.27	
	mmol/l	0.943	Xylidyl Blue
	mg/dl	2.29	
	mmol/l	0.939	Chlorphosphonazo III
	mg/dl	2.28	
Phosphate Inorganic	mmol/l	1.39	Phosphomolybdate enzymatic
	mg/dl	4.31	
	mmol/l	1.38	Phosphomolybdate UV
	mg/dl	4.28	
Potassium	mmol/l	4.00	ISE method - indirect
Protein Total	g/l	59.3	Biuret reaction end point
	g/dl	5.93	
	g/l	58.2	Biuret reaction kinetic
	g/dl	5.82	
Sodium	mmol/l	145	ISE method - indirect
TIBC	µmol/l	42.4	FE+UIBC(saturation with iron)
	µg/dl	237	
Triglycerides	mmol/l	1.11	Lipase/GPO-PAP no correction
	mg/dl	98.2	
	mmol/l	1.12	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	
	mmol/l	1.13	L/G Kinase EP. no correction
	mg/dl	100	
	mmol/l	1.10	Lipase/Glycerol Dehydrogenase
	mg/dl	97.4	
UIBC	µmol/l	23.3	Direct Colorimetric
	µg/dl	130	
Urea	mmol/l	7.30	Urease end point
	mg/dl	43.9	
	mmol/l	7.21	Urease kinetic
	mg/dl	43.3	
	mmol/l	7.21	BUN
	mg/dl	20.2	
Uric Acid (Urate)	mmol/l	0.335	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	
	mmol/l	0.339	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	
	mmol/l	0.337	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.66	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	43.3	Bromocresol Green
	g/dl	4.33	
Alkaline Phosphatase	U/l	133	Roche Integra AMP buffer 37°C
	U/l	104	Roche Integra AMP buffer 30°C
	U/l	85	Roche Integra AMP buffer 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	62	Immunoinhibition EPS substrate 37°C
	U/l	61	Roche EPS Liquid 37°C
Amylase Total	U/l	83	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	32	Tris buffer without P5P 37°C
	U/l	22	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.9	Enzymatic
Bilirubin Direct	µmol/l	19.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.12	
Bilirubin Total	µmol/l	27.2	Diazo with Sulphanilic Acid
	mg/dl	1.59	
	µmol/l	24.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.41	
	µmol/l	24.7	Diazonium ion
	mg/dl	1.44	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.14	Methylthymol blue
	mg/dl	8.58	
	mmol/l	2.14	NM-BAPTA
	mg/dl	8.58	
Chloride	mmol/l	90.7	ISE indirect
Cholesterol	mmol/l	3.96	Cholesterol Oxidase
	mg/dl	153	
Cholinesterase	U/l	5537	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	179	CK-NAC substrate start (DGKC) 37°C
	U/l	112	CK-NAC substrate start (DGKC) 30°C
	U/l	76	CK-NAC substrate start (DGKC) 25°C
	U/l	181	CK-NAC (IFCC) 37°C
	U/l	113	CK-NAC (IFCC) 30°C
	U/l	77	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	127	Enzymatic UV method
	mg/dl	1.44	
	µmol/l	128	Roche Creatinine Plus
	mg/dl	1.45	
	µmol/l	156	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.76	
	µmol/l	124	IDMS traceable
	mg/dl	1.40	
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	38	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	Hexokinase
	mg/dl	112	
Iron	µmol/l	18.4	Colorimetric without ppt.
	µg/dl	103	
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
Lipase	U/l	31	Roche Colorimetric 37°C
Magnesium	mmol/l	0.945	Xylidyl Blue
	mg/dl	2.30	
	mmol/l	0.947	Chlorphosphonazo III
	mg/dl	2.30	
Phosphate Inorganic	mmol/l	1.34	Phosphomolybdate UV
	mg/dl	4.15	
Potassium	mmol/l	4.00	ISE method - indirect
Protein Total	g/l	58.6	Biuret reaction end point
	g/dl	5.86	
Sodium	mmol/l	145	ISE method - indirect
TIBC	µmol/l	43.1	FE+UIBC(saturation with iron)
	µg/dl	241	
Triglycerides	mmol/l	1.11	Lipase/GPO-PAP no correction
	mg/dl	98.2	
	mmol/l	1.11	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	98.2	
	mmol/l	1.11	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	98.2	
UIBC	µmol/l	25.2	Direct Colorimetric
	µg/dl	141	
Urea	mmol/l	6.96	Urease kinetic
	mg/dl	41.8	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	6.96	BUN
	mg/dl	19.5	
Uric Acid (Urate)	mmol/l	0.331	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.56	
	mmol/l	0.328	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.51	
	mmol/l	0.326	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.48	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

RX SERIES® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Creatinine	µmol/l	123	Alkaline picrate no deproteinization
	mg/dl	1.39	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	40.7	Bromocresol Green
	g/dl	4.07	
Alkaline Phosphatase	U/l	216	Diethanolamine buffer DEA 37°C
	U/l	149	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	67	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	86	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.3	Enzymatic
Bilirubin Direct	µmol/l	16.7	Oxidation to Biliverdin/Vanadate
	mg/dl	0.975	
Bilirubin Total	µmol/l	28.4	Diazo with Sulphanilic Acid
	mg/dl	1.66	
	µmol/l	27.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	
Calcium	mmol/l	2.15	Cresolphthalein complexone
	mg/dl	8.62	
	mmol/l	2.20	Arsenazo III
	mg/dl	8.82	
Chloride	mmol/l	96.7	ISE indirect
Cholesterol	mmol/l	4.16	Cholesterol Oxidase
	mg/dl	161	
CK Total	U/l	193	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	120	Enzymatic UV method
	mg/dl	1.35	
	µmol/l	125	Jaffe rate blanked
	mg/dl	1.42	
	µmol/l	152	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.72	
gamma-GT	U/l	50	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.14	Hexokinase
	mg/dl	111	
	mmol/l	6.18	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	19.1	Colorimetric without ppt.
	µg/dl	107	
Lactate	mmol/l	1.32	Colorimetric Lactate Oxidase
	mg/dl	11.9	

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SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
LD (LDH)	U/l	212	L->P 37°C
	U/l	424	P->L German methods 37°C
	U/l	213	L->P IFCC 37°C
Lipase	U/l	37	Other Colorimetric 37°C
Lithium	mmol/l	1.05	Spectrophotometric
	mg/dl	0.729	
Magnesium	mmol/l	0.954	Xylidyl Blue
	mg/dl	2.32	
Phosphate Inorganic	mmol/l	1.38	Phosphomolybdate UV
	mg/dl	4.28	
Potassium	mmol/l	4.00	ISE method - indirect
Protein Total	g/l	59.5	Biuret reaction end point
	g/dl	5.95	
	g/l	59.9	Biuret reaction kinetic
	g/dl	5.99	
Sodium	mmol/l	145	ISE method - indirect
TIBC	µmol/l	48.6	FE+UIBC(saturation with iron)
	µg/dl	272	
	µmol/l	49.8	Direct Colorimetric
	µg/dl	278	
Triglycerides	mmol/l	1.16	Lipase/GPO-PAP no correction
	mg/dl	103	
Urea	mmol/l	7.44	Urease end point
	mg/dl	44.7	
	mmol/l	7.34	Urease kinetic
	mg/dl	44.1	
	mmol/l	7.34	BUN
	mg/dl	20.6	
Uric Acid (Urate)	mmol/l	0.338	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	
	mmol/l	0.347	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.83	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	44.0	Bromocresol Purple
	g/dl	4.40	
Alkaline Phosphatase	U/l	149	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	45	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	94	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	54	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.8	Enzymatic
Bilirubin Direct	µmol/l	12.6	Diazo with Sulphanilic Acid
	mg/dl	0.737	
Bilirubin Total	µmol/l	26.6	Diazo with Sulphanilic Acid
	mg/dl	1.56	
Calcium	mmol/l	2.07	Cresolphthalein complexone
	mg/dl	8.30	
Chloride	mmol/l	95.4	ISE indirect
Cholesterol	mmol/l	3.53	Dimension-Siemens reagents
	mg/dl	136	
Cholinesterase	U/l	9805	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	183	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	128	Alkaline picrate no deproteinization
	mg/dl	1.44	
	µmol/l	124	IDMS traceable
	mg/dl	1.40	
gamma-GT	U/l	58	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.39	Hexokinase
	mg/dl	115	
Iron	µmol/l	18.4	Colorimetric with ppt.
	µg/dl	103	
	µmol/l	18.1	Colorimetric without ppt.
	µg/dl	101	
LD (LDH)	U/l	202	Siemens Dimension L-P Non IFCC 37°C
	U/l	206	L->P IFCC 37°C
Lipase	U/l	140	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.917	Methylthymol blue
	mg/dl	2.23	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate enzymatic
	mg/dl	4.50	
	mmol/l	1.44	Phosphomolybdate UV
	mg/dl	4.46	
Potassium	mmol/l	3.88	ISE method - indirect

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Protein Total	g/l	60.8	Biuret reaction end point
	g/dl	6.08	
Sodium	mmol/l	144	ISE method - indirect
TIBC	µmol/l	39.1	FE+UIBC(saturation with iron)
	µg/dl	219	
	µmol/l	38.4	Direct Colorimetric
	µg/dl	215	
Triglycerides	mmol/l	1.05	Lipase/GPO-PAP no correction
	mg/dl	92.9	
	mmol/l	1.04	L/G Kinase EP. no correction
	mg/dl	92.0	
	mmol/l	1.02	Lipase/Glycerol Dehydrogenase
	mg/dl	90.3	
Urea	mmol/l	7.27	Urease end point
	mg/dl	43.7	
	mmol/l	7.26	Urease kinetic
	mg/dl	43.6	
	mmol/l	7.26	BUN
	mg/dl	20.4	
Uric Acid (Urate)	mmol/l	0.338	Uricase catalase 340nm
	mg/dl	5.68	
	mmol/l	0.336	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	
	mmol/l	0.334	Spectrophotometric at 280-290
	mg/dl	5.61	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	40.8	Bromocresol Green
	g/dl	4.08	
	g/l	43.5	Bromocresol Purple
	g/dl	4.35	
Alkaline Phosphatase	U/l	149	Siemens Dimension AMP buffer 37°C
	U/l	150	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	Tris buffer with P5P 37°C
	U/l	45	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	90	Siemens - maltopenta/hexaoside 37°C
	U/l	94	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	54	Tris buffer with P5P 37°C
	U/l	54	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.5	Enzymatic
Bile Acids	µmol/l	23.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	12.9	Diazo with Sulphanilic Acid
	mg/dl	0.755	
Bilirubin Total	µmol/l	27.1	Diazo with Sulphanilic Acid
	mg/dl	1.59	
Calcium	mmol/l	2.07	Cresolphthalein complexone
	mg/dl	8.30	
Chloride	mmol/l	94.8	ISE indirect
Cholesterol	mmol/l	3.53	Dimension-Siemens reagents
	mg/dl	136	
Cholinesterase	U/l	9828	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	186	CK-NAC (IFCC) 37°C
	U/l	181	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	128	Alkaline picrate no deproteinization
	mg/dl	1.45	
	µmol/l	123	Enzymatic UV method
	mg/dl	1.39	
	µmol/l	121	Creatinine PAP method
	mg/dl	1.36	
	µmol/l	129	Jaffe rate blanked
	mg/dl	1.46	
	µmol/l	129	IDMS traceable
	mg/dl	1.45	
gamma-GT	U/l	57	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	61	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.35	Glucose dehydrogenase
	mg/dl	114	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.34	Hexokinase
	mg/dl	114	
Iron	µmol/l	18.1	Colorimetric with ppt.
	µg/dl	101	
	µmol/l	18.0	Colorimetric without ppt.
	µg/dl	101	
Lactate	mmol/l	1.37	UV LDH
	mg/dl	12.3	
LD (LDH)	U/l	204	Siemens Dimension L-P Non IFCC 37°C
	U/l	206	L->P IFCC 37°C
Lipase	U/l	139	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.912	Xylidyl Blue
	mg/dl	2.22	
	mmol/l	0.908	Methylthymol blue
	mg/dl	2.21	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate enzymatic
	mg/dl	4.43	
	mmol/l	1.43	Phosphomolybdate UV
	mg/dl	4.43	
Potassium	mmol/l	3.88	ISE method - indirect
Protein Total	g/l	60.8	Biuret reaction end point
	g/dl	6.08	
Sodium	mmol/l	142	ISE method - indirect
TIBC	µmol/l	40.6	Removal of excess free iron
	µg/dl	227	
	µmol/l	38.5	FE+UIBC(saturation with iron)
	µg/dl	215	
	µmol/l	39.1	Direct Colorimetric
	µg/dl	219	
Triglycerides	mmol/l	1.04	Lipase/GPO-PAP no correction
	mg/dl	92.0	
	mmol/l	1.04	L/G Kinase EP. no correction
	mg/dl	92.0	
	mmol/l	1.05	Lipase/Glycerol Dehydrogenase
	mg/dl	92.9	
Urea	mmol/l	7.10	Urease end point
	mg/dl	42.7	
	mmol/l	7.21	Urease kinetic
	mg/dl	43.3	
	mmol/l	7.21	BUN
	mg/dl	20.2	
Uric Acid (Urate)	mmol/l	0.338	Uricase catalase 340nm
	mg/dl	5.68	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.336	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	
	mmol/l	0.335	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	
	mmol/l	0.335	Spectrophotometric at 280-290
	mg/dl	5.63	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION Vista® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	44.3	Bromocresol Purple
	g/dl	4.43	
Alkaline Phosphatase	U/l	156	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	Tris buffer with P5P 37°C
Amylase Total	U/l	94	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	52	Tris buffer with P5P 37°C
	U/l	53	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	13.4	Diazo with Sulphanilic Acid
	mg/dl	0.784	
Bilirubin Total	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
Calcium	mmol/l	2.11	Cresolphthalein complexone
	mg/dl	8.46	
Chloride	mmol/l	99.1	ISE indirect
Cholesterol	mmol/l	3.50	Dimension-Siemens reagents
	mg/dl	135	
CK Total	U/l	186	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	126	Alkaline picrate no deproteinization
	mg/dl	1.43	
gamma-GT	U/l	59	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.09	Hexokinase
	mg/dl	110	
Iron	µmol/l	18.7	Colorimetric without ppt.
	µg/dl	105	
Lactate	mmol/l	1.50	UV LDH
	mg/dl	13.5	
LD (LDH)	U/l	218	L->P IFCC 37°C
Lipase	U/l	157	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.973	Methylthymol blue
	mg/dl	2.36	
Phosphate Inorganic	mmol/l	1.33	Phosphomolybdate UV
	mg/dl	4.12	
Potassium	mmol/l	3.89	ISE method - indirect
Protein Total	g/l	61.3	Biuret reaction end point
	g/dl	6.13	
Sodium	mmol/l	143	ISE method - indirect
Triglycerides	mmol/l	1.19	Lipase/GPO-PAP no correction
	mg/dl	105	
Urea	mmol/l	7.11	Urease kinetic
	mg/dl	42.7	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

SIEMENS DIMENSION Vista® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Urea	mmol/l	7.11	BUN
	mg/dl	20.0	
Uric Acid (Urate)	mmol/l	0.339	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.70	
	mmol/l	0.347	Spectrophotometric at 280-290
	mg/dl	5.83	

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CALIBRATION SERUM - LEVEL 2 (CAL 2)

VITALAB FLEXOR® Lot. No. 1452UN Cat. No. CAL2350

Size 20 x 5ml Expiry 2021-08-28

Analyte	unit	Target	methods
Albumin	g/l	42.7	Bromocresol Green
	g/dl	4.27	
Alkaline Phosphatase	U/l	255	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	38	Tris buffer without P5P 37°C
AST (GOT)	U/l	35	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	13.5	Diazo with Sulphanilic Acid
	mg/dl	0.790	
Bilirubin Total	µmol/l	26.6	Diazo with Sulphanilic Acid
	mg/dl	1.56	
Calcium	mmol/l	2.24	Arsenazo III
	mg/dl	8.98	
Cholesterol	mmol/l	4.12	Cholesterol Oxidase
	mg/dl	159	
gamma-GT	U/l	48	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.32	Glucose oxidase
	mg/dl	114	
Phosphate Inorganic	mmol/l	1.49	Phosphomolybdate UV
	mg/dl	4.62	
Protein Total	g/l	59.7	Biuret reaction end point
	g/dl	5.97	
Urea	mmol/l	7.33	Urease kinetic
	mg/dl	44.1	
	mmol/l	7.33	BUN
	mg/dl	20.6	
Uric Acid (Urate)	mmol/l	0.358	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.01	

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