CALIBRATION SERUM - LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 844UE
SIZE: 20 x 5ml **EXPIRY:** 2018-06-28

GTIN: 05055273200966

INTENDED USE

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

SAFETY PRECAUTIONS AND WARNINGS

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests.
However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.
For *in vitro* diagnostic use only.

STORAGE AND STABILITY

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

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

1. Open the vial carefully, avoiding any loss of material.
2. Reconstitute by pipetting exactly 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 3
Cat No. CAL 2351 20 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle.
For Total and Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (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

® All trademarks recognised.

(1) Values established by reference laboratories officially recognised by the Federal Chamber of Physicians in Germany.
(2) DGKC: German Society for Clinical Chemistry.
(3) IFCC: International Federation of Clinical Chemistry.
(4) SCE: Scandinavian Committee on Enzymes.

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CALIBRATION SERUM LEVEL 3 (CAL 3)

ABBOTT AEROSET® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	28.0	Bromocresol Green
	g/dl	2.80	
AST (GOT)	U/l	135	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	29.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.70	
Calcium	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.14	Cholesterol Oxidase
	mg/dl	276	
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
	mg/dl	52.2	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
	g/l	27.1	Bromocresol Purple
	g/dl	2.71	
Alkaline Phosphatase	U/l	302	AMP optimised to IFCC 37°C
	U/l	299	AMP non-optimised 37°C
ALT (GPT)	U/l	127	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	251	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	319	Abbott Architect Non-IFCC Cal. 37°C
	U/l	355	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.2	Enzymatic
Bile Acids	µmol/l	50.1	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.8	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	28.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	
Bilirubin Total	µmol/l	87.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.13	
	µmol/l	89.0	Diazo with Sulphanilic Acid
	mg/dl	5.21	
	µmol/l	84.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.95	
	µmol/l	87.2	Diazonium ion
	mg/dl	5.10	
Calcium	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.07	Cholesterol Oxidase
	mg/dl	273	
Cholinesterase	U/l	6032	Colorimetric Butyrylthiocholine 37°C
	U/l	5847	Agappe - DGKC/Butyrylthiocholine 37°C
CK Total	U/l	509	CK-NAC (IFCC) 37°C
Copper	µmol/l	22.1	Colorimetric
	µg/dl	140	
Creatinine	µmol/l	372	Alkaline picrate no deproteinization
	mg/dl	4.20	
	µmol/l	365	Enzymatic UV method
	mg/dl	4.12	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Creatinine	µmol/l	371	Creatinine PAP method
	mg/dl	4.19	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	µmol/l	372	IDMS traceable
	mg/dl	4.20	
gamma-GT	U/l	153	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	152	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	161	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.2	Glucose dehydrogenase
	mg/dl	275	
	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	33.1	Colorimetric with ppt.
	µg/dl	185	
	µmol/l	33.1	Colorimetric without ppt.
	µg/dl	185	
Lactate	mmol/l	5.30	Colorimetric Lactate Oxidase
	mg/dl	47.8	
LD (LDH)	U/l	349	L->P 37°C
	U/l	345	L->P IFCC 37°C
Lipase	U/l	52	Other Colorimetric 37°C
Lithium	mmol/l	1.94	Spectrophotometric
	mg/dl	1.35	
Magnesium	mmol/l	1.78	Arsenazo III
	mg/dl	4.33	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate enzymatic
	mg/dl	7.13	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.19	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	45.4	Biuret reaction kinetic
	g/dl	4.54	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	56.5	FE+UIBC(saturation with iron)
	µg/dl	316	
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	

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Abbott Architect c/ci Systems® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.67	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	236	
	mmol/l	2.74	L/G Kinase EP. no correction
	mg/dl	242	
	mmol/l	2.72	Lipase/Glycerol Dehydrogenase
	mg/dl	241	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.554	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.541	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.09	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
Alkaline Phosphatase	U/l	299	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
AST (GOT)	U/l	142	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	90.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.27	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.29	Cholesterol Oxidase
	mg/dl	281	
CK Total	U/l	498	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	344	Alkaline picrate no deproteinization
	mg/dl	3.89	
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Phosphate Inorganic	mmol/l	2.46	Phosphomolybdate UV
	mg/dl	7.63	
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Triglycerides	mmol/l	2.74	Lipase/GPO-PAP no correction
	mg/dl	242	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
Alkaline Phosphatase	U/l	281	AMP optimised to IFCC 37°C
	U/l	219	AMP optimised to IFCC 30°C
	U/l	180	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
AST (GOT)	U/l	133	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
Calcium	mmol/l	3.16	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.12	Cholesterol Oxidase
	mg/dl	275	
Creatinine	µmol/l	328	Alkaline picrate no deproteinization
	mg/dl	3.70	
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
Protein Total	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	27.9	Bromocresol Green
	g/dl	2.79	
Alkaline Phosphatase	U/l	473	Diethanolamine buffer DEA 37°C
	U/l	360	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
Amylase Total	U/l	280	pNP Maltotrioside substrates 37°C
	U/l	278	Biotrol - blocked pNPG7 37°C
	U/l	290	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	287	Beckman Olympus - blocked pNPG7 37°C
AST (GOT)	U/l	140	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.6	Enzymatic
Bilirubin Direct	µmol/l	23.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.38	
Bilirubin Total	µmol/l	87.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.14	
	µmol/l	90.8	Diazo with Sulphanilic Acid
	mg/dl	5.31	
	µmol/l	87.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.11	
	µmol/l	87.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.12	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.12	Cholesterol Oxidase
	mg/dl	275	
Cholinesterase	U/l	4607	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	517	CK-NAC (IFCC) 37°C
Copper	µmol/l	26.6	Colorimetric
	µg/dl	169	
Creatinine	µmol/l	350	Alkaline picrate no deproteinization
	mg/dl	3.96	
	µmol/l	360	Enzymatic UV method
	mg/dl	4.07	
	µmol/l	362	Creatinine PAP method
	mg/dl	4.10	
	µmol/l	354	Jaffe rate blanked
	mg/dl	3.99	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Creatinine	µmol/l	375	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.24	
	µmol/l	369	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.17	
	µmol/l	358	IDMS traceable
	mg/dl	4.05	
D-3-Hydroxybutyrate	mmol/l	1.11	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	157	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	159	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	30	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	34.8	Colorimetric with ppt.
	µg/dl	195	
	µmol/l	33.8	Colorimetric without ppt.
	µg/dl	189	
Lactate	mmol/l	5.32	Colorimetric Lactate Oxidase
	mg/dl	47.9	
LD (LDH)	U/l	339	L->P 37°C
	U/l	784	P->L Scandinavian & Dutch 37°C
	U/l	341	L->P IFCC 37°C
Lipase	U/l	56	Other Colorimetric 37°C
	U/l	49	Roche Colorimetric 37°C
	U/l	71	Randox Colorimetric 37°C
Lithium	mmol/l	1.91	Spectrophotometric
	mg/dl	1.33	
Magnesium	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate enzymatic
	mg/dl	7.19	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
	g/l	46.6	Biuret reaction kinetic
	g/dl	4.66	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	55.1	FE+UIBC(saturation with iron)
	µg/dl	308	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
	mmol/l	2.82	L/G Kinase EP. no correction
	mg/dl	250	
Urea	mmol/l	18.1	Urease end point
	mg/dl	109	
	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.570	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.573	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	
Zinc	µmol/l	33.2	Colorimetric with deproteinisation
	µg/dl	217	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
	g/l	29.2	Bromocresol Purple
	g/dl	2.92	
Alkaline Phosphatase	U/l	338	AMP optimised to IFCC 37°C
	U/l	263	AMP optimised to IFCC 30°C
	U/l	327	AMP non-optimised 37°C
	U/l	255	AMP non-optimised 30°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	121	Tris buffer SCE 37°C
	U/l	90	Tris buffer SCE 30°C
Amylase Total	U/l	285	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	298	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	128	Tris buffer SCE 37°C
	U/l	87	Tris buffer SCE 30°C
Bicarbonate	mmol/l	18.5	Differential rate pH change
	mmol/l	18.9	Ion selective electrode
Bilirubin Direct	µmol/l	16.8	Diazo with Sulphanilic Acid
	mg/dl	0.983	
Bilirubin Total	µmol/l	85.5	Diazo with Sulphanilic Acid
	mg/dl	5.00	
Calcium	mmol/l	3.02	Ion selective electrode
	mg/dl	12.1	
	mmol/l	2.96	Arsenazo III
	mg/dl	11.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.30	Cholesterol Oxidase
	mg/dl	282	
CK Total	U/l	543	CK-NAC (IFCC) 37°C
	U/l	340	CK-NAC (IFCC) 30°C
	U/l	527	Monothioglycerol 37°C
	U/l	330	Monothioglycerol 30°C
Creatinine	µmol/l	364	Alkaline picrate no deproteinization
	mg/dl	4.11	
	µmol/l	360	Enzymatic UV method
	mg/dl	4.07	

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Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Creatinine	µmol/l	368	Jaffe rate blanked
	mg/dl	4.15	
	µmol/l	361	IDMS traceable
	mg/dl	4.08	
gamma-GT	U/l	129	Gamma glutamyl-4-nitroanilide 37°C
	U/l	102	Gamma glutamyl-4-nitroanilide 30°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	271	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	190	
Lactate	mmol/l	5.05	Colorimetric Lactate Oxidase
	mg/dl	45.5	
LD (LDH)	U/l	291	L->P 37°C
	U/l	210	L->P 30°C
	U/l	883	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	638	Pyruvate 1.4 mM - Beckman LD-P 30°C
Lipase	U/l	54	Other Colorimetric 37°C
Magnesium	mmol/l	1.73	Calmagite
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
	g/l	44.1	Biuret reaction kinetic
	g/dl	4.41	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.527	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.85	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/l	308	AMP optimised to IFCC 37°C
	U/l	240	AMP optimised to IFCC 30°C
	U/l	197	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	141	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
AST (GOT)	U/l	139	Tris buffer without P5P 37°C
	U/l	94	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	88.7	Diazo with Sulphanilic Acid
	mg/dl	5.19	
Cholesterol	mmol/l	7.11	Cholesterol Oxidase
	mg/dl	274	
Creatinine	µmol/l	333	Alkaline picrate no deproteinization
	mg/dl	3.77	
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Triglycerides	mmol/l	2.63	Lipase/GPO-PAP no correction
	mg/dl	233	
Urea	mmol/l	17.0	Urease kinetic
	mg/dl	102	
	mmol/l	17.0	BUN
	mg/dl	47.7	
Uric Acid (Urate)	mmol/l	0.521	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.75	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/l	304	AMP optimised to IFCC 37°C
	U/l	237	AMP optimised to IFCC 30°C
	U/l	194	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	139	Tris buffer without P5P 37°C
	U/l	103	Tris buffer without P5P 30°C
	U/l	78	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.8	Diazo with Sulphanilic Acid
	mg/dl	5.14	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
CK Total	U/l	537	CK-NAC (IFCC) 37°C
	U/l	336	CK-NAC (IFCC) 30°C
	U/l	228	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	321	Alkaline picrate no deproteinization
	mg/dl	3.63	
gamma-GT	U/l	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Triglycerides	mmol/l	2.63	Lipase/GPO-PAP no correction
	mg/dl	233	
Urea	mmol/l	16.5	Urease kinetic
	mg/dl	99.2	
	mmol/l	16.5	BUN
	mg/dl	46.3	
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Weiner BT Series/CB 350i Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
Alkaline Phosphatase	U/l	459	Diethanolamine buffer DEA 37°C
	U/l	358	Diethanolamine buffer DEA 30°C
	U/l	293	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
AST (GOT)	U/l	130	Tris buffer without P5P 37°C
	U/l	88	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	30.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.81	
Bilirubin Total	µmol/l	85.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.02	
Calcium	mmol/l	3.01	Arsenazo III
	mg/dl	12.1	
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
Creatinine	µmol/l	333	Alkaline picrate no deproteinization
	mg/dl	3.76	
	µmol/l	347	Creatinine PAP method
	mg/dl	3.92	
Glucose	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate UV
	mg/dl	7.47	
Protein Total	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
Triglycerides	mmol/l	2.57	Lipase/GPO-PAP no correction
	mg/dl	227	
Urea	mmol/l	17.6	Urease kinetic
	mg/dl	106	
	mmol/l	17.6	BUN
	mg/dl	49.4	
Uric Acid (Urate)	mmol/l	0.519	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.72	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
	g/l	31.2	Bromocresol Purple
	g/dl	3.12	
	g/l	25.9	Turbidimetric Assays
	g/dl	2.59	
Alkaline Phosphatase	U/l	252	Roche Integra AMP buffer 37°C
	U/l	196	Roche Integra AMP buffer 30°C
	U/l	161	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	255	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	279	Roche Integra 2-chloro-pNPG7 37°C
	U/l	278	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.8	Colorimetric
	mmol/l	18.2	Enzymatic
Bilirubin Direct	µmol/l	30.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	
	µmol/l	29.7	Diazo with Sulphanilic Acid
	mg/dl	1.74	
Bilirubin Total	µmol/l	81.7	Diazo with Sulphanilic Acid
	mg/dl	4.78	
	µmol/l	81.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	
	µmol/l	81.5	Diazonium ion
	mg/dl	4.77	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.11	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.14	Cholesterol Oxidase
	mg/dl	276	
CK Total	U/l	531	CK-NAC (IFCC) 37°C
	U/l	332	CK-NAC (IFCC) 30°C
	U/l	226	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Creatinine	µmol/l	334	Alkaline picrate no deproteinization
	mg/dl	3.77	
	µmol/l	363	Enzymatic UV method
	mg/dl	4.10	
	µmol/l	361	Roche Creatinine Plus
	mg/dl	4.08	
	µmol/l	332	Jaffe rate blanked
	mg/dl	3.75	
	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
	µmol/l	355	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.01	
gamma-GT	U/l	143	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	88	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	34.4	Colorimetric with ppt.
	µg/dl	192	
	µmol/l	34.0	Colorimetric without ppt.
	µg/dl	190	
Lactate	mmol/l	5.54	Colorimetric Lactate Oxidase
	mg/dl	49.9	
LD (LDH)	U/l	645	P->L German methods 37°C
	U/l	466	P->L German methods 30°C
	U/l	327	P->L German methods 25°C
	U/l	359	L->P IFCC 37°C
	U/l	259	L->P IFCC 30°C
	U/l	182	L->P IFCC 25°C
Lipase	U/l	54	Roche Colorimetric 37°C
Lithium	mmol/l	1.99	Ion selective electrode
	mg/dl	1.38	
Magnesium	mmol/l	1.72	Chlorphosphonazo III
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.42	Phosphomolybdate enzymatic
	mg/dl	7.50	
	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Potassium	mmol/l	6.24	ISE method - indirect

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CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Protein Total	g/l	44.5	Biuret reaction end point
	g/dl	4.45	
	g/l	44.7	Biuret reaction kinetic
	g/dl	4.47	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	55.1	FE+UIBC(saturation with iron)
	µg/dl	308	
	µmol/l	52.5	Direct Colorimetric
	µg/dl	293	
Triglycerides	mmol/l	2.64	Lipase/GPO-PAP no correction
	mg/dl	234	
	mmol/l	2.62	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	232	
	mmol/l	2.58	Lipase/Glycerol Dehydrogenase
	mg/dl	228	
Urea	mmol/l	17.5	Urease kinetic
	mg/dl	105	
	mmol/l	17.5	BUN
	mg/dl	49.1	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.556	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.34	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
Alkaline Phosphatase	U/l	467	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	134	Tris buffer without P5P 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	90.7	Diazo with Sulphanilic Acid
	mg/dl	5.31	
Calcium	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	7.00	Cholesterol Oxidase
	mg/dl	270	
CK Total	U/l	483	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	348	Enzymatic UV method
	mg/dl	3.93	
	µmol/l	328	Jaffe rate blanked
	mg/dl	3.71	
Glucose	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Triglycerides	mmol/l	2.71	Lipase/GPO-PAP no correction
	mg/dl	240	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.582	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.78	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	7.14	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	11.6	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	32.4	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	22.9	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	39.5	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	34.5	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
Alkaline Phosphatase	U/l	227	Roche Integra AMP buffer 37°C
	U/l	177	Roche Integra AMP buffer 30°C
	U/l	145	Roche Integra AMP buffer 25°C
	U/l	313	Randox AMP 37°C
	U/l	244	Randox AMP 30°C
	U/l	200	Randox AMP 25°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	239	Roche liquid stable pNPG7 37°C
	U/l	276	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	269	Roche liquid stable pNPG7 37°C
	U/l	305	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	129	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.7	Enzymatic
Bile Acids	µmol/l	48.4	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	
	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
Bilirubin Total	µmol/l	80.2	Diazo with Sulphanilic Acid
	mg/dl	4.69	
	µmol/l	81.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.75	
	µmol/l	81.2	Diazonium ion
	mg/dl	4.75	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Calcium	mmol/l	3.06	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.11	Cholesterol Oxidase
	mg/dl	274	
Cholinesterase	U/l	4995	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	493	CK-NAC substrate start (DGKC) 37°C
	U/l	309	CK-NAC substrate start (DGKC) 30°C
	U/l	210	CK-NAC substrate start (DGKC) 25°C
	U/l	479	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	360	Enzymatic UV method
	mg/dl	4.07	
	µmol/l	363	Creatinine PAP method
	mg/dl	4.10	
	µmol/l	363	Roche Creatinine Plus
	mg/dl	4.10	
	µmol/l	387	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.37	
D-3-Hydroxybutyrate	mmol/l	1.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	138	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	109	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	85	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	151	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	119	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	168	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	132	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	32	Triethanolamine buffer 50 mmol 37°C
	U/l	25	Triethanolamine buffer 50 mmol 30°C
	U/l	20	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	33.2	Colorimetric without ppt.
	µg/dl	186	
Lactate	mmol/l	5.51	Colorimetric Lactate Oxidase
	mg/dl	49.6	
LD (LDH)	U/l	674	P->L German methods 37°C
	U/l	487	P->L German methods 30°C
	U/l	342	P->L German methods 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
LD (LDH)	U/l	337	L->P IFCC 37°C
	U/l	243	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Lipase	U/l	50	Roche Colorimetric 37°C
Lithium	mmol/l	1.97	Spectrophotometric
	mg/dl	1.37	
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.27	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	53.1	FE+UIBC(saturation with iron)
	µg/dl	297	
Triglycerides	mmol/l	2.62	Lipase/GPO-PAP no correction
	mg/dl	232	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.542	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.11	
	mmol/l	0.547	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.19	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
Alkaline Phosphatase	U/l	347	AMP optimised to IFCC 37°C
	U/l	270	AMP optimised to IFCC 30°C
	U/l	222	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	119	Tris buffer without P5P 37°C
	U/l	88	Tris buffer without P5P 30°C
	U/l	67	Tris buffer without P5P 25°C
Amylase Total	U/l	288	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bile Acids	µmol/l	46.6	Enzymatic Colorimetric
Bilirubin Total	µmol/l	86.8	Diazo with Sulphanilic Acid
	mg/dl	5.08	
Calcium	mmol/l	3.21	Cresolphthalein complexone
	mg/dl	12.9	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase
	mg/dl	269	
CK Total	U/l	455	CK-NAC (IFCC) 37°C
	U/l	285	CK-NAC (IFCC) 30°C
	U/l	193	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	327	Alkaline picrate no deproteinization
	mg/dl	3.70	
gamma-GT	U/l	144	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	84	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	273	
	mmol/l	14.5	Glucose oxidase
	mg/dl	261	
Iron	µmol/l	33.3	Colorimetric without ppt.
	µg/dl	186	
Lipase	U/l	67	Randox Colorimetric 37°C
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.74	Enzymatic
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.25	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	161	ISE method - indirect
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
	mmol/l	2.70	L/G Kinase EP. no correction
	mg/dl	239	
Urea	mmol/l	18.0	Urease end point
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
Alkaline Phosphatase	U/l	311	AMP optimised to IFCC 37°C
	U/l	242	AMP optimised to IFCC 30°C
	U/l	199	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
AST (GOT)	U/l	145	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	32.5	Diazo with Sulphanilic Acid
	mg/dl	1.90	
Bilirubin Total	µmol/l	82.9	Diazo with Sulphanilic Acid
	mg/dl	4.85	
	µmol/l	81.8	Nitrobenzenediazonium salt
	mg/dl	4.78	
Calcium	mmol/l	3.24	Arsenazo III
	mg/dl	13.0	
Chloride	mmol/l	117	ISE direct
Cholesterol	mmol/l	6.95	Cholesterol Oxidase
	mg/dl	268	
CK Total	U/l	512	CK-NAC (IFCC) 37°C
	U/l	321	CK-NAC (IFCC) 30°C
	U/l	218	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	367	Enzymatic UV method
	mg/dl	4.14	
	µmol/l	359	Creatinine PAP method
	mg/dl	4.05	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.02	
D-3-Hydroxybutyrate	mmol/l	1.10	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	157	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	124	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	97	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	283	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	34.4	Colorimetric without ppt.
	µg/dl	192	
Lipase	U/l	54	Other Colorimetric 37°C
Magnesium	mmol/l	1.77	Calmagite
	mg/dl	4.30	
	mmol/l	1.63	Xylidyl Blue
	mg/dl	3.96	
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate UV
	mg/dl	7.47	
Potassium	mmol/l	6.10	ISE method - direct
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Sodium	mmol/l	155	ISE method - direct
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	
Urea	mmol/l	17.5	Urease kinetic
	mg/dl	105	
	mmol/l	17.5	BUN
	mg/dl	49.1	
Uric Acid (Urate)	mmol/l	0.565	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.49	
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.568	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.54	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
a-HBDH	U/l	421	Oxobutyrate < 10 mmol/l 37°C
	U/l	312	Oxobutyrate < 10 mmol/l 30°C
	U/l	237	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	11.6	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	7.14	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	22.9	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	32.4	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	34.5	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	39.5	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
	g/l	28.1	Bromocresol Purple
	g/dl	2.81	
	g/l	26.3	Turbidimetric Assays
	g/dl	2.63	
Alkaline Phosphatase	U/l	466	Diethanolamine buffer DEA 37°C
	U/l	363	Diethanolamine buffer DEA 30°C
	U/l	298	Diethanolamine buffer DEA 25°C
	U/l	325	AMP optimised to IFCC 37°C
	U/l	253	AMP optimised to IFCC 30°C
	U/l	208	AMP optimised to IFCC 25°C
	U/l	307	AMP optimised to NVKC/SFBC 37°C
	U/l	239	AMP optimised to NVKC/SFBC 30°C
	U/l	196	AMP optimised to NVKC/SFBC 25°C
	U/l	307	AMP non-optimised 37°C
	U/l	239	AMP non-optimised 30°C
	U/l	196	AMP non-optimised 25°C
ALT (GPT)	U/l	161	Tris buffer with P5P 37°C
	U/l	119	Tris buffer with P5P 30°C
	U/l	91	Tris buffer with P5P 25°C
	U/l	125	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
	U/l	121	Tris buffer SCE 37°C
	U/l	90	Tris buffer SCE 30°C
	U/l	68	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	253	Immunoinhibition EPS substrate 37°C
	U/l	250	Roche liquid stable pNPG7 37°C
	U/l	276	Randox liquid stable pNPG7 37°C

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Amylase Total	U/l	280	pNP Maltotrioside substrates 37°C
	U/l	282	Siemens - blocked pNPG7 37°C
	U/l	278	Biotrol - blocked pNPG7 37°C
	U/l	228	Randox - Ethylidene pNPG7 37°C
	U/l	305	Randox liquid stable pNPG7 37°C
	U/l	274	BM/Roche Colorimetric pNPG7 37°C
	U/l	289	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	328	Siemens - maltopenta/hexaoside 37°C
	U/l	276	Roche Integra 2-chloro-pNPG7 37°C
	U/l	275	Other Roche 2-chloro-pNPG7 37°C
	U/l	272	Roche liquid stable pNPG7 37°C
	U/l	333	Siemens 2-chloro-pNPG3 37°C
	U/l	287	Beckman Olympus - blocked pNPG7 37°C
	U/l	298	Beckman Synchron AMY7 37°C
	U/l	285	I.L. 2-chloro-pNPG3 37°C
	U/l	319	Abbott Architect Non-IFCC Cal. 37°C
	U/l	355	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	176	Tris buffer with P5P 37°C
	U/l	119	Tris buffer with P5P 30°C
	U/l	84	Tris buffer with P5P 25°C
	U/l	130	Tris buffer without P5P 37°C
	U/l	88	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
	U/l	128	Tris buffer SCE 37°C
	U/l	87	Tris buffer SCE 30°C
	U/l	61	Tris buffer SCE 25°C
Bicarbonate	mmol/l	18.0	Colorimetric
	mmol/l	18.5	Differential rate pH change
	mmol/l	18.2	Enzymatic
	mmol/l	18.8	Ion selective electrode
Bile Acids	µmol/l	49.9	4th Generation Colorimetric
	µmol/l	48.4	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	
	µmol/l	29.3	Diazo with Sulphanilic Acid
	mg/dl	1.71	
	µmol/l	28.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	
	µmol/l	33.6	Oxidation to Biliverdin/Vanadate
	mg/dl	1.96	
	µmol/l	30.6	Modified Jendrassik
	mg/dl	1.79	
Bilirubin Total	µmol/l	95.8	Diazo with Dichloroaniline (DCA)
	mg/dl	5.60	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	85.4	Diazo with Sulphanilic Acid
	mg/dl	4.99	
	µmol/l	95.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.58	
	µmol/l	82.7	Nitrobenzenediazonium salt
	mg/dl	4.84	
	µmol/l	82.0	Diazonium ion
	mg/dl	4.80	
	µmol/l	93.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.49	
	µmol/l	97.3	Modified Jendrassik
	mg/dl	5.69	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.02	Ion selective electrode
	mg/dl	12.1	
	mmol/l	3.04	Methylthymol blue
	mg/dl	12.2	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
	mmol/l	3.11	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	115	Colorimetric
	mmol/l	115	ISE indirect
	mmol/l	117	ISE direct
Cholesterol	mmol/l	7.11	Cholesterol Oxidase
	mg/dl	274	
Cholinesterase	U/l	5179	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	529	CK-NAC serum start (DGKC) 37°C
	U/l	331	CK-NAC serum start (DGKC) 30°C
	U/l	225	CK-NAC serum start (DGKC) 25°C
	U/l	510	CK-NAC substrate start (DGKC) 37°C
	U/l	319	CK-NAC substrate start (DGKC) 30°C
	U/l	217	CK-NAC substrate start (DGKC) 25°C
	U/l	519	CK-NAC (IFCC) 37°C
	U/l	325	CK-NAC (IFCC) 30°C
	U/l	221	CK-NAC (IFCC) 25°C
	U/l	527	Monothioglycerol 37°C
	U/l	330	Monothioglycerol 30°C
	U/l	224	Monothioglycerol 25°C
	U/l	487	Dithioerythritol 37°C
	U/l	305	Dithioerythritol 30°C
	U/l	207	Dithioerythritol 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
CK Total	U/l	481	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	301	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	204	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	28.1	Atomic absorption
	µg/dl	178	
	µmol/l	27.6	Colorimetric
	µg/dl	176	
Creatinine	µmol/l	328	Alkaline picrate with deproteinization
	mg/dl	3.71	
	µmol/l	343	Alkaline picrate no deproteinization
	mg/dl	3.87	
	µmol/l	363	Enzymatic UV method
	mg/dl	4.10	
	µmol/l	362	Creatinine PAP method
	mg/dl	4.09	
	µmol/l	366	Roche Creatinine Plus
	mg/dl	4.14	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.02	
	µmol/l	383	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.33	
	µmol/l	361	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.08	
	µmol/l	361	IDMS traceable
	mg/dl	4.08	
D-3-Hydroxybutyrate	mmol/l	1.11	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	148	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	129	Gamma glutamyl-4-nitroanilide 37°C
	U/l	102	Gamma glutamyl-4-nitroanilide 30°C
	U/l	80	Gamma glutamyl-4-nitroanilide 25°C
	U/l	159	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	98	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	168	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	132	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	104	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	28	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.8	Glucose dehydrogenase
	mg/dl	267	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	33.5	Colorimetric with ppt.
	µg/dl	187	
	µmol/l	33.6	Colorimetric without ppt.
	µg/dl	188	
Lactate	mmol/l	4.85	Ion selective electrode
	mg/dl	43.7	
	mmol/l	5.32	Colorimetric Lactate Oxidase
	mg/dl	47.9	
	mmol/l	5.65	Enzymatic Electrode
	mg/dl	50.9	
	mmol/l	5.19	UV LDH
	mg/dl	46.8	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	318	L->P 37°C
	U/l	230	L->P 30°C
	U/l	161	L->P 25°C
	U/l	768	P->L Scandinavian & Dutch 37°C
	U/l	554	P->L Scandinavian & Dutch 30°C
	U/l	389	P->L Scandinavian & Dutch 25°C
	U/l	667	P->L German methods 37°C
	U/l	482	P->L German methods 30°C
	U/l	338	P->L German methods 25°C
	U/l	686	P->L SFBC 37°C
	U/l	495	P->L SFBC 30°C
	U/l	348	P->L SFBC 25°C
	U/l	343	L->P IFCC 37°C
	U/l	248	L->P IFCC 30°C
	U/l	174	L->P IFCC 25°C
Lipase	U/l	49	Roche Colorimetric 37°C
	U/l	71	Randox Colorimetric 37°C
Lithium	mmol/l	1.99	Ion selective electrode
	mg/dl	1.38	
	mmol/l	1.95	Spectrophotometric
	mg/dl	1.35	
	mmol/l	1.93	Randox Colorimetric
	mg/dl	1.34	
Magnesium	mmol/l	1.76	Arsenazo III
	mg/dl	4.28	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.73	Calmagite
	mg/dl	4.20	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.79	Methylthymol blue
	mg/dl	4.35	
	mmol/l	1.74	Chlorphosphonazo III
	mg/dl	4.23	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Osmolality	mOsm/kg	342	Calculated
	mOsm/kg	378	Freezing point depression
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate enzymatic
	mg/dl	7.19	
	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	6.16	Enzymatic
	mmol/l	5.98	Flame photometry
	mmol/l	6.14	ISE method - direct
	mmol/l	6.23	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
	g/l	45.5	Biuret reaction kinetic
	g/dl	4.55	
Sodium	mmol/l	161	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	158	ISE method - direct
	mmol/l	160	ISE method - indirect
TIBC	µmol/l	49.1	Removal of excess free iron
	µg/dl	274	
	µmol/l	54.1	FE+UIBC(saturation with iron)
	µg/dl	302	
	µmol/l	52.5	Direct Colorimetric
	µg/dl	293	
	µmol/l	57.2	Randox Direct
	µg/dl	320	
Triglycerides	mmol/l	2.67	Lipase/GPO-PAP no correction
	mg/dl	236	
	mmol/l	2.65	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	235	
	mmol/l	2.75	L/G Kinase EP. no correction
	mg/dl	243	
	mmol/l	2.60	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	230	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.69	Lipase/Glycerol Dehydrogenase
	mg/dl	238	
Urea	mmol/l	17.5	Urease end point
	mg/dl	105	
	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	17.2	Urease hypochlorite
	mg/dl	103	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.547	Uricase catalase 340nm
	mg/dl	9.19	
	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.544	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	
	mmol/l	0.545	Spectrophotometric at 280-290
	mg/dl	9.16	
	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	
Zinc	µmol/l	35.2	Atomic absorption
	µg/dl	230	
	µmol/l	34.4	Colorimetric with deproteinisation
	µg/dl	225	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
Alkaline Phosphatase	U/l	340	AMP optimised to IFCC 37°C
	U/l	265	AMP optimised to IFCC 30°C
	U/l	217	AMP optimised to IFCC 25°C
	U/l	423	Agappe - DGKC-SCE 37°C
	U/l	330	Agappe - DGKC-SCE 30°C
	U/l	270	Agappe - DGKC-SCE 25°C
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
AST (GOT)	U/l	138	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	25.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	
	µmol/l	32.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.92	
Bilirubin Total	µmol/l	89.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.23	
	µmol/l	94.8	Oxidation to Biliverdin/Vanadate
	mg/dl	5.55	
Calcium	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.08	Cholesterol Oxidase
	mg/dl	273	
CK Total	U/l	502	CK-NAC (IFCC) 37°C
	U/l	314	CK-NAC (IFCC) 30°C
	U/l	213	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	342	Alkaline picrate with deproteinization
	mg/dl	3.86	
	µmol/l	330	Alkaline picrate no deproteinization
	mg/dl	3.73	
	µmol/l	351	Enzymatic UV method
	mg/dl	3.97	
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Iron	µmol/l	34.5	Colorimetric without ppt.
	µg/dl	193	
LD (LDH)	U/l	672	P->L German methods 37°C
	U/l	485	P->L German methods 30°C
	U/l	341	P->L German methods 25°C
	U/l	690	P->L SFBC 37°C
	U/l	498	P->L SFBC 30°C
	U/l	350	P->L SFBC 25°C
	U/l	337	L->P IFCC 37°C
	U/l	243	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.40	Phosphomolybdate UV
	mg/dl	7.44	
Potassium	mmol/l	6.25	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	162	ISE method - indirect
Triglycerides	mmol/l	2.65	Lipase/GPO-PAP no correction
	mg/dl	235	
Urea	mmol/l	18.1	Urease end point
	mg/dl	109	
	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.567	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.534	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.97	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

PRESTIGE 24i Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
Alkaline Phosphatase	U/l	422	Diethanolamine buffer DEA 37°C
	U/l	329	Diethanolamine buffer DEA 30°C
	U/l	270	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	134	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
AST (GOT)	U/l	135	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	25.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.51	
Bilirubin Total	µmol/l	84.1	Diazo with Dichloroaniline (DCA)
	mg/dl	4.92	
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.21	Cholesterol Oxidase
	mg/dl	278	
CK Total	U/l	506	CK-NAC (IFCC) 37°C
	U/l	317	CK-NAC (IFCC) 30°C
	U/l	215	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	319	Alkaline picrate no deproteinization
	mg/dl	3.60	
	µmol/l	386	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.36	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Protein Total	g/l	47.1	Biuret reaction end point
	g/dl	4.71	
Triglycerides	mmol/l	2.68	Lipase/GPO-PAP no correction
	mg/dl	237	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
	g/l	27.3	Bromocresol Purple
	g/dl	2.73	
	g/l	26.6	Turbidimetric Assays
	g/dl	2.66	
Alkaline Phosphatase	U/l	248	Roche Integra AMP buffer 37°C
	U/l	193	Roche Integra AMP buffer 30°C
	U/l	158	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	247	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	257	Randox liquid stable pNPG7 37°C
	U/l	271	BM/Roche Colorimetric pNPG7 37°C
	U/l	270	Roche Integra 2-chloro-pNPG7 37°C
	U/l	271	Other Roche 2-chloro-pNPG7 37°C
	U/l	270	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.3	Colorimetric
	mmol/l	18.0	Enzymatic
Bile Acids	µmol/l	51.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	29.7	Diazo with Sulphanilic Acid
	mg/dl	1.74	
Bilirubin Total	µmol/l	80.4	Diazo with Sulphanilic Acid
	mg/dl	4.70	
	µmol/l	81.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	
	µmol/l	81.4	Diazonium ion
	mg/dl	4.76	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.12	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	113	ISE indirect

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	7.06	Cholesterol Oxidase
	mg/dl	273	
Cholinesterase	U/l	5054	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	545	CK-NAC substrate start (DGKC) 37°C
	U/l	341	CK-NAC substrate start (DGKC) 30°C
	U/l	232	CK-NAC substrate start (DGKC) 25°C
	U/l	535	CK-NAC (IFCC) 37°C
	U/l	335	CK-NAC (IFCC) 30°C
	U/l	227	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	370	Enzymatic UV method
	mg/dl	4.18	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.15	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.03	
	µmol/l	379	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.28	
	µmol/l	373	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.21	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	142	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	112	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	88	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	28	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	273	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	33.2	Colorimetric with ppt.
	µg/dl	186	
	µmol/l	33.6	Colorimetric without ppt.
	µg/dl	188	
Lactate	mmol/l	5.31	Colorimetric Lactate Oxidase
	mg/dl	47.8	
LD (LDH)	U/l	654	P->L German methods 37°C
	U/l	472	P->L German methods 30°C
	U/l	332	P->L German methods 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
LD (LDH)	U/l	338	L->P IFCC 37°C
	U/l	244	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Lipase	U/l	48	Roche Colorimetric 37°C
	U/l	47	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.97	Spectrophotometric
	mg/dl	1.37	
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
	mg/dl	6.98	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.29	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
	g/l	43.6	Biuret reaction kinetic
	g/dl	4.36	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	52.6	FE+UIBC(saturation with iron)
	µg/dl	294	
	µmol/l	42.9	Calculated from Transferrin
	µg/dl	240	
Triglycerides	mmol/l	2.59	Lipase/GPO-PAP no correction
	mg/dl	229	
	mmol/l	2.62	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	232	
	mmol/l	2.60	L/G Kinase EP. no correction
	mg/dl	230	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.532	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.94	
	mmol/l	0.541	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.09	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.5	Bromocresol Green
	g/dl	3.05	
Alkaline Phosphatase	U/l	250	Roche Integra AMP buffer 37°C
	U/l	195	Roche Integra AMP buffer 30°C
	U/l	160	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Amylase Total	U/l	273	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.1	Enzymatic
Bilirubin Direct	µmol/l	31.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
	µmol/l	29.8	Diazo with Sulphanilic Acid
	mg/dl	1.74	
Bilirubin Total	µmol/l	80.3	Diazo with Sulphanilic Acid
	mg/dl	4.70	
	µmol/l	79.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.68	
	µmol/l	82.1	Diazonium ion
	mg/dl	4.81	
Calcium	mmol/l	3.07	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
	mmol/l	3.08	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.20	Cholesterol Oxidase
	mg/dl	278	
CK Total	U/l	523	CK-NAC (IFCC) 37°C
	U/l	327	CK-NAC (IFCC) 30°C
	U/l	222	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	331	Alkaline picrate with deproteinization
	mg/dl	3.74	
	µmol/l	336	Alkaline picrate no deproteinization
	mg/dl	3.79	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Creatinine	µmol/l	359	Roche Creatinine Plus
	mg/dl	4.06	
	µmol/l	351	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.97	
gamma-GT	U/l	153	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	121	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	94	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
LD (LDH)	U/l	360	L->P IFCC 37°C
	U/l	260	L->P IFCC 30°C
	U/l	183	L->P IFCC 25°C
Lipase	U/l	50	Roche Colorimetric 37°C
Magnesium	mmol/l	1.73	Chlorphosphonazo III
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Potassium	mmol/l	6.22	ISE method - indirect
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.64	Lipase/GPO-PAP no correction
	mg/dl	234	
	mmol/l	2.60	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	230	
Urea	mmol/l	17.6	Urease kinetic
	mg/dl	106	
	mmol/l	18.1	Urease hypochlorite
	mg/dl	109	
	mmol/l	17.6	BUN
	mg/dl	49.4	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.549	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	
	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
	g/l	27.5	Bromocresol Purple
	g/dl	2.75	
Alkaline Phosphatase	U/l	244	Roche Integra AMP buffer 37°C
	U/l	190	Roche Integra AMP buffer 30°C
	U/l	156	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	260	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	274	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	129	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.1	Enzymatic
Bilirubin Direct	µmol/l	28.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	
	µmol/l	29.1	Diazo with Sulphanilic Acid
	mg/dl	1.70	
	µmol/l	27.5	Roche JG factored
	mg/dl	1.61	
	µmol/l	29.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	81.7	Diazo with Sulphanilic Acid
	mg/dl	4.78	
	µmol/l	81.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.75	
	µmol/l	81.9	Diazonium ion
	mg/dl	4.79	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.14	NM-BAPTA
	mg/dl	12.6	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Cholinesterase	U/l	5031	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	541	CK-NAC (IFCC) 37°C
	U/l	339	CK-NAC (IFCC) 30°C
	U/l	230	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	372	Enzymatic UV method
	mg/dl	4.21	
	µmol/l	372	Roche Creatinine Plus
	mg/dl	4.20	
	µmol/l	360	Jaffe rate blanked
	mg/dl	4.07	
	µmol/l	387	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.37	
gamma-GT	U/l	147	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	116	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	275	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	190	
Lactate	mmol/l	5.33	Colorimetric Lactate Oxidase
	mg/dl	48.0	
LD (LDH)	U/l	661	P->L German methods 37°C
	U/l	477	P->L German methods 30°C
	U/l	335	P->L German methods 25°C
	U/l	338	L->P IFCC 37°C
	U/l	244	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Lipase	U/l	48	Roche Colorimetric 37°C
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.74	Chlorphosphonazo III
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	6.29	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Protein Total	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	162	ISE method - indirect
Triglycerides	mmol/l	2.61	Lipase/GPO-PAP no correction
	mg/dl	231	
	mmol/l	2.60	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	230	
	mmol/l	2.62	L/G Kinase EP. no correction
	mg/dl	232	
Urea	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.545	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.546	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.17	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
Alkaline Phosphatase	U/l	225	Roche Integra AMP buffer 37°C
	U/l	175	Roche Integra AMP buffer 30°C
	U/l	144	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	251	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	272	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.4	Enzymatic
Bilirubin Direct	µmol/l	30.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.81	
Bilirubin Total	µmol/l	80.4	Diazo with Sulphanilic Acid
	mg/dl	4.70	
	µmol/l	78.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.61	
	µmol/l	79.7	Diazonium ion
	mg/dl	4.66	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.04	Cholesterol Oxidase
	mg/dl	272	
CK Total	U/l	472	CK-NAC (IFCC) 37°C
	U/l	295	CK-NAC (IFCC) 30°C
	U/l	201	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	376	Enzymatic UV method
	mg/dl	4.25	
	µmol/l	370	Roche Creatinine Plus
	mg/dl	4.18	
	µmol/l	382	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.32	
gamma-GT	U/l	138	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	109	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	85	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
gamma-GT	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	271	
Iron	µmol/l	33.0	Colorimetric without ppt.
	µg/dl	184	
Lactate	mmol/l	5.28	Colorimetric Lactate Oxidase
	mg/dl	47.6	
LD (LDH)	U/l	337	L->P IFCC 37°C
	U/l	243	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Lipase	U/l	48	Roche Colorimetric 37°C
Lithium	mmol/l	1.93	Spectrophotometric
	mg/dl	1.34	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	6.29	ISE method - indirect
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	53.2	FE+UIBC(saturation with iron)
	µg/dl	298	
Triglycerides	mmol/l	2.58	Lipase/GPO-PAP no correction
	mg/dl	228	
Urea	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.532	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.94	
	mmol/l	0.534	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.97	
	mmol/l	0.536	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.00	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
Alkaline Phosphatase	U/l	492	Diethanolamine buffer DEA 37°C
	U/l	313	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	135	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	276	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	305	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	145	Tris buffer without P5P 37°C
Bile Acids	µmol/l	50.5	5th Generation Colorimetric
Bilirubin Direct	µmol/l	31.4	Diazo with Sulphanilic Acid
	mg/dl	1.84	
	µmol/l	30.6	Oxidation to Biliverdin/Vanadate
	mg/dl	1.79	
Bilirubin Total	µmol/l	91.3	Diazo with Sulphanilic Acid
	mg/dl	5.34	
	µmol/l	94.8	Oxidation to Biliverdin/Vanadate
	mg/dl	5.55	
Calcium	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.26	Cholesterol Oxidase
	mg/dl	280	
CK Total	U/l	507	CK-NAC substrate start (DGKC) 37°C
	U/l	555	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	307	Alkaline picrate no deproteinization
	mg/dl	3.47	
	µmol/l	361	Enzymatic UV method
	mg/dl	4.08	
gamma-GT	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	36.4	Colorimetric without ppt.
	µg/dl	203	
Lactate	mmol/l	5.11	Colorimetric Lactate Oxidase
	mg/dl	46.0	
LD (LDH)	U/l	702	P->L German methods 37°C
	U/l	352	L->P IFCC 37°C
Lipase	U/l	75	Randox Colorimetric 37°C

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CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Lithium	mmol/l	1.93	Colorimetric
	mg/dl	1.34	
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.37	Phosphomolybdate UV
	mg/dl	7.35	
Potassium	mmol/l	6.34	Enzymatic
Protein Total	g/l	47.1	Biuret reaction end point
	g/dl	4.71	
Sodium	mmol/l	158	Enzymatic
TIBC	µmol/l	57.2	Direct Colorimetric
	µg/dl	320	
Triglycerides	mmol/l	2.61	Lipase/GPO-PAP no correction
	mg/dl	231	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.565	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.49	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
	g/l	28.2	Bromocresol Purple
	g/dl	2.82	
Alkaline Phosphatase	U/l	430	Diethanolamine buffer DEA 37°C
	U/l	309	AMP optimised to IFCC 37°C
	U/l	304	AMP non-optimised 37°C
ALT (GPT)	U/l	131	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	258	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	282	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	134	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	20.2	Enzymatic
Bile Acids	µmol/l	50.2	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	33.6	Oxidation to Biliverdin/Vanadate
	mg/dl	1.97	
Bilirubin Total	µmol/l	93.7	Oxidation to Biliverdin/Vanadate
	mg/dl	5.48	
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	5395	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	498	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	342	Alkaline picrate no deproteinization
	mg/dl	3.86	
	µmol/l	361	Enzymatic UV method
	mg/dl	4.08	
	µmol/l	348	Jaffe rate blanked
	mg/dl	3.93	
	µmol/l	374	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.23	
gamma-GT	U/l	159	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Iron	µmol/l	34.5	Colorimetric without ppt.
	µg/dl	193	
Lactate	mmol/l	5.39	Colorimetric Lactate Oxidase
	mg/dl	48.6	
LD (LDH)	U/l	337	L->P 37°C
	U/l	670	P->L German methods 37°C
	U/l	344	L->P IFCC 37°C
Lipase	U/l	66	Other Colorimetric 37°C
Lithium	mmol/l	1.93	Spectrophotometric
	mg/dl	1.34	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate UV
	mg/dl	7.22	
Potassium	mmol/l	6.23	ISE method - indirect
Protein Total	g/l	47.4	Biuret reaction end point
	g/dl	4.74	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	57.1	Direct Colorimetric
	µg/dl	319	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
Alkaline Phosphatase	U/l	286	Siemens Dimension AMP buffer 37°C
	U/l	288	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	143	Tris buffer with P5P 37°C
	U/l	142	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	334	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	154	Tris buffer with P5P 37°C
	U/l	156	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	19.4	Enzymatic
Bilirubin Direct	µmol/l	17.5	Diazo with Sulphanilic Acid
	mg/dl	1.02	
Bilirubin Total	µmol/l	85.2	Diazo with Sulphanilic Acid
	mg/dl	4.99	
Calcium	mmol/l	3.05	Cresolphthalein complexone
	mg/dl	12.2	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.65	Dimension-Siemens reagents
	mg/dl	257	
CK Total	U/l	473	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
gamma-GT	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	188	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	273	
Iron	µmol/l	32.0	Colorimetric without ppt.
	µg/dl	179	
Lactate	mmol/l	5.18	UV LDH
	mg/dl	46.7	
LD (LDH)	U/l	333	Siemens Dimension L-P Non IFCC 37°C
	U/l	328	L->P IFCC 37°C
Lipase	U/l	225	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.79	Methylthymol blue
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Sodium	mmol/l	160	ISE method - indirect
Triglycerides	mmol/l	2.71	Lipase/GPO-PAP no correction
	mg/dl	240	
	mmol/l	2.68	L/G Kinase EP. no correction
	mg/dl	237	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.547	Spectrophotometric at 280-290
	mg/dl	9.19	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
Alkaline Phosphatase	U/l	284	Siemens Dimension AMP buffer 37°C
	U/l	289	AMP optimised to IFCC 37°C
	U/l	295	Randox AMP 37°C
ALT (GPT)	U/l	139	Tris buffer with P5P 37°C
	U/l	141	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	330	Siemens - maltopenta/hexaoside 37°C
	U/l	334	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	155	Tris buffer with P5P 37°C
	U/l	156	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	19.8	Enzymatic
Bilirubin Direct	µmol/l	17.6	Diazo with Sulphanilic Acid
	mg/dl	1.03	
Bilirubin Total	µmol/l	85.6	Diazo with Sulphanilic Acid
	mg/dl	5.01	
Calcium	mmol/l	3.05	Cresolphthalein complexone
	mg/dl	12.2	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.74	Dimension-Siemens reagents
	mg/dl	260	
CK Total	U/l	466	CK-NAC (IFCC) 37°C
	U/l	488	Dithioerythritol 37°C
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
	µmol/l	359	Enzymatic UV method
	mg/dl	4.05	
	µmol/l	368	Creatinine PAP method
	mg/dl	4.15	
	µmol/l	363	Jaffe rate blanked
	mg/dl	4.10	
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	189	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	31.9	Colorimetric without ppt.
	µg/dl	178	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
LD (LDH)	U/l	336	Siemens Dimension L-P Non IFCC 37°C
	U/l	331	L->P IFCC 37°C
Lipase	U/l	220	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.80	Methylthymol blue
	mg/dl	4.37	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate enzymatic
	mg/dl	7.22	
	mmol/l	2.34	Phosphomolybdate UV
	mg/dl	7.25	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	47.3	Removal of excess free iron
	µg/dl	264	
Triglycerides	mmol/l	2.70	Lipase/GPO-PAP no correction
	mg/dl	239	
	mmol/l	2.72	L/G Kinase EP. no correction
	mg/dl	241	
	mmol/l	2.75	Lipase/Glycerol Dehydrogenase
	mg/dl	243	
Urea	mmol/l	18.0	Urease end point
	mg/dl	108	
	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	
	mmol/l	0.545	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	
	mmol/l	0.539	Spectrophotometric at 280-290
	mg/dl	9.06	

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CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	28.1	Bromocresol Purple
	g/dl	2.81	
Alkaline Phosphatase	U/l	291	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	140	Tris buffer with P5P 37°C
Amylase Total	U/l	331	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	158	Tris buffer with P5P 37°C
Bicarbonate	mmol/l	20.2	Enzymatic
Bilirubin Direct	µmol/l	19.0	Diazo with Sulphanilic Acid
	mg/dl	1.11	
Bilirubin Total	µmol/l	85.7	Diazo with Sulphanilic Acid
	mg/dl	5.01	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	120	ISE indirect
Cholesterol	mmol/l	6.67	Dimension-Siemens reagents
	mg/dl	257	
CK Total	U/l	486	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	379	IDMS traceable
	mg/dl	4.28	
gamma-GT	U/l	187	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
Lactate	mmol/l	5.53	UV LDH
	mg/dl	49.8	
LD (LDH)	U/l	343	L->P IFCC 37°C
Lipase	U/l	267	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.82	Methylthymol blue
	mg/dl	4.42	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.16	ISE method - indirect
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
Sodium	mmol/l	161	ISE method - indirect
Triglycerides	mmol/l	2.96	Lipase/GPO-PAP no correction
	mg/dl	262	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.6	BUN
	mg/dl	52.2	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.550	Spectrophotometric at 280-290
	mg/dl	9.24	

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RANDOX

CALIBRATION SERUM LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot No. 844UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-06-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/l	442	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
AST (GOT)	U/l	132	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	86.7	Diazo with Sulphanilic Acid
	mg/dl	5.07	
Calcium	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
Glucose	mmol/l	14.7	Glucose oxidase
	mg/dl	265	
Protein Total	g/l	48.3	Biuret reaction end point
	g/dl	4.83	
Triglycerides	mmol/l	2.64	Lipase/GPO-PAP no correction
	mg/dl	234	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	

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