CALIBRATION SERUM - LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 753UE
SIZE: 20 x 5ml **EXPIRY:** 2017-06

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. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.7	Bromocresol Green
	g/dl	2.87	
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	
Bilirubin Total	µmol/l	86.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.04	
	µmol/l	83.8	Diazo with Sulphanilic Acid
	mg/dl	4.90	
Calcium	mmol/l	2.98	Cresolphthalein complexone
	mg/dl	11.9	
	mmol/l	2.99	Arsenazo III
	mg/dl	12.0	
Chloride	mmol/l	114	ISE direct
Cholesterol	mmol/l	7.08	Cholesterol Oxidase
	mg/dl	273	
CK Total	U/l	535	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	350	Alkaline picrate no deproteinization
	mg/dl	3.95	
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	285	
Iron	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	189	
LD (LDH)	U/l	335	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	5.80	ISE method - direct
Protein Total	g/l	47.2	Biuret reaction end point
	g/dl	4.72	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.80	Lipase/GPO-PAP no correction
	mg/dl	248	
Urea	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	17.6	Urease hypochlorite
	mg/dl	106	
	mmol/l	18.6	BUN
	mg/dl	52.2	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABBOTT AEROSET® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.567	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.576	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.68	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
	g/l	27.3	Bromocresol Purple
	g/dl	2.73	
Alkaline Phosphatase	U/l	302	AMP optimised to IFCC 37°C
	U/l	296	AMP optimised to NVKC/SFBC 37°C
	U/l	300	AMP non-optimised 37°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	241	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	298	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	138	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.3	Enzymatic
Bile Acids	µmol/l	46.7	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.65	
	µmol/l	27.9	Diazo with Dichloroaniline (DCA)
	mg/dl	1.63	
Bilirubin Total	µmol/l	89.3	Diazo with Dichloroaniline (DCA)
	mg/dl	5.22	
	µmol/l	89.4	Diazo with Sulphanilic Acid
	mg/dl	5.23	
	µmol/l	89.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.24	
	µmol/l	88.8	Nitrobenzenediazonium salt
	mg/dl	5.19	
	µmol/l	89.8	Diazonium ion
	mg/dl	5.25	
Calcium	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.09	Cholesterol Oxidase
	mg/dl	274	
Cholinesterase	U/l	6147	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	551	CK-NAC serum start (DGKC) 37°C
	U/l	519	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	379	Alkaline picrate no deproteinization
	mg/dl	4.29	
	µmol/l	385	Randox Enzymatic UV method
	mg/dl	4.35	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Creatinine	µmol/l	388	Creatinine PAP method
	mg/dl	4.39	
	µmol/l	376	Jaffe rate blanked
	mg/dl	4.24	
	µmol/l	376	IDMS traceable
	mg/dl	4.25	
gamma-GT	U/l	161	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	159	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	35.3	Colorimetric with ppt.
	µg/dl	197	
	µmol/l	35.4	Colorimetric without ppt.
	µg/dl	198	
Lactate	mmol/l	5.29	Colorimetric Lactate Oxidase
	mg/dl	47.7	
LD (LDH)	U/l	332	L->P 37°C
	U/l	649	P->L German methods 37°C
	U/l	332	L->P IFCC 37°C
Lipase	U/l	68	Other Colorimetric 37°C
Lithium	mmol/l	2.01	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	5.83	ISE method - indirect
Protein Total	g/l	47.4	Biuret reaction end point
	g/dl	4.74	
	g/l	47.0	Biuret reaction kinetic
	g/dl	4.70	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	52.1	FE+UIBC(saturation with iron)
	µg/dl	291	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	254	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
	mmol/l	2.87	Agappe - GPO - TOPS
	mg/dl	254	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	
Uric Acid (Urate)	mmol/l	0.581	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.76	
	mmol/l	0.578	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.71	
	mmol/l	0.584	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.81	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
Alkaline Phosphatase	U/l	329	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	145	Tris buffer without P5P 37°C
AST (GOT)	U/l	157	Tris buffer without P5P 37°C
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
Cholesterol	mmol/l	7.28	Cholesterol Oxidase
	mg/dl	281	
CK Total	U/l	520	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	387	Creatinine PAP method
	mg/dl	4.37	
Magnesium	mmol/l	1.63	Xylidyl Blue
	mg/dl	3.96	
Phosphate Inorganic	mmol/l	2.43	Phosphomolybdate UV
	mg/dl	7.53	
Protein Total	g/l	53.1	Biuret reaction end point
	g/dl	5.31	
Uric Acid (Urate)	mmol/l	0.564	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.48	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	27.8	Bromocresol Green
	g/dl	2.78	
Alkaline Phosphatase	U/l	366	p-Nitrophenylphosphate AMP 37°C
	U/l	516	Diethanolamine buffer DEA 37°C
	U/l	237	Roche Integra AMP buffer 37°C
	U/l	382	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	133	Tris buffer without P5P 37°C
Amylase Total	U/l	263	pNP Maltotrioside substrates 37°C
	U/l	267	Biotrol - blocked pNPG7 37°C
	U/l	262	Beckman maltotetraose 37°C
	U/l	255	Roche liquid stable pNPG7 37°C
	U/l	265	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	147	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.2	Enzymatic
Bilirubin Direct	µmol/l	23.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.38	
Bilirubin Total	µmol/l	87.5	Diazo with Sulphanilic Acid
	mg/dl	5.12	
	µmol/l	89.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.24	
	µmol/l	87.2	Oxidation to Biliverdin
	mg/dl	5.10	
Calcium	mmol/l	3.04	Cresolphthalein complexone
	mg/dl	12.2	
	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	4762	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	530	CK-NAC serum start (DGKC) 37°C
	U/l	565	CK-NAC substrate start (DGKC) 37°C
	U/l	540	CK-NAC (IFCC) 37°C
Copper	µmol/l	28.7	Colorimetric
	µg/dl	183	
Creatinine	µmol/l	357	Alkaline picrate no deproteinization
	mg/dl	4.03	
	µmol/l	380	Randox Enzymatic UV method
	mg/dl	4.29	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Creatinine	µmol/l	372	Creatinine PAP method
	mg/dl	4.20	
	µmol/l	376	Roche Creatinine Plus
	mg/dl	4.25	
	µmol/l	369	Jaffe rate blanked
	mg/dl	4.17	
	µmol/l	399	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.51	
	µmol/l	378	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.27	
	µmol/l	369	IDMS traceable
	mg/dl	4.17	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	171	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	170	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	29	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	35.5	Colorimetric with ppt.
	µg/dl	198	
	µmol/l	35.0	Colorimetric without ppt.
	µg/dl	196	
Lactate	mmol/l	5.39	Colorimetric Lactate Oxidase
	mg/dl	48.6	
LD (LDH)	U/l	339	L->P 37°C
	U/l	740	P->L Scandinavian & Dutch 37°C
	U/l	652	P->L German methods 37°C
	U/l	331	L->P IFCC 37°C
Lipase	U/l	72	Other Colorimetric 37°C
	U/l	61	Roche Colorimetric 37°C
	U/l	75	Randox Colorimetric 37°C
Lithium	mmol/l	1.95	Spectrophotometric
	mg/dl	1.35	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate enzymatic
	mg/dl	7.10	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	5.78	ISE method - indirect
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Sodium	mmol/l	155	ISE method - indirect
TIBC	µmol/l	52.6	FE+UIBC(saturation with iron)
	µg/dl	294	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.94	L/G Kinase EP. no correction
	mg/dl	260	
Urea	mmol/l	18.7	Urease end point
	mg/dl	112	
	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.584	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.81	
	mmol/l	0.591	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.93	
	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
	g/l	28.8	Bromocresol Purple
	g/dl	2.88	
Alkaline Phosphatase	U/l	349	p-Nitrophenylphosphate AMP 37°C
	U/l	349	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
	U/l	121	Tris buffer SCE 37°C
Amylase Total	U/l	271	Beckman maltotetraose 37°C
	U/l	280	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	135	Tris buffer without P5P 37°C
	U/l	134	Tris buffer SCE 37°C
Bicarbonate	mmol/l	15.8	Differential rate pH change
	mmol/l	16.6	Ion selective electrode
Bilirubin Direct	µmol/l	16.5	Diazo with Sulphanilic Acid
	mg/dl	0.967	
Bilirubin Total	µmol/l	88.0	Diazo with Sulphanilic Acid
	mg/dl	5.15	
Calcium	mmol/l	3.00	Ion selective electrode
	mg/dl	12.0	
	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
CK Total	U/l	542	CK-NAC (IFCC) 37°C
	U/l	540	Monothioglycerol 37°C
Creatinine	µmol/l	370	Alkaline picrate no deproteinization
	mg/dl	4.18	
	µmol/l	371	Randox Enzymatic UV method
	mg/dl	4.20	
	µmol/l	374	Jaffe rate blanked
	mg/dl	4.23	
	µmol/l	369	IDMS traceable
	mg/dl	4.17	
gamma-GT	U/l	138	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	275	

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Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Glucose	mmol/l	15.3	Oxygen electrode
	mg/dl	276	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	35.8	Colorimetric without ppt.
	µg/dl	200	
Lactate	mmol/l	5.11	Colorimetric Lactate Oxidase
	mg/dl	46.0	
LD (LDH)	U/l	275	L->P 37°C
	U/l	856	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lipase	U/l	56	Other Colorimetric 37°C
Magnesium	mmol/l	1.67	Calmagite
	mg/dl	4.06	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.80	ISE method - indirect
Protein Total	g/l	47.0	Biuret reaction CX4/5/7
	g/dl	4.70	
	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
	g/l	44.7	Biuret reaction kinetic
	g/dl	4.47	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	3.01	L/G Kinase EP. no correction
	mg/dl	266	
Urea	mmol/l	18.2	Urease end point
	mg/dl	109	
	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.1	Bromocresol Green
	g/dl	2.81	
Alkaline Phosphatase	U/l	335	AMP optimised to IFCC 37°C
	U/l	261	AMP optimised to IFCC 30°C
	U/l	214	AMP optimised to IFCC 25°C
AST (GOT)	U/l	153	Tris buffer without P5P 37°C
	U/l	103	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	92.7	Diazo with Sulphanilic Acid
	mg/dl	5.42	
Calcium	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	7.21	Cholesterol Oxidase
	mg/dl	278	
Creatinine	µmol/l	335	Alkaline picrate no deproteinization
	mg/dl	3.79	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Protein Total	g/l	49.0	Biuret reaction end point
	g/dl	4.90	
Triglycerides	mmol/l	2.70	Lipase/GPO-PAP no correction
	mg/dl	239	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.586	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.577	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.69	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.0	Bromocresol Green
	g/dl	2.80	
Alkaline Phosphatase	U/l	482	Diethanolamine buffer DEA 37°C
	U/l	375	Diethanolamine buffer DEA 30°C
	U/l	308	Diethanolamine buffer DEA 25°C
	U/l	310	AMP optimised to IFCC 37°C
	U/l	241	AMP optimised to IFCC 30°C
	U/l	198	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	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
AST (GOT)	U/l	159	Tris buffer without P5P 37°C
	U/l	107	Tris buffer without P5P 30°C
	U/l	76	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.5	Diazo with Sulphanilic Acid
	mg/dl	1.84	
Bilirubin Total	µmol/l	89.7	Diazo with Sulphanilic Acid
	mg/dl	5.25	
Cholesterol	mmol/l	7.24	Cholesterol Oxidase
	mg/dl	279	
CK Total	U/l	547	CK-NAC (IFCC) 37°C
	U/l	342	CK-NAC (IFCC) 30°C
	U/l	232	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	335	Alkaline picrate no deproteinization
	mg/dl	3.79	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
LD (LDH)	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
Protein Total	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
Triglycerides	mmol/l	2.66	Lipase/GPO-PAP no correction
	mg/dl	235	
Urea	mmol/l	17.2	Urease kinetic
	mg/dl	103	
	mmol/l	17.2	BUN
	mg/dl	48.3	
Uric Acid (Urate)	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
	g/l	26.7	Turbidimetric Assays
	g/dl	2.67	
Alkaline Phosphatase	U/l	234	Roche Integra AMP buffer 37°C
	U/l	182	Roche Integra AMP buffer 30°C
	U/l	150	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	123	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	242	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	255	Saccharogenic 37°C
	U/l	262	Roche Integra 2-chloro-pNPG7 37°C
	U/l	263	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	137	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.6	Enzymatic
Bilirubin Direct	µmol/l	31.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
Bilirubin Total	µmol/l	81.6	Diazo with Sulphanilic Acid
	mg/dl	4.77	
	µmol/l	82.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	
	µmol/l	82.8	Diazonium ion
	mg/dl	4.84	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.07	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.31	Cholesterol Oxidase
	mg/dl	282	
CK Total	U/l	544	CK-NAC substrate start (DGKC) 37°C
	U/l	341	CK-NAC substrate start (DGKC) 30°C
	U/l	231	CK-NAC substrate start (DGKC) 25°C
	U/l	562	CK-NAC (IFCC) 37°C
	U/l	352	CK-NAC (IFCC) 30°C
	U/l	239	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Creatinine	µmol/l	333	Alkaline picrate with deproteinization
	mg/dl	3.76	
	µmol/l	345	Alkaline picrate no deproteinization
	mg/dl	3.90	
	µmol/l	360	Roche Creatinine Plus
	mg/dl	4.07	
	µmol/l	339	Jaffe rate blanked
	mg/dl	3.84	
	µmol/l	379	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.28	
	µmol/l	364	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.11	
gamma-GT	U/l	151	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	119	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	93	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	173	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	107	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Glucose dehydrogenase
	mg/dl	274	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	35.5	Colorimetric with ppt.
	µg/dl	198	
	µmol/l	35.1	Colorimetric without ppt.
	µg/dl	196	
Lactate	mmol/l	5.57	Colorimetric Lactate Oxidase
	mg/dl	50.2	
LD (LDH)	U/l	646	P->L German methods 37°C
	U/l	466	P->L German methods 30°C
	U/l	328	P->L German methods 25°C
	U/l	347	L->P IFCC 37°C
	U/l	251	L->P IFCC 30°C
	U/l	176	L->P IFCC 25°C
Lipase	U/l	68	Roche Colorimetric 37°C
Lithium	mmol/l	2.07	Ion selective electrode
	mg/dl	1.44	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Magnesium	mmol/l	1.68	Chlorphosphonazo III
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate enzymatic
	mg/dl	7.13	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	5.84	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	45.0	Biuret reaction kinetic
	g/dl	4.50	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	51.8	FE+UIBC(saturation with iron)
	µg/dl	289	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
	mmol/l	2.78	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	246	
	mmol/l	2.73	L/G Kinase EP. no correction
	mg/dl	242	
	mmol/l	2.73	Lipase/Glycerol Dehydrogenase
	mg/dl	242	
Urea	mmol/l	17.5	Urease kinetic
	mg/dl	105	
	mmol/l	17.5	BUN
	mg/dl	49.1	
Uric Acid (Urate)	mmol/l	0.575	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.66	
	mmol/l	0.567	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.580	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.74	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Dirui CS-400/800 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
Alkaline Phosphatase	U/l	329	AMP optimised to IFCC 37°C
	U/l	256	AMP optimised to IFCC 30°C
	U/l	210	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
AST (GOT)	U/l	146	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	94.0	Diazo with Sulphanilic Acid
	mg/dl	5.50	
Cholesterol	mmol/l	7.27	Cholesterol Oxidase
	mg/dl	281	
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
Urea	mmol/l	17.7	Urease kinetic
	mg/dl	106	
	mmol/l	17.7	BUN
	mg/dl	49.7	
Uric Acid (Urate)	mmol/l	0.560	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.41	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ELITech/Vitalab Selectra Pro/E/XL Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	496	Diethanolamine buffer DEA 37°C
AST (GOT)	U/l	144	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	84.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.94	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
Creatinine	µmol/l	334	Alkaline picrate no deproteinization
	mg/dl	3.77	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.02	
Glucose	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate UV
	mg/dl	7.22	
Protein Total	g/l	51.6	Biuret reaction end point
	g/dl	5.16	
Triglycerides	mmol/l	2.77	Lipase/GPO-PAP no correction
	mg/dl	245	
Urea	mmol/l	17.8	Urease kinetic
	mg/dl	107	
	mmol/l	17.8	BUN
	mg/dl	50.0	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
a-HBDH	U/l	429	Oxobutyrate < 10 mmol/l 37°C
	U/l	324	Oxobutyrate < 10 mmol/l 30°C
	U/l	243	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	11.5	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	17.8	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	34.1	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	18.4	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	45.6	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	36.2	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
	g/l	28.1	Bromocresol Purple
	g/dl	2.81	
Alkaline Phosphatase	U/l	220	Roche Integra AMP buffer 37°C
	U/l	171	Roche Integra AMP buffer 30°C
	U/l	141	Roche Integra AMP buffer 25°C
	U/l	344	Randox AMP 37°C
	U/l	268	Randox AMP 30°C
	U/l	220	Randox AMP 25°C
ALT (GPT)	U/l	126	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	236	Roche liquid stable pNPG7 37°C
	U/l	266	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	254	Roche liquid stable pNPG7 37°C
	U/l	301	Randox liquid stable pNPG7 37°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
Bicarbonate	mmol/l	16.7	Colorimetric
	mmol/l	15.3	Enzymatic
Bile Acids	µmol/l	45.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	30.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.79	
	µmol/l	29.1	Diazo with Sulphanilic Acid
	mg/dl	1.70	
Bilirubin Total	µmol/l	87.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.09	
	µmol/l	81.3	Diazo with Sulphanilic Acid
	mg/dl	4.75	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	81.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	
	µmol/l	79.9	Diazonium ion
	mg/dl	4.67	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.08	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.18	Cholesterol Oxidase
	mg/dl	277	
Cholinesterase	U/l	5091	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	535	CK-NAC substrate start (DGKC) 37°C
	U/l	335	CK-NAC substrate start (DGKC) 30°C
	U/l	227	CK-NAC substrate start (DGKC) 25°C
	U/l	522	CK-NAC (IFCC) 37°C
	U/l	327	CK-NAC (IFCC) 30°C
	U/l	222	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	376	Randox Enzymatic UV method
	mg/dl	4.25	
	µmol/l	378	Creatinine PAP method
	mg/dl	4.27	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.29	
	µmol/l	395	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.46	
D-3-Hydroxybutyrate	mmol/l	1.05	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	146	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	115	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	90	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
	U/l	174	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	37	Triethanolamine buffer 50 mmol 37°C
	U/l	28	Triethanolamine buffer 50 mmol 30°C
	U/l	23	Triethanolamine buffer 50 mmol 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	34.4	Colorimetric without ppt.
	µg/dl	192	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	
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	329	L->P IFCC 37°C
	U/l	238	L->P IFCC 30°C
	U/l	167	L->P IFCC 25°C
Lipase	U/l	66	Other Colorimetric 37°C
	U/l	62	Roche Colorimetric 37°C
Lithium	mmol/l	2.05	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.69	Xylidyl Blue
	mg/dl	4.11	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	5.90	ISE method - indirect
Protein Total	g/l	46.4	Biuret reaction end point
	g/dl	4.64	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	49.3	FE+UIBC(saturation with iron)
	µg/dl	276	
Triglycerides	mmol/l	2.74	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.67	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	236	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.560	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.41	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.558	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
Alkaline Phosphatase	U/l	361	AMP optimised to IFCC 37°C
	U/l	281	AMP optimised to IFCC 30°C
	U/l	231	AMP optimised to IFCC 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
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
Bile Acids	µmol/l	45.1	Enzymatic Colorimetric
Bilirubin Total	µmol/l	90.4	Diazo with Sulphanilic Acid
	mg/dl	5.29	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	6.91	Cholesterol Oxidase
	mg/dl	267	
CK Total	U/l	473	CK-NAC (IFCC) 37°C
	U/l	296	CK-NAC (IFCC) 30°C
	U/l	201	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	340	Alkaline picrate no deproteinization
	mg/dl	3.84	
D-3-Hydroxybutyrate	mmol/l	1.09	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	153	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	121	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	94	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	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	15.5	Hexokinase
	mg/dl	280	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Phosphate Inorganic	mmol/l	2.18	Phosphomolybdate UV
	mg/dl	6.76	
Potassium	mmol/l	5.85	ISE method - indirect
Protein Total	g/l	47.7	Biuret reaction end point
	g/dl	4.77	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Sodium	mmol/l	158	ISE method - indirect
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.89	L/G Kinase EP. no correction
	mg/dl	256	
Urea	mmol/l	18.5	Urease end point
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
Alkaline Phosphatase	U/l	520	Diethanolamine buffer DEA 37°C
	U/l	405	Diethanolamine buffer DEA 30°C
	U/l	332	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Amylase Total	U/l	254	bioMerieux 2-chloro-pNPG3 37°C
AST (GOT)	U/l	156	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bile Acids	µmol/l	46.5	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	33.4	Diazo with Sulphanilic Acid
	mg/dl	1.96	
Bilirubin Total	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	
	µmol/l	85.5	Nitrobenzenediazonium salt
	mg/dl	5.00	
Calcium	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	115	ISE direct
Cholesterol	mmol/l	6.97	Cholesterol Oxidase
	mg/dl	269	
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
Creatinine	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	381	Randox Enzymatic UV method
	mg/dl	4.30	
	µmol/l	375	Creatinine PAP method
	mg/dl	4.24	
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Iron	µmol/l	36.6	Colorimetric without ppt.
	µg/dl	205	
Magnesium	mmol/l	1.74	Calmagite
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	5.69	ISE method - direct
Protein Total	g/l	47.7	Biuret reaction end point
	g/dl	4.77	
Sodium	mmol/l	154	ISE method - direct
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	17.0	Urease kinetic
	mg/dl	102	
	mmol/l	17.0	BUN
	mg/dl	47.7	
Uric Acid (Urate)	mmol/l	0.589	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.90	
	mmol/l	0.595	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.00	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
a-HBDH	U/l	429	Oxobutyrate < 10 mmol/l 37°C
	U/l	324	Oxobutyrate < 10 mmol/l 30°C
	U/l	243	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	17.8	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	11.5	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	18.4	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	34.1	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	36.2	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	45.6	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
	g/l	26.7	Turbidimetric Assays
	g/dl	2.67	
Alkaline Phosphatase	U/l	352	p-Nitrophenylphosphate AMP 37°C
	U/l	274	p-Nitrophenylphosphate AMP 30°C
	U/l	225	p-Nitrophenylphosphate AMP 25°C
	U/l	505	Diethanolamine buffer DEA 37°C
	U/l	393	Diethanolamine buffer DEA 30°C
	U/l	323	Diethanolamine buffer DEA 25°C
	U/l	337	AMP optimised to IFCC 37°C
	U/l	263	AMP optimised to IFCC 30°C
	U/l	215	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	156	Tris buffer with P5P 37°C
	U/l	115	Tris buffer with P5P 30°C
	U/l	88	Tris buffer with P5P 25°C
	U/l	127	Tris buffer without P5P 37°C
	U/l	94	Tris buffer without P5P 30°C
	U/l	72	Tris buffer without P5P 25°C
	U/l	120	Tris buffer SCE 37°C
	U/l	89	Tris buffer SCE 30°C
	U/l	68	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	241	Immunoinhibition EPS substrate 37°C
	U/l	236	Roche liquid stable pNPG7 37°C
	U/l	266	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	265	pNP Maltotrioside substrates 37°C
	U/l	265	Siemens - blocked pNPG7 37°C
	U/l	267	Biotrol - blocked pNPG7 37°C

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Amylase Total	U/l	278	I.L. - blocked pNPG7 37°C
	U/l	219	Randox - Ethylidene pNPG7 37°C
	U/l	301	Randox liquid stable pNPG7 37°C
	U/l	259	BM/Roche Colorimetric pNPG7 37°C
	U/l	270	Beckman maltotetraose 37°C
	U/l	312	Siemens - maltopenta/hexaoside 37°C
	U/l	255	Saccharogenic 37°C
	U/l	260	Roche Integra 2-chloro-pNPG7 37°C
	U/l	258	Other Roche 2-chloro-pNPG7 37°C
	U/l	257	Roche liquid stable pNPG7 37°C
	U/l	318	Siemens 2-chloro-pNPG3 37°C
	U/l	263	bioMerieux 2-chloro-pNPG3 37°C
	U/l	264	Beckman Coulter - blocked pNPG7 37°C
	U/l	280	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	208	Tris buffer with P5P 37°C
	U/l	141	Tris buffer with P5P 30°C
	U/l	99	Tris buffer with P5P 25°C
	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
	U/l	130	Tris buffer SCE 37°C
	U/l	88	Tris buffer SCE 30°C
	U/l	62	Tris buffer SCE 25°C
Bicarbonate	mmol/l	16.1	Colorimetric
	mmol/l	15.8	Differential rate pH change
	mmol/l	15.6	Enzymatic
	mmol/l	15.5	Ion selective electrode
Bile Acids	µmol/l	46.2	4th Generation Colorimetric
	µmol/l	45.2	5th Generation Colorimetric
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	µmol/l	29.5	Diazo with Sulphanilic Acid
	mg/dl	1.73	
	µmol/l	28.1	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	
	µmol/l	30.5	Oxidation to Biliverdin
	mg/dl	1.79	
	µmol/l	31.9	Modified Jendrassik
	mg/dl	1.87	
Bilirubin Total	µmol/l	96.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.67	
	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	94.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.50	
	µmol/l	86.1	Nitrobenzenediazonium salt
	mg/dl	5.04	
	µmol/l	82.8	Diazonium ion
	mg/dl	4.84	
	µmol/l	93.7	Oxidation to Biliverdin
	mg/dl	5.48	
	µmol/l	98.9	Modified Jendrassik
	mg/dl	5.79	
Calcium	mmol/l	3.07	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.01	Ion selective electrode
	mg/dl	12.1	
	mmol/l	2.79	Methylthymol blue
	mg/dl	11.2	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.08	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	115	Colorimetric
	mmol/l	114	ISE indirect
	mmol/l	115	ISE direct
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	5213	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	531	CK-NAC serum start (DGKC) 37°C
	U/l	332	CK-NAC serum start (DGKC) 30°C
	U/l	226	CK-NAC serum start (DGKC) 25°C
	U/l	539	CK-NAC substrate start (DGKC) 37°C
	U/l	337	CK-NAC substrate start (DGKC) 30°C
	U/l	229	CK-NAC substrate start (DGKC) 25°C
	U/l	542	CK-NAC (IFCC) 37°C
	U/l	339	CK-NAC (IFCC) 30°C
	U/l	230	CK-NAC (IFCC) 25°C
	U/l	539	Monothioglycerol 37°C
	U/l	337	Monothioglycerol 30°C
	U/l	229	Monothioglycerol 25°C
	U/l	505	Dithioerythritol 37°C
	U/l	316	Dithioerythritol 30°C
	U/l	215	Dithioerythritol 25°C
	U/l	497	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	311	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	211	Dithioerythritol (DTE) IFCC correlated 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Copper	µmol/l	26.7	Atomic absorption
	µg/dl	170	
	µmol/l	27.0	Colorimetric
	µg/dl	172	
Creatinine	µmol/l	341	Alkaline picrate with deproteinization
	mg/dl	3.85	
	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	378	Randox Enzymatic UV method
	mg/dl	4.27	
	µmol/l	378	Creatinine PAP method
	mg/dl	4.27	
	µmol/l	375	Roche Creatinine Plus
	mg/dl	4.24	
	µmol/l	367	Jaffe rate blanked
	mg/dl	4.15	
	µmol/l	395	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.46	
	µmol/l	371	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.19	
	µmol/l	384	Vitros IDMS Traceable
	mg/dl	4.34	
	µmol/l	369	IDMS traceable
	mg/dl	4.17	
D-3-Hydroxybutyrate	mmol/l	1.11	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	156	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	123	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	96	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	135	Gamma glutamyl-4-nitroanilide 37°C
	U/l	106	Gamma glutamyl-4-nitroanilide 30°C
	U/l	83	Gamma glutamyl-4-nitroanilide 25°C
	U/l	169	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	133	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	174	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	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	15.3	Glucose dehydrogenase
	mg/dl	276	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.3	Oxygen electrode
	mg/dl	276	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	35.0	Colorimetric with ppt.
	µg/dl	196	
	µmol/l	34.9	Colorimetric without ppt.
	µg/dl	195	
Lactate	mmol/l	5.27	Ion selective electrode
	mg/dl	47.5	
	mmol/l	5.38	Colorimetric Lactate Oxidase
	mg/dl	48.5	
	mmol/l	5.35	Enzymatic Electrode
	mg/dl	48.2	
	mmol/l	5.01	UV LDH
	mg/dl	45.1	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	299	L->P 37°C
	U/l	216	L->P 30°C
	U/l	152	L->P 25°C
	U/l	735	P->L Scandinavian & Dutch 37°C
	U/l	531	P->L Scandinavian & Dutch 30°C
	U/l	373	P->L Scandinavian & Dutch 25°C
	U/l	651	P->L German methods 37°C
	U/l	470	P->L German methods 30°C
	U/l	330	P->L German methods 25°C
	U/l	661	P->L SFBC 37°C
	U/l	477	P->L SFBC 30°C
	U/l	335	P->L SFBC 25°C
	U/l	333	L->P IFCC 37°C
	U/l	240	L->P IFCC 30°C
	U/l	169	L->P IFCC 25°C
Lipase	U/l	70	Other Colorimetric 37°C
	U/l	62	Roche Colorimetric 37°C
	U/l	77	Randox Colorimetric 37°C
Lithium	mmol/l	2.07	Ion selective electrode
	mg/dl	1.44	
	mmol/l	2.02	Spectrophotometric
	mg/dl	1.40	
	mmol/l	1.98	Randox Colorimetric
	mg/dl	1.37	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.69	Atomic absorption
	mg/dl	4.11	
	mmol/l	1.68	Calmagite
	mg/dl	4.08	
	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
	mmol/l	1.71	Methylthymol blue
	mg/dl	4.16	
	mmol/l	1.69	Chlorphosphonazo III
	mg/dl	4.11	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Osmolality	mOsm/kg	336	Calculated
	mOsm/kg	374	Freezing point depression
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.90	Enzymatic
	mmol/l	5.87	Flame photometry
	mmol/l	5.77	ISE method - direct
	mmol/l	5.84	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
	g/l	45.6	Biuret reaction kinetic
	g/dl	4.56	
Sodium	mmol/l	157	Enzymatic
	mmol/l	154	Flame photometry
	mmol/l	155	ISE method - direct
	mmol/l	157	ISE method - indirect
TIBC	µmol/l	47.4	Removal of excess free iron
	µg/dl	265	
	µmol/l	51.2	FE+UIBC(saturation with iron)
	µg/dl	286	
	µmol/l	47.3	Direct Colorimetric
	µg/dl	264	
	µmol/l	52.5	Randox Direct
	µg/dl	294	
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
	mmol/l	2.76	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	244	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.87	L/G Kinase EP. no correction
	mg/dl	254	
	mmol/l	2.79	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	247	
	mmol/l	2.80	Lipase/Glycerol Dehydrogenase
	mg/dl	248	
Urea	mmol/l	17.4	Urease end point
	mg/dl	105	
	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	17.3	Urease hypochlorite
	mg/dl	104	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.563	Uricase catalase 340nm
	mg/dl	9.46	
	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	
	mmol/l	0.562	Spectrophotometric at 280-290
	mg/dl	9.44	
	mmol/l	0.563	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.46	
Zinc	µmol/l	34.6	Colorimetric with deproteinisation
	µg/dl	226	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	486	Diethanolamine buffer DEA 37°C
	U/l	379	Diethanolamine buffer DEA 30°C
	U/l	311	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	133	Tris buffer without P5P 37°C
	U/l	98	Tris buffer without P5P 30°C
	U/l	75	Tris buffer without P5P 25°C
AST (GOT)	U/l	146	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	93.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.48	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	7.09	Cholesterol Oxidase
	mg/dl	274	
CK Total	U/l	514	CK-NAC (IFCC) 37°C
	U/l	322	CK-NAC (IFCC) 30°C
	U/l	218	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	330	Alkaline picrate with deproteinization
	mg/dl	3.73	
	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.75	
	µmol/l	374	Randox Enzymatic UV method
	mg/dl	4.22	
gamma-GT	U/l	155	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	122	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	16.3	Hexokinase
	mg/dl	294	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	34.9	Colorimetric without ppt.
	µg/dl	195	
LD (LDH)	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

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

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
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.37	Phosphomolybdate UV
	mg/dl	7.35	
Potassium	mmol/l	5.99	ISE method - direct
Protein Total	g/l	49.8	Biuret reaction end point
	g/dl	4.98	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	17.7	Urease end point
	mg/dl	106	
	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	0.583	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.79	
	mmol/l	0.595	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.00	
	mmol/l	0.563	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.46	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
Alkaline Phosphatase	U/l	445	Diethanolamine buffer DEA 37°C
	U/l	347	Diethanolamine buffer DEA 30°C
	U/l	284	Diethanolamine buffer DEA 25°C
AST (GOT)	U/l	146	Tris buffer without P5P 37°C
	U/l	99	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	25.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.50	
Bilirubin Total	µmol/l	90.0	Diazo with Dichloroaniline (DCA)
	mg/dl	5.26	
	µmol/l	89.1	Diazo with Sulphanilic Acid
	mg/dl	5.21	
Calcium	mmol/l	3.05	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	7.25	Cholesterol Oxidase
	mg/dl	280	
Creatinine	µmol/l	345	Alkaline picrate no deproteinization
	mg/dl	3.90	
	µmol/l	399	Creatinine PAP method
	mg/dl	4.51	
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	285	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	
Uric Acid (Urate)	mmol/l	0.566	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.51	
	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
	g/l	27.6	Bromocresol Purple
	g/dl	2.76	
	g/l	26.7	Turbidimetric Assays
	g/dl	2.67	
Alkaline Phosphatase	U/l	243	Roche Integra AMP buffer 37°C
	U/l	189	Roche Integra AMP buffer 30°C
	U/l	155	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	234	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	254	Roche Integra 2-chloro-pNPG7 37°C
	U/l	253	Other Roche 2-chloro-pNPG7 37°C
	U/l	255	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.7	Colorimetric
	mmol/l	15.5	Enzymatic
Bile Acids	µmol/l	46.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	30.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.79	
	µmol/l	31.0	Diazo with Sulphanilic Acid
	mg/dl	1.81	
	µmol/l	30.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.79	
Bilirubin Total	µmol/l	81.4	Diazo with Sulphanilic Acid
	mg/dl	4.76	
	µmol/l	81.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.78	
	µmol/l	81.9	Diazonium ion
	mg/dl	4.79	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.10	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	111	ISE indirect

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	5073	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	574	CK-NAC substrate start (DGKC) 37°C
	U/l	359	CK-NAC substrate start (DGKC) 30°C
	U/l	244	CK-NAC substrate start (DGKC) 25°C
	U/l	562	CK-NAC (IFCC) 37°C
	U/l	352	CK-NAC (IFCC) 30°C
	U/l	239	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	366	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	377	Randox Enzymatic UV method
	mg/dl	4.26	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.30	
	µmol/l	357	Jaffe rate blanked
	mg/dl	4.03	
	µmol/l	393	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.44	
	µmol/l	380	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.29	
D-3-Hydroxybutyrate	mmol/l	1.10	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	150	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	118	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	93	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	26	Triethanolamine buffer 50 mmol 37°C
	U/l	20	Triethanolamine buffer 50 mmol 30°C
	U/l	16	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	34.7	Colorimetric with ppt.
	µg/dl	194	
	µmol/l	34.7	Colorimetric without ppt.
	µg/dl	194	
Lactate	mmol/l	5.39	Colorimetric Lactate Oxidase
	mg/dl	48.6	
LD (LDH)	U/l	637	P->L German methods 37°C
	U/l	460	P->L German methods 30°C
	U/l	323	P->L German methods 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
LD (LDH)	U/l	634	P->L SFBC 37°C
	U/l	458	P->L SFBC 30°C
	U/l	321	P->L SFBC 25°C
	U/l	329	L->P IFCC 37°C
	U/l	238	L->P IFCC 30°C
	U/l	167	L->P IFCC 25°C
Lipase	U/l	60	Roche Colorimetric 37°C
Lithium	mmol/l	2.02	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
	mmol/l	1.71	Chlorphosphonazo III
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate enzymatic
	mg/dl	6.79	
	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	5.88	ISE method - indirect
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	
	g/l	45.2	Biuret reaction kinetic
	g/dl	4.52	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	50.5	FE+UIBC(saturation with iron)
	µg/dl	282	
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.70	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	239	
	mmol/l	2.68	L/G Kinase EP. no correction
	mg/dl	237	
Urea	mmol/l	17.8	Urease end point
	mg/dl	107	
	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	233	Roche Integra AMP buffer 37°C
	U/l	182	Roche Integra AMP buffer 30°C
	U/l	149	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	123	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Total	U/l	267	pNP Maltotrioside substrates 37°C
	U/l	260	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	32.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.91	
	µmol/l	30.5	Diazo with Sulphanilic Acid
	mg/dl	1.78	
	µmol/l	34.7	Roche JG factored
	mg/dl	2.03	
Bilirubin Total	µmol/l	80.7	Diazo with Sulphanilic Acid
	mg/dl	4.72	
	µmol/l	80.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.71	
	µmol/l	83.1	Diazonium ion
	mg/dl	4.86	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.10	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.34	Cholesterol Oxidase
	mg/dl	283	
CK Total	U/l	562	CK-NAC (IFCC) 37°C
	U/l	352	CK-NAC (IFCC) 30°C
	U/l	239	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	345	Alkaline picrate with deproteinization
	mg/dl	3.90	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Creatinine	µmol/l	342	Alkaline picrate no deproteinization
	mg/dl	3.87	
	µmol/l	359	Roche Creatinine Plus
	mg/dl	4.06	
	µmol/l	351	Jaffe rate blanked
	mg/dl	3.97	
	µmol/l	365	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.12	
gamma-GT	U/l	166	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	131	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	102	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	34.0	Colorimetric without ppt.
	µg/dl	190	
LD (LDH)	U/l	651	P->L German methods 37°C
	U/l	470	P->L German methods 30°C
	U/l	330	P->L German methods 25°C
	U/l	341	L->P IFCC 37°C
	U/l	246	L->P IFCC 30°C
	U/l	173	L->P IFCC 25°C
Magnesium	mmol/l	1.68	Chlorphosphonazo III
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	5.83	ISE method - indirect
Protein Total	g/l	47.2	Biuret reaction end point
	g/dl	4.72	
Sodium	mmol/l	154	ISE method - indirect
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
	mmol/l	2.74	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	242	
Urea	mmol/l	17.5	Urease kinetic
	mg/dl	105	
	mmol/l	18.0	Urease hypochlorite
	mg/dl	108	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Urea	mmol/l	17.5	BUN
	mg/dl	49.1	
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.567	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.559	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.39	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
Alkaline Phosphatase	U/l	238	Roche Integra AMP buffer 37°C
	U/l	185	Roche Integra AMP buffer 30°C
	U/l	152	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	240	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	257	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	137	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.8	Enzymatic
Bilirubin Direct	µmol/l	30.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	
	µmol/l	30.0	Diazo with Sulphanilic Acid
	mg/dl	1.76	
Bilirubin Total	µmol/l	80.3	Diazo with Sulphanilic Acid
	mg/dl	4.70	
	µmol/l	81.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.76	
	µmol/l	82.2	Diazonium ion
	mg/dl	4.81	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.11	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.16	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	5266	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	566	CK-NAC (IFCC) 37°C
	U/l	354	CK-NAC (IFCC) 30°C
	U/l	241	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Creatinine	µmol/l	380	Randox Enzymatic UV method
	mg/dl	4.29	
	µmol/l	384	Roche Creatinine Plus
	mg/dl	4.34	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	µmol/l	402	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.54	
gamma-GT	U/l	151	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	119	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	93	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	34.8	Colorimetric without ppt.
	µg/dl	195	
Lactate	mmol/l	5.45	Colorimetric Lactate Oxidase
	mg/dl	49.1	
LD (LDH)	U/l	632	P->L German methods 37°C
	U/l	456	P->L German methods 30°C
	U/l	320	P->L German methods 25°C
	U/l	329	L->P IFCC 37°C
	U/l	238	L->P IFCC 30°C
	U/l	167	L->P IFCC 25°C
Lipase	U/l	61	Roche Colorimetric 37°C
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.70	Chlorphosphonazo III
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.88	ISE method - indirect
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	
	g/l	46.0	Biuret reaction kinetic
	g/dl	4.60	
Sodium	mmol/l	157	ISE method - indirect

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	mg/dl	241	
	mmol/l	2.66	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	235	
	mmol/l	2.72	L/G Kinase EP. no correction
	mg/dl	241	
	mmol/l	2.79	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	247	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.569	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.56	
	mmol/l	0.567	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.566	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.51	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
Alkaline Phosphatase	U/l	206	Roche Integra AMP buffer 37°C
	U/l	160	Roche Integra AMP buffer 30°C
	U/l	132	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	126	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	238	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	253	Roche liquid stable pNPG7 37°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
Bicarbonate	mmol/l	15.7	Enzymatic
Bilirubin Direct	µmol/l	31.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.83	
Bilirubin Total	µmol/l	80.7	Diazo with Sulphanilic Acid
	mg/dl	4.72	
	µmol/l	80.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.72	
	µmol/l	79.7	Diazonium ion
	mg/dl	4.66	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.06	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	7.04	Cholesterol Oxidase
	mg/dl	272	
CK Total	U/l	487	CK-NAC (IFCC) 37°C
	U/l	305	CK-NAC (IFCC) 30°C
	U/l	207	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	379	Roche Creatinine Plus
	mg/dl	4.29	
	µmol/l	399	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.51	
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

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
gamma-GT	U/l	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	273	
Iron	µmol/l	33.4	Colorimetric without ppt.
	µg/dl	187	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	324	L->P IFCC 37°C
	U/l	234	L->P IFCC 30°C
	U/l	164	L->P IFCC 25°C
Lipase	U/l	60	Roche Colorimetric 37°C
Lithium	mmol/l	1.94	Spectrophotometric
	mg/dl	1.35	
Magnesium	mmol/l	1.66	Xylidyl Blue
	mg/dl	4.03	
	mmol/l	1.63	Chlorphosphonazo III
	mg/dl	3.96	
Phosphate Inorganic	mmol/l	2.16	Phosphomolybdate UV
	mg/dl	6.70	
Potassium	mmol/l	5.91	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	48.8	FE+UIBC(saturation with iron)
	µg/dl	273	
Triglycerides	mmol/l	2.71	Lipase/GPO-PAP no correction
	mg/dl	240	
Urea	mmol/l	17.6	Urease kinetic
	mg/dl	106	
	mmol/l	17.6	BUN
	mg/dl	49.4	
Uric Acid (Urate)	mmol/l	0.551	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.545	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX DAYTONA®/IMOLA®/SUZUKA® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
Alkaline Phosphatase	U/l	539	Diethanolamine buffer DEA 37°C
	U/l	344	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	266	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	301	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	150	Tris buffer without P5P 37°C
Bile Acids	µmol/l	46.0	5th Generation Colorimetric
Bilirubin Direct	µmol/l	31.1	Diazo with Sulphanilic Acid
	mg/dl	1.82	
	µmol/l	30.4	Vanadate Oxidation
	mg/dl	1.78	
Bilirubin Total	µmol/l	91.6	Diazo with Sulphanilic Acid
	mg/dl	5.36	
	µmol/l	92.9	Vanadate Oxidation
	mg/dl	5.43	
Calcium	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	7.36	Cholesterol Oxidase
	mg/dl	284	
CK Total	U/l	508	CK-NAC substrate start (DGKC) 37°C
	U/l	555	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	316	Alkaline picrate no deproteinization
	mg/dl	3.57	
	µmol/l	371	Randox Enzymatic UV method
	mg/dl	4.19	
gamma-GT	U/l	174	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	36.6	Colorimetric without ppt.
	µg/dl	205	
Lactate	mmol/l	5.20	Colorimetric Lactate Oxidase
	mg/dl	46.9	
LD (LDH)	U/l	674	P->L German methods 37°C
	U/l	328	L->P IFCC 37°C
Lipase	U/l	78	Randox Colorimetric 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX DAYTONA®/IMOLA®/SUZUKA® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Lithium	mmol/l	1.98	Colorimetric
	mg/dl	1.37	
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	5.90	Enzymatic
Protein Total	g/l	47.6	Biuret reaction end point
	g/dl	4.76	
Sodium	mmol/l	157	Enzymatic
TIBC	µmol/l	52.5	Direct Colorimetric
	µg/dl	293	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.587	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.86	
	mmol/l	0.579	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.73	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/2400® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
Alkaline Phosphatase	U/l	476	Diethanolamine buffer DEA 37°C
	U/l	340	AMP optimised to IFCC 37°C
	U/l	322	AMP non-optimised 37°C
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	252	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	266	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	142	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.8	Enzymatic
Bile Acids	µmol/l	46.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	30.4	Oxidation to Biliverdin
	mg/dl	1.78	
Bilirubin Total	µmol/l	94.4	Oxidation to Biliverdin
	mg/dl	5.52	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.00	Arsenazo III
	mg/dl	12.0	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.02	Cholesterol Oxidase
	mg/dl	271	
CK Total	U/l	516	CK-NAC substrate start (DGKC) 37°C
	U/l	511	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	365	Randox Enzymatic UV method
	mg/dl	4.12	
	µmol/l	354	Jaffe rate blanked
	mg/dl	4.00	
	µmol/l	386	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.36	
gamma-GT	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	35.4	Colorimetric without ppt.
	µg/dl	198	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/2400® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Lactate	mmol/l	5.32	Colorimetric Lactate Oxidase
	mg/dl	47.9	
LD (LDH)	U/l	311	L->P 37°C
	U/l	663	P->L German methods 37°C
	U/l	329	L->P IFCC 37°C
Lipase	U/l	75	Other Colorimetric 37°C
Lithium	mmol/l	2.00	Spectrophotometric
	mg/dl	1.39	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.84	ISE method - indirect
Protein Total	g/l	47.1	Biuret reaction end point
	g/dl	4.71	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	52.8	FE+UIBC(saturation with iron)
	µg/dl	295	
	µmol/l	50.3	Direct Colorimetric
	µg/dl	281	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.569	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	
	mmol/l	0.570	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.58	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/l	294	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	135	Tris buffer with P5P 37°C
	U/l	137	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	318	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	176	Tris buffer with P5P 37°C
	U/l	181	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.3	Enzymatic
Bilirubin Direct	µmol/l	17.8	Diazo with Sulphanilic Acid
	mg/dl	1.04	
Bilirubin Total	µmol/l	87.0	Diazo with Sulphanilic Acid
	mg/dl	5.09	
Calcium	mmol/l	3.05	Cresolphthalein complexone
	mg/dl	12.2	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.56	Dimension-Siemens reagents
	mg/dl	253	
CK Total	U/l	496	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.16	
	µmol/l	380	Randox Enzymatic UV method
	mg/dl	4.29	
gamma-GT	U/l	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	206	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	33.7	Colorimetric with ppt.
	µg/dl	188	
	µmol/l	33.6	Colorimetric without ppt.
	µg/dl	188	
Lactate	mmol/l	5.20	UV LDH
	mg/dl	46.9	
LD (LDH)	U/l	337	Siemens Dimension L-P Non IFCC 37°C
	U/l	309	L->P IFCC 37°C
Lipase	U/l	272	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.25	Spectrophotometric
	mg/dl	1.56	
Magnesium	mmol/l	1.71	Methylthymol blue
	mg/dl	4.16	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.80	ISE method - indirect
Protein Total	g/l	48.3	Biuret reaction end point
	g/dl	4.83	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	2.86	L/G Kinase EP. no correction
	mg/dl	253	
Urea	mmol/l	18.2	Urease end point
	mg/dl	109	
	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.566	Spectrophotometric at 280-290
	mg/dl	9.51	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	27.9	Bromocresol Green
	g/dl	2.79	
	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
Alkaline Phosphatase	U/l	296	AMP optimised to IFCC 37°C
	U/l	281	Randox AMP 37°C
ALT (GPT)	U/l	135	Tris buffer with P5P 37°C
	U/l	137	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	316	Siemens - maltopenta/hexaoside 37°C
	U/l	318	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	181	Tris buffer with P5P 37°C
	U/l	179	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	16.5	Enzymatic
Bilirubin Direct	µmol/l	17.5	Diazo with Sulphanilic Acid
	mg/dl	1.02	
Bilirubin Total	µmol/l	85.8	Diazo with Sulphanilic Acid
	mg/dl	5.02	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.54	Dimension-Siemens reagents
	mg/dl	252	
CK Total	U/l	489	CK-NAC (IFCC) 37°C
	U/l	504	Dithioerythritol 37°C
	U/l	499	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	376	Alkaline picrate no deproteinization
	mg/dl	4.25	
	µmol/l	363	Randox Enzymatic UV method
	mg/dl	4.10	
	µmol/l	382	Creatinine PAP method
	mg/dl	4.31	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.27	
	µmol/l	380	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.29	
gamma-GT	U/l	176	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	200	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Iron	µmol/l	33.1	Colorimetric with ppt.
	µg/dl	185	
	µmol/l	33.2	Colorimetric without ppt.
	µg/dl	186	
LD (LDH)	U/l	337	Siemens Dimension L-P Non IFCC 37°C
	U/l	331	L->P IFCC 37°C
Lipase	U/l	274	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.71	Methylthymol blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate enzymatic
	mg/dl	6.79	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.77	ISE method - indirect
Protein Total	g/l	48.0	Biuret reaction end point
	g/dl	4.80	
Sodium	mmol/l	156	ISE method - indirect
TIBC	µmol/l	46.4	Removal of excess free iron
	µg/dl	259	
	µmol/l	44.8	Direct Colorimetric
	µg/dl	250	
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
	mmol/l	2.85	Lipase/Glycerol Dehydrogenase
	mg/dl	252	
Urea	mmol/l	17.8	Urease end point
	mg/dl	107	
	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.556	Uricase catalase 340nm
	mg/dl	9.34	
	mmol/l	0.561	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.42	
	mmol/l	0.558	Spectrophotometric at 280-290
	mg/dl	9.37	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION VISTA Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Purple
	g/dl	2.86	
Alkaline Phosphatase	U/l	306	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	134	Tris buffer with P5P 37°C
Amylase Total	U/l	310	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	182	Tris buffer with P5P 37°C
Bilirubin Direct	µmol/l	18.8	Diazo with Sulphanilic Acid
	mg/dl	1.10	
Bilirubin Total	µmol/l	86.4	Diazo with Sulphanilic Acid
	mg/dl	5.05	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.58	Dimension-Siemens reagents
	mg/dl	254	
CK Total	U/l	502	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	363	IDMS traceable
	mg/dl	4.10	
gamma-GT	U/l	201	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
Iron	µmol/l	34.0	Colorimetric without ppt.
	µg/dl	190	
Lactate	mmol/l	4.95	UV LDH
	mg/dl	44.6	
LD (LDH)	U/l	339	L->P IFCC 37°C
Lipase	U/l	321	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.08	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.73	Methylthymol blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	5.71	ISE method - indirect
Protein Total	g/l	48.4	Biuret reaction end point
	g/dl	4.84	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	3.06	Lipase/GPO-PAP no correction
	mg/dl	271	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION VISTA Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.553	Spectrophotometric at 280-290
	mg/dl	9.29	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot. No. 753UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2017-06

Analyte	unit	Target	methods
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	92.1	Diazo with Sulphanilic Acid
	mg/dl	5.39	
Calcium	mmol/l	3.07	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	6.98	Cholesterol Oxidase
	mg/dl	269	
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.03	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Protein Total	g/l	55.2	Biuret reaction end point
	g/dl	5.52	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.590	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.91	

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