CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 718UE
SIZE: 20 x 5 ml **EXPIRY:** 2016-12

INTENDED USE

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

SAFETY PRECAUTIONS AND WARNINGS

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

STORAGE AND STABILITY

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

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

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

MATERIALS PROVIDED

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

MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle.
For Total and Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25 µl - 30 µl) of 0.7M Acetic acid solution to 1 ml of the serum exactly 30 minutes after reconstitution. After stabilisation, Total & Prostatic Acid Phosphatase are stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at –20°C.
Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum be allowed to stand for 1 hour at +15°C to +25°C before measurement.
Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 1 day at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components. Different lot numbers of this calibrator should not be interchanged, as the values assigned to the calibrators vary from lot to lot.

VALUE ASSIGNMENT

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

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

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. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
ALT (GPT)	U/l	120	Tris buffer without P5P 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	84.3	Diazo with Dichloroaniline (DCA)
	mg/dl	4.93	
	µmol/l	84.3	Diazo with Sulphanilic Acid
	mg/dl	4.93	
Calcium	mmol/l	3.01	Cresolphthalein complexone
	mg/dl	12.1	
	mmol/l	3.07	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	6.95	Cholesterol Oxidase
	mg/dl	268	
Creatinine	µmol/l	344	Alkaline picrate no deproteinization
	mg/dl	3.88	
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	269	
Iron	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	213	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Protein Total	g/l	47.2	Biuret reaction end point
	g/dl	4.72	
Triglycerides	mmol/l	2.69	Lipase/GPO-PAP no correction
	mg/dl	238	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.1	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
	g/l	27.5	Bromocresol Purple
	g/dl	2.75	
Alkaline Phosphatase	U/l	304	AMP optimised to IFCC 37°C
	U/l	299	AMP non-optimised 37°C
ALT (GPT)	U/l	115	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	255	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	290	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	122	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.8	Enzymatic
Bile Acids	µmol/l	46.5	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.59	
Bilirubin Total	µmol/l	86.2	Diazo with Dichloroaniline (DCA)
	mg/dl	5.04	
	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	
	µmol/l	90.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.29	
	µmol/l	86.6	Diazonium ion
	mg/dl	5.07	
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.94	Cholesterol Oxidase
	mg/dl	268	
CK Total	U/l	451	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	370	Alkaline picrate no deproteinization
	mg/dl	4.18	
	µmol/l	375	Randox Enzymatic UV method
	mg/dl	4.24	
	µmol/l	369	Jaffe rate blanked
	mg/dl	4.17	
	µmol/l	377	IDMS traceable
	mg/dl	4.26	
gamma-GT	U/l	171	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	169	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Glucose	mmol/l	14.8	Hexokinase
	mg/dl	267	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	40.1	Colorimetric with ppt.
	µg/dl	224	
	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.11	Colorimetric Lactate Oxidase
	mg/dl	46.0	
LD (LDH)	U/l	360	L->P 37°C
	U/l	363	L->P IFCC 37°C
Lipase	U/l	72	Other Colorimetric 37°C
Lithium	mmol/l	2.00	Spectrophotometric
	mg/dl	1.39	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	49.0	Biuret reaction end point
	g/dl	4.90	
	g/l	49.2	Biuret reaction kinetic
	g/dl	4.92	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	51.1	FE+UIBC(saturation with iron)
	µg/dl	286	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.81	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	249	
	mmol/l	2.81	L/G Kinase EP. no correction
	mg/dl	249	
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	19.1	Urease end point
	mg/dl	115	

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Abbott Architect c/ci Systems® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.559	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.554	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.550	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.24	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABX Pentra 400® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
Alkaline Phosphatase	U/l	329	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
AST (GOT)	U/l	132	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	92.3	Diazo with Dichloroaniline (DCA)
	mg/dl	5.40	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
Cholesterol	mmol/l	6.84	Cholesterol Oxidase
	mg/dl	264	
Glucose	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.46	Phosphomolybdate UV
	mg/dl	7.63	
Uric Acid (Urate)	mmol/l	0.520	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.74	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Green
	g/dl	2.88	
Alkaline Phosphatase	U/l	375	p-Nitrophenylphosphate AMP 37°C
	U/l	488	Diethanolamine buffer DEA 37°C
	U/l	239	Roche Integra AMP buffer 37°C
	U/l	374	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	119	Tris buffer without P5P 37°C
Amylase Total	U/l	274	pNP Maltotrioside substrates 37°C
	U/l	277	Biotrol - blocked pNPG7 37°C
	U/l	270	Beckman maltotetraose 37°C
	U/l	255	Roche liquid stable pNPG7 37°C
	U/l	266	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	131	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.5	Enzymatic
Bilirubin Direct	µmol/l	21.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.26	
Bilirubin Total	µmol/l	85.0	Diazo with Sulphanilic Acid
	mg/dl	4.97	
	µmol/l	85.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.98	
	µmol/l	83.7	Oxidation to Biliverdin
	mg/dl	4.89	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.05	Cholesterol Oxidase
	mg/dl	272	
Cholinesterase	U/l	4684	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	464	CK-NAC serum start (DGKC) 37°C
	U/l	473	CK-NAC substrate start (DGKC) 37°C
	U/l	485	CK-NAC (IFCC) 37°C
Copper	µmol/l	26.8	Colorimetric
	µg/dl	171	
Creatinine	µmol/l	348	Alkaline picrate no deproteinization
	mg/dl	3.93	
	µmol/l	363	Randox Enzymatic UV method
	mg/dl	4.10	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Creatinine	µmol/l	361	Creatinine PAP method
	mg/dl	4.08	
	µmol/l	368	Roche Creatinine Plus
	mg/dl	4.16	
	µmol/l	351	Jaffe rate blanked
	mg/dl	3.96	
	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
	µmol/l	363	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.10	
	µmol/l	355	IDMS traceable
	mg/dl	4.01	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	180	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	37	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	39.9	Colorimetric with ppt.
	µg/dl	223	
	µmol/l	39.6	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.13	Colorimetric Lactate Oxidase
	mg/dl	46.2	
LD (LDH)	U/l	366	L->P 37°C
	U/l	810	P->L Scandinavian & Dutch 37°C
	U/l	690	P->L German methods 37°C
	U/l	367	L->P IFCC 37°C
Lipase	U/l	72	Other Colorimetric 37°C
	U/l	64	Roche Colorimetric 37°C
	U/l	75	Randox Colorimetric 37°C
Lithium	mmol/l	1.93	Spectrophotometric
	mg/dl	1.34	
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
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	5.97	ISE method - indirect
Protein Total	g/l	48.0	Biuret reaction end point
	g/dl	4.80	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry 2016-12

Analyte	unit	Target	methods
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	54.2	FE+UIBC(saturation with iron)
	µg/dl	303	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
	mmol/l	2.71	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	240	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
Urea	mmol/l	18.6	Urease end point
	mg/dl	112	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.548	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.21	
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.526	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.84	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
	g/l	29.3	Bromocresol Purple
	g/dl	2.93	
Alkaline Phosphatase	U/l	338	p-Nitrophenylphosphate AMP 37°C
	U/l	263	p-Nitrophenylphosphate AMP 30°C
	U/l	339	AMP optimised to IFCC 37°C
	U/l	264	AMP optimised to IFCC 30°C
ALT (GPT)	U/l	112	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	110	Tris buffer SCE 37°C
	U/l	81	Tris buffer SCE 30°C
Amylase Pancreatic	U/l	199	Immunoinhibition EPS substrate 37°C
	U/l	197	Beckman Synchron/CX/LXi/DxC 37°C
Amylase Total	U/l	280	Beckman maltotetraose 37°C
	U/l	281	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	120	Tris buffer without P5P 37°C
	U/l	81	Tris buffer without P5P 30°C
	U/l	118	Tris buffer SCE 37°C
	U/l	80	Tris buffer SCE 30°C
Bicarbonate	mmol/l	17.8	Differential rate pH change
	mmol/l	18.0	Ion selective electrode
Bilirubin Direct	µmol/l	15.8	Diazo with Sulphanilic Acid
	mg/dl	0.922	
Bilirubin Total	µmol/l	84.8	Diazo with Sulphanilic Acid
	mg/dl	4.96	
	µmol/l	82.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.84	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.02	Ion selective electrode
	mg/dl	12.1	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.91	Cholesterol Oxidase
	mg/dl	267	
CK Total	U/l	472	CK-NAC (IFCC) 37°C
	U/l	295	CK-NAC (IFCC) 30°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

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Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
CK Total	U/l	471	Monothioglycerol 37°C
	U/l	295	Monothioglycerol 30°C
Creatinine	µmol/l	367	Alkaline picrate no deproteinization
	mg/dl	4.15	
	µmol/l	357	Randox Enzymatic UV method
	mg/dl	4.03	
	µmol/l	364	Jaffe rate blanked
	mg/dl	4.11	
	µmol/l	362	IDMS traceable
	mg/dl	4.10	
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	143	Gamma glutamyl-4-nitroanilide 37°C
	U/l	113	Gamma glutamyl-4-nitroanilide 30°C
	U/l	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
Glucose	mmol/l	14.7	Hexokinase
	mg/dl	265	
	mmol/l	14.6	Oxygen electrode
	mg/dl	263	
	mmol/l	14.6	Glucose oxidase
	mg/dl	263	
Iron	µmol/l	39.7	Colorimetric without ppt.
	µg/dl	222	
Lactate	mmol/l	4.97	Colorimetric Lactate Oxidase
	mg/dl	44.8	
LD (LDH)	U/l	298	L->P 37°C
	U/l	215	L->P 30°C
	U/l	978	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	706	Pyruvate 1.4 mM - Beckman LD-P 30°C
Lipase	U/l	50	Other Colorimetric 37°C
Lithium	mmol/l	2.00	Spectrophotometric
	mg/dl	1.39	
Magnesium	mmol/l	1.72	Calmagite
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	5.97	ISE method - indirect
Protein Total	g/l	46.9	Biuret reaction CX4/5/7
	g/dl	4.69	
	g/l	48.1	Biuret reaction end point
	g/dl	4.81	
	g/l	46.5	Biuret reaction kinetic
	g/dl	4.65	

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Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	55.9	FE+UIBC(saturation with iron)
	µg/dl	312	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.83	L/G Kinase EP. no correction
	mg/dl	250	
Urea	mmol/l	18.6	Urease end point
	mg/dl	112	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.517	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.69	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	28.7	Bromocresol Green
	g/dl	2.87	
Alkaline Phosphatase	U/l	300	AMP optimised to IFCC 37°C
	U/l	234	AMP optimised to IFCC 30°C
	U/l	192	AMP optimised to IFCC 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
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
Bilirubin Direct	µmol/l	27.3	Diazo with Sulphanilic Acid
	mg/dl	1.60	
Bilirubin Total	µmol/l	85.1	Diazo with Sulphanilic Acid
	mg/dl	4.98	
Calcium	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	6.88	Cholesterol Oxidase
	mg/dl	266	
Creatinine	µmol/l	317	Alkaline picrate no deproteinization
	mg/dl	3.58	
Glucose	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Triglycerides	mmol/l	2.64	Lipase/GPO-PAP no correction
	mg/dl	234	
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	0.496	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.33	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/l	297	AMP optimised to IFCC 37°C
	U/l	231	AMP optimised to IFCC 30°C
	U/l	190	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	140	Tris buffer without P5P 37°C
	U/l	95	Tris buffer without P5P 30°C
	U/l	67	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	87.1	Diazo with Sulphanilic Acid
	mg/dl	5.10	
Cholesterol	mmol/l	6.95	Cholesterol Oxidase
	mg/dl	268	
Creatinine	µmol/l	327	Alkaline picrate no deproteinization
	mg/dl	3.69	
gamma-GT	U/l	179	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Protein Total	g/l	48.1	Biuret reaction end point
	g/dl	4.81	
Triglycerides	mmol/l	2.70	Lipase/GPO-PAP no correction
	mg/dl	239	
Urea	mmol/l	17.4	Urease kinetic
	mg/dl	105	
	mmol/l	17.4	BUN
	mg/dl	48.8	
Uric Acid (Urate)	mmol/l	0.559	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.39	
	mmol/l	0.569	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/l	242	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	111	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	246	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	257	Saccharogenic 37°C
	U/l	264	Roche Integra 2-chloro-pNPG7 37°C
	U/l	265	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	122	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	58	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.9	Enzymatic
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
Bilirubin Total	µmol/l	79.5	Diazo with Sulphanilic Acid
	mg/dl	4.65	
	µmol/l	78.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.60	
	µmol/l	78.8	Diazonium ion
	mg/dl	4.61	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.09	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.12	Cholesterol Oxidase
	mg/dl	275	
CK Total	U/l	493	CK-NAC (IFCC) 37°C
	U/l	309	CK-NAC (IFCC) 30°C
	U/l	210	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	331	Alkaline picrate with deproteinization
	mg/dl	3.74	
	µmol/l	334	Alkaline picrate no deproteinization
	mg/dl	3.77	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Creatinine	µmol/l	346	Roche Creatinine Plus
	mg/dl	3.90	
	µmol/l	334	Jaffe rate blanked
	mg/dl	3.78	
	µmol/l	378	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.27	
	µmol/l	357	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.03	
gamma-GT	U/l	158	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	180	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	142	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	111	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	14.6	Glucose dehydrogenase
	mg/dl	263	
	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	39.8	Colorimetric with ppt.
	µg/dl	222	
	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.50	Colorimetric Lactate Oxidase
	mg/dl	49.6	
LD (LDH)	U/l	695	P->L German methods 37°C
	U/l	502	P->L German methods 30°C
	U/l	352	P->L German methods 25°C
	U/l	381	L->P IFCC 37°C
	U/l	275	L->P IFCC 30°C
	U/l	193	L->P IFCC 25°C
Lipase	U/l	72	Roche Colorimetric 37°C
Lithium	mmol/l	1.99	Ion selective electrode
	mg/dl	1.38	
Magnesium	mmol/l	1.67	Methylthymol blue
	mg/dl	4.06	
	mmol/l	1.72	Chlorphosphonazo III
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate enzymatic
	mg/dl	7.22	
	mmol/l	2.35	Phosphomolybdate UV
	mg/dl	7.29	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
	g/l	48.0	Biuret reaction kinetic
	g/dl	4.80	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	53.8	FE+UIBC(saturation with iron)
	µg/dl	301	
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.65	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	235	
	mmol/l	2.70	L/G Kinase EP. no correction
	mg/dl	239	
	mmol/l	2.75	Lipase/Glycerol Dehydrogenase
	mg/dl	243	
Urea	mmol/l	18.3	Urease end point
	mg/dl	110	
	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.542	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.11	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.542	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ELITech/Vitalab Selectra Pro/E/XL Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	32.5	Bromocresol Green
	g/dl	3.25	
Alkaline Phosphatase	U/l	477	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	119	Tris buffer without P5P 37°C
AST (GOT)	U/l	124	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	90.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.28	
Calcium	mmol/l	2.70	Methylthymol blue
	mg/dl	10.8	
	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.07	Cholesterol Oxidase
	mg/dl	273	
CK Total	U/l	472	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.75	
	µmol/l	352	Jaffe rate blanked
	mg/dl	3.97	
gamma-GT	U/l	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
LD (LDH)	U/l	328	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Protein Total	g/l	54.3	Biuret reaction end point
	g/dl	5.43	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	14.3	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	22.0	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	32.9	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	17.0	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	47.2	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	39.0	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
	g/l	27.7	Bromocresol Purple
	g/dl	2.77	
Alkaline Phosphatase	U/l	221	Roche Integra AMP buffer 37°C
	U/l	172	Roche Integra AMP buffer 30°C
	U/l	141	Roche Integra AMP buffer 25°C
	U/l	331	AMP optimised to IFCC 37°C
	U/l	258	AMP optimised to IFCC 30°C
	U/l	212	AMP optimised to IFCC 25°C
	U/l	318	Randox AMP 37°C
	U/l	248	Randox AMP 30°C
	U/l	203	Randox AMP 25°C
ALT (GPT)	U/l	114	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	238	Roche liquid stable pNPG7 37°C
	U/l	265	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	254	Roche liquid stable pNPG7 37°C
	U/l	288	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	123	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	59	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.1	Colorimetric
	mmol/l	18.0	Enzymatic
Bile Acids	µmol/l	44.5	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	
	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	µmol/l	31.4	Oxidation to Biliverdin
	mg/dl	1.84	
Bilirubin Total	µmol/l	85.2	Diazo with Dichloroaniline (DCA)
	mg/dl	4.99	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	78.6	Diazo with Sulphanilic Acid
	mg/dl	4.60	
	µmol/l	78.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.57	
	µmol/l	78.3	Diazonium ion
	mg/dl	4.58	
Calcium	mmol/l	3.09	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
	mmol/l	3.10	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	6.95	Cholesterol Oxidase
	mg/dl	268	
Cholinesterase	U/l	5018	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	444	CK-NAC substrate start (DGKC) 37°C
	U/l	278	CK-NAC substrate start (DGKC) 30°C
	U/l	189	CK-NAC substrate start (DGKC) 25°C
	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	364	Alkaline picrate no deproteinization
	mg/dl	4.11	
	µmol/l	365	Randox Enzymatic UV method
	mg/dl	4.12	
	µmol/l	368	Creatinine PAP method
	mg/dl	4.15	
	µmol/l	366	Roche Creatinine Plus
	mg/dl	4.13	
	µmol/l	387	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.37	
	µmol/l	347	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.92	
D-3-Hydroxybutyrate	mmol/l	1.08	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	170	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	134	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	105	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	185	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	146	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	114	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
GLDH	U/l	41	Triethanolamine buffer 50 mmol 37°C
	U/l	32	Triethanolamine buffer 50 mmol 30°C
	U/l	25	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.8	Hexokinase
	mg/dl	266	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	39.0	Colorimetric without ppt.
	µg/dl	218	
Lactate	mmol/l	5.14	Colorimetric Lactate Oxidase
	mg/dl	46.3	
LD (LDH)	U/l	696	P->L German methods 37°C
	U/l	503	P->L German methods 30°C
	U/l	353	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	66	Roche Colorimetric 37°C
Lithium	mmol/l	1.96	Spectrophotometric
	mg/dl	1.36	
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.02	ISE method - indirect
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	50.8	FE+UIBC(saturation with iron)
	µg/dl	284	
Triglycerides	mmol/l	2.69	Lipase/GPO-PAP no correction
	mg/dl	238	
	mmol/l	2.74	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	242	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.534	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.97	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	
	mmol/l	0.532	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.94	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
Alkaline Phosphatase	U/l	350	AMP optimised to IFCC 37°C
	U/l	273	AMP optimised to IFCC 30°C
	U/l	224	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	112	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
AST (GOT)	U/l	120	Tris buffer without P5P 37°C
	U/l	81	Tris buffer without P5P 30°C
	U/l	57	Tris buffer without P5P 25°C
Bile Acids	µmol/l	44.9	Enzymatic Colorimetric
Bilirubin Total	µmol/l	84.3	Diazo with Sulphanilic Acid
	mg/dl	4.93	
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	6.95	Cholesterol Oxidase
	mg/dl	268	
CK Total	U/l	425	CK-NAC (IFCC) 37°C
	U/l	266	CK-NAC (IFCC) 30°C
	U/l	181	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	328	Alkaline picrate no deproteinization
	mg/dl	3.71	
D-3-Hydroxybutyrate	mmol/l	1.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	160	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	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	15.1	Hexokinase
	mg/dl	272	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
LD (LDH)	U/l	706	P->L German methods 37°C
	U/l	510	P->L German methods 30°C
	U/l	358	P->L German methods 25°C
Lipase	U/l	84	Randox Colorimetric 37°C

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Magnesium	mmol/l	2.00	Enzymatic
	mg/dl	4.86	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.04	ISE method - indirect
Protein Total	g/l	49.2	Biuret reaction end point
	g/dl	4.92	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.80	Lipase/GPO-PAP no correction
	mg/dl	248	
	mmol/l	2.84	L/G Kinase EP. no correction
	mg/dl	251	
Urea	mmol/l	18.9	Urease end point
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.577	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.69	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
Alkaline Phosphatase	U/l	319	AMP optimised to IFCC 37°C
	U/l	249	AMP optimised to IFCC 30°C
	U/l	204	AMP optimised to IFCC 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 Total	U/l	295	Randox - Ethylidene pNPG7 37°C
	U/l	252	bioMerieux 2-chloro-pNPG3 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	31.7	Diazo with Sulphanilic Acid
	mg/dl	1.86	
Bilirubin Total	µmol/l	80.8	Diazo with Sulphanilic Acid
	mg/dl	4.73	
	µmol/l	83.0	Nitrobenzenediazonium salt
	mg/dl	4.85	
Calcium	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	115	ISE direct
Cholesterol	mmol/l	6.83	Cholesterol Oxidase
	mg/dl	264	
Cholinesterase	U/l	5131	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	466	CK-NAC (IFCC) 37°C
	U/l	292	CK-NAC (IFCC) 30°C
	U/l	198	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	359	Alkaline picrate no deproteinization
	mg/dl	4.06	
	µmol/l	359	Randox Enzymatic UV method
	mg/dl	4.05	
	µmol/l	360	Creatinine PAP method
	mg/dl	4.07	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.27	
D-3-Hydroxybutyrate	mmol/l	1.08	Tris buffer 100mmol pH 8.5
gamma-GT	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

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	272	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	40.6	Colorimetric without ppt.
	µg/dl	227	
LD (LDH)	U/l	751	P->L Scandinavian & Dutch 37°C
	U/l	542	P->L Scandinavian & Dutch 30°C
	U/l	381	P->L Scandinavian & Dutch 25°C
Magnesium	mmol/l	1.77	Calmagite
	mg/dl	4.30	
	mmol/l	1.56	Xylidyl Blue
	mg/dl	3.79	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate UV
	mg/dl	7.38	
Potassium	mmol/l	5.78	ISE method - direct
Protein Total	g/l	49.4	Biuret reaction end point
	g/dl	4.94	
Sodium	mmol/l	154	ISE method - direct
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.84	Lipase/Glycerol Dehydrogenase
	mg/dl	251	
Urea	mmol/l	17.6	Urease kinetic
	mg/dl	106	
	mmol/l	17.6	BUN
	mg/dl	49.4	
Uric Acid (Urate)	mmol/l	0.562	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.44	
	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
a-HBDH	U/l	465	Oxobutyrate < 10 mmol/l 37°C
	U/l	351	Oxobutyrate < 10 mmol/l 30°C
	U/l	263	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	22.0	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	14.3	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	17.0	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	32.9	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	39.0	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	47.2	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
	g/l	28.5	Bromocresol Purple
	g/dl	2.85	
	g/l	27.6	Turbidimetric Assays
	g/dl	2.76	
Alkaline Phosphatase	U/l	342	p-Nitrophenylphosphate AMP 37°C
	U/l	266	p-Nitrophenylphosphate AMP 30°C
	U/l	219	p-Nitrophenylphosphate AMP 25°C
	U/l	478	Diethanolamine buffer DEA 37°C
	U/l	372	Diethanolamine buffer DEA 30°C
	U/l	305	Diethanolamine buffer DEA 25°C
	U/l	328	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	146	Tris buffer with P5P 37°C
	U/l	108	Tris buffer with P5P 30°C
	U/l	82	Tris buffer with P5P 25°C
	U/l	114	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
	U/l	111	Tris buffer SCE 37°C
	U/l	82	Tris buffer SCE 30°C
	U/l	62	Tris buffer SCE 25°C
	U/l	121	Agappe - IFCC 37°C
	U/l	90	Agappe - IFCC 30°C
	U/l	68	Agappe - IFCC 25°C
Amylase Pancreatic	U/l	234	Immunoinhibition EPS substrate 37°C
	U/l	235	Roche liquid stable pNPG7 37°C
	U/l	265	Randox liquid stable pNPG7 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Amylase Total	U/l	276	pNP Maltotrioside substrates 37°C
	U/l	268	Siemens - blocked pNPG7 37°C
	U/l	277	Biotrol - blocked pNPG7 37°C
	U/l	222	Randox - Ethylidene pNPG7 37°C
	U/l	288	Randox liquid stable pNPG7 37°C
	U/l	263	BM/Roche Colorimetric pNPG7 37°C
	U/l	274	Beckman maltotetraose 37°C
	U/l	257	Saccharogenic 37°C
	U/l	261	Roche Integra 2-chloro-pNPG7 37°C
	U/l	255	Other Roche 2-chloro-pNPG7 37°C
	U/l	259	Roche liquid stable pNPG7 37°C
	U/l	309	Siemens 2-chloro-pNPG3 37°C
	U/l	256	bioMerieux 2-chloro-pNPG3 37°C
	U/l	266	Beckman Coulter - blocked pNPG7 37°C
	U/l	281	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	183	Tris buffer with P5P 37°C
	U/l	124	Tris buffer with P5P 30°C
	U/l	87	Tris buffer with P5P 25°C
	U/l	124	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	59	Tris buffer without P5P 25°C
	U/l	120	Tris buffer SCE 37°C
	U/l	81	Tris buffer SCE 30°C
	U/l	57	Tris buffer SCE 25°C
	U/l	126	Agappe - IFCC 37°C
	U/l	85	Agappe - IFCC 30°C
	U/l	60	Agappe - IFCC 25°C
Bicarbonate	mmol/l	18.0	Colorimetric
	mmol/l	17.8	Differential rate pH change
	mmol/l	18.0	Enzymatic
	mmol/l	17.5	Ion selective electrode
Bile Acids	µmol/l	45.9	4th Generation Colorimetric
	µmol/l	44.5	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	
	µmol/l	27.0	Diazo with Sulphanilic Acid
	mg/dl	1.58	
	µmol/l	26.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	
	µmol/l	28.7	Oxidation to Biliverdin
	mg/dl	1.68	
	µmol/l	29.1	Modified Jendrassik
	mg/dl	1.70	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	92.5	Diazo with Dichloroaniline (DCA)
	mg/dl	5.41	
	µmol/l	82.7	Diazo with Sulphanilic Acid
	mg/dl	4.84	
	µmol/l	92.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.38	
	µmol/l	83.6	Nitrobenzenediazonium salt
	mg/dl	4.89	
	µmol/l	78.9	Diazonium ion
	mg/dl	4.62	
	µmol/l	89.1	Oxidation to Biliverdin
	mg/dl	5.21	
	µmol/l	93.1	Modified Jendrassik
	mg/dl	5.45	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
	mmol/l	3.03	Ion selective electrode
	mg/dl	12.1	
	mmol/l	2.83	Methylthymol blue
	mg/dl	11.3	
	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
	mmol/l	3.10	NM-BAPTA
	mg/dl	12.4	
Chloride	mmol/l	114	Colorimetric
	mmol/l	112	ISE indirect
	mmol/l	114	ISE direct
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
	mmol/l	7.05	Agappe - CHOD-PAP
	mg/dl	272	
Cholinesterase	U/l	5102	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	457	CK-NAC serum start (DGKC) 37°C
	U/l	286	CK-NAC serum start (DGKC) 30°C
	U/l	194	CK-NAC serum start (DGKC) 25°C
	U/l	466	CK-NAC substrate start (DGKC) 37°C
	U/l	292	CK-NAC substrate start (DGKC) 30°C
	U/l	198	CK-NAC substrate start (DGKC) 25°C
	U/l	476	CK-NAC (IFCC) 37°C
	U/l	298	CK-NAC (IFCC) 30°C
	U/l	202	CK-NAC (IFCC) 25°C
	U/l	470	Monothioglycerol 37°C
	U/l	294	Monothioglycerol 30°C
	U/l	200	Monothioglycerol 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
CK Total	U/l	433	Dithioerythritol 37°C
	U/l	271	Dithioerythritol 30°C
	U/l	184	Dithioerythritol 25°C
	U/l	432	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	270	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	184	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	25.9	Atomic absorption
	µg/dl	165	
	µmol/l	25.8	Colorimetric
	µg/dl	164	
Creatinine	µmol/l	330	Alkaline picrate with deproteinization
	mg/dl	3.73	
	µmol/l	344	Alkaline picrate no deproteinization
	mg/dl	3.88	
	µmol/l	365	Randox Enzymatic UV method
	mg/dl	4.12	
	µmol/l	365	Creatinine PAP method
	mg/dl	4.12	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.11	
	µmol/l	357	Jaffe rate blanked
	mg/dl	4.03	
	µmol/l	384	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.34	
	µmol/l	361	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.08	
	µmol/l	371	Vitros IDMS Traceable
	mg/dl	4.19	
	µmol/l	362	IDMS traceable
	mg/dl	4.10	
	µmol/l	332	Agappe - Jaffe Kinetic
	mg/dl	3.75	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	161	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	127	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	99	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	142	Gamma glutamyl-4-nitroanilide 37°C
	U/l	112	Gamma glutamyl-4-nitroanilide 30°C
	U/l	88	Gamma glutamyl-4-nitroanilide 25°C
	U/l	176	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
gamma-GT	U/l	164	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	129	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C
	U/l	101	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C
	U/l	185	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	146	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	114	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	35	Triethanolamine buffer 50 mmol 37°C
	U/l	27	Triethanolamine buffer 50 mmol 30°C
	U/l	22	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.6	Glucose dehydrogenase
	mg/dl	263	
	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	14.7	Oxygen electrode
	mg/dl	265	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	39.6	Colorimetric with ppt.
	µg/dl	221	
	µmol/l	39.5	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.16	Colorimetric Lactate Oxidase
	mg/dl	46.5	
	mmol/l	4.81	Ortho Vitros Microslide Systems
	mg/dl	43.3	
	mmol/l	5.03	UV LDH
	mg/dl	45.3	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	324	L->P 37°C
	U/l	234	L->P 30°C
	U/l	164	L->P 25°C
	U/l	784	P->L Scandinavian & Dutch 37°C
	U/l	566	P->L Scandinavian & Dutch 30°C
	U/l	397	P->L Scandinavian & Dutch 25°C
	U/l	704	P->L German methods 37°C
	U/l	508	P->L German methods 30°C
	U/l	357	P->L German methods 25°C
	U/l	727	P->L SFBC 37°C
	U/l	525	P->L SFBC 30°C
	U/l	369	P->L SFBC 25°C
	U/l	362	L->P IFCC 37°C
	U/l	261	L->P IFCC 30°C
	U/l	184	L->P IFCC 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Lipase	U/l	66	Roche Colorimetric 37°C
	U/l	78	Randox Colorimetric 37°C
Lithium	mmol/l	2.00	Ion selective electrode
	mg/dl	1.39	
	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
	mmol/l	1.91	Randox Colorimetric
	mg/dl	1.33	
Magnesium	mmol/l	1.74	Arsenazo III
	mg/dl	4.23	
	mmol/l	1.70	Atomic absorption
	mg/dl	4.13	
	mmol/l	1.73	Calmagite
	mg/dl	4.20	
	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
	mmol/l	1.74	Methylthymol blue
	mg/dl	4.23	
	mmol/l	1.73	Chlorphosphonazo III
	mg/dl	4.20	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Osmolality	mOsm/kg	334	Calculated
	mOsm/kg	372	Freezing point depression
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	5.85	Flame photometry
	mmol/l	5.91	ISE method - direct
	mmol/l	5.99	ISE method - indirect
	mmol/l	6.02	Enzymatic
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
	g/l	47.6	Biuret reaction kinetic
	g/dl	4.76	
Sodium	mmol/l	157	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	156	ISE method - direct
	mmol/l	158	ISE method - indirect
TIBC	µmol/l	50.9	Removal of excess free iron
	µg/dl	285	
	µmol/l	52.3	FE+UIBC(saturation with iron)
	µg/dl	292	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
TIBC	µmol/l	55.1	Randox Direct
	µg/dl	308	
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.75	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	243	
	mmol/l	2.77	L/G Kinase EP. no correction
	mg/dl	245	
	mmol/l	2.71	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	240	
	mmol/l	2.77	Lipase/Glycerol Dehydrogenase
	mg/dl	245	
Urea	mmol/l	17.5	Urease end point
	mg/dl	105	
	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	17.6	Urease hypochlorite
	mg/dl	106	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.540	Uricase catalase 340nm
	mg/dl	9.07	
	mmol/l	0.541	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.534	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.97	
	mmol/l	0.522	Spectrophotometric at 280-290
	mg/dl	8.77	
	mmol/l	0.538	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.04	
Zinc	µmol/l	33.6	Atomic absorption
	µg/dl	219	
	µmol/l	34.7	Colorimetric with deproteinisation
	µg/dl	227	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	31.4	Bromocresol Green
	g/dl	3.14	
Alkaline Phosphatase	U/l	336	AMP optimised to IFCC 37°C
	U/l	262	AMP optimised to IFCC 30°C
	U/l	215	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	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
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
Bilirubin Total	µmol/l	97.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.72	
Calcium	mmol/l	3.30	Cresolphthalein complexone
	mg/dl	13.2	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	6.94	Cholesterol Oxidase
	mg/dl	268	
CK Total	U/l	484	CK-NAC (IFCC) 37°C
	U/l	303	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	328	Alkaline picrate with deproteinization
	mg/dl	3.71	
	µmol/l	324	Alkaline picrate no deproteinization
	mg/dl	3.67	
	µmol/l	360	Randox Enzymatic UV method
	mg/dl	4.07	
	µmol/l	334	Jaffe rate blanked
	mg/dl	3.77	
gamma-GT	U/l	147	Gamma glutamyl-4-nitroanilide 37°C
	U/l	116	Gamma glutamyl-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl-4-nitroanilide 25°C
	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	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.6	Colorimetric without ppt.
	µg/dl	216	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
LD (LDH)	U/l	718	P->L SFBC 37°C
	U/l	518	P->L SFBC 30°C
	U/l	364	P->L SFBC 25°C
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	5.79	ISE method - direct
Protein Total	g/l	50.4	Biuret reaction end point
	g/dl	5.04	
Sodium	mmol/l	154	ISE method - direct
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	18.3	Urease end point
	mg/dl	110	
	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	18.3	Urease hypochlorite
	mg/dl	110	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.567	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.572	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.533	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.95	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

PRESTIGE 24i Lot No. 718UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2016-12

Analyte	unit	Target	methods
Albumin	g/l	31.5	Bromocresol Green
	g/dl	3.15	
Alkaline Phosphatase	U/l	452	Diethanolamine buffer DEA 37°C
	U/l	352	Diethanolamine buffer DEA 30°C
	U/l	289	Diethanolamine buffer DEA 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
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
Bilirubin Direct	µmol/l	22.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.32	
Bilirubin Total	µmol/l	88.5	Diazo with Dichloroaniline (DCA)
	mg/dl	5.18	
Calcium	mmol/l	3.00	Arsenazo III
	mg/dl	12.0	
Cholesterol	mmol/l	7.00	Cholesterol Oxidase
	mg/dl	270	
CK Total	U/l	492	CK-NAC (IFCC) 37°C
	U/l	308	CK-NAC (IFCC) 30°C
	U/l	209	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	375	Creatinine PAP method
	mg/dl	4.24	
Glucose	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Protein Total	g/l	51.0	Biuret reaction end point
	g/dl	5.10	
Triglycerides	mmol/l	2.68	Lipase/GPO-PAP no correction
	mg/dl	237	
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.522	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.77	
	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.9	Bromocresol Green
	g/dl	3.09	
	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
	g/l	27.5	Turbidimetric Assays
	g/dl	2.75	
Alkaline Phosphatase	U/l	241	Roche Integra AMP buffer 37°C
	U/l	188	Roche Integra AMP buffer 30°C
	U/l	154	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	111	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	231	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	254	BM/Roche Colorimetric pNPG7 37°C
	U/l	258	Roche Integra 2-chloro-pNPG7 37°C
	U/l	255	Other Roche 2-chloro-pNPG7 37°C
	U/l	256	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	121	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	58	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.0	Colorimetric
	mmol/l	18.0	Enzymatic
Bile Acids	µmol/l	46.6	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	
	µmol/l	28.8	Diazo with Sulphanilic Acid
	mg/dl	1.69	
	µmol/l	28.2	Roche JG factored
	mg/dl	1.65	
	µmol/l	29.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	77.6	Diazo with Sulphanilic Acid
	mg/dl	4.54	
	µmol/l	77.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.55	
	µmol/l	78.5	Diazonium ion
	mg/dl	4.59	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Calcium	mmol/l	3.11	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	109	ISE indirect
Cholesterol	mmol/l	6.96	Cholesterol Oxidase
	mg/dl	269	
Cholinesterase	U/l	5112	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	487	CK-NAC substrate start (DGKC) 37°C
	U/l	305	CK-NAC substrate start (DGKC) 30°C
	U/l	207	CK-NAC substrate start (DGKC) 25°C
	U/l	494	CK-NAC (IFCC) 37°C
	U/l	309	CK-NAC (IFCC) 30°C
	U/l	210	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	359	Alkaline picrate no deproteinization
	mg/dl	4.06	
	µmol/l	371	Randox Enzymatic UV method
	mg/dl	4.19	
	µmol/l	369	Roche Creatinine Plus
	mg/dl	4.17	
	µmol/l	357	Jaffe rate blanked
	mg/dl	4.04	
	µmol/l	381	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.31	
	µmol/l	373	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.21	
D-3-Hydroxybutyrate	mmol/l	1.15	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	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	39.0	Colorimetric with ppt.
	µg/dl	218	
	µmol/l	39.5	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.17	Colorimetric Lactate Oxidase
	mg/dl	46.6	
LD (LDH)	U/l	697	P->L German methods 37°C
	U/l	503	P->L German methods 30°C
	U/l	353	P->L German methods 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
LD (LDH)	U/l	696	P->L SFBC 37°C
	U/l	503	P->L SFBC 30°C
	U/l	353	P->L SFBC 25°C
	U/l	357	L->P IFCC 37°C
	U/l	258	L->P IFCC 30°C
	U/l	181	L->P IFCC 25°C
Lipase	U/l	64	Roche Colorimetric 37°C
Lithium	mmol/l	2.00	Spectrophotometric
	mg/dl	1.39	
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate enzymatic
	mg/dl	7.07	
	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.03	ISE method - indirect
Protein Total	g/l	47.7	Biuret reaction end point
	g/dl	4.77	
	g/l	47.6	Biuret reaction kinetic
	g/dl	4.76	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	50.9	FE+UIBC(saturation with iron)
	µg/dl	285	
Triglycerides	mmol/l	2.68	Lipase/GPO-PAP no correction
	mg/dl	237	
	mmol/l	2.70	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	239	
	mmol/l	2.66	L/G Kinase EP. no correction
	mg/dl	235	
	mmol/l	2.69	Lipase/Glycerol Dehydrogenase
	mg/dl	238	
Urea	mmol/l	18.1	Urease end point
	mg/dl	109	
	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.528	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.87	
	mmol/l	0.525	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.82	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.530	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.90	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	31.3	Bromocresol Green
	g/dl	3.13	
Alkaline Phosphatase	U/l	231	Roche Integra AMP buffer 37°C
	U/l	180	Roche Integra AMP buffer 30°C
	U/l	148	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	111	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Amylase Total	U/l	262	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	121	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	58	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.9	Enzymatic
Bilirubin Direct	µmol/l	29.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.74	
Bilirubin Total	µmol/l	77.5	Diazo with Sulphanilic Acid
	mg/dl	4.53	
	µmol/l	77.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.53	
	µmol/l	78.2	Diazonium ion
	mg/dl	4.58	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.07	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.18	Cholesterol Oxidase
	mg/dl	277	
CK Total	U/l	491	CK-NAC (IFCC) 37°C
	U/l	307	CK-NAC (IFCC) 30°C
	U/l	209	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	340	Alkaline picrate no deproteinization
	mg/dl	3.84	
	µmol/l	342	Roche Creatinine Plus
	mg/dl	3.86	
	µmol/l	364	Jaffe rate blanked
	mg/dl	4.12	
	µmol/l	352	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.98	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
gamma-GT	U/l	177	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	139	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	109	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
LD (LDH)	U/l	383	L->P IFCC 37°C
	U/l	277	L->P IFCC 30°C
	U/l	194	L->P IFCC 25°C
Magnesium	mmol/l	1.70	Chlorphosphonazo III
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.39	Phosphomolybdate UV
	mg/dl	7.41	
Potassium	mmol/l	5.84	ISE method - indirect
Protein Total	g/l	49.4	Biuret reaction end point
	g/dl	4.94	
Sodium	mmol/l	154	ISE method - indirect
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
	mmol/l	2.78	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	246	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.539	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.06	
	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	
	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. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.6	Bromocresol Green
	g/dl	3.06	
	g/l	28.2	Bromocresol Purple
	g/dl	2.82	
Alkaline Phosphatase	U/l	241	Roche Integra AMP buffer 37°C
	U/l	188	Roche Integra AMP buffer 30°C
	U/l	154	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	112	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	235	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	260	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	123	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	59	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.1	Enzymatic
Bilirubin Direct	µmol/l	27.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.62	
	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
Bilirubin Total	µmol/l	79.0	Diazo with Sulphanilic Acid
	mg/dl	4.62	
	µmol/l	78.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.56	
	µmol/l	80.3	Diazonium ion
	mg/dl	4.70	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.03	Arsenazo III
	mg/dl	12.1	
	mmol/l	3.11	NM-BAPTA
	mg/dl	12.5	
Chloride	mmol/l	109	ISE indirect
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
CK Total	U/l	496	CK-NAC (IFCC) 37°C
	U/l	310	CK-NAC (IFCC) 30°C
	U/l	211	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.02	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Creatinine	µmol/l	376	Randox Enzymatic UV method
	mg/dl	4.25	
	µmol/l	373	Roche Creatinine Plus
	mg/dl	4.22	
	µmol/l	390	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.41	
gamma-GT	U/l	158	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	179	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	39.5	Colorimetric without ppt.
	µg/dl	221	
Lactate	mmol/l	5.33	Colorimetric Lactate Oxidase
	mg/dl	48.0	
LD (LDH)	U/l	357	L->P IFCC 37°C
	U/l	258	L->P IFCC 30°C
	U/l	181	L->P IFCC 25°C
Lipase	U/l	67	Roche Colorimetric 37°C
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.38	Phosphomolybdate enzymatic
	mg/dl	7.38	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.01	ISE method - indirect
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
	g/l	48.3	Biuret reaction kinetic
	g/dl	4.83	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	52.1	FE+UIBC(saturation with iron)
	µg/dl	291	
Triglycerides	mmol/l	2.71	Lipase/GPO-PAP no correction
	mg/dl	240	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.66	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	235	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.541	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	
	mmol/l	0.539	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.06	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
Alkaline Phosphatase	U/l	215	Roche Integra AMP buffer 37°C
	U/l	167	Roche Integra AMP buffer 30°C
	U/l	137	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	113	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	238	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	258	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	123	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	59	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.0	Enzymatic
Bilirubin Direct	µmol/l	29.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.72	
Bilirubin Total	µmol/l	77.2	Diazo with Sulphanilic Acid
	mg/dl	4.52	
	µmol/l	77.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.53	
	µmol/l	76.9	Diazonium ion
	mg/dl	4.50	
Calcium	mmol/l	3.13	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.08	NM-BAPTA
	mg/dl	12.3	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	6.85	Cholesterol Oxidase
	mg/dl	264	
CK Total	U/l	425	CK-NAC (IFCC) 37°C
	U/l	266	CK-NAC (IFCC) 30°C
	U/l	181	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	371	Roche Creatinine Plus
	mg/dl	4.19	
	µmol/l	390	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.41	
gamma-GT	U/l	149	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	92	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. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
gamma-GT	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	14.8	Hexokinase
	mg/dl	267	
Iron	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	213	
Lactate	mmol/l	5.16	Colorimetric Lactate Oxidase
	mg/dl	46.5	
LD (LDH)	U/l	357	L->P IFCC 37°C
	U/l	258	L->P IFCC 30°C
	U/l	181	L->P IFCC 25°C
Lipase	U/l	66	Roche Colorimetric 37°C
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.04	ISE method - indirect
Protein Total	g/l	47.3	Biuret reaction end point
	g/dl	4.73	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	50.9	FE+UIBC(saturation with iron)
	µg/dl	285	
Triglycerides	mmol/l	2.64	Lipase/GPO-PAP no correction
	mg/dl	234	
	mmol/l	2.66	L/G Kinase EP. no correction
	mg/dl	235	
Urea	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.534	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.97	
	mmol/l	0.527	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.85	
	mmol/l	0.518	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.70	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	496	Diethanolamine buffer DEA 37°C
	U/l	318	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	265	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	288	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	140	Tris buffer without P5P 37°C
Bile Acids	µmol/l	44.5	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	28.1	Vanadate Oxidation
	mg/dl	1.64	
Bilirubin Total	µmol/l	85.8	Diazo with Sulphanilic Acid
	mg/dl	5.02	
	µmol/l	89.5	Vanadate Oxidation
	mg/dl	5.24	
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	
CK Total	U/l	448	CK-NAC substrate start (DGKC) 37°C
	U/l	492	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	313	Alkaline picrate no deproteinization
	mg/dl	3.54	
	µmol/l	365	Randox Enzymatic UV method
	mg/dl	4.12	
gamma-GT	U/l	185	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	39.9	Colorimetric without ppt.
	µg/dl	223	
Lactate	mmol/l	5.01	Colorimetric Lactate Oxidase
	mg/dl	45.1	
LD (LDH)	U/l	735	P->L German methods 37°C
	U/l	362	L->P IFCC 37°C
Lipase	U/l	78	Randox Colorimetric 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Lithium	mmol/l	1.91	Colorimetric
	mg/dl	1.33	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	6.02	Enzymatic
Protein Total	g/l	49.6	Biuret reaction end point
	g/dl	4.96	
Sodium	mmol/l	158	Enzymatic
TIBC	µmol/l	55.1	Direct Colorimetric
	µg/dl	308	
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	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	0.541	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/2400® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/l	325	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	118	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	249	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	268	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.3	Enzymatic
Bile Acids	µmol/l	45.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.4	Oxidation to Biliverdin
	mg/dl	1.66	
Bilirubin Total	µmol/l	89.9	Oxidation to Biliverdin
	mg/dl	5.26	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.05	Arsenazo III
	mg/dl	12.2	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.88	Cholesterol Oxidase
	mg/dl	266	
Cholinesterase	U/l	5298	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	457	CK-NAC substrate start (DGKC) 37°C
	U/l	451	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	350	Alkaline picrate no deproteinization
	mg/dl	3.96	
	µmol/l	358	Randox Enzymatic UV method
	mg/dl	4.05	
	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
gamma-GT	U/l	176	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.7	Hexokinase
	mg/dl	265	
	mmol/l	14.7	Glucose oxidase
	mg/dl	265	
Iron	µmol/l	40.1	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.23	Colorimetric Lactate Oxidase
	mg/dl	47.1	
LD (LDH)	U/l	361	L->P 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/2400® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
LD (LDH)	U/l	730	P->L German methods 37°C
	U/l	361	L->P IFCC 37°C
Lipase	U/l	73	Other Colorimetric 37°C
Lithium	mmol/l	2.01	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	49.3	Biuret reaction end point
	g/dl	4.93	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	56.1	FE+UIBC(saturation with iron)
	µg/dl	314	
	µmol/l	56.5	Direct Colorimetric
	µg/dl	316	
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
	mmol/l	2.72	L/G Kinase EP. no correction
	mg/dl	241	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.548	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Purple
	g/dl	2.86	
ALT (GPT)	U/l	119	Tris buffer with P5P 37°C
	U/l	124	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	312	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	155	Tris buffer with P5P 37°C
	U/l	160	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	16.9	Diazo with Sulphanilic Acid
	mg/dl	0.989	
Bilirubin Total	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.38	Dimension-Siemens reagents
	mg/dl	246	
CK Total	U/l	432	CK-NAC (IFCC) 37°C
gamma-GT	U/l	212	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	268	
Iron	µmol/l	38.2	Colorimetric without ppt.
	µg/dl	213	
LD (LDH)	U/l	363	L->P IFCC 37°C
Magnesium	mmol/l	1.76	Methylthymol blue
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	5.98	ISE method - indirect
Protein Total	g/l	50.1	Biuret reaction end point
	g/dl	5.01	
Sodium	mmol/l	160	ISE method - indirect
Triglycerides	mmol/l	2.72	L/G Kinase EP. no correction
	mg/dl	241	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.541	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.09	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension EXL Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.528	Spectrophotometric at 280-290
	mg/dl	8.87	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	28.5	Bromocresol Green
	g/dl	2.85	
	g/l	28.2	Bromocresol Purple
	g/dl	2.82	
Alkaline Phosphatase	U/l	240	Siemens Dimension AMP buffer 37°C
	U/l	296	AMP optimised to IFCC 37°C
	U/l	269	Randox AMP 37°C
ALT (GPT)	U/l	119	Tris buffer with P5P 37°C
	U/l	124	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	309	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	158	Tris buffer with P5P 37°C
	U/l	159	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.3	Enzymatic
Bilirubin Direct	µmol/l	16.3	Diazo with Sulphanilic Acid
	mg/dl	0.954	
Bilirubin Total	µmol/l	82.4	Diazo with Sulphanilic Acid
	mg/dl	4.82	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.42	Dimension-Siemens reagents
	mg/dl	248	
CK Total	U/l	431	CK-NAC (IFCC) 37°C
	U/l	438	Dithioerythritol 37°C
	U/l	438	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.16	
	µmol/l	351	Randox Enzymatic UV method
	mg/dl	3.96	
	µmol/l	362	Creatinine PAP method
	mg/dl	4.09	
	µmol/l	363	Jaffe rate blanked
	mg/dl	4.10	
	µmol/l	395	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.46	
	µmol/l	353	IDMS traceable
	mg/dl	3.99	
gamma-GT	U/l	183	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	208	Siemens Dimension (non IFCC) 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	269	
Iron	µmol/l	39.0	Colorimetric with ppt.
	µg/dl	218	
	µmol/l	37.9	Colorimetric without ppt.
	µg/dl	212	
Lactate	mmol/l	4.99	Colorimetric Lactate Oxidase
	mg/dl	45.0	
LD (LDH)	U/l	371	Siemens Dimension L-P Non IFCC 37°C
	U/l	360	L->P IFCC 37°C
Lipase	U/l	283	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.75	Methylthymol blue
	mg/dl	4.25	
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	5.96	ISE method - indirect
Protein Total	g/l	49.5	Biuret reaction end point
	g/dl	4.95	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	48.8	Removal of excess free iron
	µg/dl	273	
	µmol/l	46.9	Direct Colorimetric
	µg/dl	262	
Triglycerides	mmol/l	2.74	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.69	L/G Kinase EP. no correction
	mg/dl	238	
	mmol/l	2.79	Lipase/Glycerol Dehydrogenase
	mg/dl	247	
Urea	mmol/l	18.8	Urease end point
	mg/dl	113	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.529	Uricase catalase 340nm
	mg/dl	8.89	
	mmol/l	0.528	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.87	
	mmol/l	0.529	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.89	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.525	Spectrophotometric at 280-290
	mg/dl	8.82	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Purple
	g/dl	2.92	
Alkaline Phosphatase	U/l	292	Siemens Dimension AMP buffer 37°C
	U/l	296	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	118	Tris buffer with P5P 37°C
	U/l	116	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	308	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	158	Tris buffer with P5P 37°C
	U/l	160	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.6	Enzymatic
Bilirubin Direct	µmol/l	17.5	Diazo with Sulphanilic Acid
	mg/dl	1.02	
Bilirubin Total	µmol/l	80.0	Diazo with Sulphanilic Acid
	mg/dl	4.68	
Calcium	mmol/l	3.08	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.41	Dimension-Siemens reagents
	mg/dl	247	
CK Total	U/l	439	CK-NAC (IFCC) 37°C
	U/l	424	Dithioerythritol 37°C
	U/l	431	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.16	
	µmol/l	375	Randox Enzymatic UV method
	mg/dl	4.24	
	µmol/l	361	IDMS traceable
	mg/dl	4.08	
gamma-GT	U/l	199	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	206	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	14.5	Hexokinase
	mg/dl	261	
Iron	µmol/l	38.9	Colorimetric without ppt.
	µg/dl	217	
Lactate	mmol/l	5.06	UV LDH
	mg/dl	45.6	
LD (LDH)	U/l	368	L->P IFCC 37°C
Lipase	U/l	330	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.98	Spectrophotometric
	mg/dl	1.37	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Siemens Dimension Vista Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Magnesium	mmol/l	1.73	Methylthymol blue
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	5.88	ISE method - indirect
Protein Total	g/l	49.6	Biuret reaction end point
	g/dl	4.96	
Sodium	mmol/l	157	ISE method - indirect
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.506	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.50	
	mmol/l	0.498	Spectrophotometric at 280-290
	mg/dl	8.37	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
ALT (GPT)	U/l	114	Tris buffer without P5P 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	32.7	Diazo with Sulphanilic Acid
	mg/dl	1.91	
Calcium	mmol/l	3.06	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	7.23	Cholesterol Oxidase
	mg/dl	279	
CK Total	U/l	469	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	343	Alkaline picrate no deproteinization
	mg/dl	3.88	
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
LD (LDH)	U/l	367	L->P IFCC 37°C
Protein Total	g/l	53.6	Biuret reaction end point
	g/dl	5.36	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Weiner Lab BT 3000 Plus/CB 350i Lot No. 718UE Cat. No. CAL2351

Size: 20 x 5ml Expiry: 2016-12

Analyte	unit	Target	methods
Albumin	g/l	31.7	Bromocresol Green
	g/dl	3.17	
Alkaline Phosphatase	U/l	301	AMP optimised to IFCC 37°C
	U/l	234	AMP optimised to IFCC 30°C
	U/l	192	AMP optimised to IFCC 25°C
Calcium	mmol/l	2.94	Arsenazo III
	mg/dl	11.8	
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
gamma-GT	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	14.8	Glucose oxidase
	mg/dl	267	
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Triglycerides	mmol/l	2.50	Lipase/GPO-PAP no correction
	mg/dl	221	
Urea	mmol/l	16.9	Urease kinetic
	mg/dl	102	
	mmol/l	16.9	BUN
	mg/dl	47.4	
Uric Acid (Urate)	mmol/l	0.504	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.47	

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