CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 2351 **LOT NO.** 916UE
SIZE: 20 x 5ml **EXPIRY:** 2019-07-28

GTIN: 05055273200966

INTENDED USE

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

SAFETY PRECAUTIONS AND WARNINGS

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

STORAGE AND STABILITY

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

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

1. Open the vial carefully, avoiding any loss of material.
2. Reconstitute by pipetting exactly 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 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 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

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

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
	g/l	27.2	Bromocresol Purple
	g/dl	2.72	
Alkaline Phosphatase	U/l	281	AMP optimised to IFCC 37°C
	U/l	275	AMP non-optimised 37°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	242	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	293	Abbott Architect Non-IFCC Cal. 37°C
	U/l	326	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	123	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.2	Enzymatic
Bile Acids	µmol/l	45.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	
	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	28.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	
Bilirubin Total	µmol/l	83.5	Diazo with Dichloroaniline (DCA)
	mg/dl	4.89	
	µmol/l	84.7	Diazo with Sulphanilic Acid
	mg/dl	4.95	
	µmol/l	83.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.89	
	µmol/l	82.1	Diazonium ion
	mg/dl	4.80	
Calcium	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.44	Cholesterol Oxidase
	mg/dl	287	
Cholinesterase	U/l	6034	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	483	CK-NAC (IFCC) 37°C
Copper	µmol/l	20.0	Colorimetric
	µg/dl	127	
Creatinine	µmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.26	
	µmol/l	366	Enzymatic UV method (340nm)
	mg/dl	4.14	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Creatinine	µmol/l	365	Creatinine PAP method
	mg/dl	4.12	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.27	
	µmol/l	377	IDMS traceable
	mg/dl	4.26	
gamma-GT	U/l	158	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	159	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	162	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	34.3	Colorimetric with ppt.
	µg/dl	192	
	µmol/l	34.9	Colorimetric without ppt.
	µg/dl	195	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/l	308	L->P 37°C
	U/l	309	L->P IFCC 37°C
Lipase	U/l	60	Other Colorimetric 37°C
Lithium	mmol/l	2.19	Spectrophotometric
	mg/dl	1.52	
Magnesium	mmol/l	1.80	Arsenazo III
	mg/dl	4.37	
	mmol/l	1.80	Enzymatic
	mg/dl	4.37	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate enzymatic
	mg/dl	6.85	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.28	ISE method - indirect
Protein Total	g/l	45.1	Biuret reaction end point
	g/dl	4.51	
Sodium	mmol/l	163	ISE method - indirect
TIBC	µmol/l	53.6	FE+UIBC(saturation with iron)
	µg/dl	300	
Triglycerides	mmol/l	2.92	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.93	L/G Kinase EP. no correction
	mg/dl	259	

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Abbott Architect c/ci Systems® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.91	Lipase/Glycerol Dehydrogenase
	mg/dl	258	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.595	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.00	
	mmol/l	0.594	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.98	
	mmol/l	0.597	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.0	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
AST (GOT)	U/l	134	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	87.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.10	
Calcium	mmol/l	3.54	Arsenazo III
	mg/dl	14.2	
Cholesterol	mmol/l	7.90	Cholesterol Oxidase
	mg/dl	305	
Creatinine	µmol/l	362	Creatinine PAP method
	mg/dl	4.09	
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	33.7	Colorimetric without ppt.
	µg/dl	188	
Phosphate Inorganic	mmol/l	2.48	Phosphomolybdate UV
	mg/dl	7.69	
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Triglycerides	mmol/l	3.00	Lipase/GPO-PAP no correction
	mg/dl	266	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.607	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.2	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
a-HBDH	U/l	350	Oxobutyrate < 10 mmol/l 37°C
Albumin	g/l	27.0	Bromocresol Green
	g/dl	2.70	
	g/l	27.1	Bromocresol Purple
	g/dl	2.71	
Alkaline Phosphatase	U/l	478	Diethanolamine buffer DEA 37°C
	U/l	347	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	127	Tris buffer without P5P 37°C
Amylase Total	U/l	262	pNP Maltotrioside substrates 37°C
	U/l	257	Biotrol - blocked pNPG7 37°C
	U/l	258	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	268	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	133	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.5	Enzymatic
Bilirubin Direct	µmol/l	22.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.33	
Bilirubin Total	µmol/l	87.7	Diazo with Sulphanilic Acid
	mg/dl	5.13	
	µmol/l	85.4	DPD (Beckman AU)
	mg/dl	4.99	
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.54	Cholesterol Oxidase
	mg/dl	291	
Cholinesterase	U/l	4831	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	491	CK-NAC (IFCC) 37°C
Copper	µmol/l	24.2	Colorimetric
	µg/dl	154	
Creatinine	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	369	Enzymatic UV method (340nm)
	mg/dl	4.17	
	µmol/l	367	Creatinine PAP method
	mg/dl	4.14	
	µmol/l	353	Jaffe rate blanked
	mg/dl	3.98	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Creatinine	µmol/l	370	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.18	
	µmol/l	358	IDMS traceable
	mg/dl	4.05	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	167	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	151	Gamma glutamyl-4-nitroanilide 37°C
	U/l	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	28	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	35.8	Colorimetric with ppt.
	µg/dl	200	
	µmol/l	35.8	Colorimetric without ppt.
	µg/dl	200	
Lactate	mmol/l	5.27	Colorimetric Lactate Oxidase
	mg/dl	47.5	
LD (LDH)	U/l	303	L->P 37°C
	U/l	692	P->L Scandinavian & Dutch 37°C
	U/l	640	P->L German methods 37°C
	U/l	314	L->P IFCC 37°C
Lipase	U/l	63	Other Colorimetric 37°C
	U/l	57	Roche Colorimetric 37°C
	U/l	79	Randox Colorimetric 37°C
Lithium	mmol/l	2.10	Spectrophotometric
	mg/dl	1.46	
Magnesium	mmol/l	1.85	Xylidyl Blue
	mg/dl	4.50	
Phosphate Inorganic	mmol/l	2.42	Phosphomolybdate enzymatic
	mg/dl	7.50	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.25	ISE method - indirect
Protein Total	g/l	44.6	Biuret reaction end point
	g/dl	4.46	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	52.5	FE+UIBC(saturation with iron)
	µg/dl	293	
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	3.02	L/G Kinase EP. no correction
	mg/dl	267	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
UIBC	µmol/l	17.7	Direct Colorimetric
	µg/dl	99.0	
Urea	mmol/l	19.3	Urease end point
	mg/dl	116	
	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.621	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.4	
	mmol/l	0.612	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.3	
	mmol/l	0.608	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.2	
Zinc	µmol/l	31.6	Colorimetric with deproteinisation
	µg/dl	206	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
	g/l	28.9	Bromocresol Purple
	g/dl	2.89	
Alkaline Phosphatase	U/l	323	AMP optimised to IFCC 37°C
	U/l	327	AMP non-optimised 37°C
ALT (GPT)	U/l	117	Tris buffer without P5P 37°C
	U/l	116	Tris buffer SCE 37°C
Amylase Total	U/l	274	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	276	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	119	Tris buffer without P5P 37°C
	U/l	121	Tris buffer SCE 37°C
Bicarbonate	mmol/l	19.0	Differential rate pH change
	mmol/l	19.2	Ion selective electrode
Bilirubin Direct	µmol/l	16.4	Diazo with Sulphanilic Acid
	mg/dl	0.959	
Bilirubin Total	µmol/l	82.7	Diazo with Sulphanilic Acid
	mg/dl	4.84	
Calcium	mmol/l	3.14	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.53	Cholesterol Oxidase
	mg/dl	291	
CK Total	U/l	491	CK-NAC (IFCC) 37°C
	U/l	490	Monothioglycerol 37°C
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
	µmol/l	367	Enzymatic UV method (340nm)
	mg/dl	4.15	
	µmol/l	367	Jaffe rate blanked
	mg/dl	4.15	
	µmol/l	363	IDMS traceable
	mg/dl	4.11	
gamma-GT	U/l	136	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	14.9	Hexokinase
	mg/dl	269	
	mmol/l	14.8	Oxygen electrode
	mg/dl	267	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Glucose	mmol/l	14.7	Glucose oxidase
	mg/dl	265	
Iron	µmol/l	35.3	Colorimetric without ppt.
	µg/dl	197	
Lactate	mmol/l	4.88	Colorimetric Lactate Oxidase
	mg/dl	44.0	
LD (LDH)	U/l	266	L->P 37°C
Lipase	U/l	62	Other Colorimetric 37°C
Lithium	mmol/l	2.15	Spectrophotometric
	mg/dl	1.49	
Magnesium	mmol/l	1.79	Calmagite
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate enzymatic
	mg/dl	7.16	
	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	6.28	ISE method - indirect
Protein Total	g/l	44.3	Biuret reaction CX4/5/7
	g/dl	4.43	
	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
	g/l	43.2	Biuret reaction kinetic
	g/dl	4.32	
Sodium	mmol/l	162	ISE method - indirect
Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction
	mg/dl	270	
	mmol/l	3.04	L/G Kinase EP. no correction
	mg/dl	269	
Urea	mmol/l	19.6	Urease end point
	mg/dl	118	
	mmol/l	19.9	Urease kinetic
	mg/dl	120	
	mmol/l	19.9	BUN
	mg/dl	55.9	
Uric Acid (Urate)	mmol/l	0.566	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.51	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Green
	g/dl	2.88	
Alkaline Phosphatase	U/l	285	AMP optimised to IFCC 37°C
	U/l	222	AMP optimised to IFCC 30°C
	U/l	182	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	31.7	Diazo with Sulphanilic Acid
	mg/dl	1.85	
Bilirubin Total	µmol/l	88.8	Diazo with Sulphanilic Acid
	mg/dl	5.20	
Cholesterol	mmol/l	7.50	Cholesterol Oxidase
	mg/dl	290	
CK Total	U/l	481	CK-NAC (IFCC) 37°C
	U/l	301	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	331	Alkaline picrate no deproteinization
	mg/dl	3.74	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	280	
Protein Total	g/l	44.6	Biuret reaction end point
	g/dl	4.46	
Triglycerides	mmol/l	2.93	Lipase/GPO-PAP no correction
	mg/dl	259	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.628	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.6	
	mmol/l	0.594	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.98	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
ALT (GPT)	U/l	123	Tris buffer without P5P 37°C
AST (GOT)	U/l	129	Tris buffer without P5P 37°C
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.37	Cholesterol Oxidase
	mg/dl	284	
Creatinine	µmol/l	333	Alkaline picrate no deproteinization
	mg/dl	3.76	
	µmol/l	364	Creatinine PAP method
	mg/dl	4.12	
Glucose	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.591	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.93	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
	g/l	29.5	Bromocresol Purple
	g/dl	2.95	
	g/l	26.5	Turbidimetric Assays
	g/dl	2.65	
Alkaline Phosphatase	U/l	213	Roche Integra AMP buffer 37°C
	U/l	166	Roche Integra AMP buffer 30°C
	U/l	136	Roche Integra AMP buffer 25°C
	U/l	206	AMP optimised to IFCC 37°C
	U/l	160	AMP optimised to IFCC 30°C
	U/l	132	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	116	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	237	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	245	Saccharogenic 37°C
	U/l	261	Roche Integra 2-chloro-pNPG7 37°C
	U/l	259	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	18.8	Enzymatic
Bilirubin Direct	µmol/l	29.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	
	µmol/l	28.2	Diazo with Sulphanilic Acid
	mg/dl	1.65	
Bilirubin Total	µmol/l	76.6	Diazo with Dichloroaniline (DCA)
	mg/dl	4.48	
	µmol/l	78.4	Diazo with Sulphanilic Acid
	mg/dl	4.59	
	µmol/l	78.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.58	
	µmol/l	77.9	Diazonium ion
	mg/dl	4.56	
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.24	NM-BAPTA
	mg/dl	13.0	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.51	Cholesterol Oxidase
	mg/dl	290	
CK Total	U/l	485	CK-NAC (IFCC) 37°C
	U/l	304	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	338	Alkaline picrate with deproteinization
	mg/dl	3.82	
	µmol/l	346	Alkaline picrate no deproteinization
	mg/dl	3.91	
	µmol/l	372	Roche Creatinine Plus
	mg/dl	4.21	
	µmol/l	354	Jaffe rate blanked
	mg/dl	4.00	
	µmol/l	382	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.32	
	µmol/l	364	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.11	
gamma-GT	U/l	152	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	120	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
Glucose	mmol/l	14.9	Glucose dehydrogenase
	mg/dl	268	
	mmol/l	15.2	Hexokinase
	mg/dl	274	
Iron	µmol/l	35.5	Colorimetric with ppt.
	µg/dl	198	
	µmol/l	35.7	Colorimetric without ppt.
	µg/dl	200	
Lactate	mmol/l	5.54	Colorimetric Lactate Oxidase
	mg/dl	49.9	
LD (LDH)	U/l	323	L->P IFCC 37°C
	U/l	233	L->P IFCC 30°C
	U/l	164	L->P IFCC 25°C
Lipase	U/l	63	Roche Colorimetric 37°C
Lithium	mmol/l	2.22	Ion selective electrode
	mg/dl	1.54	
Magnesium	mmol/l	1.83	Methylthymol blue
	mg/dl	4.45	
	mmol/l	1.80	Chlorphosphonazo III
	mg/dl	4.37	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
	mg/dl	6.98	
	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	6.30	ISE method - indirect
Protein Total	g/l	42.9	Biuret reaction end point
	g/dl	4.29	
	g/l	44.1	Biuret reaction kinetic
	g/dl	4.41	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	54.8	FE+UIBC(saturation with iron)
	µg/dl	306	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.91	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	
	mmol/l	2.92	Lipase/Glycerol Dehydrogenase
	mg/dl	258	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.6	Urease hypochlorite
	mg/dl	112	
	mmol/l	18.4	BUN
	mg/dl	51.6	
Uric Acid (Urate)	mmol/l	0.601	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.1	
	mmol/l	0.600	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.1	
	mmol/l	0.602	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.1	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	448	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	125	Tris buffer without P5P 37°C
AST (GOT)	U/l	123	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	91.6	Diazo with Sulphanilic Acid
	mg/dl	5.36	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.25	Cholesterol Oxidase
	mg/dl	280	
Creatinine	µmol/l	341	Alkaline picrate no deproteinization
	mg/dl	3.85	
Glucose	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Phosphate Inorganic	mmol/l	2.16	Phosphomolybdate UV
	mg/dl	6.70	
Protein Total	g/l	47.4	Biuret reaction end point
	g/dl	4.74	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	
Uric Acid (Urate)	mmol/l	0.609	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.2	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	4.58	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	43.0	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	30.3	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	47.6	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/l	198	Roche Integra AMP buffer 37°C
	U/l	154	Roche Integra AMP buffer 30°C
	U/l	127	Roche Integra AMP buffer 25°C
	U/l	321	Randox AMP 37°C
	U/l	250	Randox AMP 30°C
	U/l	205	Randox AMP 25°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	260	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	251	Roche liquid stable pNPG7 37°C
	U/l	278	Randox Liquid Ethylidene 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	18.9	Enzymatic
Bile Acids	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.7	Diazo with Sulphanilic Acid
	mg/dl	1.56	
Bilirubin Total	µmol/l	82.3	Diazo with Sulphanilic Acid
	mg/dl	4.81	
	µmol/l	76.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.50	
	µmol/l	80.0	Diazonium ion
	mg/dl	4.68	
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.55	Cholesterol Oxidase
	mg/dl	291	
CK Total	U/l	455	CK-NAC (IFCC) 37°C
	U/l	285	CK-NAC (IFCC) 30°C
	U/l	193	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Creatinine	µmol/l	364	Enzymatic UV method (340nm)
	mg/dl	4.11	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.12	
	µmol/l	394	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.45	
gamma-GT	U/l	145	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	114	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	173	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	34.9	Colorimetric without ppt.
	µg/dl	195	
Lactate	mmol/l	5.47	Colorimetric Lactate Oxidase
	mg/dl	49.3	
LD (LDH)	U/l	601	P->L German methods 37°C
	U/l	434	P->L German methods 30°C
	U/l	305	P->L German methods 25°C
	U/l	314	L->P IFCC 37°C
	U/l	227	L->P IFCC 30°C
	U/l	159	L->P IFCC 25°C
Lipase	U/l	59	Roche Colorimetric 37°C
Magnesium	mmol/l	1.84	Xylidyl Blue
	mg/dl	4.47	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.36	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
Sodium	mmol/l	165	ISE method - indirect
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
Urea	mmol/l	19.5	Urease kinetic
	mg/dl	117	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Urea	mmol/l	19.5	BUN
	mg/dl	54.7	
Uric Acid (Urate)	mmol/l	0.577	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.69	
	mmol/l	0.589	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.90	
	mmol/l	0.593	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.96	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Green
	g/dl	2.88	
Alkaline Phosphatase	U/l	315	AMP optimised to IFCC 37°C
	U/l	245	AMP optimised to IFCC 30°C
	U/l	201	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	117	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Amylase Total	U/l	268	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	119	Tris buffer without P5P 37°C
	U/l	80	Tris buffer without P5P 30°C
	U/l	57	Tris buffer without P5P 25°C
Bile Acids	µmol/l	44.4	Enzymatic Colorimetric
Bilirubin Total	µmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	
Calcium	mmol/l	3.30	Cresolphthalein complexone
	mg/dl	13.2	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.38	Cholesterol Oxidase
	mg/dl	285	
CK Total	U/l	428	CK-NAC (IFCC) 37°C
	U/l	268	CK-NAC (IFCC) 30°C
	U/l	182	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	329	Alkaline picrate no deproteinization
	mg/dl	3.72	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
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
	U/l	151	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	119	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	27	Triethanolamine buffer 50 mmol 37°C
	U/l	21	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	271	
	mmol/l	14.6	Glucose oxidase
	mg/dl	263	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Iron	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	190	
LD (LDH)	U/l	627	P->L German methods 37°C
	U/l	453	P->L German methods 30°C
	U/l	318	P->L German methods 25°C
Lipase	U/l	84	Randox Colorimetric 37°C
Magnesium	mmol/l	1.86	Xylidyl Blue
	mg/dl	4.52	
	mmol/l	1.85	Enzymatic
	mg/dl	4.50	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.30	ISE method - indirect
Protein Total	g/l	46.5	Biuret reaction end point
	g/dl	4.65	
Sodium	mmol/l	163	ISE method - indirect
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.93	L/G Kinase EP. no correction
	mg/dl	259	
Urea	mmol/l	19.8	Urease end point
	mg/dl	119	
	mmol/l	19.8	BUN
	mg/dl	55.6	
Uric Acid (Urate)	mmol/l	0.583	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.79	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
Alkaline Phosphatase	U/l	484	Diethanolamine buffer DEA 37°C
	U/l	377	Diethanolamine buffer DEA 30°C
	U/l	309	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	142	Tris buffer without P5P 37°C
	U/l	96	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	81.0	Diazo with Sulphanilic Acid
	mg/dl	4.74	
	µmol/l	78.3	Nitrobenzenediazonium salt
	mg/dl	4.58	
Calcium	mmol/l	3.35	Arsenazo III
	mg/dl	13.4	
Chloride	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.48	Cholesterol Oxidase
	mg/dl	289	
CK Total	U/l	488	CK-NAC (IFCC) 37°C
	U/l	305	CK-NAC (IFCC) 30°C
	U/l	207	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
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	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	35.0	Colorimetric without ppt.
	µg/dl	196	
Magnesium	mmol/l	1.67	Xylidyl Blue
	mg/dl	4.06	
Phosphate Inorganic	mmol/l	2.35	Phosphomolybdate UV
	mg/dl	7.29	
Potassium	mmol/l	6.09	ISE method - direct
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Sodium	mmol/l	158	ISE method - direct
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
Urea	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.619	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.4	
	mmol/l	0.617	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.4	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
a-HBDH	U/l	358	Oxobutyrate < 10 mmol/l 37°C
	U/l	270	Oxobutyrate < 10 mmol/l 30°C
	U/l	203	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	4.58	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	43.0	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	30.3	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	47.6	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
	g/l	27.8	Bromocresol Purple
	g/dl	2.78	
	g/l	26.6	Turbidimetric Assays
	g/dl	2.66	
Alkaline Phosphatase	U/l	473	Diethanolamine buffer DEA 37°C
	U/l	368	Diethanolamine buffer DEA 30°C
	U/l	302	Diethanolamine buffer DEA 25°C
	U/l	308	AMP optimised to IFCC 37°C
	U/l	240	AMP optimised to IFCC 30°C
	U/l	197	AMP optimised to IFCC 25°C
	U/l	295	AMP non-optimised 37°C
	U/l	230	AMP non-optimised 30°C
	U/l	189	AMP non-optimised 25°C
ALT (GPT)	U/l	118	Colorimetric 37°C
	U/l	87	Colorimetric 30°C
	U/l	66	Colorimetric 25°C
	U/l	153	Tris buffer with P5P 37°C
	U/l	113	Tris buffer with P5P 30°C
	U/l	86	Tris buffer with P5P 25°C
	U/l	120	Tris buffer without P5P 37°C
	U/l	89	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
	U/l	115	Tris buffer SCE 37°C
	U/l	85	Tris buffer SCE 30°C
	U/l	65	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	238	Immunoinhibition EPS substrate 37°C
	U/l	230	Roche liquid stable pNPG7 37°C
	U/l	260	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	261	pNP Maltotrioside substrates 37°C
	U/l	265	Siemens - blocked pNPG7 37°C

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Amylase Total	U/l	257	Biotrol - blocked pNPG7 37°C
	U/l	206	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	278	Randox Liquid Ethylidene pNPG7 37°C
	U/l	252	BM/Roche Colorimetric pNPG7 37°C
	U/l	265	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	310	Siemens - maltopenta/hexaoside 37°C
	U/l	246	Saccharogenic 37°C
	U/l	255	Roche Integra 2-chloro-pNPG7 37°C
	U/l	254	Other Roche 2-chloro-pNPG7 37°C
	U/l	252	Roche liquid stable pNPG7 37°C
	U/l	315	Siemens 2-chloro-pNPG3 37°C
	U/l	268	Beckman Coulter - blocked pNPG7 37°C
	U/l	276	Beckman Synchron AMY7 37°C
	U/l	269	I.L. 2-chloro-pNPG3 37°C
	U/l	293	Abbott Architect Non-IFCC Cal. 37°C
	U/l	326	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	123	Colorimetric 37°C
	U/l	83	Colorimetric 30°C
	U/l	59	Colorimetric 25°C
	U/l	178	Tris buffer with P5P 37°C
	U/l	120	Tris buffer with P5P 30°C
	U/l	85	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	121	Tris buffer SCE 37°C
	U/l	82	Tris buffer SCE 30°C
	U/l	58	Tris buffer SCE 25°C
Bicarbonate	mmol/l	18.4	Colorimetric
	mmol/l	19.0	Differential rate pH change
	mmol/l	19.1	Enzymatic
	mmol/l	20.1	Ion selective electrode
Bile Acids	µmol/l	44.4	4th Generation Colorimetric
	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	
	µmol/l	29.5	Diazo with Sulphanilic Acid
	mg/dl	1.73	
	µmol/l	28.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	
	µmol/l	26.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.57	
	µmol/l	30.9	Modified Jendrassik
	mg/dl	1.81	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	93.5	Diazo with Dichloroaniline (DCA)
	mg/dl	5.47	
	µmol/l	83.2	Diazo with Sulphanilic Acid
	mg/dl	4.86	
	µmol/l	91.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.34	
	µmol/l	79.9	Nitrobenzenediazonium salt
	mg/dl	4.67	
	µmol/l	78.8	Diazonium ion
	mg/dl	4.61	
	µmol/l	88.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.20	
	µmol/l	96.0	Modified Jendrassik
	mg/dl	5.62	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.14	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.12	Methylthymol blue
	mg/dl	12.5	
	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
	mmol/l	3.24	NM-BAPTA
	mg/dl	13.0	
Chloride	mmol/l	114	Colorimetric
	mmol/l	115	ISE indirect
	mmol/l	116	ISE direct
Cholesterol	mmol/l	7.42	Cholesterol Oxidase
	mg/dl	286	
Cholinesterase	U/l	5344	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	495	CK-NAC serum start (DGKC) 37°C
	U/l	310	CK-NAC serum start (DGKC) 30°C
	U/l	210	CK-NAC serum start (DGKC) 25°C
	U/l	477	CK-NAC substrate start (DGKC) 37°C
	U/l	299	CK-NAC substrate start (DGKC) 30°C
	U/l	203	CK-NAC substrate start (DGKC) 25°C
	U/l	479	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
	U/l	490	Monothioglycerol 37°C
	U/l	307	Monothioglycerol 30°C
	U/l	208	Monothioglycerol 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
CK Total	U/l	450	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	282	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	191	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	25.8	Atomic absorption
	µg/dl	164	
	µmol/l	26.7	Colorimetric
	µg/dl	170	
Creatinine	µmol/l	333	Alkaline picrate with deproteinization
	mg/dl	3.76	
	µmol/l	349	Alkaline picrate no deproteinization
	mg/dl	3.95	
	µmol/l	368	Enzymatic UV method (340nm)
	mg/dl	4.15	
	µmol/l	369	Creatinine PAP method
	mg/dl	4.16	
	µmol/l	373	Roche Creatinine Plus
	mg/dl	4.21	
	µmol/l	360	Jaffe rate blanked
	mg/dl	4.07	
	µmol/l	388	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.38	
	µmol/l	367	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.15	
	µmol/l	362	IDMS traceable
	mg/dl	4.09	
D-3-Hydroxybutyrate	mmol/l	1.12	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	136	Gamma glutamyl-4-nitroanilide 37°C
	U/l	107	Gamma glutamyl-4-nitroanilide 30°C
	U/l	84	Gamma glutamyl-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
	U/l	173	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	136	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	27	Triethanolamine buffer 50 mmol 37°C
	U/l	21	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.8	Glucose dehydrogenase
	mg/dl	267	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	272	
	mmol/l	14.9	Oxygen electrode
	mg/dl	268	
	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Iron	µmol/l	34.9	Colorimetric with ppt.
	µg/dl	195	
	µmol/l	35.2	Colorimetric without ppt.
	µg/dl	197	
Lactate	mmol/l	5.31	Colorimetric Lactate Oxidase
	mg/dl	47.8	
	mmol/l	5.28	Enzymatic Electrode
	mg/dl	47.6	
	mmol/l	5.34	UV LDH
	mg/dl	48.1	
LAP	U/l	14	NAGEL 37°C
LD (LDH)	U/l	284	L->P 37°C
	U/l	205	L->P 30°C
	U/l	144	L->P 25°C
	U/l	703	P->L Scandinavian & Dutch 37°C
	U/l	508	P->L Scandinavian & Dutch 30°C
	U/l	356	P->L Scandinavian & Dutch 25°C
	U/l	612	P->L German methods 37°C
	U/l	442	P->L German methods 30°C
	U/l	310	P->L German methods 25°C
	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	314	L->P IFCC 37°C
	U/l	227	L->P IFCC 30°C
	U/l	159	L->P IFCC 25°C
Lipase	U/l	62	Other Colorimetric 37°C
	U/l	57	Roche Colorimetric 37°C
	U/l	83	Randox Colorimetric 37°C
Lithium	mmol/l	2.24	Ion selective electrode
	mg/dl	1.56	
	mmol/l	2.13	Spectrophotometric
	mg/dl	1.48	
	mmol/l	2.14	Randox Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.79	Arsenazo III
	mg/dl	4.35	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.79	Calmagite
	mg/dl	4.35	
	mmol/l	1.83	Xylidyl Blue
	mg/dl	4.45	
	mmol/l	1.81	Methylthymol blue
	mg/dl	4.40	
	mmol/l	1.81	Chlorphosphonazo III
	mg/dl	4.40	
	mmol/l	1.81	Enzymatic
	mg/dl	4.40	
Osmolality	mOsm/kg	351	Calculated
	mOsm/kg	384	Freezing point depression
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
	mg/dl	6.98	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.12	Enzymatic
	mmol/l	5.94	Flame photometry
	mmol/l	6.21	ISE method - direct
	mmol/l	6.31	ISE method - indirect
Protein Total	g/l	44.9	Biuret reaction end point
	g/dl	4.49	
	g/l	44.0	Biuret reaction kinetic
	g/dl	4.40	
Sodium	mmol/l	157	Enzymatic
	mmol/l	157	Flame photometry
	mmol/l	161	ISE method - direct
	mmol/l	163	ISE method - indirect
TIBC	µmol/l	47.9	Removal of excess free iron
	µg/dl	268	
	µmol/l	53.0	FE+UIBC(saturation with iron)
	µg/dl	296	
	µmol/l	49.4	Direct Colorimetric
	µg/dl	276	
	µmol/l	41.1	Calculated from Transferrin
	µg/dl	230	
	µmol/l	54.0	Randox Direct
	µg/dl	302	
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.97	L/G Kinase EP. no correction
	mg/dl	263	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.91	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	
	mmol/l	2.89	Lipase/Glycerol Dehydrogenase
	mg/dl	256	
UIBC	µmol/l	17.8	Direct Colorimetric
	µg/dl	99.3	
Urea	mmol/l	18.6	Urease end point
	mg/dl	112	
	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	17.9	Urease hypochlorite
	mg/dl	108	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.569	Uricase catalase 340nm
	mg/dl	9.56	
	mmol/l	0.596	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.587	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.86	
	mmol/l	0.580	Spectrophotometric at 280-290
	mg/dl	9.74	
	mmol/l	0.577	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.69	
Zinc	µmol/l	31.4	Atomic absorption
	µg/dl	205	
	µmol/l	34.9	Colorimetric with deproteinisation
	µg/dl	228	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
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	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	130	Tris buffer without P5P 37°C
	U/l	88	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	30.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.78	
Bilirubin Total	µmol/l	88.7	Diazo with Sulphanilic Acid
	mg/dl	5.19	
	µmol/l	87.4	Oxidation to Biliverdin/Vanadate
	mg/dl	5.12	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
Cholesterol	mmol/l	7.43	Cholesterol Oxidase
	mg/dl	287	
CK Total	U/l	478	CK-NAC (IFCC) 37°C
	U/l	299	CK-NAC (IFCC) 30°C
	U/l	203	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	337	Alkaline picrate with deproteinization
	mg/dl	3.81	
	µmol/l	337	Alkaline picrate no deproteinization
	mg/dl	3.81	
	µmol/l	357	Enzymatic UV method (340nm)
	mg/dl	4.04	
gamma-GT	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	272	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Iron	µmol/l	34.7	Colorimetric without ppt.
	µg/dl	194	
LD (LDH)	U/l	607	P->L SFBC 37°C
	U/l	438	P->L SFBC 30°C
	U/l	308	P->L SFBC 25°C
	U/l	314	L->P IFCC 37°C
	U/l	227	L->P IFCC 30°C
	U/l	159	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	6.03	ISE method - direct
Protein Total	g/l	45.9	Biuret reaction end point
	g/dl	4.59	
Sodium	mmol/l	158	ISE method - direct
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	19.7	Urease end point
	mg/dl	118	
	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.2	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.6	BUN
	mg/dl	52.2	
Uric Acid (Urate)	mmol/l	0.580	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.74	
	mmol/l	0.569	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	
	mmol/l	0.576	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.68	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

PRESTIGE 24i Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
Alkaline Phosphatase	U/l	440	Diethanolamine buffer DEA 37°C
	U/l	343	Diethanolamine buffer DEA 30°C
	U/l	281	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	131	Tris buffer without P5P 37°C
	U/l	89	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	85.4	Diazo with Dichloroaniline (DCA)
	mg/dl	4.99	
	µmol/l	87.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.12	
Calcium	mmol/l	3.04	Arsenazo III
	mg/dl	12.2	
Cholesterol	mmol/l	7.60	Cholesterol Oxidase
	mg/dl	293	
CK Total	U/l	488	CK-NAC (IFCC) 37°C
	U/l	305	CK-NAC (IFCC) 30°C
	U/l	207	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	322	Alkaline picrate no deproteinization
	mg/dl	3.64	
Glucose	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
LD (LDH)	U/l	556	P->L German methods 37°C
	U/l	401	P->L German methods 30°C
	U/l	282	P->L German methods 25°C
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
Urea	mmol/l	19.8	Urease kinetic
	mg/dl	119	
	mmol/l	19.8	BUN
	mg/dl	55.6	
Uric Acid (Urate)	mmol/l	0.596	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.0	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
	g/l	26.7	Bromocresol Purple
	g/dl	2.67	
	g/l	26.6	Turbidimetric Assays
	g/dl	2.66	
Alkaline Phosphatase	U/l	216	Roche Integra AMP buffer 37°C
	U/l	168	Roche Integra AMP buffer 30°C
	U/l	138	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	117	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	227	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	249	BM/Roche Colorimetric pNPG7 37°C
	U/l	248	Roche Integra 2-chloro-pNPG7 37°C
	U/l	252	Other Roche 2-chloro-pNPG7 37°C
	U/l	249	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	18.9	Colorimetric
	mmol/l	18.8	Enzymatic
Bile Acids	µmol/l	44.9	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	
	µmol/l	28.4	Diazo with Sulphanilic Acid
	mg/dl	1.66	
	µmol/l	28.6	Roche JG factored
	mg/dl	1.67	
Bilirubin Total	µmol/l	78.1	Diazo with Sulphanilic Acid
	mg/dl	4.57	
	µmol/l	78.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.57	
	µmol/l	78.2	Diazonium ion
	mg/dl	4.57	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.24	NM-BAPTA
	mg/dl	13.0	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.38	Cholesterol Oxidase
	mg/dl	285	
Cholinesterase	U/l	5060	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	482	CK-NAC substrate start (DGKC) 37°C
	U/l	302	CK-NAC substrate start (DGKC) 30°C
	U/l	205	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
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	370	Enzymatic UV method (340nm)
	mg/dl	4.18	
	µmol/l	373	Roche Creatinine Plus
	mg/dl	4.21	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.05	
	µmol/l	389	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.40	
	µmol/l	375	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.24	
gamma-GT	U/l	147	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	116	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	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
GLDH	U/l	27	Triethanolamine buffer 50 mmol 37°C
	U/l	21	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.9	Glucose dehydrogenase
	mg/dl	269	
	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	34.7	Colorimetric with ppt.
	µg/dl	194	
	µmol/l	35.0	Colorimetric without ppt.
	µg/dl	196	
Lactate	mmol/l	5.31	Colorimetric Lactate Oxidase
	mg/dl	47.8	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
LD (LDH)	U/l	597	P->L German methods 37°C
	U/l	431	P->L German methods 30°C
	U/l	303	P->L German methods 25°C
	U/l	313	L->P IFCC 37°C
	U/l	226	L->P IFCC 30°C
	U/l	159	L->P IFCC 25°C
Lipase	U/l	55	Roche Colorimetric 37°C
	U/l	56	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	2.14	Spectrophotometric
	mg/dl	1.49	
Magnesium	mmol/l	1.83	Xylidyl Blue
	mg/dl	4.45	
	mmol/l	1.82	Chlorphosphonazo III
	mg/dl	4.42	
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	6.34	ISE method - indirect
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
	g/l	44.5	Biuret reaction kinetic
	g/dl	4.45	
Sodium	mmol/l	164	ISE method - indirect
TIBC	µmol/l	52.9	FE+UIBC(saturation with iron)
	µg/dl	296	
	µmol/l	42.2	Calculated from Transferrin
	µg/dl	236	
Triglycerides	mmol/l	2.90	Lipase/GPO-PAP no correction
	mg/dl	257	
	mmol/l	2.84	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	251	
	mmol/l	2.91	L/G Kinase EP. no correction
	mg/dl	258	
UIBC	µmol/l	17.5	Direct Colorimetric
	µg/dl	97.5	
Urea	mmol/l	19.1	Urease end point
	mg/dl	115	
	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.579	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.73	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.580	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.74	
	mmol/l	0.578	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.71	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.0	Bromocresol Green
	g/dl	3.00	
Alkaline Phosphatase	U/l	214	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	116	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	65	Tris buffer without P5P 25°C
Amylase Total	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	18.9	Enzymatic
Bilirubin Direct	µmol/l	30.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	
	µmol/l	30.0	Diazo with Sulphanilic Acid
	mg/dl	1.75	
Bilirubin Total	µmol/l	80.7	Diazo with Sulphanilic Acid
	mg/dl	4.72	
	µmol/l	77.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.52	
	µmol/l	79.1	Diazonium ion
	mg/dl	4.63	
Calcium	mmol/l	3.17	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.30	NM-BAPTA
	mg/dl	13.2	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.50	Cholesterol Oxidase
	mg/dl	290	
CK Total	U/l	474	CK-NAC (IFCC) 37°C
	U/l	297	CK-NAC (IFCC) 30°C
	U/l	201	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	329	Alkaline picrate with deproteinization
	mg/dl	3.72	
	µmol/l	341	Alkaline picrate no deproteinization
	mg/dl	3.85	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Creatinine	µmol/l	366	Roche Creatinine Plus
	mg/dl	4.13	
	µmol/l	359	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.06	
gamma-GT	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	36.4	Colorimetric without ppt.
	µg/dl	204	
LD (LDH)	U/l	330	L->P IFCC 37°C
	U/l	238	L->P IFCC 30°C
	U/l	167	L->P IFCC 25°C
Magnesium	mmol/l	1.82	Chlorphosphonazo III
	mg/dl	4.42	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate enzymatic
	mg/dl	7.16	
	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	6.21	ISE method - indirect
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
Urea	mmol/l	18.8	Urease end point
	mg/dl	113	
	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	18.9	Urease hypochlorite
	mg/dl	114	
	mmol/l	18.6	BUN
	mg/dl	52.2	
Uric Acid (Urate)	mmol/l	0.589	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.90	
	mmol/l	0.593	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.96	
	mmol/l	0.575	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.66	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	27.1	Bromocresol Purple
	g/dl	2.71	
Alkaline Phosphatase	U/l	214	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	117	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	233	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	254	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	18.8	Enzymatic
Bilirubin Direct	µmol/l	27.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	
	µmol/l	28.7	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	29.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	
Bilirubin Total	µmol/l	77.8	Diazo with Sulphanilic Acid
	mg/dl	4.55	
	µmol/l	78.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.57	
	µmol/l	79.4	Diazonium ion
	mg/dl	4.64	
Calcium	mmol/l	3.28	Cresolphthalein complexone
	mg/dl	13.1	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
	mmol/l	3.26	NM-BAPTA
	mg/dl	13.1	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.48	Cholesterol Oxidase
	mg/dl	289	
CK Total	U/l	485	CK-NAC (IFCC) 37°C
	U/l	304	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Creatinine	µmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.26	
	µmol/l	373	Enzymatic UV method (340nm)
	mg/dl	4.22	
	µmol/l	376	Roche Creatinine Plus
	mg/dl	4.25	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	µmol/l	395	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.46	
gamma-GT	U/l	148	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	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	15.0	Hexokinase
	mg/dl	271	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	34.8	Colorimetric without ppt.
	µg/dl	195	
Lactate	mmol/l	5.41	Colorimetric Lactate Oxidase
	mg/dl	48.7	
LD (LDH)	U/l	592	P->L German methods 37°C
	U/l	427	P->L German methods 30°C
	U/l	300	P->L German methods 25°C
	U/l	314	L->P IFCC 37°C
	U/l	227	L->P IFCC 30°C
	U/l	159	L->P IFCC 25°C
Lipase	U/l	56	Roche Colorimetric 37°C
Magnesium	mmol/l	1.85	Xylidyl Blue
	mg/dl	4.50	
	mmol/l	1.82	Chlorphosphonazo III
	mg/dl	4.42	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.40	ISE method - indirect
Protein Total	g/l	44.4	Biuret reaction end point
	g/dl	4.44	
Sodium	mmol/l	165	ISE method - indirect
TIBC	µmol/l	51.5	FE+UIBC(saturation with iron)
	µg/dl	288	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.94	L/G Kinase EP. no correction
	mg/dl	260	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.591	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.93	
	mmol/l	0.592	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.95	
	mmol/l	0.593	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.96	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/l	184	Roche Integra AMP buffer 37°C
	U/l	143	Roche Integra AMP buffer 30°C
	U/l	118	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	118	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	66	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	227	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	254	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	19.1	Enzymatic
Bile Acids	µmol/l	43.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	24.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.40	
Bilirubin Total	µmol/l	77.3	Diazo with Sulphanilic Acid
	mg/dl	4.52	
	µmol/l	76.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.50	
	µmol/l	76.1	Diazonium ion
	mg/dl	4.45	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.23	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	7.43	Cholesterol Oxidase
	mg/dl	287	
CK Total	U/l	449	CK-NAC (IFCC) 37°C
	U/l	281	CK-NAC (IFCC) 30°C
	U/l	191	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	376	Roche Creatinine Plus
	mg/dl	4.25	
	µmol/l	391	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.42	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
gamma-GT	U/l	144	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
Iron	µmol/l	34.3	Colorimetric without ppt.
	µg/dl	192	
Lactate	mmol/l	5.22	Colorimetric Lactate Oxidase
	mg/dl	47.0	
LD (LDH)	U/l	316	L->P IFCC 37°C
	U/l	228	L->P IFCC 30°C
	U/l	160	L->P IFCC 25°C
Lipase	U/l	56	Roche Colorimetric 37°C
Lithium	mmol/l	2.10	Spectrophotometric
	mg/dl	1.46	
Magnesium	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.38	ISE method - indirect
Protein Total	g/l	43.9	Biuret reaction end point
	g/dl	4.39	
Sodium	mmol/l	165	ISE method - indirect
TIBC	µmol/l	52.8	FE+UIBC(saturation with iron)
	µg/dl	295	
	µmol/l	41.2	Calculated from Transferrin
	µg/dl	230	
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	
	mmol/l	0.581	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.76	
	mmol/l	0.573	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.63	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/l	509	Diethanolamine buffer DEA 37°C
	U/l	321	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	137	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	260	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	278	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	139	Tris buffer without P5P 37°C
Bile Acids	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	30.9	Diazo with Sulphanilic Acid
	mg/dl	1.81	
	µmol/l	28.4	Oxidation to Biliverdin/Vanadate
	mg/dl	1.66	
Bilirubin Total	µmol/l	89.3	Diazo with Sulphanilic Acid
	mg/dl	5.22	
	µmol/l	91.2	Oxidation to Biliverdin/Vanadate
	mg/dl	5.34	
Calcium	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
Cholesterol	mmol/l	7.75	Cholesterol Oxidase
	mg/dl	299	
CK Total	U/l	485	CK-NAC substrate start (DGKC) 37°C
	U/l	515	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	321	Alkaline picrate no deproteinization
	mg/dl	3.63	
	µmol/l	361	Enzymatic UV method (340nm)
	mg/dl	4.08	
gamma-GT	U/l	173	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	35.6	Colorimetric without ppt.
	µg/dl	199	
Lactate	mmol/l	5.17	Colorimetric Lactate Oxidase
	mg/dl	46.6	
LD (LDH)	U/l	649	P->L German methods 37°C
	U/l	314	L->P IFCC 37°C
Lipase	U/l	85	Randox Colorimetric 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Lithium	mmol/l	2.14	Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.87	Xylidyl Blue
	mg/dl	4.54	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.12	Enzymatic
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
Sodium	mmol/l	157	Enzymatic
TIBC	µmol/l	54.0	Direct Colorimetric
	µg/dl	302	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.605	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.2	
	mmol/l	0.606	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.2	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	28.3	Bromocresol Green
	g/dl	2.83	
	g/l	26.8	Bromocresol Purple
	g/dl	2.68	
Alkaline Phosphatase	U/l	270	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	127	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	227	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	265	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	21.4	Enzymatic
Bilirubin Direct	µmol/l	25.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.50	
Bilirubin Total	µmol/l	88.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.18	
Calcium	mmol/l	3.30	Cresolphthalein complexone
	mg/dl	13.2	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.59	Cholesterol Oxidase
	mg/dl	293	
CK Total	U/l	465	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	372	Enzymatic UV method (340nm)
	mg/dl	4.21	
	µmol/l	340	Jaffe rate blanked
	mg/dl	3.84	
	µmol/l	370	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.18	
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	14.7	Hexokinase
	mg/dl	266	
	mmol/l	14.8	Glucose oxidase
	mg/dl	267	
Iron	µmol/l	36.1	Colorimetric without ppt.
	µg/dl	202	
Lactate	mmol/l	5.29	Colorimetric Lactate Oxidase
	mg/dl	47.7	
LD (LDH)	U/l	600	P->L German methods 37°C
	U/l	314	L->P IFCC 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Lipase	U/l	76	Other Colorimetric 37°C
Lithium	mmol/l	2.04	Spectrophotometric
	mg/dl	1.42	
Magnesium	mmol/l	1.83	Xylidyl Blue
	mg/dl	4.45	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	6.32	ISE method - indirect
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	163	ISE method - indirect
TIBC	µmol/l	54.6	Direct Colorimetric
	µg/dl	305	
Triglycerides	mmol/l	3.00	Lipase/GPO-PAP no correction
	mg/dl	266	
	mmol/l	2.95	L/G Kinase EP. no correction
	mg/dl	261	
Urea	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.590	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.91	
	mmol/l	0.583	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.79	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	27.0	Bromocresol Purple
	g/dl	2.70	
Alkaline Phosphatase	U/l	259	Siemens Dimension AMP buffer 37°C
	U/l	257	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	131	Tris buffer with P5P 37°C
	U/l	130	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	315	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	151	Tris buffer with P5P 37°C
	U/l	156	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	21.5	Enzymatic
Bilirubin Direct	µmol/l	17.0	Diazo with Sulphanilic Acid
	mg/dl	0.995	
Bilirubin Total	µmol/l	83.3	Diazo with Sulphanilic Acid
	mg/dl	4.87	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.96	Dimension-Siemens reagents
	mg/dl	269	
CK Total	U/l	458	CK-NAC (IFCC) 37°C
	U/l	450	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	366	Alkaline picrate no deproteinization
	mg/dl	4.14	
	µmol/l	354	Enzymatic UV method (340nm)
	mg/dl	4.01	
gamma-GT	U/l	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	201	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
Iron	µmol/l	34.0	Colorimetric with ppt.
	µg/dl	190	
	µmol/l	33.8	Colorimetric without ppt.
	µg/dl	189	
Lactate	mmol/l	5.30	UV LDH
	mg/dl	47.8	
LD (LDH)	U/l	299	Siemens Dimension L-P Non IFCC 37°C
	U/l	303	L->P IFCC 37°C
Lipase	U/l	250	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.81	Methylthymol blue
	mg/dl	4.40	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate UV
	mg/dl	7.22	
Potassium	mmol/l	6.35	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	164	ISE method - indirect
TIBC	µmol/l	46.8	Removal of excess free iron
	µg/dl	262	
Triglycerides	mmol/l	2.82	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
Urea	mmol/l	18.9	Urease end point
	mg/dl	114	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.579	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.73	
	mmol/l	0.577	Spectrophotometric at 280-290
	mg/dl	9.69	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
	g/l	27.0	Bromocresol Purple
	g/dl	2.70	
Alkaline Phosphatase	U/l	261	Siemens Dimension AMP buffer 37°C
	U/l	257	AMP optimised to IFCC 37°C
	U/l	309	Randox AMP 37°C
ALT (GPT)	U/l	131	Tris buffer with P5P 37°C
	U/l	131	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	314	Siemens - maltopenta/hexaoside 37°C
	U/l	316	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	153	Tris buffer with P5P 37°C
	U/l	152	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	81.9	Diazo with Sulphanilic Acid
	mg/dl	4.79	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.03	Dimension-Siemens reagents
	mg/dl	271	
CK Total	U/l	455	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	369	Alkaline picrate no deproteinization
	mg/dl	4.17	
	µmol/l	358	Enzymatic UV method (340nm)
	mg/dl	4.05	
	µmol/l	371	Jaffe rate blanked
	mg/dl	4.19	
gamma-GT	U/l	178	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	201	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
Iron	µmol/l	33.7	Colorimetric with ppt.
	µg/dl	189	
	µmol/l	33.6	Colorimetric without ppt.
	µg/dl	188	
LD (LDH)	U/l	301	Siemens Dimension L-P Non IFCC 37°C
	U/l	299	L->P IFCC 37°C

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Lipase	U/l	251	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.81	Methylthymol blue
	mg/dl	4.40	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate enzymatic
	mg/dl	7.19	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	6.26	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	163	ISE method - indirect
TIBC	µmol/l	44.9	Removal of excess free iron
	µg/dl	251	
	µmol/l	45.2	Direct Colorimetric
	µg/dl	253	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.87	L/G Kinase EP. no correction
	mg/dl	254	
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.582	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.78	
	mmol/l	0.580	Spectrophotometric at 280-290
	mg/dl	9.74	
	mmol/l	0.575	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.66	

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CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Alkaline Phosphatase	U/l	261	Siemens Dimension AMP buffer 37°C
Bilirubin Direct	µmol/l	18.0	Diazo with Sulphanilic Acid
	mg/dl	1.05	
Bilirubin Total	µmol/l	81.7	Diazo with Sulphanilic Acid
	mg/dl	4.78	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	6.99	Dimension-Siemens reagents
	mg/dl	270	
CK Total	U/l	452	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	380	Jaffe rate blanked
	mg/dl	4.29	
Glucose	mmol/l	14.6	Hexokinase
	mg/dl	263	
Iron	µmol/l	33.7	Colorimetric without ppt.
	µg/dl	189	
LD (LDH)	U/l	305	L->P IFCC 37°C
Lipase	U/l	288	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.03	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	161	ISE method - indirect
Urea	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.575	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.66	

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RANDOX

CALIBRATION SERUM - LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot. No. 916UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2019-07-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
ALT (GPT)	U/l	123	Tris buffer without P5P 37°C
AST (GOT)	U/l	122	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	85.6	Diazo with Sulphanilic Acid
	mg/dl	5.01	
Calcium	mmol/l	3.11	Cresolphthalein complexone
	mg/dl	12.5	
Cholesterol	mmol/l	7.32	Cholesterol Oxidase
	mg/dl	283	
Creatinine	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.76	
Glucose	mmol/l	15.0	Glucose oxidase
	mg/dl	270	
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
Urea	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	

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