

CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 2351

LOT NO. 961UE

SIZE: 20 x 5ml

EXPIRY: 2020-01-28

GTIN: 05055273200966

INTENDED USE

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

SAFETY PRECAUTIONS AND WARNINGS

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests.

However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.

For *in vitro* diagnostic use only.

STORAGE AND STABILITY

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

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

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

MATERIALS PROVIDED

Calibration Serum - Level 3

Cat No. CAL 2351 20 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

LIMITATIONS

After reconstitution, Bicarbonate is stable for 8 hours in the closed bottle and 1 hour in the open bottle.

For Total and Prostatic Acid Phosphatase, the material should be stabilised by adding 1 drop (25 µl - 30 µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation, Total & Prostatic Acid Phosphatase are stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C, and 28 days when frozen once at -20°C.

Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum 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. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	28.8	Bromocresol Green
	g/dl	2.88	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	304	AMP optimised to IFCC 37°C
	U/l	302	AMP non-optimised 37°C
ALT (GPT)	U/l	125	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	224	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	282	Abbott Architect Non-IFCC Cal. 37°C
	U/l	312	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	132	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.7	Enzymatic
Bile Acids	µmol/l	45.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	27.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.60	
	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
	µmol/l	27.7	Diazo with Dichloroaniline (DCA)
Bilirubin Total	mg/dl	1.62	Diazo with Dichloroaniline (DCA)
	µmol/l	84.2	
	mg/dl	4.93	Diazo with Sulphanilic Acid
	µmol/l	84.6	
	mg/dl	4.95	Dichlorophenyl Diazonium (DPD)
	µmol/l	85.7	
	mg/dl	5.01	Diazonium ion
	µmol/l	82.8	
Calcium	mg/dl	4.84	Arsenazo III
	mmol/l	3.23	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	
Cholinesterase	U/l	6184	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	564	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	392	Alkaline picrate no deproteinization
	mg/dl	4.43	
	µmol/l	384	Enzymatic UV method
	mg/dl	4.34	
	µmol/l	382	Creatinine PAP method
	mg/dl	4.32	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Creatinine	μmol/l	393	Jaffe rate blanked
	mg/dl	4.44	
	μmol/l	397	IDMS traceable
	mg/dl	4.49	
gamma-GT	U/l	153	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	149	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	275	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	μmol/l	36.6	Colorimetric with ppt.
	μg/dl	205	
	μmol/l	35.8	Colorimetric without ppt.
	μg/dl	200	
Lactate	mmol/l	5.45	Colorimetric Lactate Oxidase
	mg/dl	49.1	
LD (LDH)	U/l	355	L->P 37°C
	U/l	352	L->P IFCC 37°C
Lipase	U/l	112	Other Colorimetric 37°C
Lithium	mmol/l	2.15	Spectrophotometric
	mg/dl	1.49	
Magnesium	mmol/l	1.73	Arsenazo III
	mg/dl	4.20	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.91	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	158	ISE method - indirect
TiBC	μmol/l	54.6	FE+UIBC(saturation with iron)
	μg/dl	305	
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	
	mmol/l	2.89	Lipase/Glycerol Dehydrogenase
	mg/dl	256	
Urea	mmol/l	19.4	Urease end point
	mg/dl	117	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Urea	mmol/l	19.1	Urease kinetic
	mg/dl	115	
	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.591	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.93	
	mmol/l	0.590	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.91	
	mmol/l	0.586	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.84	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ABX Pentra 400® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	28.1	Bromocresol Green
	g/dl	2.81	
Alkaline Phosphatase	U/l	287	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	148	Tris buffer without P5P 37°C
AST (GOT)	U/l	146	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	26.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.54	
Bilirubin Total	µmol/l	88.7	Diazo with Dichloroaniline (DCA)
	mg/dl	5.19	
Calcium	mmol/l	3.33	Arsenazo III
	mg/dl	13.3	
Cholesterol	mmol/l	7.44	Cholesterol Oxidase
	mg/dl	287	
Creatinine	µmol/l	369	Alkaline picrate no deproteinization
	mg/dl	4.17	
gamma-GT	U/l	150	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.40	Phosphomolybdate UV
	mg/dl	7.44	
Potassium	mmol/l	5.72	ISE method - direct
Protein Total	g/l	48.2	Biuret reaction end point
	g/dl	4.82	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	17.9	Urease kinetic
	mg/dl	108	
	mmol/l	17.9	BUN
	mg/dl	50.2	
Uric Acid (Urate)	mmol/l	0.589	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.90	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	27.5	Bromocresol Green
	g/dl	2.75	
	g/l	29.0	Bromocresol Purple
	g/dl	2.90	
Alkaline Phosphatase	U/l	374	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	131	Tris buffer without P5P 37°C
Amylase Total	U/l	234	pNP Maltotrioxide substrates 37°C
	U/l	247	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	247	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	143	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.9	Enzymatic
Bilirubin Direct	µmol/l	22.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.34	
Bilirubin Total	µmol/l	86.3	DPD (Beckman AU)
	mg/dl	5.05	
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.16	Cholesterol Oxidase
	mg/dl	276	
Cholinesterase	U/l	4896	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	570	CK-NAC (IFCC) 37°C
Copper	µmol/l	26.0	Colorimetric
	µg/dl	165	
Creatinine	µmol/l	363	Alkaline picrate no deproteinization
	mg/dl	4.10	
	µmol/l	390	Enzymatic UV method
	mg/dl	4.40	
	µmol/l	363	Jaffe rate blanked
	mg/dl	4.11	
	µmol/l	386	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.36	
	µmol/l	376	IDMS traceable
	mg/dl	4.25	
D-3-Hydroxybutyrate	mmol/l	1.12	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	159	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
gamma-GT	U/l	157	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	27	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	37.2	Colorimetric with ppt.
	µg/dl	208	
	µmol/l	36.7	Colorimetric without ppt.
	µg/dl	205	
Lactate	mmol/l	5.26	Colorimetric Lactate Oxidase
	mg/dl	47.4	
LD (LDH)	U/l	347	L->P 37°C
	U/l	774	P->L Scandinavian & Dutch 37°C
	U/l	354	L->P IFCC 37°C
Lipase	U/l	119	Other Colorimetric 37°C
	U/l	77	Roche Colorimetric 37°C
	U/l	85	Randox Colorimetric 37°C
Lithium	mmol/l	2.08	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.81	Xylidyl Blue
	mg/dl	4.40	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.87	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
	g/l	46.7	Biuret reaction kinetic
	g/dl	4.67	
Sodium	mmol/l	158	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	L/G Kinase EP. no correction
	mg/dl	258	
UIBC	µmol/l	18.5	Direct Colorimetric
	µg/dl	103	
Urea	mmol/l	18.9	Urease end point
	mg/dl	114	
	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.620	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.4	
	mmol/l	0.613	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.3	
	mmol/l	0.619	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.4	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
	g/l	29.4	Bromocresol Purple
	g/dl	2.94	
Alkaline Phosphatase	U/l	327	AMP optimised to IFCC 37°C
	U/l	326	AMP non-optimised 37°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	118	Tris buffer SCE 37°C
Amylase Total	U/l	256	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
	U/l	128	Tris buffer SCE 37°C
Bicarbonate	mmol/l	16.4	Differential rate pH change
	mmol/l	16.9	Ion selective electrode
Bilirubin Direct	µmol/l	15.9	Diazo with Sulphanilic Acid
	mg/dl	0.930	
Bilirubin Total	µmol/l	81.7	Diazo with Sulphanilic Acid
	mg/dl	4.78	
Calcium	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	
CK Total	U/l	526	CK-NAC (IFCC) 37°C
	U/l	569	Monothioglycerol 37°C
Creatinine	µmol/l	380	Alkaline picrate no deproteinization
	mg/dl	4.29	
	µmol/l	376	Jaffe rate blanked
	mg/dl	4.25	
	µmol/l	383	IDMS traceable
	mg/dl	4.32	
gamma-GT	U/l	127	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	14.8	Hexokinase
	mg/dl	266	
	mmol/l	14.8	Oxygen electrode
	mg/dl	267	
	mmol/l	14.6	Glucose oxidase
	mg/dl	263	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Iron	µmol/l	36.3	Colorimetric without ppt.
	µg/dl	203	
Lactate	mmol/l	4.90	Colorimetric Lactate Oxidase
	mg/dl	44.1	
LD (LDH)	U/l	297	L->P 37°C
Lipase	U/l	68	Other Colorimetric 37°C
Magnesium	mmol/l	1.73	Calmagite
	mg/dl	4.20	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate UV
	mg/dl	7.22	
Potassium	mmol/l	5.86	ISE method - indirect
Protein Total	g/l	45.3	Biuret reaction CX4/5/7
	g/dl	4.53	
	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
	g/l	44.4	Biuret reaction kinetic
	g/dl	4.44	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	2.91	Lipase/GPO-PAP no correction
	mg/dl	258	
	mmol/l	2.99	L/G Kinase EP. no correction
	mg/dl	265	
Urea	mmol/l	19.0	Urease end point
	mg/dl	114	
	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	

CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
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	146	Tris buffer without P5P 37°C
	U/l	108	Tris buffer without P5P 30°C
	U/l	82	Tris buffer without P5P 25°C
AST (GOT)	U/l	156	Tris buffer without P5P 37°C
	U/l	105	Tris buffer without P5P 30°C
	U/l	74	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	86.9	Diazo with Sulphanilic Acid
	mg/dl	5.09	
Calcium	mmol/l	3.03	Arsenazo III
	mg/dl	12.1	
Cholesterol	mmol/l	7.40	Cholesterol Oxidase
	mg/dl	286	
Creatinine	µmol/l	354	Alkaline picrate no deproteinization
	mg/dl	4.00	
Glucose	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Protein Total	g/l	49.4	Biuret reaction end point
	g/dl	4.94	
Triglycerides	mmol/l	2.98	Lipase/GPO-PAP no correction
	mg/dl	264	
Urea	mmol/l	17.7	Urease kinetic
	mg/dl	106	
	mmol/l	17.7	BUN
	mg/dl	49.7	
Uric Acid (Urate)	mmol/l	0.580	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.74	

CALIBRATION SERUM LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
Alkaline Phosphatase	U/l	299	AMP optimised to IFCC 37°C
	U/l	233	AMP optimised to IFCC 30°C
	U/l	191	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	140	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	79	Tris buffer without P5P 25°C
AST (GOT)	U/l	154	Tris buffer without P5P 37°C
	U/l	104	Tris buffer without P5P 30°C
	U/l	73	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	32.5	Diazo with Sulphanilic Acid
	mg/dl	1.90	
Bilirubin Total	µmol/l	87.0	Diazo with Sulphanilic Acid
	mg/dl	5.09	
Calcium	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.19	Cholesterol Oxidase
	mg/dl	278	
CK Total	U/l	563	CK-NAC (IFCC) 37°C
	U/l	352	CK-NAC (IFCC) 30°C
	U/l	239	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.75	
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	282	
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
Urea	mmol/l	17.0	Urease kinetic
	mg/dl	102	
	mmol/l	17.0	BUN
Uric Acid (Urate)	mmol/l	17.0	Uricase peroxidase with ascorbate oxidase
	mg/dl	47.7	
	mmol/l	0.627	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.5	
	mmol/l	0.606	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.2	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
AST (GOT)	U/l	135	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Calcium	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Cholesterol	mmol/l	7.06	Cholesterol Oxidase
	mg/dl	273	
Creatinine	µmol/l	345	Alkaline picrate no deproteinization
	mg/dl	3.90	
	µmol/l	385	Creatinine PAP method
	mg/dl	4.35	
Glucose	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Protein Total	g/l	46.1	Biuret reaction end point
	g/dl	4.61	
Triglycerides	mmol/l	2.69	Lipase/GPO-PAP no correction
	mg/dl	238	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	
Uric Acid (Urate)	mmol/l	0.584	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.81	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
	g/l	30.1	Bromocresol Purple
	g/dl	3.01	
	g/l	26.9	Turbidimetric Assays
	g/dl	2.69	
Alkaline Phosphatase	U/l	265	Roche Integra AMP buffer 37°C
	U/l	206	Roche Integra AMP buffer 30°C
	U/l	169	Roche Integra AMP buffer 25°C
ALT (GPT)	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
Amylase Pancreatic	U/l	220	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	242	Roche Integra 2-chloro-pNPG7 37°C
	U/l	242	Roche liquid stable pNPG7 37°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
Bicarbonate	mmol/l	16.5	Enzymatic
Bilirubin Direct	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	µmol/l	28.6	Diazo with Sulphanilic Acid
	mg/dl	1.67	
Bilirubin Total	µmol/l	78.4	Diazo with Dichloroaniline (DCA)
	mg/dl	4.59	
	µmol/l	76.5	Diazo with Sulphanilic Acid
	mg/dl	4.48	
	µmol/l	76.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.50	
	µmol/l	75.8	Diazonium ion
	mg/dl	4.43	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.26	NM-BAPTA
	mg/dl	13.1	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.13	Cholesterol Oxidase
	mg/dl	275	
CK Total	U/l	542	CK-NAC (IFCC) 37°C
	U/l	339	CK-NAC (IFCC) 30°C
	U/l	230	CK-NAC (IFCC) 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
CK Total	U/l	548	Creatinine phosphate substrate Start 37°C
	U/l	343	Creatinine phosphate substrate Start 30°C
	U/l	233	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	362	Alkaline picrate with deproteinization
	mg/dl	4.09	
	µmol/l	364	Alkaline picrate no deproteinization
	mg/dl	4.11	
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.29	
	µmol/l	373	Jaffe rate blanked
	mg/dl	4.22	
	µmol/l	387	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.37	
	µmol/l	386	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.36	
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	158	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	97	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	36.2	Colorimetric with ppt.
	µg/dl	202	
	µmol/l	36.1	Colorimetric without ppt.
	µg/dl	202	
Lactate	mmol/l	5.49	Colorimetric Lactate Oxidase
	mg/dl	49.5	
LD (LDH)	U/l	666	P->L German methods 37°C
	U/l	481	P->L German methods 30°C
	U/l	338	P->L German methods 25°C
	U/l	366	L->P IFCC 37°C
	U/l	264	L->P IFCC 30°C
	U/l	186	L->P IFCC 25°C
Lipase	U/l	79	Roche Colorimetric 37°C
Lithium	mmol/l	2.13	Ion selective electrode
	mg/dl	1.48	
Magnesium	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	

CALIBRATION SERUM LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.29	Phosphomolybdate enzymatic
	mg/dl	7.10	
	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	5.89	ISE method - indirect
Protein Total	g/l	43.8	Biuret reaction end point
	g/dl	4.38	
	g/l	43.6	Biuret reaction kinetic
	g/dl	4.36	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	54.2	FE+UIBC(saturation with iron)
	µg/dl	303	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.86	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	253	
	mmol/l	2.97	L/G Kinase EP. no correction
	mg/dl	263	
	mmol/l	2.79	Lipase/Glycerol Dehydrogenase
	mg/dl	247	
Urea	mmol/l	18.0	Urease kinetic
	mg/dl	108	
	mmol/l	18.0	Urease hypochlorite
	mg/dl	108	
	mmol/l	18.0	BUN
	mg/dl	50.5	
Uric Acid (Urate)	mmol/l	0.596	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.592	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.95	
	mmol/l	0.597	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.0	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	31.2	Bromocresol Green
	g/dl	3.12	
Alkaline Phosphatase	U/l	444	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	133	Tris buffer without P5P 37°C
AST (GOT)	U/l	133	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	91.0	Diazo with Sulphanilic Acid
	mg/dl	5.32	
Calcium	mmol/l	3.26	Arsenazo III
	mg/dl	13.1	
Cholesterol	mmol/l	7.33	Cholesterol Oxidase
	mg/dl	283	
CK Total	U/l	569	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
Glucose	mmol/l	15.5	Glucose oxidase
	mg/dl	280	
Iron	µmol/l	36.2	Colorimetric without ppt.
	µg/dl	202	
LD (LDH)	U/l	364	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Protein Total	g/l	50.4	Biuret reaction end point
	g/dl	5.04	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
Urea	mmol/l	18.3	Urease kinetic
	mg/dl	110	
	mmol/l	18.3	BUN
	mg/dl	51.4	
Uric Acid (Urate)	mmol/l	0.637	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.7	

CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	12.8	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	25.6	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	38.4	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	30.7	Bromocresol Green
	g/dl	3.07	
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
	U/l	324	Randox AMP 37°C
	U/l	252	Randox AMP 30°C
	U/l	207	Randox AMP 25°C
ALT (GPT)	U/l	125	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	241	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	232	Roche liquid stable pNPG7 37°C
	U/l	258	Randox Liquid Ethylidene pNPG7 37°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
Bicarbonate	mmol/l	16.8	Enzymatic
Bile Acids	µmol/l	43.7	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	
	µmol/l	26.2	Diazo with Sulphanilic Acid
	mg/dl	1.53	
Bilirubin Total	µmol/l	77.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.55	
	µmol/l	76.0	Diazonium ion
	mg/dl	4.45	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.25	NM-BAPTA
	mg/dl	13.0	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	
CK Total	U/l	529	CK-NAC (IFCC) 37°C
	U/l	331	CK-NAC (IFCC) 30°C
	U/l	225	CK-NAC (IFCC) 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Creatinine	µmol/l	379	Roche Creatinine Plus
	mg/dl	4.28	
	µmol/l	408	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.61	
gamma-GT	U/l	138	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	109	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	85	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	152	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	120	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	94	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	160	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	126	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	35.8	Colorimetric without ppt.
	µg/dl	200	
Lactate	mmol/l	5.47	Colorimetric Lactate Oxidase
	mg/dl	49.3	
LD (LDH)	U/l	681	P->L German methods 37°C
	U/l	492	P->L German methods 30°C
	U/l	345	P->L German methods 25°C
	U/l	356	L->P IFCC 37°C
	U/l	257	L->P IFCC 30°C
	U/l	180	L->P IFCC 25°C
Lipase	U/l	74	Roche Colorimetric 37°C
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	5.95	ISE method - indirect
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	52.6	FE+UIBC(saturation with iron)
	µg/dl	294	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
Urea	mmol/l	19.1	Urease kinetic
	mg/dl	115	

CALIBRATION SERUM LEVEL 3 (CAL 3)

HITACHI SERIES® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Urea	mmol/l	19.1	BUN
	mg/dl	53.6	
Uric Acid (Urate)	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.590	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.91	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/l	342	AMP optimised to IFCC 37°C
	U/l	266	AMP optimised to IFCC 30°C
	U/l	219	AMP optimised to IFCC 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 Total	U/l	259	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	127	Tris buffer without P5P 37°C
	U/l	86	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bile Acids	µmol/l	42.0	Enzymatic Colorimetric
Bilirubin Total	µmol/l	85.0	Diazo with Sulphanilic Acid
	mg/dl	4.97	
Calcium	mmol/l	3.34	Cresolphthalein complexone
	mg/dl	13.4	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	7.05	Cholesterol Oxidase
	mg/dl	272	
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	344	Alkaline picrate no deproteinization
	mg/dl	3.89	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	143	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	113	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	88	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	142	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	112	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	88	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	26	Triethanolamine buffer 50 mmol 37°C
	U/l	20	Triethanolamine buffer 50 mmol 30°C
	U/l	16	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	

CALIBRATION SERUM LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Iron	µmol/l	37.2	Colorimetric without ppt.
	µg/dl	208	
LD (LDH)	U/l	690	P->L German methods 37°C
	U/l	498	P->L German methods 30°C
	U/l	350	P->L German methods 25°C
Lipase	U/l	86	Randox Colorimetric 37°C
Magnesium	mmol/l	1.86	Enzymatic
	mg/dl	4.52	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.95	ISE method - indirect
Protein Total	g/l	45.9	Biuret reaction end point
	g/dl	4.59	
Sodium	mmol/l	157	ISE method - indirect
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.91	L/G Kinase EP. no correction
	mg/dl	258	
Urea	mmol/l	19.0	Urease end point
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.598	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.0	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
Alkaline Phosphatase	U/l	460	Diethanolamine buffer DEA 37°C
	U/l	358	Diethanolamine buffer DEA 30°C
	U/l	294	Diethanolamine buffer DEA 25°C
	U/l	296	AMP optimised to IFCC 37°C
	U/l	231	AMP optimised to IFCC 30°C
	U/l	189	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	77	Tris buffer without P5P 25°C
AST (GOT)	U/l	149	Tris buffer without P5P 37°C
	U/l	101	Tris buffer without P5P 30°C
	U/l	71	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	81.1	Diazo with Sulphanilic Acid
	mg/dl	4.75	
	µmol/l	79.5	Nitrobenzenediazonium salt
	mg/dl	4.65	
Calcium	mmol/l	3.33	Arsenazo III
	mg/dl	13.3	
Chloride	mmol/l	117	ISE direct
Cholesterol	mmol/l	6.97	Cholesterol Oxidase
	mg/dl	269	
CK Total	U/l	555	CK-NAC (IFCC) 37°C
	U/l	347	CK-NAC (IFCC) 30°C
	U/l	236	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	368	Alkaline picrate no deproteinization
	mg/dl	4.16	
gamma-GT	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	37.2	Colorimetric without ppt.
	µg/dl	208	
LD (LDH)	U/l	729	P->L Scandinavian & Dutch 37°C
	U/l	526	P->L Scandinavian & Dutch 30°C
	U/l	370	P->L Scandinavian & Dutch 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.68	Xylidyl Blue
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate UV
	mg/dl	7.16	
Potassium	mmol/l	5.79	ISE method - direct
Protein Total	g/l	47.2	Biuret reaction end point
	g/dl	4.72	
Sodium	mmol/l	155	ISE method - direct
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
Urea	mmol/l	17.8	Urease kinetic
	mg/dl	107	
	mmol/l	17.8	BUN
	mg/dl	50.0	
Uric Acid (Urate)	mmol/l	0.603	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.1	
	mmol/l	0.607	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.2	
	mmol/l	0.608	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.2	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
a-HBDH	U/l	411	Oxobutyrate < 10 mmol/l 37°C
	U/l	310	Oxobutyrate < 10 mmol/l 30°C
	U/l	233	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	12.8	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	25.6	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Total)	U/l	38.4	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
	g/l	28.3	Bromocresol Purple
	g/dl	2.83	
	g/l	27.3	Turbidimetric Assays
	g/dl	2.73	
Alkaline Phosphatase	U/l	466	Diethanolamine buffer DEA 37°C
	U/l	363	Diethanolamine buffer DEA 30°C
	U/l	298	Diethanolamine buffer DEA 25°C
	U/l	325	AMP optimised to IFCC 37°C
	U/l	253	AMP optimised to IFCC 30°C
	U/l	208	AMP optimised to IFCC 25°C
	U/l	312	AMP non-optimised 37°C
	U/l	243	AMP non-optimised 30°C
	U/l	199	AMP non-optimised 25°C
ALT (GPT)	U/l	156	Tris buffer with P5P 37°C
	U/l	115	Tris buffer with P5P 30°C
	U/l	88	Tris buffer with P5P 25°C
	U/l	125	Tris buffer without P5P 37°C
	U/l	93	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
	U/l	118	Tris buffer SCE 37°C
	U/l	87	Tris buffer SCE 30°C
	U/l	66	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	218	Immunoinhibition EPS substrate 37°C
	U/l	215	Roche liquid stable pNPG7 37°C
	U/l	241	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	239	pNP Maltotriose substrates 37°C
	U/l	250	Siemens - blocked pNPG7 37°C
	U/l	195	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	258	Randox Liquid Ethylidene pNPG7 37°C
	U/l	240	BM/Roche Colorimetric pNPG7 37°C
	U/l	248	Beckman Synchron CX4/CX5/CX7 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Amylase Total	U/l	238	Roche Integra 2-chloro-pNPG7 37°C
	U/l	238	Other Roche 2-chloro-pNPG7 37°C
	U/l	236	Roche liquid stable pNPG7 37°C
	U/l	296	Siemens 2-chloro-pNPG3 37°C
	U/l	282	bioMerieux 2-chloro-pNPG3 37°C
	U/l	247	Beckman Coulter - blocked pNPG7 37°C
	U/l	256	Beckman Synchron AMY7 37°C
	U/l	262	I.L. 2-chloro-pNPG3 37°C
	U/l	282	Abbott Architect Non-IFCC Cal. 37°C
	U/l	312	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	207	Tris buffer with P5P 37°C
	U/l	140	Tris buffer with P5P 30°C
	U/l	99	Tris buffer with P5P 25°C
	U/l	134	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
	U/l	128	Tris buffer SCE 37°C
	U/l	87	Tris buffer SCE 30°C
	U/l	61	Tris buffer SCE 25°C
Bicarbonate	mmol/l	16.6	Colorimetric
	mmol/l	16.4	Differential rate pH change
	mmol/l	16.8	Enzymatic
	mmol/l	17.3	Ion selective electrode
Bile Acids	µmol/l	42.9	4th Generation Colorimetric
	µmol/l	43.7	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	
	µmol/l	27.3	Diazo with Sulphanilic Acid
	mg/dl	1.60	
	µmol/l	27.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.62	
	µmol/l	27.4	Oxidation to Biliverdin/Vanadate
	mg/dl	1.60	
Bilirubin Total	µmol/l	30.2	Modified Jendrassik
	mg/dl	1.77	
	µmol/l	93.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.45	
	µmol/l	82.7	Diazo with Sulphanilic Acid
	mg/dl	4.84	
	µmol/l	91.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.32	
	µmol/l	79.8	Nitrobenzenediazonium salt
	mg/dl	4.67	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Bilirubin Total	μmol/l	78.4	Diazonium ion
	mg/dl	4.59	
	μmol/l	89.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.26	
	μmol/l	94.3	Modified Jendrassik
	mg/dl	5.52	
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.26	NM-BAPTA
	mg/dl	13.1	
Chloride	mmol/l	116	Colorimetric
	mmol/l	113	ISE indirect
	mmol/l	114	ISE direct
Cholesterol	mmol/l	7.12	Cholesterol Oxidase
	mg/dl	275	
Cholinesterase	U/l	5306	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	548	CK-NAC serum start (DGKC) 37°C
	U/l	343	CK-NAC serum start (DGKC) 30°C
	U/l	233	CK-NAC serum start (DGKC) 25°C
	U/l	568	CK-NAC substrate start (DGKC) 37°C
	U/l	356	CK-NAC substrate start (DGKC) 30°C
	U/l	241	CK-NAC substrate start (DGKC) 25°C
	U/l	550	CK-NAC (IFCC) 37°C
	U/l	344	CK-NAC (IFCC) 30°C
	U/l	234	CK-NAC (IFCC) 25°C
	U/l	569	Monothioglycerol 37°C
	U/l	356	Monothioglycerol 30°C
	U/l	242	Monothioglycerol 25°C
Copper	μmol/l	26.0	Atomic absorption
	μg/dl	165	
	μmol/l	26.7	Colorimetric
	μg/dl	170	
	μmol/l	338	Alkaline picrate with deproteinization
	mg/dl	3.82	
	μmol/l	362	Alkaline picrate no deproteinization
	mg/dl	4.09	
	μmol/l	385	Enzymatic UV method
	mg/dl	4.35	
	μmol/l	383	Creatinine PAP method
	mg/dl	4.33	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Creatinine	μmol/l	373	Jaffe rate blanked
	mg/dl	4.22	
	μmol/l	400	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.52	
	μmol/l	386	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.36	
	μmol/l	383	IDMS traceable
	mg/dl	4.32	
D-3-Hydroxybutyrate	mmol/l	1.11	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	148	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	127	Gamma glutamyl-4-nitroanilide 37°C
	U/l	100	Gamma glutamyl-4-nitroanilide 30°C
	U/l	78	Gamma glutamyl-4-nitroanilide 25°C
	U/l	157	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	124	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	97	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	160	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
GLDH	U/l	26	Triethanolamine buffer 50 mmol 37°C
	U/l	20	Triethanolamine buffer 50 mmol 30°C
	U/l	16	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.0	Glucose dehydrogenase
	mg/dl	270	
	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	14.8	Oxygen electrode
	mg/dl	267	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	μmol/l	35.8	Colorimetric with ppt.
	μg/dl	200	
	μmol/l	35.9	Colorimetric without ppt.
	μg/dl	201	
Lactate	mmol/l	5.30	Colorimetric Lactate Oxidase
	mg/dl	47.8	
	mmol/l	5.20	Enzymatic Electrode
	mg/dl	46.9	
	mmol/l	5.28	UV LDH
	mg/dl	47.6	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
LAP	U/l	15	NAGEL 37°C
LD (LDH)	U/l	323	L->P 37°C
	U/l	233	L->P 30°C
	U/l	164	L->P 25°C
	U/l	766	P->L Scandinavian & Dutch 37°C
	U/l	553	P->L Scandinavian & Dutch 30°C
	U/l	388	P->L Scandinavian & Dutch 25°C
	U/l	682	P->L German methods 37°C
	U/l	492	P->L German methods 30°C
	U/l	346	P->L German methods 25°C
	U/l	697	P->L SFBC 37°C
	U/l	503	P->L SFBC 30°C
	U/l	353	P->L SFBC 25°C
	U/l	358	L->P IFCC 37°C
	U/l	258	L->P IFCC 30°C
	U/l	182	L->P IFCC 25°C
Lipase	U/l	72	Roche Colorimetric 37°C
	U/l	84	Randox Colorimetric 37°C
Lithium	mmol/l	2.17	Ion selective electrode
	mg/dl	1.51	
	mmol/l	2.10	Spectrophotometric
	mg/dl	1.46	
	mmol/l	2.03	Randox Colorimetric
Magnesium	mg/dl	1.41	
	mmol/l	1.72	Arsenazo III
	mg/dl	4.18	
	mmol/l	1.73	Calmagite
	mg/dl	4.20	
	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
	mmol/l	1.78	Methylthymol blue
	mg/dl	4.33	
	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
	mmol/l	1.76	Enzymatic
	mg/dl	4.28	
Osmolality	mOsm/kg	339	Calculated
	mOsm/kg	372	Freezing point depression
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.93	Enzymatic

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Potassium	mmol/l	5.84	Flame photometry
	mmol/l	5.87	ISE method - direct
	mmol/l	5.93	ISE method - indirect
Protein Total	g/l	46.0	Biuret reaction end point
	g/dl	4.60	
	g/l	44.8	Biuret reaction kinetic
	g/dl	4.48	
Sodium	mmol/l	158	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	157	ISE method - direct
	mmol/l	158	ISE method - indirect
TIBC	μmol/l	49.8	Removal of excess free iron
	μg/dl	278	
	μmol/l	53.6	FE+UIBC(saturation with iron)
	μg/dl	300	
	μmol/l	50.2	Direct Colorimetric
	μg/dl	281	
	μmol/l	41.9	Calculated from Transferrin
	μg/dl	234	
	μmol/l	53.5	Randox Direct
	μg/dl	299	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	
Urea	mmol/l	2.88	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	255	
	mmol/l	2.84	Lipase/Glycerol Dehydrogenase
	mg/dl	251	
	mmol/l	18.4	Urease end point
	mg/dl	111	
Uric Acid (Urate)	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.3	Urease hypochlorite
	mg/dl	110	
	mmol/l	18.7	BUN
Uric Acid (Urate)	mg/dl	52.5	
	mmol/l	0.586	Uricase catalase 340nm
	mg/dl	9.84	
Uric Acid (Urate)	mmol/l	0.596	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.0	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.586	Spectrophotometric at 280-290
	mg/dl	9.84	
Zinc	mmol/l	0.572	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.61	
	μmol/l	35.5	Atomic absorption
	μg/dl	232	
	μmol/l	38.0	Colorimetric with deproteinisation
	μg/dl	248	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.3	Bromocresol Green
	g/dl	3.03	
Alkaline Phosphatase	U/l	337	AMP optimised to IFCC 37°C
	U/l	263	AMP optimised to IFCC 30°C
	U/l	215	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	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 Direct	µmol/l	32.6	Oxidation to Biliverdin/Vanadate
	mg/dl	1.91	
Bilirubin Total	µmol/l	92.6	Diazo with Dichloroaniline (DCA)
	mg/dl	5.41	
	µmol/l	85.6	Diazo with Sulphanilic Acid
	mg/dl	5.01	
	µmol/l	88.0	Oxidation to Biliverdin/Vanadate
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.26	Arsenazo III
	mg/dl	13.1	
	mmol/l	7.16	
Cholesterol	mg/dl	276	Cholesterol Oxidase
	mmol/l	7.16	
Cholinesterase	U/l	5248	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	558	CK-NAC (IFCC) 37°C
	U/l	349	CK-NAC (IFCC) 30°C
	U/l	237	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	350	Alkaline picrate with deproteinization
	mg/dl	3.96	
	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	383	Enzymatic UV method
	mg/dl	4.33	
gamma-GT	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	272	

CALIBRATION SERUM LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	190	
LD (LDH)	U/l	658	P->L German methods 37°C
	U/l	475	P->L German methods 30°C
	U/l	334	P->L German methods 25°C
	U/l	714	P->L SFBC 37°C
	U/l	516	P->L SFBC 30°C
	U/l	362	P->L SFBC 25°C
	U/l	345	L->P IFCC 37°C
	U/l	249	L->P IFCC 30°C
Lipase	U/l	72	Other Colorimetric 37°C
	U/l	72	
Magnesium	mmol/l	1.62	Xylidyl Blue
	mg/dl	3.94	
Phosphate Inorganic	mmol/l	2.12	Phosphomolybdate enzymatic
	mg/dl	6.57	
	mmol/l	2.26	Phosphomolybdate UV
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
	g/l	44.3	Biuret reaction kinetic
	g/dl	4.43	
TIBC	µmol/l	54.6	FE+UIBC(saturation with iron)
	µg/dl	305	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	18.4	Urease end point
	mg/dl	111	
	mmol/l	18.6	Urease kinetic
	mg/dl	112	
	mmol/l	17.8	Urease hypochlorite
	mg/dl	107	
Uric Acid (Urate)	mmol/l	18.6	BUN
	mg/dl	52.2	
	mmol/l	0.597	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.590	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.91	
	mmol/l	0.579	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.73	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
	g/l	27.2	Bromocresol Purple
	g/dl	2.72	
	g/l	27.4	Turbidimetric Assays
	g/dl	2.74	
Alkaline Phosphatase	U/l	255	Roche Integra AMP buffer 37°C
	U/l	199	Roche Integra AMP buffer 30°C
	U/l	163	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	213	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	233	Roche Integra 2-chloro-pNPG7 37°C
	U/l	233	Roche liquid stable pNPG7 37°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
Bicarbonate	mmol/l	16.9	Colorimetric
	mmol/l	16.5	Enzymatic
Bile Acids	µmol/l	43.6	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	
	µmol/l	28.6	Diazo with Sulphanilic Acid
	mg/dl	1.68	
Bilirubin Total	µmol/l	76.9	Diazo with Sulphanilic Acid
	mg/dl	4.50	
	µmol/l	77.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.54	
	µmol/l	77.2	Diazonium ion
	mg/dl	4.52	
Calcium	mmol/l	3.28	Cresolphthalein complexone
	mg/dl	13.1	
	mmol/l	3.26	NM-BAPTA
	mg/dl	13.1	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	7.04	Cholesterol Oxidase
	mg/dl	272	
Cholinesterase	U/l	5269	Colorimetric Butyrylthiocholine 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
CK Total	U/l	556	CK-NAC substrate start (DGKC) 37°C
	U/l	348	CK-NAC substrate start (DGKC) 30°C
	U/l	236	CK-NAC substrate start (DGKC) 25°C
	U/l	540	CK-NAC (IFCC) 37°C
	U/l	338	CK-NAC (IFCC) 30°C
	U/l	230	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	379	Alkaline picrate no deproteinization
	mg/dl	4.28	
	µmol/l	392	Enzymatic UV method
	mg/dl	4.43	
	µmol/l	389	Roche Creatinine Plus
	mg/dl	4.39	
	µmol/l	379	Jaffe rate blanked
	mg/dl	4.28	
D-3-Hydroxybutyrate	µmol/l	400	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.52	
	µmol/l	389	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.40	
gamma-GT	mmol/l	1.09	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	139	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	110	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	86	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	159	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	98	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	26	Triethanolamine buffer 50 mmol 37°C
	U/l	20	Triethanolamine buffer 50 mmol 30°C
	U/l	16	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.0	Glucose dehydrogenase
	mg/dl	270	
	mmol/l	15.1	Hexokinase
	mg/dl	272	
Iron	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
	µmol/l	35.5	Colorimetric with ppt.
	µg/dl	198	
Iron	µmol/l	35.8	Colorimetric without ppt.
	µg/dl	200	
Lactate	mmol/l	5.26	Colorimetric Lactate Oxidase
	mg/dl	47.4	
LD (LDH)	U/l	671	P->L German methods 37°C
	U/l	484	P->L German methods 30°C
	U/l	340	P->L German methods 25°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
LD (LDH)	U/l	358	L->P IFCC 37°C
	U/l	258	L->P IFCC 30°C
	U/l	182	L->P IFCC 25°C
Lipase	U/l	70	Roche Colorimetric 37°C
	U/l	71	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	2.12	Spectrophotometric
	mg/dl	1.47	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.77	Chlorphosphonazo III
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	5.97	ISE method - indirect
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
	g/l	45.2	Biuret reaction kinetic
	g/dl	4.52	
Sodium	mmol/l	159	ISE method - indirect
TIBC	μmol/l	52.3	FE+UIBC(saturation with iron)
	μg/dl	292	
	μmol/l	53.3	Direct Colorimetric
	μg/dl	298	
	μmol/l	42.9	Calculated from Transferrin
	μg/dl	240	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	
	mmol/l	2.76	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	244	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
UIBC	μmol/l	16.1	Direct Colorimetric
	μg/dl	90.2	
Urea	mmol/l	18.4	Urease end point
	mg/dl	111	
	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.578	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.71	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.583	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.79	
	mmol/l	0.576	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.68	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	262	Roche Integra AMP buffer 37°C
	U/l	204	Roche Integra AMP buffer 30°C
	U/l	167	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Amylase Total	U/l	242	Roche liquid stable pNPG7 37°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 Direct	µmol/l	30.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.76	
	µmol/l	28.5	Diazo with Sulphanilic Acid
	mg/dl	1.67	
	µmol/l	30.2	Roche JG factored
	mg/dl	1.76	
Bilirubin Total	µmol/l	80.4	Diazo with Sulphanilic Acid
	mg/dl	4.70	
	µmol/l	75.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.39	
	µmol/l	78.3	Diazonium ion
	mg/dl	4.58	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.28	NM-BAPTA
	mg/dl	13.1	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.26	Cholesterol Oxidase
	mg/dl	280	
CK Total	U/l	543	CK-NAC (IFCC) 37°C
	U/l	340	CK-NAC (IFCC) 30°C
	U/l	231	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	331	Alkaline picrate with deproteinization
	mg/dl	3.74	
	µmol/l	349	Alkaline picrate no deproteinization
	mg/dl	3.94	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C111® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Creatinine	μmol/l	379	Roche Creatinine Plus
	mg/dl	4.28	
	μmol/l	376	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.25	
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	155	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	122	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	278	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	μmol/l	36.4	Colorimetric without ppt.
	μg/dl	203	
LD (LDH)	U/l	362	L->P IFCC 37°C
	U/l	261	L->P IFCC 30°C
	U/l	184	L->P IFCC 25°C
Magnesium	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	5.87	ISE method - indirect
Protein Total	g/l	45.8	Biuret reaction end point
	g/dl	4.58	
Sodium	mmol/l	155	ISE method - indirect
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
Urea	mmol/l	18.5	Urease end point
	mg/dl	111	
	mmol/l	18.1	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.1	BUN
	mg/dl	50.8	
Uric Acid (Urate)	mmol/l	0.593	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.96	
	mmol/l	0.595	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.00	
	mmol/l	0.577	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.69	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	252	Roche Integra AMP buffer 37°C
	U/l	196	Roche Integra AMP buffer 30°C
	U/l	161	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	121	Tris buffer without P5P 37°C
	U/l	90	Tris buffer without P5P 30°C
	U/l	68	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	227	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	238	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	132	Tris buffer without P5P 37°C
	U/l	89	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.4	Enzymatic
Bilirubin Direct	µmol/l	27.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	
	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
	µmol/l	28.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	
Bilirubin Total	µmol/l	77.5	Diazo with Sulphanilic Acid
	mg/dl	4.53	
	µmol/l	77.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.54	
	µmol/l	78.6	Diazonium ion
	mg/dl	4.60	
Calcium	mmol/l	3.32	Cresolphthalein complexone
	mg/dl	13.3	
	mmol/l	3.29	NM-BAPTA
	mg/dl	13.2	
Chloride	mmol/l	110	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase
	mg/dl	274	
CK Total	U/l	542	CK-NAC (IFCC) 37°C
	U/l	339	CK-NAC (IFCC) 30°C
	U/l	230	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	371	Alkaline picrate no deproteinization
	mg/dl	4.19	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Creatinine	μmol/l	395	Enzymatic UV method
	mg/dl	4.46	
	μmol/l	396	Roche Creatinine Plus
	mg/dl	4.47	
	μmol/l	375	Jaffe rate blanked
	mg/dl	4.24	
	μmol/l	408	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.61	
gamma-GT	U/l	141	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	111	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	87	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	273	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	μmol/l	35.6	Colorimetric without ppt.
	μg/dl	199	
Lactate	mmol/l	5.29	Colorimetric Lactate Oxidase
	mg/dl	47.7	
LD (LDH)	U/l	678	P->L German methods 37°C
	U/l	490	P->L German methods 30°C
	U/l	344	P->L German methods 25°C
	U/l	360	L->P IFCC 37°C
	U/l	260	L->P IFCC 30°C
	U/l	183	L->P IFCC 25°C
Lipase	U/l	71	Roche Colorimetric 37°C
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
	mmol/l	1.76	Chlorphosphonazo III
	mg/dl	4.28	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	45.6	Biuret reaction end point
	g/dl	4.56	
Sodium	mmol/l	160	ISE method - indirect
TIBC	μmol/l	52.4	FE+UIBC(saturation with iron)
	μg/dl	293	
Triglycerides	mmol/l	2.84	Lipase/GPO-PAP no correction
	mg/dl	251	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas C311® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.92	L/G Kinase EP. no correction
	mg/dl	258	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.588	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.88	
	mmol/l	0.596	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.593	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.96	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.4	Bromocresol Green
	g/dl	3.04	
Alkaline Phosphatase	U/l	243	Roche Integra AMP buffer 37°C
	U/l	189	Roche Integra AMP buffer 30°C
	U/l	155	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	123	Tris buffer without P5P 37°C
	U/l	91	Tris buffer without P5P 30°C
	U/l	69	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	216	Roche liquid stable pNPG7 37°C
Amylase Total	U/l	236	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	132	Tris buffer without P5P 37°C
	U/l	89	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.9	Enzymatic
Bile Acids	µmol/l	40.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	
	µmol/l	26.0	Oxidation to Biliverdin/Vanadate
Bilirubin Total	mg/dl	1.52	
	µmol/l	77.8	Diazo with Sulphanilic Acid
	mg/dl	4.55	
	µmol/l	76.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.46	
Calcium	µmol/l	76.8	Diazonium ion
	mg/dl	4.49	
	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
Chloride	mmol/l	3.23	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	111	ISE indirect
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
CK Total	U/l	526	CK-NAC (IFCC) 37°C
	U/l	329	CK-NAC (IFCC) 30°C
	U/l	224	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	392	Roche Creatinine Plus
	mg/dl	4.43	
	µmol/l	398	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.50	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
gamma-GT	U/l	135	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	106	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	83	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	158	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	97	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	271	
Iron	µmol/l	35.0	Colorimetric without ppt.
	µg/dl	196	
Lactate	mmol/l	5.21	Colorimetric Lactate Oxidase
	mg/dl	46.9	
LD (LDH)	U/l	363	L->P IFCC 37°C
	U/l	262	L->P IFCC 30°C
	U/l	184	L->P IFCC 25°C
Lipase	U/l	71	Roche Colorimetric 37°C
Lithium	mmol/l	2.09	Spectrophotometric
	mg/dl	1.45	
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	53.5	FE+UIBC(saturation with iron)
	µg/dl	299	
	µmol/l	40.8	Calculated from Transferrin
	µg/dl	228	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.72	L/G Kinase EP. no correction
	mg/dl	241	
UIBC	µmol/l	18.4	Direct Colorimetric
	µg/dl	103	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.581	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.76	
	mmol/l	0.573	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	

CALIBRATION SERUM LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.575	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.66	

CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.2	Bromocresol Green
	g/dl	2.92	
Alkaline Phosphatase	U/l	481	Diethanolamine buffer DEA 37°C
	U/l	324	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	241	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	258	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	134	Tris buffer without P5P 37°C
Bile Acids	µmol/l	43.7	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.1	Diazo with Sulphanilic Acid
	mg/dl	1.64	
	µmol/l	29.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.73	
Bilirubin Total	µmol/l	85.8	Diazo with Sulphanilic Acid
	mg/dl	5.02	
	µmol/l	90.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.32	
Calcium	mmol/l	3.24	Arsenazo III
	mg/dl	13.0	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
CK Total	U/l	530	CK-NAC substrate start (DGKC) 37°C
	U/l	579	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	324	Alkaline picrate no deproteinization
	mg/dl	3.66	
	µmol/l	383	Enzymatic UV method
	mg/dl	4.33	
gamma-GT	U/l	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.4	Glucose oxidase
Iron	µmol/l	37.8	Colorimetric without ppt.
	µg/dl	211	
Lactate	mmol/l	5.26	Colorimetric Lactate Oxidase
	mg/dl	47.4	
LD (LDH)	U/l	688	P->L German methods 37°C
	U/l	360	L->P IFCC 37°C
Lipase	U/l	87	Randox Colorimetric 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

RX SERIES® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Lithium	mmol/l	2.03	Colorimetric
	mg/dl	1.41	
Magnesium	mmol/l	1.79	Xylidyl Blue
	mg/dl	4.35	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.93	Enzymatic
Protein Total	g/l	46.5	Biuret reaction end point
	g/dl	4.65	
Sodium	mmol/l	158	Enzymatic
TIBC	μmol/l	53.5	Direct Colorimetric
	μg/dl	299	
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.600	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.1	
	mmol/l	0.603	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	10.1	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.0	Bromocresol Green
	g/dl	2.90	
	g/l	27.3	Bromocresol Purple
	g/dl	2.73	
Alkaline Phosphatase	U/l	283	AMP optimised to IFCC 37°C
	U/l	275	AMP non-optimised 37°C
ALT (GPT)	U/l	132	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	216	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	250	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	139	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	19.1	Enzymatic
Bile Acids	µmol/l	46.8	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	26.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.57	
Bilirubin Total	µmol/l	89.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.26	
Calcium	mmol/l	3.31	Cresolphthalein complexone
	mg/dl	13.3	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	7.33	Cholesterol Oxidase
	mg/dl	283	
CK Total	U/l	550	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	387	Enzymatic UV method
	mg/dl	4.38	
	µmol/l	390	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.41	
gamma-GT	U/l	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	271	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	36.8	Colorimetric without ppt.
	µg/dl	206	
Lactate	mmol/l	5.20	Colorimetric Lactate Oxidase
	mg/dl	46.9	
LD (LDH)	U/l	683	P->L German methods 37°C
	U/l	365	L->P IFCC 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Lipase	U/l	78	Other Colorimetric 37°C
Lithium	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
Magnesium	mmol/l	1.78	Xylidyl Blue
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	5.98	ISE method - indirect
Protein Total	g/l	46.8	Biuret reaction end point
	g/dl	4.68	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	54.0	Direct Colorimetric
	µg/dl	302	
Triglycerides	mmol/l	2.97	Lipase/GPO-PAP no correction
	mg/dl	263	
	mmol/l	2.89	L/G Kinase EP. no correction
	mg/dl	256	
Urea	mmol/l	18.9	Urease kinetic
	mg/dl	114	
	mmol/l	18.9	BUN
	mg/dl	53.0	
Uric Acid (Urate)	mmol/l	0.591	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.93	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/l	284	Siemens Dimension AMP buffer 37°C
	U/l	290	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	139	Tris buffer with P5P 37°C
	U/l	141	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	297	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	174	Tris buffer with P5P 37°C
	U/l	181	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.0	Enzymatic
Bilirubin Direct	µmol/l	16.4	Diazo with Sulphanilic Acid
	mg/dl	0.959	
Bilirubin Total	µmol/l	82.5	Diazo with Sulphanilic Acid
	mg/dl	4.83	
Calcium	mmol/l	3.25	Cresolphthalein complexone
	mg/dl	13.0	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.63	Cholesterol Oxidase
	mg/dl	256	
	mmol/l	6.60	Dimension-Siemens reagents
	mg/dl	255	
CK Total	U/l	526	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	384	Alkaline picrate no deproteinization
	mg/dl	4.34	
	µmol/l	380	Enzymatic UV method
	mg/dl	4.29	
	µmol/l	389	IDMS traceable
	mg/dl	4.39	
gamma-GT	U/l	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	190	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	275	
Iron	µmol/l	34.4	Colorimetric with ppt.
	µg/dl	192	
	µmol/l	34.5	Colorimetric without ppt.
	µg/dl	193	
Lactate	mmol/l	5.34	UV LDH
	mg/dl	48.1	
LD (LDH)	U/l	344	Siemens Dimension L-P Non IFCC 37°C

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
LD (LDH)	U/l	340	L->P IFCC 37°C
Lipase	U/l	331	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.77	Methylthymol blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate UV
	mg/dl	7.13	
Potassium	mmol/l	5.96	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Sodium	mmol/l	160	ISE method - indirect
TIBC	μmol/l	46.6	Removal of excess free iron
	μg/dl	261	
Triglycerides	mmol/l	2.80	Lipase/GPO-PAP no correction
	mg/dl	248	
	mmol/l	2.86	L/G Kinase EP. no correction
	mg/dl	253	
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.590	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.91	
	mmol/l	0.585	Spectrophotometric at 280-290
	mg/dl	9.83	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	29.6	Bromocresol Green
	g/dl	2.96	
	g/l	28.1	Bromocresol Purple
	g/dl	2.81	
Alkaline Phosphatase	U/l	283	Siemens Dimension AMP buffer 37°C
	U/l	287	AMP optimised to IFCC 37°C
	U/l	249	Randox AMP 37°C
ALT (GPT)	U/l	137	Tris buffer with P5P 37°C
	U/l	141	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	298	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	176	Tris buffer with P5P 37°C
	U/l	180	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.0	Enzymatic
Bilirubin Direct	µmol/l	16.2	Diazo with Sulphanilic Acid
	mg/dl	0.948	
Bilirubin Total	µmol/l	82.6	Diazo with Sulphanilic Acid
	mg/dl	4.83	
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	6.59	Dimension-Siemens reagents
	mg/dl	254	
CK Total	U/l	528	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	384	Alkaline picrate no deproteinization
	mg/dl	4.34	
	µmol/l	377	Enzymatic UV method
	mg/dl	4.26	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.28	
	µmol/l	390	IDMS traceable
	mg/dl	4.41	
gamma-GT	U/l	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	188	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
Iron	µmol/l	35.0	Colorimetric with ppt.
	µg/dl	196	
	µmol/l	33.9	Colorimetric without ppt.
	µg/dl	190	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Lactate	mmol/l	5.27	Colorimetric Lactate Oxidase
	mg/dl	47.5	
LD (LDH)	U/l	354	Siemens Dimension L-P Non IFCC 37°C
	U/l	342	L->P IFCC 37°C
Lipase	U/l	328	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.77	Methylthymol blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate enzymatic
	mg/dl	7.04	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	5.92	ISE method - indirect
Protein Total	g/l	47.5	Biuret reaction end point
	g/dl	4.75	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	46.5	Removal of excess free iron
	µg/dl	260	
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP no correction
	mg/dl	250	
	mmol/l	2.87	L/G Kinase EP. no correction
	mg/dl	254	
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase
	mg/dl	250	
Urea	mmol/l	19.1	Urease end point
	mg/dl	115	
	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.584	Spectrophotometric at 280-290
	mg/dl	9.81	
	mmol/l	0.576	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.68	

CALIBRATION SERUM LEVEL 3 (CAL 3)

SIEMENS DIMENSION Vista® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	27.2	Bromocresol Purple
	g/dl	2.72	
Alkaline Phosphatase	U/l	282	Siemens Dimension AMP buffer 37°C
Bicarbonate	mmol/l	18.0	Enzymatic
Bilirubin Direct	µmol/l	18.1	Diazo with Sulphanilic Acid
	mg/dl	1.06	
Bilirubin Total	µmol/l	82.2	Diazo with Sulphanilic Acid
	mg/dl	4.81	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.77	Dimension-Siemens reagents
	mg/dl	261	
CK Total	U/l	527	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	387	Jaffe rate blanked
	mg/dl	4.37	
Glucose	mmol/l	14.8	Hexokinase
	mg/dl	266	
Iron	µmol/l	34.6	Colorimetric without ppt.
	µg/dl	193	
LD (LDH)	U/l	349	L->P IFCC 37°C
Lipase	U/l	405	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.85	Methylthymol blue
	mg/dl	4.50	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	5.73	ISE method - indirect
Protein Total	g/l	47.0	Biuret reaction end point
	g/dl	4.70	
Sodium	mmol/l	156	ISE method - indirect
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
Uric Acid (Urate)	mmol/l	0.583	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.79	

CALIBRATION SERUM LEVEL 3 (CAL 3)

VITALAB FLEXOR® Lot. No. 961UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2020-01-28

Analyte	unit	Target	methods
Albumin	g/l	30.8	Bromocresol Green
	g/dl	3.08	
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
AST (GOT)	U/l	135	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	85.2	Diazo with Sulphanilic Acid
	mg/dl	4.98	
Calcium	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	
Cholesterol	mmol/l	7.11	Cholesterol Oxidase
	mg/dl	274	
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	273	
LD (LDH)	U/l	348	L->P IFCC 37°C
Protein Total	g/l	51.5	Biuret reaction end point
	g/dl	5.15	
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	