

CALIBRATION SERUM LEVEL 3 (CAL 3)

CAT. NO. CAL 235I

LOT NO. 876UE

SIZE: 20 x 5ml

EXPIRY: 2018-12-28

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 235I 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 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 is allowed to stand for 1 hour at +15°C to +25°C before measurement.

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 1 day at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.

Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components. Different lot numbers of this calibrator should not be interchanged, as the values assigned to the calibrators vary from lot to lot.

VALUE ASSIGNMENT

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

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

NOTES

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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. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
	g/l	26.6	Bromocresol Purple
	g/dl	2.66	
Alkaline Phosphatase	U/l	307	AMP optimised to IFCC 37°C
	U/l	302	AMP non-optimised 37°C
ALT (GPT)	U/l	118	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	255	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	313	Abbott Architect Non-IFCC Cal. 37°C
	U/l	343	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.0	Enzymatic
Bile Acids	µmol/l	43.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	26.2	Diazo with Sulphanilic Acid
	mg/dl	1.53	
	µmol/l	26.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.55	
Bilirubin Total	µmol/l	83.7	Diazo with Dichloroaniline (DCA)
	mg/dl	4.90	
	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
	µmol/l	82.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.80	
	µmol/l	83.7	Diazonium ion
	mg/dl	4.90	
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.80	Cholesterol Oxidase
	mg/dl	262	
Cholinesterase	U/l	5893	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	477	CK-NAC (IFCC) 37°C
Copper	µmol/l	20.3	Colorimetric
	µg/dl	129	
Creatinine	µmol/l	371	Alkaline picrate no deproteinization
	mg/dl	4.19	
	µmol/l	364	Enzymatic UV method (340nm)
	mg/dl	4.12	
	µmol/l	354	Creatinine PAP method
	mg/dl	4.00	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Creatinine	μmol/l	373	Jaffe rate blanked
	mg/dl	4.21	
	μmol/l	369	IDMS traceable
	mg/dl	4.17	
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	161	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	μmol/l	36.7	Colorimetric with ppt.
	μg/dl	205	
	μmol/l	37.2	Colorimetric without ppt.
	μg/dl	208	
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase
	mg/dl	48.8	
LD (LDH)	U/l	335	L->P 37°C
	U/l	336	L->P IFCC 37°C
Lipase	U/l	60	Other Colorimetric 37°C
Lithium	mmol/l	2.02	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.68	Arsenazo III
	mg/dl	4.08	
	mmol/l	1.70	Enzymatic
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.93	ISE method - indirect
Protein Total	g/l	44.7	Biuret reaction end point
	g/dl	4.47	
	g/l	45.0	Biuret reaction kinetic
	g/dl	4.50	
Sodium	mmol/l	159	ISE method - indirect
TIBC	μmol/l	59.0	FE+UIBC(saturation with iron)
	μg/dl	330	
Triglycerides	mmol/l	2.80	Lipase/GPO-PAP no correction
	mg/dl	248	
	mmol/l	2.78	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	246	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Abbott Architect c/ci Systems® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.78	L/G Kinase EP. no correction
	mg/dl	246	
	mmol/l	2.84	Lipase/Glycerol Dehydrogenase
	mg/dl	251	
UIBC	µmol/l	21.5	Direct Colorimetric
	µg/dl	120	
Urea	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.567	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.53	
	mmol/l	0.571	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.59	
	mmol/l	0.566	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.51	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ABX Pentra 400® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	27.9	Bromocresol Green
	g/dl	2.79	
Alkaline Phosphatase	U/l	301	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	128	Tris buffer without P5P 37°C
AST (GOT)	U/l	136	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	87.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.14	
Calcium	mmol/l	3.22	Arsenazo III
	mg/dl	12.9	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase
	mg/dl	276	
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
gamma-GT	U/l	165	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	16.1	Glucose oxidase
	mg/dl	290	
Urea	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.580	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.74	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/l	292	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	136	Tris buffer without P5P 37°C
AST (GOT)	U/l	141	Tris buffer without P5P 37°C
Calcium	mmol/l	3.10	Arsenazo III
	mg/dl	12.4	
Cholesterol	mmol/l	6.99	Cholesterol Oxidase
	mg/dl	270	
Creatinine	µmol/l	335	Alkaline picrate no deproteinization
	mg/dl	3.79	
Glucose	mmol/l	15.7	Hexokinase
	mg/dl	282	
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
a-HBDH	U/l	369	Oxobutyrate < 10 mmol/l 37°C
Albumin	g/l	27.0	Bromocresol Green
	g/dl	2.70	
	g/l	26.4	Bromocresol Purple
	g/dl	2.64	
Alkaline Phosphatase	U/l	364	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
Amylase Total	U/l	279	pNP Maltotriose substrates 37°C
	U/l	272	Biotrol - blocked pNPG7 37°C
	U/l	282	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	283	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	137	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.8	Enzymatic
Bilirubin Direct	µmol/l	22.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.30	
Bilirubin Total	µmol/l	80.3	Diazo with Dichloroaniline (DCA)
	mg/dl	4.70	
	µmol/l	87.7	Diazo with Sulphanilic Acid
	mg/dl	5.13	
	µmol/l	85.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.01	
	µmol/l	86.7	DPD (Beckman AU)
	mg/dl	5.07	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.86	Cholesterol Oxidase
	mg/dl	265	
Cholinesterase	U/l	4434	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	509	CK-NAC substrate start (DGKC) 37°C
	U/l	487	CK-NAC (IFCC) 37°C
Copper	µmol/l	24.4	Colorimetric
	µg/dl	155	
Creatinine	µmol/l	350	Alkaline picrate no deproteinization
	mg/dl	3.96	
	µmol/l	363	Enzymatic UV method (340nm)
	mg/dl	4.10	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Creatinine	μmol/l	359	Creatinine PAP method
	mg/dl	4.05	
	μmol/l	348	Jaffe rate blanked
	mg/dl	3.93	
	μmol/l	376	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.25	
	μmol/l	365	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.13	
	μmol/l	355	IDMS traceable
	mg/dl	4.01	
D-3-Hydroxybutyrate	mmol/l	1.13	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	168	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	138	Gamma glutamyl-4-nitroanilide 37°C
	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	30	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.8	Glucose oxidase
	mg/dl	285	
Iron	μmol/l	37.3	Colorimetric with ppt.
	μg/dl	209	
	μmol/l	36.6	Colorimetric without ppt.
	μg/dl	205	
Lactate	mmol/l	5.32	Colorimetric Lactate Oxidase
	mg/dl	47.9	
LD (LDH)	U/l	331	L->P 37°C
	U/l	747	P->L Scandinavian & Dutch 37°C
	U/l	332	L->P IFCC 37°C
Lipase	U/l	63	Other Colorimetric 37°C
	U/l	56	Roche Colorimetric 37°C
	U/l	79	Randox Colorimetric 37°C
Lithium	mmol/l	1.93	Spectrophotometric
	mg/dl	1.34	
Magnesium	mmol/l	1.74	Xylidyl Blue
	mg/dl	4.23	
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	5.87	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	44.9	Biuret reaction kinetic
	g/dl	4.49	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman Coulter AU Series® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Sodium	mmol/l	158	ISE method - indirect
TIBC	μmol/l	57.9	FE+UIBC(saturation with iron)
	μg/dl	323	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
	mmol/l	2.82	L/G Kinase EP. no correction
	mg/dl	250	
UIBC	μmol/l	21.3	Direct Colorimetric
	μg/dl	119	
Urea	mmol/l	19.7	Urease end point
	mg/dl	118	
	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.592	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.95	
	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.579	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.73	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Purple
	g/dl	2.84	
Alkaline Phosphatase	U/l	334	AMP optimised to IFCC 37°C
	U/l	333	AMP non-optimised 37°C
ALT (GPT)	U/l	112	Tris buffer without P5P 37°C
	U/l	110	Tris buffer SCE 37°C
Amylase Total	U/l	291	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	296	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	120	Tris buffer without P5P 37°C
	U/l	123	Tris buffer SCE 37°C
Bicarbonate	mmol/l	18.5	Differential rate pH change
	mmol/l	18.7	Ion selective electrode
Bilirubin Direct	µmol/l	15.1	Diazo with Sulphanilic Acid
	mg/dl	0.883	
Bilirubin Total	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
Calcium	mmol/l	3.09	Ion selective electrode
	mg/dl	12.4	
	mmol/l	3.03	Arsenazo III
	mg/dl	12.1	
Chloride	mmol/l	114	ISE indirect
Cholesterol	mmol/l	6.85	Cholesterol Oxidase
	mg/dl	264	
CK Total	U/l	478	Monothioglycerol 37°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	350	Enzymatic UV method (340nm)
	mg/dl	3.96	
	µmol/l	355	Jaffe rate blanked
	mg/dl	4.02	
	µmol/l	363	IDMS traceable
	mg/dl	4.10	
gamma-GT	U/l	131	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Beckman CX4/5/7/9/LX20®/DxC600/800® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Iron	μmol/l	37.0	Colorimetric without ppt.
	μg/dl	207	
LD (LDH)	U/l	276	L->P 37°C
Magnesium	mmol/l	1.66	Calmagite
	mg/dl	4.03	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.89	ISE method - indirect
Protein Total	g/l	44.3	Biuret reaction CX4/5/7
	g/dl	4.43	
	g/l	45.1	Biuret reaction end point
	g/dl	4.51	
	g/l	43.4	Biuret reaction kinetic
	g/dl	4.34	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.89	L/G Kinase EP. no correction
	mg/dl	256	
Urea	mmol/l	19.9	Urease end point
	mg/dl	120	
	mmol/l	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.04	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A15 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

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	150	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 Direct	µmol/l	25.8	Diazo with Sulphanilic Acid
	mg/dl	1.51	
Bilirubin Total	µmol/l	86.8	Diazo with Sulphanilic Acid
	mg/dl	5.07	
Calcium	mmol/l	3.16	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	6.96	Cholesterol Oxidase
	mg/dl	269	
Creatinine	µmol/l	326	Alkaline picrate no deproteinization
	mg/dl	3.69	
Glucose	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Protein Total	g/l	45.2	Biuret reaction end point
	g/dl	4.52	
Triglycerides	mmol/l	2.79	Lipase/GPO-PAP no correction
	mg/dl	247	
Urea	mmol/l	17.4	Urease kinetic
	mg/dl	105	
	mmol/l	17.4	BUN
	mg/dl	48.8	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
Alkaline Phosphatase	U/l	307	AMP optimised to IFCC 37°C
	U/l	239	AMP optimised to IFCC 30°C
	U/l	196	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	135	Tris buffer without P5P 37°C
	U/l	100	Tris buffer without P5P 30°C
	U/l	76	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 Direct	µmol/l	29.1	Diazo with Sulphanilic Acid
	mg/dl	1.70	
Bilirubin Total	µmol/l	84.9	Diazo with Sulphanilic Acid
	mg/dl	4.97	
Calcium	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
Cholesterol	mmol/l	7.02	Cholesterol Oxidase
	mg/dl	271	
CK Total	U/l	510	CK-NAC (IFCC) 37°C
	U/l	319	CK-NAC (IFCC) 30°C
	U/l	217	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	330	Alkaline picrate no deproteinization
	mg/dl	3.73	
gamma-GT	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	15.6	Glucose oxidase
	mg/dl	281	
LD (LDH)	U/l	760	P->L Scandinavian & Dutch 37°C
	U/l	549	P->L Scandinavian & Dutch 30°C
	U/l	385	P->L Scandinavian & Dutch 25°C
	U/l	654	P->L German methods 37°C
	U/l	472	P->L German methods 30°C
	U/l	332	P->L German methods 25°C
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Protein Total	g/l	44.9	Biuret reaction end point
	g/dl	4.49	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

BIOSYSTEMS A25 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	2.80	Lipase/GPO-PAP no correction
	mg/dl	248	
Urea	mmol/l	17.7	Urease kinetic
	mg/dl	106	
	mmol/l	17.7	BUN
	mg/dl	49.7	
Uric Acid (Urate)	mmol/l	0.590	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.91	
	mmol/l	0.589	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.90	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Biotechnica/Wiener BT and CB Series Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.4	Bromocresol Green
	g/dl	2.94	
Alkaline Phosphatase	U/l	438	Diethanolamine buffer DEA 37°C
	U/l	341	Diethanolamine buffer DEA 30°C
	U/l	280	Diethanolamine buffer DEA 25°C
AST (GOT)	U/l	129	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
Calcium	mmol/l	3.03	Arsenazo III
	mg/dl	12.1	
Cholesterol	mmol/l	6.82	Cholesterol Oxidase
	mg/dl	263	
CK Total	U/l	461	CK-NAC (IFCC) 37°C
	U/l	289	CK-NAC (IFCC) 30°C
	U/l	196	CK-NAC (IFCC) 25°C
Creatinine	μmol/l	337	Alkaline picrate no deproteinization
	mg/dl	3.81	
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	μmol/l	38.8	Colorimetric without ppt.
	μg/dl	217	
LD (LDH)	U/l	648	P->L SFBC 37°C
	U/l	468	P->L SFBC 30°C
	U/l	329	P->L SFBC 25°C
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate UV
	mg/dl	7.47	
Protein Total	g/l	46.9	Biuret reaction end point
	g/dl	4.69	
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	
Urea	mmol/l	18.7	Urease kinetic
	mg/dl	112	
	mmol/l	18.7	BUN
	mg/dl	52.5	
Uric Acid (Urate)	mmol/l	0.545	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.16	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
	g/l	26.2	Turbidimetric Assays
	g/dl	2.62	
Alkaline Phosphatase	U/l	253	Roche Integra AMP buffer 37°C
	U/l	197	Roche Integra AMP buffer 30°C
	U/l	162	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	111	Tris buffer without P5P 37°C
	U/l	82	Tris buffer without P5P 30°C
	U/l	62	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	256	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	275	Roche Integra 2-chloro-pNPG7 37°C
	U/l	275	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	17.1	Enzymatic
Bilirubin Direct	µmol/l	28.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	
	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	µmol/l	28.3	Diazo with Dichloroaniline (DCA)
Bilirubin Total	mg/dl	1.66	
	µmol/l	78.5	Diazo with Dichloroaniline (DCA)
	mg/dl	4.59	
	µmol/l	77.9	Diazo with Sulphanilic Acid
	mg/dl	4.56	
	µmol/l	79.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.65	
	µmol/l	79.4	Diazonium ion
Calcium	mg/dl	4.65	
	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.17	NM-BAPTA
Chloride	mg/dl	12.7	
	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.92	Cholesterol Oxidase
	mg/dl	267	
CK Total	U/l	486	CK-NAC (IFCC) 37°C
	U/l	304	CK-NAC (IFCC) 30°C
	U/l	207	CK-NAC (IFCC) 25°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
CK Total	U/l	466	Creatinine phosphate substrate Start 37°C
	U/l	292	Creatinine phosphate substrate Start 30°C
	U/l	198	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	329	Alkaline picrate with deproteinization
	mg/dl	3.72	
	µmol/l	335	Alkaline picrate no deproteinization
	mg/dl	3.79	
	µmol/l	356	Enzymatic UV method (340nm)
	mg/dl	4.03	
	µmol/l	366	Roche Creatinine Plus
	mg/dl	4.13	
	µmol/l	349	Jaffe rate blanked
	mg/dl	3.94	
gamma-GT	µmol/l	346	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	3.91	
	µmol/l	360	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.07	
	U/l	146	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	115	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	90	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	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
Glucose	mmol/l	15.2	Glucose dehydrogenase
	mg/dl	274	
	mmol/l	15.4	Hexokinase
	mg/dl	278	
Iron	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
	µmol/l	36.4	Colorimetric with ppt.
	µg/dl	203	
Lactate	µmol/l	36.6	Colorimetric without ppt.
	µg/dl	205	
	mmol/l	5.61	Colorimetric Lactate Oxidase
	mg/dl	50.5	
LD (LDH)	U/l	632	P->L German methods 37°C
	U/l	456	P->L German methods 30°C
	U/l	320	P->L German methods 25°C
	U/l	345	L->P IFCC 37°C
	U/l	249	L->P IFCC 30°C
	U/l	175	L->P IFCC 25°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

COBAS INTEGRA® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Lipase	U/l	62	Roche Colorimetric 37°C
Lithium	mmol/l	2.03	Ion selective electrode
	mg/dl	1.41	
Magnesium	mmol/l	1.68	Chlorphosphonazo III
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.31	Phosphomolybdate enzymatic
	mg/dl	7.16	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	5.91	ISE method - indirect
Protein Total	g/l	43.4	Biuret reaction end point
	g/dl	4.34	
	g/l	43.4	Biuret reaction kinetic
	g/dl	4.34	
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	59.3	FE+UIBC(saturation with iron)
	µg/dl	331	
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	
	mmol/l	2.80	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	248	
	mmol/l	2.72	Lipase/Glycerol Dehydrogenase
	mg/dl	241	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.571	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	
	mmol/l	0.564	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	
	mmol/l	0.570	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.58	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Elitech/Vitalab Selectra Series Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	31.0	Bromocresol Green
	g/dl	3.10	
Alkaline Phosphatase	U/l	459	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
AST (GOT)	U/l	128	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	93.1	Diazo with Sulphanilic Acid
	mg/dl	5.44	
	µmol/l	84.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.95	
Calcium	mmol/l	3.10	Cresolphthalein complexone
	mg/dl	12.4	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	6.82	Cholesterol Oxidase
	mg/dl	263	
CK Total	U/l	471	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	338	Alkaline picrate no deproteinization
	mg/dl	3.82	
	µmol/l	336	Jaffe rate blanked
	mg/dl	3.80	
gamma-GT	U/l	169	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
LD (LDH)	U/l	342	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Protein Total	g/l	49.4	Biuret reaction end point
	g/dl	4.94	
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
Urea	mmol/l	18.8	Urease kinetic
	mg/dl	113	
	mmol/l	18.8	BUN
	mg/dl	52.8	
Uric Acid (Urate)	mmol/l	0.596	Uricase peroxidase no ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.568	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.54	

%

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Acid Phosphatase (non-prostatic)	U/l	12.3	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	9.23	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	22.2	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	39.1	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	34.5	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	48.3	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	231	Roche Integra AMP buffer 37°C
	U/l	180	Roche Integra AMP buffer 30°C
	U/l	148	Roche Integra AMP buffer 25°C
	U/l	331	Randox AMP 37°C
	U/l	258	Randox AMP 30°C
	U/l	212	Randox AMP 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	257	Roche liquid stable pNPG7 37°C
	U/l	283	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	266	Roche liquid stable pNPG7 37°C
	U/l	294	Randox liquid pNPG7 37°C
AST (GOT)	U/l	125	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.4	Enzymatic
Bile Acids	µmol/l	43.3	5th Generation Colorimetric
Bilirubin Direct	µmol/l	25.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.49	
	µmol/l	25.8	Diazo with Sulphanilic Acid
	mg/dl	1.51	
Bilirubin Total	µmol/l	82.2	Diazo with Sulphanilic Acid
	mg/dl	4.81	
	µmol/l	78.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.60	
	µmol/l	78.1	Diazonium ion
	mg/dl	4.57	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.16	NM-BAPTA
	mg/dl	12.7	

%

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	6.84	Cholesterol Oxidase
	mg/dl	264	
Cholinesterase	U/l	5120	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	484	CK-NAC substrate start (DGKC) 37°C
	U/l	303	CK-NAC substrate start (DGKC) 30°C
	U/l	206	CK-NAC substrate start (DGKC) 25°C
	U/l	451	CK-NAC (IFCC) 37°C
	U/l	282	CK-NAC (IFCC) 30°C
	U/l	192	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	360	Enzymatic UV method (340nm)
	mg/dl	4.07	
	µmol/l	367	Creatinine PAP method
	mg/dl	4.14	
	µmol/l	362	Roche Creatinine Plus
	mg/dl	4.09	
	µmol/l	378	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.27	
D-3-Hydroxybutyrate	mmol/l	1.09	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	160	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	174	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	34	Triethanolamine buffer 50 mmol 37°C
	U/l	26	Triethanolamine buffer 50 mmol 30°C
	U/l	21	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	35.9	Colorimetric without ppt.
	µg/dl	201	
Lactate	mmol/l	5.38	Colorimetric Lactate Oxidase
	mg/dl	48.5	
LD (LDH)	U/l	641	P->L German methods 37°C
	U/l	463	P->L German methods 30°C
	U/l	325	P->L German methods 25°C

%

CALIBRATION SERUM - LEVEL 3 (CAL 3)

HITACHI SERIES® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
LD (LDH)	U/l	328	L->P IFCC 37°C
	U/l	237	L->P IFCC 30°C
	U/l	166	L->P IFCC 25°C
Lipase	U/l	57	Roche Colorimetric 37°C
Magnesium	mmol/l	1.69	Xylidyl Blue
	mg/dl	4.11	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate UV
	mg/dl	6.82	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	44.7	Biuret reaction end point
	g/dl	4.47	
Sodium	mmol/l	162	ISE method - indirect
TIBC	µmol/l	54.5	FE+UIBC(saturation with iron)
	µg/dl	305	
Triglycerides	mmol/l	2.74	Lipase/GPO-PAP no correction
	mg/dl	242	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.565	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.49	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.556	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.34	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
Alkaline Phosphatase	U/l	347	AMP optimised to IFCC 37°C
	U/l	270	AMP optimised to IFCC 30°C
	U/l	222	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	109	Tris buffer without P5P 37°C
	U/l	81	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
Amylase Total	U/l	293	I.L. 2-chloro-pNPG3 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
Bile Acids	µmol/l	42.5	Enzymatic Colorimetric
Bilirubin Total	µmol/l	87.4	Diazo with Sulphanilic Acid
	mg/dl	5.11	
Calcium	mmol/l	3.26	Cresolphthalein complexone
	mg/dl	13.1	
Chloride	mmol/l	113	ISE indirect
Cholesterol	mmol/l	6.86	Cholesterol Oxidase
	mg/dl	265	
CK Total	U/l	444	CK-NAC (IFCC) 37°C
	U/l	278	CK-NAC (IFCC) 30°C
	U/l	189	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	328	Alkaline picrate no deproteinization
	mg/dl	3.71	
D-3-Hydroxybutyrate	mmol/l	1.15	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	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
Glucose	mmol/l	15.8	Hexokinase
	mg/dl	284	
	mmol/l	15.3	Glucose oxidase
Iron	mg/dl	276	Colorimetric without ppt.
	µmol/l	36.8	
Magnesium	µg/dl	206	Enzymatic
	mmol/l	1.78	
	mg/dl	4.33	
	mmol/l	1.78	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

ILab 600®/650®/Aries/Taurus Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	5.99	ISE method - indirect
Protein Total	g/l	45.9	Biuret reaction end point
	g/dl	4.59	
Sodium	mmol/l	162	ISE method - indirect
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.92	L/G Kinase EP. no correction
	mg/dl	258	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	20.1	BUN
	mg/dl	56.4	
Uric Acid (Urate)	mmol/l	0.584	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.81	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.6	Bromocresol Green
	g/dl	2.86	
Alkaline Phosphatase	U/l	507	Diethanolamine buffer DEA 37°C
	U/l	395	Diethanolamine buffer DEA 30°C
	U/l	324	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	124	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
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
Bile Acids	µmol/l	44.9	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	31.1	Diazo with Sulphanilic Acid
	mg/dl	1.82	
Bilirubin Total	µmol/l	86.3	Diazo with Sulphanilic Acid
	mg/dl	5.05	
	µmol/l	80.8	Nitrobenzenediazonium salt
	mg/dl	4.73	
Calcium	mmol/l	3.19	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	117	ISE direct
Cholesterol	mmol/l	6.66	Cholesterol Oxidase
	mg/dl	257	
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	356	Alkaline picrate no deproteinization
	mg/dl	4.02	
	µmol/l	348	Enzymatic UV method (340nm)
	mg/dl	3.93	
	µmol/l	366	Creatinine PAP method
	mg/dl	4.14	
gamma-GT	U/l	163	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	281	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Iron	µmol/l	36.1	Colorimetric without ppt.
	µg/dl	202	
LD (LDH)	U/l	694	P->L Scandinavian & Dutch 37°C
	U/l	501	P->L Scandinavian & Dutch 30°C
	U/l	352	P->L Scandinavian & Dutch 25°C
Magnesium	mmol/l	1.61	Xylidyl Blue
	mg/dl	3.91	
Phosphate Inorganic	mmol/l	2.32	Phosphomolybdate UV
	mg/dl	7.19	
Potassium	mmol/l	5.77	ISE method - direct
Protein Total	g/l	45.7	Biuret reaction end point
	g/dl	4.57	
Sodium	mmol/l	155	ISE method - direct
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction
	mg/dl	249	
Urea	mmol/l	18.2	Urease kinetic
	mg/dl	109	
	mmol/l	18.2	BUN
	mg/dl	51.1	
Uric Acid (Urate)	mmol/l	0.596	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.0	
	mmol/l	0.573	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.63	
	mmol/l	0.590	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.91	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
a-HBDH	U/l	419	Oxobutyrate < 10 mmol/l 37°C
	U/l	316	Oxobutyrate < 10 mmol/l 30°C
	U/l	237	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (non-prostatic)	U/l	12.3	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	9.23	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	22.2	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	39.1	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	34.5	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	48.3	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
	g/l	27.2	Bromocresol Purple
	g/dl	2.72	
	g/l	26.3	Turbidimetric Assays
	g/dl	2.63	
Alkaline Phosphatase	U/l	475	Diethanolamine buffer DEA 37°C
	U/l	370	Diethanolamine buffer DEA 30°C
	U/l	304	Diethanolamine buffer DEA 25°C
	U/l	326	AMP optimised to IFCC 37°C
	U/l	254	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	113	Colorimetric 37°C
	U/l	84	Colorimetric 30°C
	U/l	64	Colorimetric 25°C
	U/l	144	Tris buffer with P5P 37°C
	U/l	107	Tris buffer with P5P 30°C
	U/l	81	Tris buffer with P5P 25°C
	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
	U/l	110	Tris buffer SCE 37°C
	U/l	81	Tris buffer SCE 30°C
	U/l	62	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	255	Immunoinhibition EPS substrate 37°C
	U/l	283	Randox Liquid Ethylidene pNPG7 37°C
	U/l	249	Roche liquid stable pNPG7 37°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Amylase Total	U/l	279	pNP Maltotrioxide substrates 37°C
	U/l	280	Siemens - blocked pNPG7 37°C
	U/l	272	Biotrol - blocked pNPG7 37°C
	U/l	228	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	309	Randox Liquid Ethylidene pNPG7 37°C
	U/l	265	BM/Roche Colorimetric pNPG7 37°C
	U/l	287	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	330	Siemens - maltopenta/hexaoside 37°C
	U/l	265	Saccharogenic 37°C
	U/l	272	Roche Integra 2-chloro-pNPG7 37°C
	U/l	265	Other Roche 2-chloro-pNPG7 37°C
	U/l	269	Roche liquid stable pNPG7 37°C
	U/l	337	Siemens 2-chloro-pNPG3 37°C
	U/l	282	bioMerieux 2-chloro-pNPG3 37°C
	U/l	282	Beckman Coulter - blocked pNPG7 37°C
	U/l	296	Beckman Synchron AMY7 37°C
	U/l	299	I.L. 2-chloro-pNPG3 37°C
	U/l	313	Abbott Architect Non-IFCC Cal. 37°C
	U/l	342	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	122	Colorimetric 37°C
	U/l	82	Colorimetric 30°C
	U/l	58	Colorimetric 25°C
	U/l	202	Tris buffer with P5P 37°C
	U/l	137	Tris buffer with P5P 30°C
	U/l	96	Tris buffer with P5P 25°C
	U/l	128	Tris buffer without P5P 37°C
	U/l	87	Tris buffer without P5P 30°C
	U/l	61	Tris buffer without P5P 25°C
	U/l	123	Tris buffer SCE 37°C
	U/l	83	Tris buffer SCE 30°C
	U/l	59	Tris buffer SCE 25°C
Bicarbonate	mmol/l	18.5	Colorimetric
	mmol/l	18.5	Differential rate pH change
	mmol/l	18.3	Enzymatic
	mmol/l	19.0	Ion selective electrode
Bile Acids	µmol/l	43.3	5th Generation Colorimetric
	µmol/l	42.4	4th Generation Colorimetric
Bilirubin Direct	µmol/l	26.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.54	
	µmol/l	26.6	Diazo with Sulphanilic Acid
	mg/dl	1.56	
	µmol/l	26.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.55	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Bilirubin Direct	μmol/l	28.4	Oxidation to Biliverdin/Vanadate
	mg/dl	1.66	
	μmol/l	29.0	Modified Jendrassik
	mg/dl	1.70	
Bilirubin Total	μmol/l	93.6	Diazo with Dichloroaniline (DCA)
	mg/dl	5.48	
	μmol/l	84.0	Diazo with Sulphanilic Acid
	mg/dl	4.91	
	μmol/l	94.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.50	
	μmol/l	81.4	Nitrobenzenediazonium salt
	mg/dl	4.76	
	μmol/l	79.4	Diazonium ion
	mg/dl	4.64	
Calcium	μmol/l	91.0	Oxidation to Biliverdin/Vanadate
	mg/dl	5.32	
	μmol/l	96.4	Modified Jendrassik
	mg/dl	5.64	
	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
	mmol/l	3.09	Ion selective electrode
	mg/dl	12.4	
	mmol/l	3.07	Methylthymol blue
	mg/dl	12.3	
Chloride	mmol/l	3.14	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.19	NM-BAPTA
	mg/dl	12.8	
	mmol/l	113	Colorimetric
	mmol/l	114	ISE indirect
Cholesterol	mmol/l	116	ISE direct
	mmol/l	6.89	Cholesterol Oxidase
	mg/dl	266	
Cholinesterase	U/l	4938	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	491	CK-NAC serum start (DGKC) 37°C
	U/l	307	CK-NAC serum start (DGKC) 30°C
	U/l	209	CK-NAC serum start (DGKC) 25°C
	U/l	472	CK-NAC substrate start (DGKC) 37°C
	U/l	295	CK-NAC substrate start (DGKC) 30°C
	U/l	201	CK-NAC substrate start (DGKC) 25°C
	U/l	478	CK-NAC (IFCC) 37°C
	U/l	299	CK-NAC (IFCC) 30°C
	U/l	203	CK-NAC (IFCC) 25°C
	U/l		

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
CK Total	U/l	478	Monothioglycerol 37°C
	U/l	299	Monothioglycerol 30°C
	U/l	203	Monothioglycerol 25°C
	U/l	452	Dithioerythritol 37°C
	U/l	283	Dithioerythritol 30°C
	U/l	192	Dithioerythritol 25°C
	U/l	433	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	271	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	184	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	26.6	Atomic absorption
	µg/dl	169	
	µmol/l	26.5	Colorimetric
	µg/dl	169	
Creatinine	µmol/l	334	Alkaline picrate with deproteinization
	mg/dl	3.77	
	µmol/l	344	Alkaline picrate no deproteinization
	mg/dl	3.89	
	µmol/l	360	Enzymatic UV method (340nm)
	mg/dl	4.07	
	µmol/l	361	Creatinine PAP method
	mg/dl	4.08	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.15	
	µmol/l	356	Jaffe rate blanked
	mg/dl	4.02	
D-3-Hydroxybutyrate	µmol/l	380	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	
	µmol/l	362	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.09	
	µmol/l	358	IDMS traceable
	mg/dl	4.05	
D-3-Hydroxybutyrate	mmol/l	1.10	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	132	Gamma glutamyl-4-nitroanilide 37°C
	U/l	104	Gamma glutamyl-4-nitroanilide 30°C
	U/l	81	Gamma glutamyl-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	174	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	137	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	107	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
GLDH	U/l	30	Triethanolamine buffer 50 mmol 37°C
	U/l	23	Triethanolamine buffer 50 mmol 30°C
	U/l	19	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.4	Glucose dehydrogenase
	mg/dl	278	
	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.0	Oxygen electrode
	mg/dl	270	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	36.3	Colorimetric with ppt.
	µg/dl	203	
	µmol/l	36.5	Colorimetric without ppt.
	µg/dl	204	
Lactate	mmol/l	5.39	Colorimetric Lactate Oxidase
	mg/dl	48.6	
	mmol/l	5.37	Enzymatic Electrode
	mg/dl	48.4	
	mmol/l	5.20	UV LDH
	mg/dl	46.9	
LAP	U/l	15	NAGEL 37°C
LD (LDH)	U/l	312	L->P 37°C
	U/l	225	L->P 30°C
	U/l	158	L->P 25°C
	U/l	736	P->L Scandinavian & Dutch 37°C
	U/l	531	P->L Scandinavian & Dutch 30°C
	U/l	373	P->L Scandinavian & Dutch 25°C
	U/l	652	P->L German methods 37°C
	U/l	471	P->L German methods 30°C
	U/l	331	P->L German methods 25°C
	U/l	651	P->L SFBC 37°C
	U/l	470	P->L SFBC 30°C
	U/l	330	P->L SFBC 25°C
	U/l	335	L->P IFCC 37°C
	U/l	242	L->P IFCC 30°C
	U/l	170	L->P IFCC 25°C
Lipase	U/l	62	Other Colorimetric 37°C
	U/l	55	Roche Colorimetric 37°C
	U/l	79	Randox Colorimetric 37°C
Lithium	mmol/l	2.04	Ion selective electrode
	mg/dl	1.42	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Lithium	mmol/l	1.97	Spectrophotometric
	mg/dl	1.37	
	mmol/l	1.99	Randox Colorimetric
	mg/dl	1.38	
Magnesium	mmol/l	1.70	Arsenazo III
	mg/dl	4.13	
	mmol/l	1.66	Calmagite
	mg/dl	4.03	
	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.70	Methylthymol blue
	mg/dl	4.13	
	mmol/l	1.70	Chlorphosphonazo III
	mg/dl	4.13	
Osmolality	mmol/l	1.70	Enzymatic
	mg/dl	4.13	
Osmolality	mOsm/kg	341	Calculated
	mOsm/kg	379	Freezing point depression
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate enzymatic
	mg/dl	6.94	
	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Potassium	mmol/l	5.95	Enzymatic
	mmol/l	5.87	Flame photometry
	mmol/l	5.90	ISE method - direct
	mmol/l	5.94	ISE method - indirect
	mmol/l	5.75	Colorimetric
Protein Total	g/l	45.4	Biuret reaction end point
	g/dl	4.54	
	g/l	44.6	Biuret reaction kinetic
	g/dl	4.46	
Sodium	mmol/l	159	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	158	ISE method - direct
	mmol/l	159	ISE method - indirect
TIBC	μmol/l	52.9	Removal of excess free iron
	μg/dl	296	
	μmol/l	57.8	FE+UIBC(saturation with iron)
	μg/dl	323	
	μmol/l	53.3	Direct Colorimetric
	μg/dl	298	
	μmol/l	42.4	Calculated from Transferrin
	μg/dl	237	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MEAN OF ALL INSTRUMENTS Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
TIBC	μmol/l	58.4	Randox Direct
	μg/dl	327	
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
	mmol/l	2.77	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	245	
	mmol/l	2.79	L/G Kinase EP. no correction
	mg/dl	247	
	mmol/l	2.73	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	242	
	mmol/l	2.78	Lipase/Glycerol Dehydrogenase
	mg/dl	246	
UIBC	μmol/l	21.1	Direct Colorimetric
	μg/dl	118	
Urea	mmol/l	18.6	Urease end point
	mg/dl	112	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	18.3	Urease hypochlorite
	mg/dl	110	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	
	mmol/l	0.570	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.553	Spectrophotometric at 280-290
	mg/dl	9.29	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	
Zinc	μmol/l	34.9	Colorimetric with deproteinisation
	μg/dl	228	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
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	131	Colorimetric 37°C
	U/l	97	Colorimetric 30°C
	U/l	74	Colorimetric 25°C
	U/l	124	Tris buffer without P5P 37°C
	U/l	92	Tris buffer without P5P 30°C
	U/l	70	Tris buffer without P5P 25°C
Amylase Total	U/l	283	pNP Maltotrioxide substrates 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
Bilirubin Total	µmol/l	90.2	Diazo with Sulphanilic Acid
	mg/dl	5.28	
	µmol/l	88.2	Oxidation to Biliverdin/Vanadate
	mg/dl	5.16	
Calcium	mmol/l	3.14	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.16	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	6.86	Cholesterol Oxidase
	mg/dl	265	
CK Total	U/l	483	CK-NAC (IFCC) 37°C
	U/l	302	CK-NAC (IFCC) 30°C
	U/l	205	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	336	Alkaline picrate with deproteinization
	mg/dl	3.80	
	µmol/l	334	Alkaline picrate no deproteinization
	mg/dl	3.78	
	µmol/l	358	Enzymatic UV method (340nm)
	mg/dl	4.04	
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	15.6	Hexokinase
	mg/dl	281	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

MINDRAY BS-200/300/400 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Glucose	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	35.6	Colorimetric without ppt.
	µg/dl	199	
LD (LDH)	U/l	645	P->L SFBC 37°C
	U/l	466	P->L SFBC 30°C
	U/l	327	P->L SFBC 25°C
	U/l	335	L->P IFCC 37°C
	U/l	242	L->P IFCC 30°C
	U/l	170	L->P IFCC 25°C
Magnesium	mmol/l	1.65	Xylidyl Blue
	mg/dl	4.01	
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate enzymatic
	mg/dl	6.67	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.03	ISE method - direct
Protein Total	g/l	47.2	Biuret reaction end point
	g/dl	4.72	
	g/l	44.9	Biuret reaction kinetic
	g/dl	4.49	
Sodium	mmol/l	159	ISE method - direct
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.67	L/G Kinase EP. no correction
	mg/dl	236	
Urea	mmol/l	19.3	Urease end point
	mg/dl	116	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	17.9	Urease hypochlorite
	mg/dl	108	
	mmol/l	19.2	BUN
	mg/dl	53.9	
Uric Acid (Urate)	mmol/l	0.573	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.63	
	mmol/l	0.586	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

PRESTIGE 24i Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.1	Bromocresol Green
	g/dl	2.81	
Alkaline Phosphatase	U/l	410	Diethanolamine buffer DEA 37°C
	U/l	319	Diethanolamine buffer DEA 30°C
	U/l	262	Diethanolamine buffer DEA 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
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	24.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.42	
Bilirubin Total	µmol/l	82.8	Diazo with Dichloroaniline (DCA)
	mg/dl	4.84	
Calcium	mmol/l	3.08	Arsenazo III
	mg/dl	12.3	
Cholesterol	mmol/l	7.01	Cholesterol Oxidase
	mg/dl	271	
CK Total	U/l	479	CK-NAC (IFCC) 37°C
	U/l	300	CK-NAC (IFCC) 30°C
	U/l	204	CK-NAC (IFCC) 25°C
Glucose	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
Triglycerides	mmol/l	2.74	Lipase/GPO-PAP no correction
	mg/dl	242	
Urea	mmol/l	20.1	Urease kinetic
	mg/dl	121	
	mmol/l	20.1	BUN
Uric Acid (Urate)	mmol/l	0.568	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.54	
	mmol/l	0.550	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
	g/l	26.7	Bromocresol Purple
	g/dl	2.67	
	g/l	26.2	Turbidimetric Assays
	g/dl	2.62	
Alkaline Phosphatase	U/l	249	Roche Integra AMP buffer 37°C
	U/l	194	Roche Integra AMP buffer 30°C
	U/l	159	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	113	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	244	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	265	Roche Integra 2-chloro-pNPG7 37°C
	U/l	265	Other Roche 2-chloro-pNPG7 37°C
	U/l	267	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	125	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.6	Colorimetric
	mmol/l	18.0	Enzymatic
Bile Acids	µmol/l	43.7	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	
	µmol/l	27.6	Diazo with Sulphanilic Acid
	mg/dl	1.62	
	µmol/l	28.0	Roche JG factored
	mg/dl	1.64	
Bilirubin Total	µmol/l	77.9	Diazo with Sulphanilic Acid
	mg/dl	4.55	
	µmol/l	78.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.61	
	µmol/l	78.7	Diazonium ion
	mg/dl	4.61	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.19	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	111	ISE indirect

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	6.83	Cholesterol Oxidase
	mg/dl	264	
Cholinesterase	U/l	4930	Colorimetric Butyrylthiocholine 37°C
CK Total	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	477	CK-NAC (IFCC) 37°C
	U/l	299	CK-NAC (IFCC) 30°C
	U/l	203	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	µmol/l	365	Enzymatic UV method (340nm)
	mg/dl	4.12	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.14	
	µmol/l	365	Jaffe rate blanked
	mg/dl	4.12	
D-3-Hydroxybutyrate	µmol/l	383	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.33	
	µmol/l	373	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.21	
gamma-GT	mmol/l	1.10	Tris buffer 100mmol pH 8.5
GLDH	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	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	U/l	28	Triethanolamine buffer 50 mmol 37°C
	U/l	22	Triethanolamine buffer 50 mmol 30°C
	U/l	17	Triethanolamine buffer 50 mmol 25°C
Iron	mmol/l	14.9	Glucose dehydrogenase
	mg/dl	268	
	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Lactate	µmol/l	35.6	Colorimetric with ppt.
	µg/dl	199	
	µmol/l	36.4	Colorimetric without ppt.
	µg/dl	203	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
LD (LDH)	U/l	644	P->L German methods 37°C
	U/l	465	P->L German methods 30°C
	U/l	327	P->L German methods 25°C
	U/l	333	L->P IFCC 37°C
	U/l	240	L->P IFCC 30°C
	U/l	169	L->P IFCC 25°C
Lipase	U/l	54	Roche Colorimetric 37°C
	U/l	53	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.99	Spectrophotometric
	mg/dl	1.38	
Magnesium	mmol/l	1.72	Xylidyl Blue
	mg/dl	4.18	
	mmol/l	1.71	Chlorphosphonazo III
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.20	Phosphomolybdate enzymatic
	mg/dl	6.82	
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	
Potassium	mmol/l	5.99	ISE method - indirect
Protein Total	g/l	44.7	Biuret reaction end point
	g/dl	4.47	
	g/l	44.3	Biuret reaction kinetic
	g/dl	4.43	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	56.6	FE+UIBC(saturation with iron)
	µg/dl	316	
	µmol/l	43.6	Calculated from Transferrin
	µg/dl	244	
Triglycerides	mmol/l	2.75	Lipase/GPO-PAP no correction
	mg/dl	243	
	mmol/l	2.64	Lipase/GPO-PAP 0.11 mmol/l correction
	mg/dl	234	
	mmol/l	2.76	L/G Kinase EP. no correction
	mg/dl	244	
	mmol/l	2.73	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	242	
UIBC	µmol/l	20.3	Direct Colorimetric
	µg/dl	113	
Urea	mmol/l	19.2	Urease end point
	mg/dl	115	
	mmol/l	19.2	Urease kinetic
	mg/dl	115	
	mmol/l	19.2	BUN
	mg/dl	53.9	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas 6000 c501 e601 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.555	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	
	mmol/l	0.556	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	
	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
Alkaline Phosphatase	U/l	251	Roche Integra AMP buffer 37°C
	U/l	196	Roche Integra AMP buffer 30°C
	U/l	160	Roche Integra AMP buffer 25°C
	U/l	277	AMP optimised to IFCC 37°C
	U/l	216	AMP optimised to IFCC 30°C
	U/l	177	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	114	Colorimetric 37°C
	U/l	84	Colorimetric 30°C
	U/l	64	Colorimetric 25°C
	U/l	112	Tris buffer without P5P 37°C
	U/l	83	Tris buffer without P5P 30°C
	U/l	63	Tris buffer without P5P 25°C
Amylase Total	U/l	276	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	129	Colorimetric 37°C
	U/l	87	Colorimetric 30°C
	U/l	61	Colorimetric 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
Bicarbonate	mmol/l	17.5	Enzymatic
Bilirubin Direct	µmol/l	28.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.66	
	µmol/l	28.2	Diazo with Sulphanilic Acid
	mg/dl	1.65	
	µmol/l	31.1	Roche JG factored
	mg/dl	1.82	
Bilirubin Total	µmol/l	80.2	Diazo with Sulphanilic Acid
	mg/dl	4.69	
	µmol/l	78.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.58	
	µmol/l	78.6	Diazonium ion
	mg/dl	4.60	
Calcium	mmol/l	3.15	Cresolphthalein complexone
	mg/dl	12.6	
	mmol/l	3.15	Arsenazo III
	mg/dl	12.6	
	mmol/l	3.18	NM-BAPTA
	mg/dl	12.7	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.03	Cholesterol Oxidase
	mg/dl	271	
CK Total	U/l	491	CK-NAC (IFCC) 37°C
	U/l	307	CK-NAC (IFCC) 30°C
	U/l	209	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	332	Alkaline picrate no deproteinization
	mg/dl	3.76	
	µmol/l	362	Roche Creatinine Plus
	mg/dl	4.09	
gamma-GT	µmol/l	352	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.98	
	U/l	164	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	129	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	163	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	U/l	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	15.6	Hexokinase
	mg/dl	280	
Iron	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
LD (LDH)	µmol/l	36.7	Colorimetric without ppt.
	µg/dl	205	
LD (LDH)	U/l	352	L->P IFCC 37°C
	U/l	254	L->P IFCC 30°C
	U/l	178	L->P IFCC 25°C
Magnesium	mmol/l	1.68	Chlorphosphonazo III
	mg/dl	4.08	
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	5.83	ISE method - indirect
Protein Total	g/l	45.5	Biuret reaction end point
	g/dl	4.55	
Sodium	mmol/l	156	ISE method - indirect
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	mg/dl	241	
	mmol/l	2.76	Lipase/GPO-PAP 0.11mmol/l correction
Urea	mg/dl	244	
	mmol/l	18.3	Urease end point
	mg/dl	110	
Urea	mmol/l	18.5	Urease kinetic
	mg/dl	111	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C111® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Urea	mmol/l	18.1	Urease hypochlorite
	mg/dl	109	
	mmol/l	18.5	BUN
	mg/dl	51.9	
Uric Acid (Urate)	mmol/l	0.560	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.41	
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	
	mmol/l	0.553	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.29	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
	g/l	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/l	248	Roche Integra AMP buffer 37°C
	U/l	193	Roche Integra AMP buffer 30°C
	U/l	158	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	113	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	245	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	270	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.7	Enzymatic
Bilirubin Direct	µmol/l	27.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	
	µmol/l	26.7	Diazo with Sulphanilic Acid
	mg/dl	1.56	
	µmol/l	27.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.59	
Bilirubin Total	µmol/l	79.4	Diazo with Sulphanilic Acid
	mg/dl	4.64	
	µmol/l	79.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.63	
	µmol/l	79.7	Diazonium ion
	mg/dl	4.66	
Calcium	mmol/l	3.23	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.27	Arsenazo III
	mg/dl	13.1	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	6.89	Cholesterol Oxidase
	mg/dl	266	
CK Total	U/l	484	CK-NAC (IFCC) 37°C
	U/l	303	CK-NAC (IFCC) 30°C
	U/l	206	CK-NAC (IFCC) 25°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Creatinine	µmol/l	360	Alkaline picrate no deproteinization
	mg/dl	4.07	
	µmol/l	369	Enzymatic UV method (340nm)
	mg/dl	4.17	
	µmol/l	372	Roche Creatinine Plus
	mg/dl	4.20	
	µmol/l	371	Jaffe rate blanked
	mg/dl	4.19	
	µmol/l	384	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.34	
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	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
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	278	
	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	35.7	Colorimetric without ppt.
	µg/dl	199	
Lactate	mmol/l	5.49	Colorimetric Lactate Oxidase
	mg/dl	49.5	
LD (LDH)	U/l	644	P->L German methods 37°C
	U/l	465	P->L German methods 30°C
	U/l	327	P->L German methods 25°C
	U/l	334	L->P IFCC 37°C
	U/l	241	L->P IFCC 30°C
	U/l	169	L->P IFCC 25°C
Lipase	U/l	55	Roche Colorimetric 37°C
Magnesium	mmol/l	1.73	Xylidyl Blue
	mg/dl	4.20	
	mmol/l	1.72	Chlorphosphonazo III
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	45.0	Biuret reaction end point
	g/dl	4.50	
	g/l	44.4	Biuret reaction kinetic
	g/dl	4.44	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas C311® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Sodium	mmol/l	161	ISE method - indirect
Triglycerides	mmol/l	2.72	Lipase/GPO-PAP no correction
	mg/dl	241	
Urea	mmol/l	19.4	Urease kinetic
	mg/dl	117	
	mmol/l	19.4	BUN
	mg/dl	54.4	
Uric Acid (Urate)	mmol/l	0.565	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.49	
	mmol/l	0.561	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.42	
	mmol/l	0.562	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.44	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.7	Bromocresol Green
	g/dl	2.97	
Alkaline Phosphatase	U/l	231	Roche Integra AMP buffer 37°C
	U/l	180	Roche Integra AMP buffer 30°C
	U/l	148	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	114	Tris buffer without P5P 37°C
	U/l	84	Tris buffer without P5P 30°C
	U/l	64	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	246	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	268	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	126	Tris buffer without P5P 37°C
	U/l	85	Tris buffer without P5P 30°C
	U/l	60	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	18.4	Enzymatic
Bilirubin Direct	µmol/l	28.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.69	
Bilirubin Total	µmol/l	77.9	Diazo with Sulphanilic Acid
	mg/dl	4.56	
	µmol/l	77.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.54	
	µmol/l	77.8	Diazonium ion
	mg/dl	4.55	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.17	NM-BAPTA
	mg/dl	12.7	
Chloride	mmol/l	112	ISE indirect
Cholesterol	mmol/l	6.81	Cholesterol Oxidase
	mg/dl	263	
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	370	Roche Creatinine Plus
	mg/dl	4.18	
	µmol/l	383	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.33	
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

CALIBRATION SERUM - LEVEL 3 (CAL 3)

Roche Cobas c701 / c702 / c711 Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
gamma-GT	U/l	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	129	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	275	
Iron	µmol/l	35.4	Colorimetric without ppt.
	µg/dl	198	
Lactate	mmol/l	5.33	Colorimetric Lactate Oxidase
	mg/dl	48.0	
LD (LDH)	U/l	337	L->P IFCC 37°C
	U/l	243	L->P IFCC 30°C
	U/l	171	L->P IFCC 25°C
Lipase	U/l	53	Roche Colorimetric 37°C
Lithium	mmol/l	2.01	Spectrophotometric
	mg/dl	1.40	
Magnesium	mmol/l	1.70	Xylidyl Blue
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	
Potassium	mmol/l	6.00	ISE method - indirect
Protein Total	g/l	44.5	Biuret reaction end point
	g/dl	4.45	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	57.7	FE+UIBC(saturation with iron)
	µg/dl	323	
Triglycerides	mmol/l	2.77	Lipase/GPO-PAP no correction
	mg/dl	245	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	
	mmol/l	0.558	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	
	mmol/l	0.549	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.22	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/l	505	Diethanolamine buffer DEA 37°C
	U/l	331	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	130	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	283	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	293	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	139	Tris buffer without P5P 37°C
Bile Acids	µmol/l	43.3	5th Generation Colorimetric
Bilirubin Direct	µmol/l	28.7	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	29.9	Oxidation to Biliverdin/Vanadate
	mg/dl	1.75	
Bilirubin Total	µmol/l	88.0	Diazo with Sulphanilic Acid
	mg/dl	5.15	
	µmol/l	92.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.41	
Calcium	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Cholesterol	mmol/l	7.04	Cholesterol Oxidase
	mg/dl	272	
CK Total	U/l	470	CK-NAC substrate start (DGKC) 37°C
	U/l	514	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	311	Alkaline picrate no deproteinization
	mg/dl	3.51	
	µmol/l	362	Enzymatic UV method (340nm)
	mg/dl	4.09	
gamma-GT	U/l	174	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	
Iron	µmol/l	38.4	Colorimetric without ppt.
	µg/dl	215	
Lactate	mmol/l	5.22	Colorimetric Lactate Oxidase
	mg/dl	47.0	
LD (LDH)	U/l	665	P->L German methods 37°C
	U/l	340	L->P IFCC 37°C
Lipase	U/l	85	Randox Colorimetric 37°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

RX SERIES® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Lithium	mmol/l	1.99	Colorimetric
	mg/dl	1.38	
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate UV
	mg/dl	7.01	
Potassium	mmol/l	5.95	Enzymatic
Protein Total	g/l	46.5	Biuret reaction end point
	g/dl	4.65	
Sodium	mmol/l	160	Enzymatic
TIBC	μmol/l	58.4	Direct Colorimetric
	μg/dl	326	
Triglycerides	mmol/l	2.71	Lipase/GPO-PAP no correction
	mg/dl	240	
Urea	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	20.0	BUN
	mg/dl	56.1	
Uric Acid (Urate)	mmol/l	0.570	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.58	
	mmol/l	0.579	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.73	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	28.4	Bromocresol Green
	g/dl	2.84	
	g/l	26.6	Bromocresol Purple
	g/dl	2.66	
Alkaline Phosphatase	U/l	283	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	122	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	247	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	279	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	133	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	20.9	Enzymatic
Bile Acids	µmol/l	44.4	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	25.8	Oxidation to Biliverdin/Vanadate
	mg/dl	1.51	
Bilirubin Total	µmol/l	90.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.30	
Calcium	mmol/l	3.23	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.13	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	7.06	Cholesterol Oxidase
	mg/dl	273	
Cholinesterase	U/l	5492	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	466	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	365	Enzymatic UV method (340nm)
	mg/dl	4.12	
	µmol/l	339	Jaffe rate blanked
	mg/dl	3.83	
	µmol/l	373	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.21	
gamma-GT	U/l	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.1	Hexokinase
	mg/dl	273	
	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	37.2	Colorimetric without ppt.
	µg/dl	208	
Lactate	mmol/l	5.43	Colorimetric Lactate Oxidase
	mg/dl	48.9	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS ADVIA 1200/1650/1800/2400® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
LD (LDH)	U/l	313	L->P 37°C
	U/l	650	P->L German methods 37°C
	U/l	341	L->P IFCC 37°C
Lipase	U/l	75	Other Colorimetric 37°C
Lithium	mmol/l	1.96	Spectrophotometric
	mg/dl	1.36	
Magnesium	mmol/l	1.71	Xylidyl Blue
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	5.96	ISE method - indirect
Protein Total	g/l	46.7	Biuret reaction end point
	g/dl	4.67	
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	56.3	Direct Colorimetric
	µg/dl	315	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.81	L/G Kinase EP. no correction
	mg/dl	249	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.46	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	26.9	Bromocresol Purple
	g/dl	2.69	
Alkaline Phosphatase	U/l	279	Siemens Dimension AMP buffer 37°C
	U/l	277	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	125	Tris buffer with P5P 37°C
	U/l	129	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	339	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	171	Tris buffer with P5P 37°C
	U/l	173	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	19.1	Enzymatic
Bilirubin Direct	µmol/l	16.1	Diazo with Sulphanilic Acid
	mg/dl	0.942	
Bilirubin Total	µmol/l	82.0	Diazo with Sulphanilic Acid
	mg/dl	4.80	
Calcium	mmol/l	3.06	Cresolphthalein complexone
	mg/dl	12.3	
Chloride	mmol/l	115	ISE indirect
Cholesterol	mmol/l	6.44	Dimension-Siemens reagents
	mg/dl	249	
CK Total	U/l	450	CK-NAC (IFCC) 37°C
	U/l	433	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	362	Alkaline picrate no deproteinization
	mg/dl	4.09	
gamma-GT	U/l	173	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
Iron	µmol/l	35.4	Colorimetric without ppt.
	µg/dl	198	
Lactate	mmol/l	5.32	UV LDH
	mg/dl	47.9	
LD (LDH)	U/l	320	Siemens Dimension L-P Non IFCC 37°C
	U/l	314	L->P IFCC 37°C
Lipase	U/l	245	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.69	Methylthymol blue
	mg/dl	4.11	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	5.90	ISE method - indirect
Protein Total	g/l	46.3	Biuret reaction end point
	g/dl	4.63	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION EXL® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Sodium	mmol/l	160	ISE method - indirect
TIBC	µmol/l	49.7	Removal of excess free iron
	µg/dl	278	
Triglycerides	mmol/l	2.76	Lipase/GPO-PAP no correction
	mg/dl	244	
	mmol/l	2.76	L/G Kinase EP. no correction
	mg/dl	244	
Urea	mmol/l	19.3	Urease kinetic
	mg/dl	116	
	mmol/l	19.3	BUN
	mg/dl	54.2	
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	
	mmol/l	0.552	Spectrophotometric at 280-290
	mg/dl	9.27	

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Albumin	g/l	29.1	Bromocresol Green
	g/dl	2.91	
	g/l	26.8	Bromocresol Purple
	g/dl	2.68	
Alkaline Phosphatase	U/l	281	Siemens Dimension AMP buffer 37°C
	U/l	277	AMP optimised to IFCC 37°C
	U/l	281	Randox AMP 37°C
ALT (GPT)	U/l	126	Tris buffer with P5P 37°C
	U/l	127	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	337	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	174	Tris buffer with P5P 37°C
	U/l	174	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	20.4	Enzymatic
Bilirubin Direct	µmol/l	16.1	Diazo with Sulphanilic Acid
	mg/dl	0.942	
Bilirubin Total	µmol/l	84.0	Diazo with Sulphanilic Acid
	mg/dl	4.92	
Calcium	mmol/l	3.12	Cresolphthalein complexone
	mg/dl	12.5	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.46	Dimension-Siemens reagents
	mg/dl	249	
CK Total	U/l	446	CK-NAC (IFCC) 37°C
	U/l	451	Dithioerythritol 37°C
Creatinine	µmol/l	361	Alkaline picrate no deproteinization
	mg/dl	4.08	
	µmol/l	355	Enzymatic UV method (340nm)
	mg/dl	4.01	
	µmol/l	365	Jaffe rate blanked
	mg/dl	4.13	
gamma-GT	U/l	181	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	201	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.3	Hexokinase
	mg/dl	276	
Iron	µmol/l	35.1	Colorimetric without ppt.
	µg/dl	196	
LD (LDH)	U/l	318	Siemens Dimension L-P Non IFCC 37°C
	U/l	318	L->P IFCC 37°C
Lipase	U/l	243	Colorimetric Siemens Dimension (LIPL Kit) 37°C

CALIBRATION SERUM - LEVEL 3 (CAL 3)

SIEMENS DIMENSION RxL/Max/Xpand® Lot No. 876UE Cat. No. CAL2351

Size 20 x 5ml Expiry 2018-12-28

Analyte	unit	Target	methods
Magnesium	mmol/l	1.70	Methylthymol blue
	mg/dl	4.13	
Phosphate Inorganic	mmol/l	2.30	Phosphomolybdate enzymatic
	mg/dl	7.13	
	mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	
Potassium	mmol/l	5.90	ISE method - indirect
Protein Total	g/l	46.6	Biuret reaction end point
	g/dl	4.66	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.78	Lipase/GPO-PAP no correction
	mg/dl	246	
	mmol/l	2.78	L/G Kinase EP. no correction
	mg/dl	246	
	mmol/l	2.78	Lipase/Glycerol Dehydrogenase
	mg/dl	246	
Urea	mmol/l	19.5	Urease end point
	mg/dl	117	
	mmol/l	19.5	Urease kinetic
	mg/dl	117	
	mmol/l	19.5	BUN
	mg/dl	54.7	
Uric Acid (Urate)	mmol/l	0.547	Uricase catalase 340nm
	mg/dl	9.19	
	mmol/l	0.554	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.556	Spectrophotometric at 280-290
	mg/dl	9.34	
	mmol/l	0.561	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	