

# **PRODUCT INFORMATION**

CAL2351
1155UE
Please note that while Total Acid Phosphatase is present in CAL2351 - Calibration Serum Level 3 lot 1155UE, values are not available for this analyte.
CCS6783



# **CALIBRATION SERUM LEVEL 3 (CAL 3)**

**CAT. NO.** CAL 2351 **LOT NO.** 1155UE **SIZE:** 20 × 5ml **EXPIRY:** 2023-05-28

**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 I, 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  $+15^{\circ}$ C to  $+25^{\circ}$ C, 7 days at  $+2^{\circ}$ C to  $+8^{\circ}$ C, and 28 days at  $-20^{\circ}$ C when frozen once (see limitations).

### **PREPARATION FOR USE**

Serum must only be reconstituted using the following procedure:

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

# **MATERIALS PROVIDED**

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

# MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

# **LIMITATIONS**

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

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

Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum be allowed to stand for 1 hour at  $+15^{\circ}$ C to  $+25^{\circ}$ 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 I day at  $+2^{\circ}$ C to  $+8^{\circ}$ C. Do not store at  $+15^{\circ}$ C to  $+25^{\circ}$ C. Do not freeze.

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





### **VALUE ASSIGNMENT**

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

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

### **NOTES**

- All trademarks recognised.
- (I) 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.

EC REP

Randox Teoranta, Meenmore, Dungloe, Donegal, F94 TV06, Ireland

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Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	29.0	Bromocresol Green
	g/dl	2.90	
	g/I	27.9	Bromocresol Purple
	g/dl	2.79	
Alkaline Phosphatase	U/I	325	AMP optimised to IFCC 37℃
	U/I	320	AMP non-optimised 37℃
	U/I	309	Colorimetric 37℃
ALT (GPT)	U/I	143	Tris buffer without P5P 37℃
Amylase Pancreatic	U/I	265	Immunoinhibition EPS substrate 37℃
Amylase Total	U/I	338	Abbott Architect IFCC Cal. 37℃
	U/I	322	Abbott Architect Non-IFCC Cal. 37℃
AST (GOT)	U/I	144	Tris buffer without P5P 37℃
Bile Acids	μmol/l	45.3	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.72	
	μmol/l	29.2	Diazo with Sulphanilic Acid
	mg/dl	1.71	
	μmol/l	29.4	Diazo with Dichloroaniline (DCA)
	mg/dl	1.72	
Bilirubin Total	μmol/l	88.9	Diazo with Dichloroaniline (DCA)
	mg/dl	5.20	
	μmol/l	89.7	Diazo with Sulphanilic Acid
	mg/dl	5.25	
	µmol/l	87.9	Diazonium ion
	mg/dl	5.14	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.11	Cholesterol Oxidase - Abell Kendall
	mg/dl	274	
	mmol/l	7.13	Cholesterol Oxidase - IDMS
	mg/dl	275	
Cholinesterase	U/I	5874	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	494	CK-NAC serum start (DGKC) 37℃
	U/I	491	CK-NAC substrate start (DGKC) 37℃
	U/I	497	CK-NAC (IFCC) 37°C
	U/I	511	Monothioglycerol 37℃



Abbott Alinity/ Architect c Size 20 x 5ml Expiry 202			
Analyte	unit	Target	methods
CK Total	U/I	496	Abbott CK-NAC (IFCC) 37℃
Copper	μmol/l	20.3	Colorimetric
	μg/dl	129	
Creatinine	µmol/l	386	Alkaline picrate with deproteinization
	mg/dl	4.36	
	μmol/l	389	Alkaline picrate no deproteinization
	mg/dl	4.39	
	μmol/l	378	Enzymatic UV method
	mg/dl	4.27	
	µmol/l	385	Jaffe rate blanked
	mg/dl	4.35	
	µmol/l	389	IDMS traceable
	mg/dl	4.40	
gamma-GT	U/I	162	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
		Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃	
	U/I	164	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37℃
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
la	mmol/l	15.4	Glucose oxidase
	mg/dl	278	
Iron	µmol/l	40.9	Colorimetric with ppt.
	µg/dl	229	
	µmol/l	40.6	Colorimetric without ppt.
	μg/dl	227	
Lactate	mmol/l	5.53	Colorimetric Lactate Oxidase
	mg/dl	49.8	1. D. 0770
LD (LDH)	U/I	362	L->P 37℃
	U/I	366	L->P IFCC 37°C
Lipase	U/I	61	Other Colorimetric 37℃
Lithium	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.71	Arsenazo III
	mg/dl	4.16	F
	mmol/l	1.74	Enzymatic
Dhoophoto Inorgania	mg/dl	4.23	Dhoonhomely helpto on Tymatic
Phosphate Inorganic	mmol/l mg/dl	2.21 6.85	Phosphomolybdate enzymatic
	mmol/l	2.19	Phosphomolybdate UV
	mg/dl	6.79	ι πουριτοιποιγυααίο ο ν
Potassium	mmol/l	6.05	ISE method - indirect
Protein Total	g/l	44.2	Biuret reaction end point
i ioleiii iolai	g/dl	4.42	Biaret reaction end point
	g/li	44.1	Biuret reaction kinetic
	_		Did of reaction killetic
	g/dl	4.41	



<b>CALIBRATION SEI</b>			
Abbott Alinity/ Architect c/ci Sys		ot. No. 115	55UE Cat. No. CAL2351
Size 20 x 5ml Expiry 2023-05-2			
Analyte	unit	Target	methods
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	43.9	FE+UIBC(saturation with iron)
	μg/dl	245	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
UIBC	µmol/l	4.31	Direct Colorimetric
	μg/dl	24.1	
Urea	mmol/l	20.7	Urease end point
	mg/dl	124	
	mmol/l	20.6	Urease kinetic
	mg/dl	124	
	mmol/l	20.6	BUN
	mg/dl	57.8	
Uric Acid (Urate)	mmol/l	0.552	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.27	
	mmol/l	0.550	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	
	mmol/l	0.549	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.22	
Zinc	µmol/l	32.1	Colorimetric with deproteinisation
	µg/dl	210	



CALIBRATION SERUM LEVEL 3 (CAL 3)				
ABX Pentra 400® Lot. No.				
Size 20 x 5ml Expiry 2023-	05-28			
Analyte	unit	Target	methods	
Albumin	g/I	28.7	Bromocresol Green	
	g/dl	2.87		
ALT (GPT)	U/I	162	Tris buffer without P5P 37℃	
AST (GOT)	U/I	159	Tris buffer without P5P 37℃	
Bilirubin Direct	µmol/l	28.0	Diazo with Sulphanilic Acid	
	mg/dl	1.64		
	µmol/l	28.5	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.67		
Bilirubin Total	µmol/l	91.7	Diazo with Dichloroaniline (DCA)	
	mg/dl	5.37		
Calcium	mmol/l	3.44	Arsenazo III	
	mg/dl	13.8		
Chloride	mmol/l	127	ISE direct	
Cholesterol	mmol/l	7.33	Cholesterol Oxidase - Abell Kendall	
	mg/dl	283		
CK Total	U/I	490	CK-NAC (IFCC) 37°C	
Creatinine	µmol/l	361	Alkaline picrate no deproteinization	
	mg/dl	4.07		
	µmol/l	383	Enzymatic UV method	
	mg/dl	4.33		
gamma-GT	U/I	176	Gamma glutamyl3-carboxy-4-nitroanilide 37℃	
	U/I	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃	
Glucose	mmol/l	16.8	Hexokinase	
	mg/dl	302		
	mmol/l	15.1	Glucose oxidase	
	mg/dl	272		
Iron	µmol/l	38.5	Colorimetric without ppt.	
	μg/dl	215		
LD (LDH)	U/I	713	P->L German methods 37℃	
	U/I	435	L->P IFCC 37℃	
Lipase	U/I	53	Other Colorimetric 37℃	
Magnesium	mmol/l	1.66	Xylidyl Blue	
	mg/dl	4.03		
Phosphate Inorganic	mmol/l	2.36	Phosphomolybdate UV	
	mg/dl	7.32		
Protein Total	g/l	44.3	Biuret reaction end point	
	g/dl	4.43		
Sodium	mmol/l	164	ISE method - direct	
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction	
	mg/dl	253		



CALIBRATION SERUM LEVEL 3 (CAL 3)  ABX Pentra 400® Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods		
Urea	mmol/l	18.8	Urease kinetic		
	mg/dl	113			
	mmol/l	18.8	BUN		
	mg/dl	52.8			
Uric Acid (Urate)	mmol/l	0.514	Uricase peroxidase with ascorbate oxidase		
	mg/dl	8.64			
	mmol/l	0.559	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.39			
	mmol/l	0.551	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	9.26			



Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351				
Size 20 x 5ml Expiry 2023-0	5-28			
Analyte	unit	Target	methods	
Albumin	g/I	27.3	Bromocresol Green	
	g/dl	2.73		
	g/I	27.0	Bromocresol Purple	
	g/dl	2.70		
Alkaline Phosphatase	U/I	394	Diethanolamine buffer DEA 37℃	
	U/I	390	AMP optimised to IFCC 37℃	
	U/I	366	AMP non-optimised 37℃	
ALT (GPT)	U/I	148	Tris buffer without P5P 37℃	
	U/I	153	Beckman (Extinction Coefficient) 37℃	
Amylase Pancreatic	U/I	254	Immunoinhibition EPS substrate 37℃	
	U/I	268	Roche EPS Liquid 37℃	
Amylase Total	U/I	287	pNP Maltotrioside substrates 37℃	
	U/I	301	Randox Liquid Ethylidene pNPG7 37℃	
	U/I	282	Roche liquid stable pNPG7 37℃	
	U/I	298	Beckman Coulter - blocked pNPG7 37℃	
	U/I	303	Beckman Synchron AMY7 37℃	
	U/I	290	Beckman CNPG3 (Extinction Coeff) 37℃	
AST (GOT)	U/I	157	Tris buffer without P5P 37℃	
	U/I	161	Beckman (Extinction Coefficient) 37℃	
Bicarbonate	mmol/l	15.1	Enzymatic	
Bilirubin Direct	μmol/l	21.3	Dichlorophenyl Diazonium (DPD)	
	mg/dl	1.25		
	μmol/l	21.2	Diazo/ Sulphanilic Beckman DxC	
	mg/dl	1.24		
Bilirubin Total	µmol/l	89.2	Diazo with Dichloroaniline (DCA)	
	mg/dl	5.22		
	µmol/l	86.5	Diazo with Sulphanilic Acid	
	mg/dl	5.06		
	µmol/l	88.2	Dichlorophenyl Diazonium (DPD)	
	mg/dl	5.16		
	µmol/l	94.7	Oxidation to Biliverdin/Vanadate	
	mg/dl	5.54		
	μmol/l	87.1	DPD (Beckman AU)	
	mg/dl	5.10		
Calcium	mmol/l	3.23	Cresolphthalein complexone	
	mg/dl	12.9		
	mmol/l	3.19	Ion selective electrode	
	mg/dl	12.8		
	mmol/l	3.19	Arsenazo III	
	mg/dl	12.8		



Beckman Coulter AU Series	B Lot. No. 1	155UE Ca	nt. No. CAL2351
Size 20 x 5ml Expiry 2023-0	)5-28		
Analyte	unit	Target	methods
Chloride	mmol/l	117	Colorimetric
	mmol/l	118	ISE indirect
Cholesterol	mmol/l	7.26	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
	mmol/l	7.23	Cholesterol Dehydrogenase
	mg/dl	279	
Cholinesterase	U/I	4851	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	523	CK-NAC (IFCC) 37°C
	U/I	504	Beckman CK-NAC (Extinction Coeff) 37℃
Creatinine	µmol/l	349	Alkaline picrate with deproteinization
	mg/dl	3.94	All all and a second and the second and all all all all and a second a
	μmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	Francisco LIV mother
	µmol/l	372 4.20	Enzymatic UV method
	mg/dl µmol/l	372	Creatinine PAP method
	mg/dl	4.20	Greatifilite FAF filetilou
	µmol/l	353	Jaffe rate blanked
	mg/dl	3.99	outre rate planted
	µmol/l	385	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.35	outro rate statistica comp. ( 20 pinosi)
	µmol/l	379	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.28	ound rate statistics compensates ( 10 pinos)
	µmol/l	368	IDMS traceable
	mg/dl	4.16	
D-3-Hydroxybutyrate	mmol/l	1.16	Tris buffer 100mmol pH 8.5
gamma-GT	U/I	168	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	168	Gamma glutamyl-4-nitroanilide 37℃
	U/I	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	161	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37℃
	U/I	162	Beckman Szasz (Extinction Coeff) 37℃
GLDH	U/I	31	Triethanolamine buffer 50 mmol 37℃
Glucose	mmol/l	15.3	GOD/02-Beckman method
	mg/dl	276	
	mmol/l	15.6	Glucose dehydrogenase
	mg/dl	281	
	mmol/l	15.5	Hexokinase
	mg/dl	279	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	



<b>CALIBRATION SE</b>	RUM L	EVEL	3 (CAL 3)
	Lot. No. 1	155UE Ca	nt. No. CAL2351
Size 20 x 5ml Expiry 2023-05-	-		
Analyte	unit	Target	methods
Iron	µmol/l	39.9	Colorimetric with ppt.
	µg/dl	223	
	µmol/l	40.3	Colorimetric without ppt.
	µg/dl	225	
Lactate	mmol/l	5.24	Colorimetric Lactate Oxidase
	mg/dl	47.2	
LD (LDH)	U/I	374	L->P 37℃
	U/I	823	P->L Scandinavian & Dutch 37℃
	U/I	372	L->P IFCC 37°C
	U/I	369	L to P Beckman (Extinction Coeff) 37℃
Lipase	U/I	66	Other Colorimetric 37℃
Lithium	mmol/l	2.01	Ion selective electrode
	mg/dl	1.40	
	mmol/l	2.08	Spectrophotometric
	mg/dl	1.44	
Magnesium	mmol/l	1.79	Calmagite
	mg/dl	4.35	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.22	Phosphomolybdate enzymatic
	mg/dl	6.88	8
	mmol/l	2.22	Phosphomolybdate UV
	mg/dl	6.88	D. I. DUO. (925)
	mmol/l	2.23	Beckman PHOSm (365nm)
D. (	mg/dl	6.91	IOE and a last last last
Potassium	mmol/l	6.02	ISE method - indirect
Protein Total	g/I	43.7	Biuret reaction end point
	g/dl	4.37	Divisit regation kingtin
	g/l	43.8	Biuret reaction kinetic
Codium	g/dl	4.38 159	ISE method - indirect
Sodium TIBC	mmol/l		FE+UIBC(saturation with iron)
TIDO	μmol/l μg/dl	40.1 224	
	μmol/l	39.0	Direct Colorimetric
	µg/dl	218	Direct Coloninetine
	µmol/l	35.6	Calculated from Transferrin
	μg/dl	199	Calculated HOTH Transferrin
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction
riigiyoonaoo	mg/dl	253	Elpado, Or O 1711 Till Contollion
	mmol/l	2.85	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	
	mmol/l	2.81	L/G Kinase EP. no correction
	mg/dl	249	2 0 1 230 E1 1 110 0011001011
	g. u.		



CALIBRATION SERUM LEVEL 3 (CAL 3)				
Beckman Coulter AU Series® Lot. No. 1155UE Cat. No. CAL2351				
Size 20 x 5ml Expiry 2023-0	5-28			
Analyte	unit	Target	methods	
Triglycerides	mmol/l	2.90	L/G kinase EP. 0.11 mmol/l correction	
	mg/dl	257		
	mmol/l	2.83	Lipase/Glycerol Dehydrogenase	
	mg/dl	250		
Urea	mmol/l	20.4	Beckman-Conductivity	
	mg/dl	123		
	mmol/l	20.7	Urease end point	
	mg/dl	124		
	mmol/l	20.7	Urease kinetic	
	mg/dl	124		
	mmol/l	20.7	BUN	
	mg/dl	58.1		
Uric Acid (Urate)	mmol/l	0.572	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.61		
	mmol/l	0.563	Uricase peroxidase no ascorbate oxidase	
	mg/dl	9.46		
	mmol/l	0.565	Spectrophotometric at 280-290	
	mg/dl	9.49		
	mmol/l	0.558	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	9.37		



Size 20 x 5ml Expiry 2023-0	)5-28		
Analyte	unit	Target	methods
Albumin	g/l	28.9	Bromocresol Green
	g/dl	2.89	
	g/l	28.7	Bromocresol Purple
	g/dl	2.87	
Alkaline Phosphatase	U/I	347	AMP optimised to IFCC 37°C
	U/I	345	AMP non-optimised 37℃
ALT (GPT)	U/I	136	Tris buffer without P5P 37℃
Amylase Total	U/I	312	Beckman Coulter - blocked pNPG7 37℃
	U/I	304	Beckman Synchron AMY7 37℃
AST (GOT)	U/I	140	Tris buffer without P5P 37℃
Bilirubin Direct	µmol/l	16.3	Diazo/ Sulphanilic Beckman DxC
	mg/dl	0.956	
Bilirubin Total	μmol/l	86.4	Diazo with Sulphanilic Acid
	mg/dl	5.06	
Calcium	mmol/l	3.15	Ion selective electrode
	mg/dl	12.6	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.24	Cholesterol Oxidase - Abell Kendall
	mg/dl	279	
Cholinesterase	U/I	4889	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	522	CK-NAC (IFCC) 37℃
	U/I	509	Monothioglycerol 37℃
Creatinine	µmol/l	369	Alkaline picrate no deproteinization
	mg/dl	4.17	
	µmol/l	366	Jaffe rate blanked
	mg/dl	4.14	
	µmol/l	371	IDMS traceable
	mg/dl	4.19	
gamma-GT	U/I	129	Gamma glutamyl-4-nitroanilide 37℃
Glucose	mmol/l	15.1	GOD/02-Beckman method
	mg/dl	271	
	mmol/l	15.0	Hexokinase
	mg/dl	270	
	mmol/l	14.9	Glucose oxidase
	mg/dl	268	
Iron	µmol/l	40.4	Colorimetric without ppt.
	μg/dl	226	
Lactate	mmol/l	4.93	Colorimetric Lactate Oxidase
	mg/dl	44.4	



CALIBRATION SEI			
Beckman DxC600/800® Lot. N		E Cat. No.	CAL2351
Size 20 x 5ml Expiry 2023-05-2	-	T4	
Analyte	unit	Target	methods
LD (LDH)	U/I	295	L->P 37°C
	U/I	436	L->P IFCC 37℃
Lipase	U/I	75	Other Colorimetric 37℃
Magnesium	mmol/l	1.71	Calmagite
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.05	ISE method - indirect
Protein Total	g/I	42.8	Biuret reaction end point
	g/dl	4.28	
	g/l	44.0	Biuret reaction kinetic
	g/dl	4.40	
Sodium	mmol/l	157	ISE method - indirect
TIBC	µmol/l	38.7	Removal of excess free iron
	µg/dl	216	
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
	mg/dl	256	
	mmol/l	2.88	L/G Kinase EP. no correction
	mg/dl	255	
Urea	mmol/l	20.4	Beckman-Conductivity
	mg/dl	123	
	mmol/l	20.9	Urease kinetic
	mg/dl	126	
	mmol/l	20.9	BUN
	mg/dl	58.7	
Uric Acid (Urate)	mmol/l	0.533	Uricase peroxidase no ascorbate oxidase
			The state of the s



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/l	28.5	Bromocresol Green
	g/dl	2.85	
Alkaline Phosphatase	U/I	380	AMP optimised to IFCC 37℃
	U/I	296	AMP optimised to IFCC 30℃
	U/I	243	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	148	Tris buffer without P5P 37℃
	U/I	110	Tris buffer without P5P 30℃
	U/I	83	Tris buffer without P5P 25℃
AST (GOT)	U/I	155	Tris buffer without P5P 37℃
	U/I	105	Tris buffer without P5P 30℃
	U/I	74	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	83.1	Diazo with Sulphanilic Acid
	mg/dl	4.86	
Cholesterol	mmol/l	7.15	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
CK Total	U/I	518	CK-NAC (IFCC) 37°C
	U/I	324	CK-NAC (IFCC) 30℃
	U/I	220	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	351	Alkaline picrate no deproteinization
	mg/dl	3.97	
	µmol/l	343	Jaffe rate blanked
	mg/dl	3.88	
gamma-GT	U/I	172	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	136	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	106	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Iron	µmol/l	38.8	Colorimetric without ppt.
	μg/dl	217	
Protein Total	g/l	46.2	Biuret reaction end point
	g/dl	4.62	
Urea	mmol/l	19.0	Urease kinetic
	mg/dl	114	
	mmol/l	19.0	BUN
	mg/dl	53.3	
Uric Acid (Urate)	mmol/l	0.538	Uricase peroxidase with ascorbate oxidase
,,	mg/dl	9.04	
	mmol/l	0.530	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.90	, , , , , , , , , , , , , , , , , , , ,



BIOSYSTEMS A25 Lot. N			
Size 20 x 5ml Expiry 2023		. NO. CAL	2351
Analyte	unit	Target	methods
Albumin	g/l	30.1	Bromocresol Green
	g/dl	3.01	
Alkaline Phosphatase	U/I	442	Diethanolamine buffer DEA 37℃
	U/I	344	Diethanolamine buffer DEA 30℃
	U/I	282	Diethanolamine buffer DEA 25℃
	U/I	298	AMP optimised to IFCC 37℃
	U/I	232	AMP optimised to IFCC 30℃
	U/I	190	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	151	Tris buffer without P5P 37℃
	U/I	112	Tris buffer without P5P 30℃
	U/I	85	Tris buffer without P5P 25℃
AST (GOT)	U/I	165	Tris buffer without P5P 37℃
	U/I	112	Tris buffer without P5P 30℃
	U/I	79	Tris buffer without P5P 25℃
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
	mmol/l	7.09	Cholesterol Oxidase - IDMS
	mg/dl	274	
Creatinine	μmol/l	333	Alkaline picrate no deproteinization
	mg/dl	3.76	
	μmol/l	340	Jaffe rate blanked
	mg/dl	3.84	
gamma-GT	U/I	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	
Protein Total	g/I	44.2	Biuret reaction end point
	g/dl	4.42	
	g/l	43.5	Biuret reaction kinetic
	g/dl	4.35	
Triglycerides	mmol/l	2.73	Lipase/GPO-PAP no correction
	mg/dl	242	
	mmol/l	2.56	L/G Kinase EP. no correction
	mg/dl	227	
Urea	mmol/l	18.4	Urease kinetic
	mg/dl	111	
	mmol/l	18.4	BUN
	mg/dl	51.6	



<b>CALIBRATION SER</b>	CALIBRATION SERUM LEVEL 3 (CAL 3)				
BIOSYSTEMS A25 Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023-05-2	.8				
Analyte	unit	Target	methods		
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase		
	mg/dl	9.12			
	mmol/l	0.555	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.32			
	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	9.41			



Biotechnica/Wiener BT and		ot. No. 115	5UE Cat. No. CAL2351
Size 20 x 5ml Expiry 2023	· · · · · · · · · · · · · · · · · · ·		
Analyte	unit	Target	methods
Albumin	g/I	29.2	Bromocresol Green
	g/dl	2.92	
Alkaline Phosphatase	U/I	519	Diethanolamine buffer DEA 37℃
	U/I	404	Diethanolamine buffer DEA 30℃
	U/I	332	Diethanolamine buffer DEA 25℃
ALT (GPT)	U/I	149	Tris buffer without P5P 37℃
	U/I	110	Tris buffer without P5P 30℃
	U/I	84	Tris buffer without P5P 25℃
AST (GOT)	U/I	158	Tris buffer without P5P 37℃
	U/I	107	Tris buffer without P5P 30℃
	U/I	75	Tris buffer without P5P 25℃
	U/I	143	Phosphate buffer DGKC 37℃
	U/I	97	Phosphate buffer DGKC 30℃
	U/I	68	Phosphate buffer DGKC 25℃
Bilirubin Direct	μmol/l	29.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	
	μmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
Bilirubin Total	μmol/l	85.1	Diazo with Dichloroaniline (DCA)
	mg/dl	4.98	
	μmol/l	79.8	Diazo with Sulphanilic Acid
	mg/dl	4.67	
	μmol/l	80.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.68	
Calcium	mmol/l	3.22	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.05	Arsenazo III
	mg/dl	12.2	
Chloride	mmol/l	117	Colorimetric
	mmol/l	118	ISE direct
Cholesterol	mmol/l	7.14	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	6.94	Cholesterol Oxidase - IDMS
	mg/dl	268	
Cholinesterase	U/I	4958	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	511	CK-NAC (IFCC) 37°C
	U/I	320	CK-NAC (IFCC) 30°C
	U/I	217	CK-NAC (IFCC) 25℃
Creatinine	μmol/l	356	Alkaline picrate no deproteinization
	mg/dl	4.03	
	1 .5		



Biotechnica/Wiener BT and	CB Series L	ot. No. 115	5UE Cat. No. CAL2351
Size 20 x 5ml Expiry 2023	-05-28		
Analyte	unit	Target	methods
Creatinine	µmol/l	351	Jaffe rate blanked
	mg/dl	3.96	
	µmol/l	398	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.50	
gamma-GT	U/I	155	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	122	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	96	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	156	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	123	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	96	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.2	Glucose oxidase
	mg/dl	274	
Iron	µmol/l	37.8	Colorimetric without ppt.
	μg/dl	211	
LD (LDH)	U/I	672	P->L Scandinavian & Dutch 37℃
	U/I	485	P->L Scandinavian & Dutch 30℃
	U/I	341	P->L Scandinavian & Dutch 25℃
	U/I	693	P->L SFBC 37℃
	U/I	500	P->L SFBC 30℃
	U/I	351	P->L SFBC 25℃
Lipase	U/I	67	Other Colorimetric 37℃
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV
	mg/dl	7.04	
Potassium	mmol/l	5.85	ISE method - direct
Protein Total	g/l	47.9	Biuret reaction end point
	g/dl	4.79	
Sodium	mmol/l	156	ISE method - direct
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	
Urea	mmol/l	19.8	Urease end point
	mg/dl	119	
	mmol/l	20.6	Urease kinetic
	mg/dl	124	
	mmol/l	20.6	BUN
	mg/dl	57.8	
Uric Acid (Urate)	mmol/l	0.507	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.52	
	mmol/l	0.537	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	
	mmol/l	0.557	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.36	



COBAS INTEGRA® Lot. No	. 1155UE	Cat. No. CA	L2351
Size 20 x 5ml Expiry 2023-0	5-28		
Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/I	29.9	Bromocresol Purple
	g/dl	2.99	
	g/l	28.7	Turbidimetric Assays
	g/dl	2.87	
Alkaline Phosphatase	U/I	286	Roche Integra AMP buffer 37℃
	U/I	223	Roche Integra AMP buffer 30℃
	U/I	183	Roche Integra AMP buffer 25℃
	U/I	284	AMP optimised to IFCC 37℃
	U/I	221	AMP optimised to IFCC 30℃
	U/I	181	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	137	Tris buffer without P5P 37℃
	U/I	101	Tris buffer without P5P 30℃
	U/I	77	Tris buffer without P5P 25℃
Amylase Pancreatic	U/I	266	Immunoinhibition EPS substrate 37℃
	U/I	268	Roche EPS Liquid 37℃
Amylase Total	U/I	289	Roche Integra 2-chloro-pNPG7 37℃
	U/I	285	Roche liquid stable pNPG7 37℃
AST (GOT)	U/I	149	Tris buffer without P5P 37℃
	U/I	101	Tris buffer without P5P 30℃
	U/I	71	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	13.9	Enzymatic
Bilirubin Direct	µmol/l	30.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	
	µmol/l	30.1	Diazo with Sulphanilic Acid
	mg/dl	1.76	
	µmol/l	30.0	Roche JG factored
	mg/dl	1.76	
	µmol/l	30.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.78	
Bilirubin Total	µmol/l	77.1	Diazo with Dichloroaniline (DCA)
	mg/dl	4.51	
	μmol/l	77.5	Diazo with Sulphanilic Acid
	mg/dl	4.53	
	µmol/l	77.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.52	
	µmol/l	76.7	Diazonium ion
		4.49	



CALIBRATION SE	RUM L	EVEL	3 (CAL 3)
		at. No. CA	
Size 20 x 5ml Expiry 2023-05-	28		
Analyte	unit	Target	methods
Calcium	mmol/l	3.19	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.23	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.20	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
	mmol/l	6.93	Cholesterol Oxidase - IDMS
	mg/dl	267	
Cholinesterase	U/I	5114	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	487	CK-NAC serum start (DGKC) 37℃
	U/I	305	CK-NAC serum start (DGKC) 30℃
	U/I	207	CK-NAC serum start (DGKC) 25℃
	U/I	497	CK-NAC substrate start (DGKC) 37℃
	U/I	311	CK-NAC substrate start (DGKC) 30℃
	U/I	211	CK-NAC substrate start (DGKC) 25℃
	U/I	481	CK-NAC (IFCC) 37°C
	U/I	301	CK-NAC (IFCC) 30°C
	U/I	204	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	364	Alkaline picrate with deproteinization
	mg/dl	4.11	
	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.13	
	µmol/l	379	Enzymatic UV method
	mg/dl	4.28	
	µmol/l	367	Roche Creatinine Plus
	mg/dl	4.15	
	µmol/l	358	Jaffe rate blanked
	mg/dl	4.05	
	µmol/l	393	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.44	
	µmol/l	377	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.26	
	µmol/l	370	IDMS traceable
	mg/dl	4.19	
gamma-GT	U/I	159	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	125	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	98	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	168	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃



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Size 20 x 5ml Expiry 2023	-05-28		
Analyte	unit	Target	methods
Glucose	mmol/l	15.5	Hexokinase
	mg/dl	280	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	41.0	Colorimetric with ppt.
	μg/dl	229	
	µmol/l	41.0	Colorimetric without ppt.
	μg/dl	229	
Lactate	mmol/l	5.44	Colorimetric Lactate Oxidase
	mg/dl	49.0	
LD (LDH)	U/I	388	L->P 37℃
	U/I	280	L->P 30°C
	U/I	197	L->P 25℃
	U/I	677	P->L German methods 37℃
	U/I	489	P->L German methods 30°C
	U/I	343	P->L German methods 25℃
	U/I	381	L->P IFCC 37℃
	U/I	275	L->P IFCC 30℃
12	U/I	193	L->P IFCC 25℃
Lipase	U/I	65	Roche Turbidimetric with colipase 37℃
Lithium	mmol/l	2.10	Ion selective electrode
Manus animus	mg/dl	1.46	Vedialed Divis
Magnesium	mmol/l		Xylidyl Blue
	mg/dl mmol/l	4.33 1.77	Chlorphosphonazo III
			Chlorphosphonazo III
Dheanhata Ingraonia	mg/dl mmol/l	4.30 2.26	Phosphomolybdate enzymatic
Phosphate Inorganic		7.01	Phosphomolybuate enzymatic
	mg/dl mmol/l	2.29	Phosphomolybdate UV
	mg/dl	7.10	Filospilomolybuate o v
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	42.0	Biuret reaction end point
i iotelli iotal	g/dl	4.20	Bluret reaction end point
	g/I	42.0	Biuret reaction kinetic
	g/dl	4.20	Did C Teaction Miletic
Sodium	mmol/l	158	ISE method - indirect
TIBC	µmol/l	42.7	FE+UIBC(saturation with iron)
-	µg/dl	239	(
Triglycerides	mmol/l	2.89	Lipase/GPO-PAP no correction
J.,	mg/dl	256	
	mmol/l	2.89	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	
	mmol/l	2.89	L/G Kinase EP. no correction
		256	



<b>CALIBRATION SER</b>	RUM L	EVEL 3	(CAL 3)		
COBAS INTEGRA® Lot. No. 1	155UE Ca	t. No. CAL	2351		
Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods		
Triglycerides	mmol/l	2.92	Lipase/Glycerol Dehydrogenase		
	mg/dl	258			
Urea	mmol/l	19.7	Urease end point		
	mg/dl	118			
	mmol/l	19.6	Urease kinetic		
	mg/dl	118			
	mmol/l	19.6	BUN		
	mg/dl	55.0			
Uric Acid (Urate)	mmol/l	0.556	Uricase peroxidase with ascorbate oxidase		
	mg/dl	9.34			
	mmol/l	0.556	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.34			
	mmol/l	0.551	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	9.26			



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	30.2	Bromocresol Green
	g/dl	3.02	
Alkaline Phosphatase	U/I	466	Diethanolamine buffer DEA 37℃
ALT (GPT)	U/I	144	Tris buffer without P5P 37℃
AST (GOT)	U/I	143	Tris buffer without P5P 37℃
Bilirubin Total	μmol/l	83.4	Diazo with Sulphanilic Acid
	mg/dl	4.88	
Calcium	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.18	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	
	mmol/l	7.41	Cholesterol Oxidase - IDMS
	mg/dl	286	
CK Total	U/I	534	CK-NAC (IFCC) 37℃
Creatinine	μmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.04	
	μmol/l	372	Creatinine PAP method
	mg/dl	4.20	
	μmol/l	343	Jaffe rate blanked
	mg/dl	3.88	
gamma-GT	U/I	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
LD (LDH)	U/I	356	L->P IFCC 37℃
Phosphate Inorganic	mmol/l	2.24	Phosphomolybdate UV
	mg/dl	6.94	
Protein Total	g/I	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	19.7	Urease kinetic
	mg/dl	118	
	mmol/l	19.7	BUN
	mg/dl	55.3	
Uric Acid (Urate)	mmol/l	0.545	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	
	mmol/l	0.574	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.64	



CALIBRATION SERUM LEVEL 3 (CAL 3)						
Elitech/Vitalab Selectra Series Lot. No. 1155UE Cat. No. CAL2351						
Size 20 x 5ml Expiry 2023-05-2	Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods			
Uric Acid (Urate)	mmol/l	0.560	Uricase Peroxidase with ascorbate oxidase @ 546nm			
	mg/dl	9.41				



0: 00 = : = : = :		at. No. CAL	
Size 20 x 5ml Expiry 2023	· · · · · · · · · · · · · · · · · · ·	<b>-</b>	
Analyte	unit	Target	methods
Albumin	g/I	29.0	Bromocresol Green
All Pro Division for	g/dl	2.90	ANAD
Alkaline Phosphatase	U/I	284	AMP optimised to IFCC 37°C
	U/I	221	AMP optimised to IFCC 30°C
	U/I	181	AMP optimised to IFCC 25℃
	U/I	340	Randox AMP 37°C
	U/I	265	Randox AMP 30°C
	U/I	217	Randox AMP 25℃
ALT (GPT)	U/I	148	Tris buffer without P5P 37℃
	U/I	110	Tris buffer without P5P 30℃
	U/I	83	Tris buffer without P5P 25℃
Amylase Pancreatic	U/I	290	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/I	273	Roche liquid stable pNPG7 37℃
	U/I	312	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/I	154	Tris buffer without P5P 37℃
	U/I	104	Tris buffer without P5P 30℃
	U/I	73	Tris buffer without P5P 25℃
Bile Acids	μmol/l	42.8	5th Generation Colorimetric
Bilirubin Total	μmol/l	86.3	Diazo with Dichloroaniline (DCA)
	mg/dl	5.05	
	μmol/l	87.9	Diazo with Sulphanilic Acid
	mg/dl	5.14	
Calcium	mmol/l	3.23	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.09	Arsenazo III
	mg/dl	12.4	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	7.10	Cholesterol Oxidase - Abell Kendall
	mg/dl	274	
CK Total	U/I	537	CK-NAC (IFCC) 37°C
	U/I	336	CK-NAC (IFCC) 30°C
	U/I	228	CK-NAC (IFCC) 25℃
Creatinine	μmol/l	342	Alkaline picrate with deproteinization
	mg/dl	3.86	
	µmol/l	331	Alkaline picrate no deproteinization
	mg/dl	3.74	
	μmol/l	337	Jaffe rate blanked
	mg/dl	3.81	
gamma-GT	U/I	162	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	128	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	100	Gamma glutamyl3-carboxy-4-nitroanilide 25℃



<b>CALIBRATION S</b>	ERUM L	EVEL	3 (CAL 3)	
HITACHI SERIES® Lot. No. 1155UE Cat. No. CAL2351				
Size 20 x 5ml Expiry 2023-0 Analyte	05-28 unit	Target	methods	
gamma-GT	U/I	164	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃	
ganina-G1	U/I	129		
	U/I	101	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃ Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃	
	U/I	180	Randox Gamma glutamyl3-carboxy-4-nitroanilide 37°C	
	U/I	142	Randox Gamma glutamyl3-carboxy-4-nitroanilide 30℃	
	U/I	111		
Chicago		15.2	Randox Gamma glutamyl3-carboxy-4-nitroanilide 25℃  Hexokinase	
Glucose	mmol/l		Hexokinase	
	mg/dl	274	Chicago suidana	
	mmol/l	15.4	Glucose oxidase	
	mg/dl	278	O believed to Man to the	
Iron	µmol/l	39.8	Colorimetric without ppt.	
	μg/dl	222	L D 1500 050	
LD (LDH)	U/I	391	L->P IFCC 37°C	
	U/I	282	L->P IFCC 30℃	
	U/I	198	L->P IFCC 25℃	
Phosphate Inorganic	mmol/l	2.15	Phosphomolybdate UV	
	mg/dl	6.67		
Potassium	mmol/l	6.14	ISE method - indirect	
Protein Total	g/l	45.7	Biuret reaction end point	
	g/dl	4.57		
Sodium	mmol/l	160	ISE method - indirect	
Triglycerides	mmol/l	2.81	Lipase/GPO-PAP no correction	
	mg/dl	249		
	mmol/l	2.89	L/G Kinase EP. no correction	
	mg/dl	256		
	mmol/l	2.96	Lipase/Glycerol Dehydrogenase	
	mg/dl	262		
Urea	mmol/l	20.6	Urease end point	
	mg/dl	124		
	mmol/l	20.5	Urease kinetic	
	mg/dl	123		
	mmol/l	20.5	BUN	
	mg/dl	57.5		
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.36		
	mmol/l	0.533	Uricase peroxidase no ascorbate oxidase	
	mg/dl	8.95		
	mmol/l	0.552	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	9.27		



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	28.9	Bromocresol Green
	g/dl	2.89	
Alkaline Phosphatase	U/I	339	AMP optimised to IFCC 37℃
	U/I	264	AMP optimised to IFCC 30℃
	U/I	217	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	134	Tris buffer without P5P 37℃
	U/I	99	Tris buffer without P5P 30℃
	U/I	75	Tris buffer without P5P 25℃
Amylase Total	U/I	306	I.L. 2-chloro-pNPG3 37℃
AST (GOT)	U/I	143	Tris buffer without P5P 37℃
	U/I	97	Tris buffer without P5P 30℃
	U/I	68	Tris buffer without P5P 25℃
Bilirubin Total	μmol/l	86.1	Diazo with Sulphanilic Acid
	mg/dl	5.04	
	μmol/l	91.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.37	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.18	Arsenazo III
	mg/dl	12.7	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
Cholinesterase	U/I	5035	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	466	CK-NAC (IFCC) 37℃
	U/I	292	CK-NAC (IFCC) 30℃
	U/I	198	CK-NAC (IFCC) 25℃
Creatinine	μmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.05	
	μmol/l	382	Creatinine PAP method
	mg/dl	4.32	
gamma-GT	U/I	160	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	126	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	99	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	161	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	127	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	99	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.1	Glucose oxidase
	mg/dl	272	



CALIBRATION SE			<u> </u>
ILab 600®/650®/Aries/Taurus		155UE Ca	tt. No. CAL2351
Size 20 x 5ml Expiry 2023-0	· · · · · · · · · · · · · · · · · · ·		
Analyte	unit	Target	methods
Iron	µmol/l	39.3	Colorimetric without ppt.
	μg/dl	220	
LD (LDH)	U/I	742	P->L Scandinavian & Dutch 37℃
	U/I	536	P->L Scandinavian & Dutch 30℃
	U/I	376	P->L Scandinavian & Dutch 25℃
	U/I	722	P->L German methods 37℃
	U/I	521	P->L German methods 30℃
	U/I	366	P->L German methods 25℃
Lipase	U/I	70	Other Colorimetric 37℃
Magnesium	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.77	Enzymatic
	mg/dl	4.30	
Phosphate Inorganic	mmol/l	2.17	Phosphomolybdate UV
	mg/dl	6.73	
Potassium	mmol/l	6.03	ISE method - indirect
Protein Total	g/l	43.7	Biuret reaction end point
	g/dl	4.37	
Sodium	mmol/l	159	ISE method - indirect
Triglycerides	mmol/l	2.94	Lipase/GPO-PAP no correction
	mg/dl	260	
	mmol/l	2.92	L/G Kinase EP. no correction
	mg/dl	258	
Urea	mmol/l	20.5	Urease end point
	mg/dl	123	
	mmol/l	20.8	Urease kinetic
	mg/dl	125	
	mmol/l	20.8	BUN
	mg/dl	58.4	
Uric Acid (Urate)	mmol/l	0.512	Uricase peroxidase with ascorbate oxidase
, ,	mg/dl	8.60	
	mmol/l	0.535	Uricase peroxidase no ascorbate oxidase



Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1155UE Cat. No. CAL2351				
Size 20 x 5ml Expiry 2023-	-05-28			
Analyte	unit	Target	methods	
Albumin	g/I	28.3	Bromocresol Green	
	g/dl	2.83		
Alkaline Phosphatase	U/I	312	AMP optimised to IFCC 37℃	
	U/I	243	AMP optimised to IFCC 30℃	
	U/I	199	AMP optimised to IFCC 25℃	
ALT (GPT)	U/I	152	Tris buffer without P5P 37℃	
	U/I	112	Tris buffer without P5P 30℃	
	U/I	86	Tris buffer without P5P 25℃	
AST (GOT)	U/I	165	Tris buffer without P5P 37℃	
	U/I	112	Tris buffer without P5P 30℃	
	U/I	79	Tris buffer without P5P 25℃	
Bilirubin Total	µmol/l	87.9	Diazo with Sulphanilic Acid	
	mg/dl	5.14		
	µmol/l	81.9	Dichlorophenyl Diazonium (DPD)	
	mg/dl	4.79		
	µmol/l	87.8	Nitrobenzenediazonium salt	
	mg/dl	5.14		
Calcium	mmol/l	3.25	Arsenazo III	
	mg/dl	13.0		
Chloride	mmol/l	118	ISE direct	
Cholesterol	mmol/l	7.25	Cholesterol Oxidase - Abell Kendall	
	mg/dl	280		
	mmol/l	7.35	Cholesterol Oxidase - IDMS	
	mg/dl	284		
CK Total	U/I	485	CK-NAC (IFCC) 37℃	
	U/I	304	CK-NAC (IFCC) 30℃	
	U/I	206	CK-NAC (IFCC) 25℃	
Creatinine	µmol/l	348	Alkaline picrate no deproteinization	
	mg/dl	3.93		
	µmol/l	374	Enzymatic UV method	
	mg/dl	4.23		
gamma-GT	U/I	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃	
	U/I	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃	
	U/I	100	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃	
Glucose	mmol/l	16.2	Hexokinase	
	mg/dl	292		
	mmol/l	15.7	Glucose oxidase	
	mg/dl	283		
		20.0	Only signs this with and and	
Iron	μmol/l	38.9	Colorimetric without ppt.	



Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1155UE Cat. No. CAL2351				
Size 20 x 5ml Expiry 202	3-05-28			
Analyte	unit	Target	methods	
LD (LDH)	U/I	374	L->P IFCC 37℃	
	U/I	270	L->P IFCC 30℃	
	U/I	190	L->P IFCC 25℃	
Lipase	U/I	62	Other Colorimetric 37℃	
Magnesium	mmol/l	1.60	Xylidyl Blue	
	mg/dl	3.89		
Phosphate Inorganic	mmol/l	2.41	Phosphomolybdate enzymatic	
	mg/dl	7.47		
	mmol/l	2.30	Phosphomolybdate UV	
	mg/dl	7.13		
Potassium	mmol/l	5.88	ISE method - direct	
Protein Total	g/I	45.5	Biuret reaction end point	
	g/dl	4.55		
Sodium	mmol/l	154	ISE method - direct	
Triglycerides	mmol/l	2.98	Lipase/GPO-PAP no correction	
	mg/dl	264		
	mmol/l	2.94	L/G Kinase EP. no correction	
	mg/dl	260		
Urea	mmol/l	19.2	Urease end point	
	mg/dl	115		
	mmol/l	19.4	Urease kinetic	
	mg/dl	117		
	mmol/l	19.4	BUN	
	mg/dl	54.4		
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.31		
	mmol/l	0.569	Uricase peroxidase no ascorbate oxidase	
	mg/dl	9.56		
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	9.12		



MEAN OF ALL INSTRUMEN			at. No. CAL2351
Size 20 x 5ml Expiry 2023 Analyte	unit	Target	methods
a-HBDH	U/I	394	Oxobutyrate < 10 mmol/l 37℃
a-110011	U/I	297	Oxobutyrate < 10 mmol/l 30℃
	U/I	223	Oxobutyrate < 10 mmol/l 25℃
Albumin	g/l	28.9	Bromocresol Green
Albumin	g/dl	2.89	Biomodicadi dicen
	g/I	27.6	Bromocresol Purple
	g/dl	2.76	Bromosrosor alpie
	g/l	27.2	Turbidimetric Assays
	g/dl	2.72	ruisidinedio 7.000yo
Alkaline Phosphatase	U/I	463	Diethanolamine buffer DEA 37℃
7 illianie i ricopriatace	U/I	361	Diethanolamine buffer DEA 30°C
	U/I	296	Diethanolamine buffer DEA 25°C
	U/I	344	AMP optimised to IFCC 37℃
	U/I	268	AMP optimised to IFCC 30°C
	U/I	220	AMP optimised to IFCC 25°C
	U/I	331	AMP non-optimised 37℃
	U/I	258	AMP non-optimised 30℃
	U/I	212	AMP non-optimised 25℃
ALT (GPT)	U/I	139	Colorimetric 37℃
	U/I	103	Colorimetric 30℃
	U/I	78	Colorimetric 25℃
	U/I	149	Tris buffer with P5P 37℃
	U/I	110	Tris buffer with P5P 30℃
	U/I	84	Tris buffer with P5P 25℃
	U/I	144	Tris buffer without P5P 37℃
	U/I	107	Tris buffer without P5P 30℃
	U/I	81	Tris buffer without P5P 25℃
	U/I	145	Tris buffer SCE 37℃
	U/I	107	Tris buffer SCE 30℃
	U/I	82	Tris buffer SCE 25℃
Amylase Pancreatic	U/I	264	Immunoinhibition EPS substrate 37℃
,	U/I	260	Roche EPS Liquid 37℃
	U/I	290	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/I	301	pNP Maltotrioside substrates 37℃
	U/I	304	Siemens - blocked pNPG7 37℃
	U/I	238	Randox Lyo. Ethylidene pNPG7 37℃
	U/I	312	Randox Liquid Ethylidene pNPG7 37℃
	U/I	339	Siemens - maltopenta/hexaoside 37℃
	U/I	319	Siemens 2-chloro-pNP linked substrate 37℃



Analyte	Size 20 x 5ml Expiry 202	23-05-28		
Amylase Total   U/I   284   Roche Integra 2-chloro-pNPG7 37°C   U/I   280   Other Roche 2-chloro-pNPG7 37°C   U/I   278   Roche Ilquid stable pNPG7 37°C   U/I   278   Roche Ilquid stable pNPG7 37°C   U/I   299   Beckman Coulter - blocked pNPG7 37°C   U/I   304   Beckman Synchron AMY7 37°C   U/I   304   Beckman Synchron AMY7 37°C   U/I   306   Abbott Architect IPCC Cal. 37°C   U/I   320   Abbott Architect IPCC Cal. 37°C   U/I   320   Abbott Architect Non-IFCC Cal. 37°C   U/I   320   Abbott Architect Non-IFCC Cal. 37°C   U/I   148   Colorimetric 30°C   U/I   70   Colorimetric 25°C   U/I   124   Tris buffer with P5P 37°C   U/I   184   Tris buffer with P5P 37°C   U/I   151   Tris buffer with P5P 30°C   U/I   151   Tris buffer with DFP 30°C   U/I   152   Tris buffer without P5P 37°C   U/I   152   Tris buffer without P5P 30°C   U/I   72   Tris buffer without P5P 25°C   U/I   155   Tris buffer without P5P 25°C   U/I   155   Tris buffer Without P5P 25°C   U/I   155   Tris buffer DGKC 30°C   U/I   72   Phosphate buffer DGKC 30°C   U/I   74   Tris buffer with P5P NVKC 30°C   U/I   74   Tris buffer SCE 30°C   U/I   72   Tris buffer SCE 30°C   U/I   72   Tris buffer SCE 30°C   U/I   72   Tris buffer SCE 30°C   U/I   74   Tris buffer SCE 30°C   U/I   74   Tris buffer SCE 30°C   U/I   75   Tris buffer SCE 30°C   U/I   74   Tris buffer SCE 30°C   U/I   75   Tris buffer SCE 30°C   U/I   Tris buffer SCE 30°C   U/I   Tris buffer SCE 30°C   U/I   Tris buffer SCE 30°C			Target	methods
U/I   280				Roche Integra 2-chloro-pNPG7 37℃
U/I   278   Roche liquid stable pNPG7 37°C     U/I   343   Slemens 2-chloro-pNPG3 37°C     U/I   299   Beckman Coulter - blocked pNPG7 37°C     U/I   304   Beckman Synchron AMY7 37°C     U/I   307   I.L. 2-chloro-pNPG3 37°C     U/I   307   I.L. 2-chloro-pNPG3 37°C     U/I   320   Abbott Architect IPCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   290   Beckman CNPG3 (Extinction Coeff) 37°C     AST (GOT)   U/I   148   Colorimetric 30°C     U/I   70   Colorimetric 25°C     U/I   124   Tris buffer with PSP 37°C     U/I   124   Tris buffer with PSP 30°C     U/I   151   Tris buffer without PSP 30°C     U/I   102   Tris buffer without PSP 30°C     U/I   102   Tris buffer without PSP 30°C     U/I   152   Phosphate buffer DGKC 37°C     U/I   153   Phosphate buffer DGKC 37°C     U/I   155   Tris buffer with PSP NVKC 30°C     U/I   155   Tris buffer with PSP NVKC 30°C     U/I   151   Tris buffer With PSP NVKC 30°C     U/I   155   Tris buffer With PSP NVKC 30°C     U/I   151   Tris buffer SCE 30°C     U/I   151   Tris buffer SCE 30°C     U/I   152   Tris buffer SCE 30°C     U/I   154   Tris buffer SCE 25°C     U/I   155   Tris buffer SCE 25°C     U/I   156   Tris buffer SCE 25°C     U/I   157   Tris buffer SCE 25°C     U/I   148   Enzymatic     Bile Acids   µmol/I   43.8   4th Generation Colorimetric     µmol/I   42.8   5th Generation Colorimetric     µmol/I   31.1   Oxidation to Biliverdin/Vanadate     µmol/I   31.1   Oxidation to Biliverdin/Vanadate     µmol/I   31.1   Oxidation to Biliverdin/Vanadate     µmol/I   30.1   Modified Jendrassik     µmol/I   30.1   Modified Jendrassik     µmol/I   30.1   Modified Jendrassik     µmol/I   30.1   Modified Jendrassik	,		280	·
U/I   343   Siemens 2-chloro-pNPG3 37°C     U/I   299   Beckman Coulter - blocked pNPG7 37°C     U/I   304   Beckman Synchron AMY7 37°C     U/I   307   I.L. 2-chloro-pNPG3 37°C     U/I   320   Abbott Architect IFCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   290   Beckman CNPG3 (Extinction Coeff) 37°C     AST (GOT)   U/I   148   Colorimetric 30°C     U/I   70   Colorimetric 30°C     U/I   70   Colorimetric 25°C     U/I   184   Tris buffer with PSP 37°C     U/I   124   Tris buffer with PSP 37°C     U/I   124   Tris buffer with DSP 37°C     U/I   151   Tris buffer without PSP 37°C     U/I   102   Tris buffer without PSP 37°C     U/I   102   Tris buffer without PSP 30°C     U/I   103   Phosphate buffer DGKC 37°C     U/I   104   Tris buffer DGKC 37°C     U/I   105   Tris buffer with PSP NVKC 30°C     U/I   107   Tris buffer SCE 37°C     U/I   108   Tris buffer SCE 37°C     U/I   109   Tris buffer SCE 30°C     U/I   101   Tris buffer SCE 30°C     U/I   102   Tris buffer SCE 30°C     U/I   103   Tris buffer SCE 25°C     U/I   148   Enzymatic     Bilarbonate   mmol/l   44.8   Enzymatic     Bilarbonate   mmol/l   44.8   Sth Generation Colorimetric     mmol/l   14.8   Enzymatic     Bilarbonate   mmol/l   14.8   Enzymatic     Bilarbonate   mmol/l   14.8   Enzymatic     Diazo with Sulphanilic Acid     mg/dl   1.64     µmol/l   31.1   Oxidation to Biliverdin/Vanadate     mg/dl   1.67     µmol/l   31.1   Oxidation to Biliverdin/Vanadate     mg/dl   1.67     µmol/l   30.1   Modified Jendrassik     mg/dl   1.76			278	
U/I   299   Beckman Coulter - blocked pNPG7 37°C     U/I   304   Beckman Synchron AMY7 37°C     U/I   307   I.L. 2-chloro-pNPG3 37°C     U/I   320   Abbott Architect IFCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   290   Beckman CNPG3 (Extinction Coeff) 37°C     AST (GOT)   U/I   148   Colorimetric 37°C     U/I   100   Colorimetric 25°C     U/I   124   Tris buffer with P5P 37°C     U/I   124   Tris buffer with P5P 30°C     U/I   151   Tris buffer without P5P 30°C     U/I   102   Tris buffer without P5P 37°C     U/I   102   Tris buffer without P5P 30°C     U/I   152   Phosphate buffer DGKC 37°C     U/I   153   Phosphate buffer DGKC 37°C     U/I   155   Tris buffer with P5P NVKC 30°C     U/I   155   Tris buffer with P5P NVKC 30°C     U/I   101   Tris buffer SCE 30°C     U/I   102   Tris buffer SCE 30°C     U/I   103   Tris buffer SCE 25°C     U/I   104   Tris buffer SCE 25°C     Bicarbonate   mmol/I   14.6   Colorimetric     mmol/I   14.8   Enzymatic     Billirubin Direct   µmol/I   28.5   Diazo with Dichloroaniline (DCA)     mg/dl   1.67   µmol/I   30.1   Modified Jendrassik     mg/dl   1.76   Modified Jendrasik     mg/dl   1.76   Modified J			343	
U/I   304   Beckman Synchron AMY7 37°C     U/I   307   I.L. 2-chloro-pNPG3 37°C     U/I   336   Abbott Architect IFCC Cal. 37°C     U/I   320   Beckman CNPG3 (Extinction Coeff) 37°C     U/I   148   Colorimetric 37°C     U/I   100   Colorimetric 30°C     U/I   144   Tris buffer with P5P 37°C     U/I   124   Tris buffer with P5P 37°C     U/I   151   Tris buffer without P5P 37°C     U/I   102   Tris buffer without P5P 37°C     U/I   102   Tris buffer without P5P 37°C     U/I   152   Phosphate buffer DGKC 37°C     U/I   153   Phosphate buffer DGKC 37°C     U/I   155   Tris buffer with P5P NVKC 37°C     U/I   155   Tris buffer with P5P NVKC 37°C     U/I   151   Tris buffer with P5P NVKC 30°C     U/I   151   Tris buffer with P5P NVKC 25°C     U/I   151   Tris buffer SCE 30°C     U/I   151   Tris buffer with P5P NVKC 25°C     U/I   151   Tris buffer with P5P NVKC 25°C     U/I   151   Tris buffer SCE 30°C     U/I   152   Tris buffer SCE 30°C     U/I   154   Tris buffer SCE 30°C     U/I   155   Tris buffer with P5P NVKC 25°C     U/I   151   Tris buffer with P5P NVKC 25°C     U/I   152   Tris buffer with P5P NVKC 25°C     U/I   154   Tris buffer SCE 30°C     U/I   155   Tris buffer SCE 30°C     U/I   151   Tris buffer SCE 30°C     U/I   152   Tris buffer SCE 30°C     U/I   154   Tris buffer SCE 30°C     U/I   155   Tris buffer SCE 30°C     U/I   156   Tris buffer SCE 30°C     U/I   157   Tris buffer SCE 30°C     U/I   158   Tris buffer SCE 30°C     U/I   159   Tris buffer SCE 30°C     U/I   150   Tris buffer SCE 30°C     U/I   151   Tris buffer		U/I	299	
U/I   307		U/I	304	
U/I   336   Abbott Architect IFCC Cal. 37°C     U/I   320   Abbott Architect Non-IFCC Cal. 37°C     U/I   290   Beckman CNIPG3 (Extinction Coeff) 37°C     AST (GOT)   U/I   148   Colorimetric 30°C     U/I   100   Colorimetric 25°C     U/I   124   Tris buffer with P5P 37°C     U/I   151   Tris buffer with P5P 30°C     U/I   162   Tris buffer with P5P 30°C     U/I   152   Tris buffer with P5P 30°C     U/I   152   Phosphate buffer DGKC 37°C     U/I   103   Phosphate buffer DGKC 37°C     U/I   105   Tris buffer with P5P NVKC 30°C     U/I   155   Tris buffer with P5P NVKC 37°C     U/I   105   Tris buffer with P5P NVKC 30°C     U/I   101   Tris buffer SCE 30°C     U/I   151   Tris buffer SCE 30°C     U/I   152   Tris buffer SCE 30°C     U/I   153   Tris buffer SCE 30°C     U/I   154   Tris buffer SCE 30°C     U/I   155   Tris buffer SCE 30°C     U/I   156   Tris buffer SCE 30°C     U/I   157   Tris buffer SCE 30°C     U/I   158   Tris buffer SCE 30°C     U/I   14.8   Enzymatic     Billa Acids   µmol/I   43.8   4th Generation Colorimetric     mmol/I   44.8   Sth Generation Colorimetric     mmol/I   28.5   Diazo with Sulphanilic Acid     mg/dl   1.64     µmol/I   28.5   Diazo with Dichloroaniline (DCA)     mg/dl   1.64     µmol/I   30.1   Modified Jendrassik     mg/dl   1.76		U/I	307	
U/I   290   Beckman CNPG3 (Extinction Coeff) 37°C     AST (GOT)		U/I	336	
U/I   290   Beckman CNPG3 (Extinction Coeff) 37°C     AST (GOT)		U/I	320	Abbott Architect Non-IFCC Cal. 37℃
AST (GOT)  U/I 148 Colorimetric 37°C  U/I 100 Colorimetric 25°C  U/I 184 Tris buffer with P5P 37°C  U/I 124 Tris buffer with P5P 30°C  U/I 151 Tris buffer without P5P 30°C  U/I 102 Tris buffer without P5P 30°C  U/I 152 Phosphate buffer DGKC 37°C  U/I 103 Phosphate buffer DGKC 37°C  U/I 105 Tris buffer with P5P NVKC 30°C  U/I 72 Phosphate buffer DGKC 37°C  U/I 155 Tris buffer with P5P NVKC 30°C  U/I 151 Tris buffer with P5P NVKC 30°C  U/I 151 Tris buffer with P5P NVKC 30°C  U/I 151 Tris buffer SCE 30°C  U/I 152 Tris buffer SCE 25°C  U/I 154 Buffer SCE 25°C  Bicarbonate mmol/I 14.8 Enzymatic  Bile Acids µmol/I 43.8 4th Generation Colorimetric  µmol/I 42.8 5th Generation Colorimetric  µmol/I 28.1 Diazo with Dichloroanilline (DCA)  mg/dl 1.67  µmol/I 31.1 Oxidation to Biliverdin/Vanadate  mg/dl 1.82  µmol/I 30.1 Modified Jendrassik  mg/dl 1.76		U/I	290	
U/I   100   Colorimetric 30°C     U/I   70   Colorimetric 25°C     U/I   184   Tris buffer with P5P 37°C     U/I   124   Tris buffer with P5P 30°C     U/I   188   Tris buffer with P5P 30°C     U/I   151   Tris buffer without P5P 37°C     U/I   102   Tris buffer without P5P 30°C     U/I   72   Tris buffer without P5P 30°C     U/I   152   Phosphate buffer DGKC 37°C     U/I   103   Phosphate buffer DGKC 30°C     U/I   72   Phosphate buffer DGKC 30°C     U/I   155   Tris buffer with P5P NVKC 30°C     U/I   105   Tris buffer with P5P NVKC 30°C     U/I   105   Tris buffer with P5P NVKC 30°C     U/I   151   Tris buffer With P5P NVKC 25°C     U/I   102   Tris buffer SCE 37°C     U/I   102   Tris buffer SCE 30°C     U/I   72   Tris buffer SCE 25°C     U/I   14.6   Colorimetric     mmol/I   14.8   Enzymatic     Bille Acids   µmol/I   43.8   4th Generation Colorimetric     µmol/I   42.8   5th Generation Colorimetric     µmol/I   28.1   Diazo with Dichloroanilline (DCA)     mg/dI   1.64     µmol/I   31.1   Oxidation to Biliverdin/Vanadate     mg/dI   1.82     µmol/I   30.1   Modified Jendrassik     mg/dI   1.76	AST (GOT)		148	
U/I	,	U/I	100	Colorimetric 30℃
U/I   124		U/I	70	Colorimetric 25℃
U/I   88		U/I	184	Tris buffer with P5P 37℃
U/I   151		U/I	124	Tris buffer with P5P 30℃
U/I   102		U/I	88	Tris buffer with P5P 25℃
U/I   72		U/I	151	Tris buffer without P5P 37℃
U/I   152		U/I	102	Tris buffer without P5P 30℃
U/I   103		U/I	72	Tris buffer without P5P 25℃
U/I   72		U/I	152	Phosphate buffer DGKC 37℃
U/I   155		U/I	103	Phosphate buffer DGKC 30℃
U/I   105		U/I	72	
U/I   74   Tris buffer with P5P NVKC 25℃		U/I	155	Tris buffer with P5P NVKC 37℃
U/I   151		U/I	105	Tris buffer with P5P NVKC 30℃
U/I   102   Tris buffer SCE 30℃     U/I   72   Tris buffer SCE 25℃     Bicarbonate   mmol/I   14.6   Colorimetric     mmol/I   14.8   Enzymatic     μmol/I   43.8   4th Generation Colorimetric     μmol/I   42.8   5th Generation Colorimetric     Bilirubin Direct   μmol/I   28.1   Diazo with Sulphanilic Acid     mg/dI   1.64     μmol/I   28.5   Diazo with Dichloroaniline (DCA)     mg/dI   1.67     μmol/I   31.1   Oxidation to Biliverdin/Vanadate     mg/dI   1.82     μmol/I   30.1   Modified Jendrassik     mg/dI   1.76		U/I	74	Tris buffer with P5P NVKC 25℃
U/I 72 Tris buffer SCE 25℃  Bicarbonate mmol/I 14.6 Colorimetric  mmol/I 14.8 Enzymatic  Bile Acids μmol/I 43.8 4th Generation Colorimetric  μmol/I 42.8 5th Generation Colorimetric  μmol/I 28.1 Diazo with Sulphanilic Acid  mg/dl 1.64  μmol/I 28.5 Diazo with Dichloroaniline (DCA)  mg/dl 1.67  μmol/I 31.1 Oxidation to Biliverdin/Vanadate  mg/dl 1.82  μmol/I 30.1 Modified Jendrassik  mg/dl 1.76		U/I	151	Tris buffer SCE 37℃
Mmol/I   14.6   Colorimetric		U/I	102	Tris buffer SCE 30℃
mmol/l 14.8 Enzymatic		U/I	72	Tris buffer SCE 25℃
μmol/l   43.8   4th Generation Colorimetric   μmol/l   42.8   5th Generation Colorimetric   μmol/l   28.1   Diazo with Sulphanilic Acid   mg/dl   1.64   μmol/l   28.5   Diazo with Dichloroaniline (DCA)   mg/dl   1.67   μmol/l   31.1   Oxidation to Biliverdin/Vanadate   mg/dl   1.82   μmol/l   30.1   Modified Jendrassik   mg/dl   1.76   Modified Jendrassik   mg/dl   1.76	Bicarbonate	mmol/l	14.6	Colorimetric
μmol/l   42.8   5th Generation Colorimetric     μmol/l   28.1   Diazo with Sulphanilic Acid     mg/dl   1.64     μmol/l   28.5   Diazo with Dichloroaniline (DCA)     mg/dl   1.67     μmol/l   31.1   Oxidation to Biliverdin/Vanadate     mg/dl   1.82     μmol/l   30.1   Modified Jendrassik     mg/dl   1.76		mmol/l	14.8	Enzymatic
Bilirubin Direct    mol/l   28.1   Diazo with Sulphanilic Acid     mg/dl   1.64     µmol/l   28.5   Diazo with Dichloroaniline (DCA)     mg/dl   1.67     µmol/l   31.1   Oxidation to Biliverdin/Vanadate     mg/dl   1.82     µmol/l   30.1   Modified Jendrassik     mg/dl   1.76	Bile Acids	µmol/l	43.8	4th Generation Colorimetric
mg/dl 1.64  µmol/l 28.5 Diazo with Dichloroaniline (DCA)  mg/dl 1.67  µmol/l 31.1 Oxidation to Biliverdin/Vanadate  mg/dl 1.82  µmol/l 30.1 Modified Jendrassik  mg/dl 1.76		µmol/l	42.8	5th Generation Colorimetric
μmol/l 28.5 Diazo with Dichloroaniline (DCA) mg/dl 1.67 μmol/l 31.1 Oxidation to Biliverdin/Vanadate mg/dl 1.82 μmol/l 30.1 Modified Jendrassik mg/dl 1.76	Bilirubin Direct	µmol/l	28.1	Diazo with Sulphanilic Acid
mg/dl 1.67  μmol/l 31.1 Oxidation to Biliverdin/Vanadate  mg/dl 1.82  μmol/l 30.1 Modified Jendrassik  mg/dl 1.76		mg/dl	1.64	
μmol/l 31.1 Oxidation to Biliverdin/Vanadate  mg/dl 1.82  μmol/l 30.1 Modified Jendrassik  mg/dl 1.76		µmol/l	28.5	Diazo with Dichloroaniline (DCA)
mg/dl 1.82 μmol/l 30.1 Modified Jendrassik mg/dl 1.76		mg/dl	1.67	
μmol/l 30.1 Modified Jendrassik mg/dl 1.76				Oxidation to Biliverdin/Vanadate
μmol/I 30.1 Modified Jendrassik mg/dl 1.76		mg/dl	1.82	
				Modified Jendrassik
		mg/dl	1.76	
	Bilirubin Total	µmol/l		Diazo with Dichloroaniline (DCA)
mg/dl 5.04		1		
μmol/l 84.8 Diazo with Sulphanilic Acid				Diazo with Sulphanilic Acid
mg/dl 4.96		l'		



<b>CALIBRATION SEI</b>	RUM L	EVEL	3 (CAL 3)
MEAN OF ALL INSTRUMENTS	Lot. No.		Cat. No. CAL2351
Size 20 x 5ml Expiry 2023-05-2	28		
Analyte	unit	Target	methods
Bilirubin Total	µmol/l	81.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	
	µmol/l	86.1	Nitrobenzenediazonium salt
	mg/dl	5.03	
	µmol/l	81.1	Diazonium ion
	mg/dl	4.74	
	µmol/l	93.9	Oxidation to Biliverdin/Vanadate
	mg/dl	5.49	
	µmol/l	93.7	Modified Jendrassik
	mg/dl	5.48	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.13	Ion selective electrode
	mg/dl	12.5	
	mmol/l	3.08	Methylthymol blue
	mg/dl	12.3	
	mmol/l	3.17	Arsenazo III
	mg/dl	12.7	
	mmol/l	3.12	Phosphonazo
	mg/dl	12.5	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	119	Colorimetric
	mmol/l	118	ISE indirect
	mmol/l	118	ISE direct
	mmol/l	130	Optical Fluorescence
Cholesterol	mmol/l	7.12	Cholesterol Oxidase - Abell Kendall
	mg/dl	275	
	mmol/l	7.08	Cholesterol Oxidase - IDMS
	mg/dl	273	
	mmol/l	7.16	Cholesterol Dehydrogenase
	mg/dl	276	
Cholinesterase	U/I	5059	Colorimetric Benzoylcholine 37℃
	U/I	5093	Colorimetric Butyrylthiocholine 37°C
CK Total	U/I	494	CK-NAC serum start (DGKC) 37℃
	U/I	309	CK-NAC serum start (DGKC) 30℃
	U/I	210	CK-NAC serum start (DGKC) 25℃
	U/I	489	CK-NAC substrate start (DGKC) 37°C
	U/I	306	CK-NAC substrate start (DGKC) 30℃
	U/I	208	CK-NAC substrate start (DGKC) 25℃
	U/I	493	CK-NAC (IFCC) 37°C
	U/I	309	CK-NAC (IFCC) 30°C
	U/I	210	CK-NAC (IFCC) 25℃



CALIBRATION SEI	RUM I	EVEL 3	S (CAL 3)
MEAN OF ALL INSTRUMENTS			
Size 20 x 5ml Expiry 2023-05-2	28		
Analyte	unit	Target	methods
CK Total	U/I	509	Monothioglycerol 37℃
	U/I	319	Monothioglycerol 30℃
	U/I	216	Monothioglycerol 25℃
Copper	µmol/l	25.4	Atomic absorption
	µg/dl	162	
	µmol/l	25.0	Colorimetric
	μg/dl	159	
Creatinine	µmol/l	354	Alkaline picrate with deproteinization
	mg/dl	4.00	
	µmol/l	358	Alkaline picrate no deproteinization
	mg/dl	4.04	
	μmol/l	370	Enzymatic UV method
	mg/dl	4.18	
	µmol/l	369	Creatinine PAP method
	mg/dl	4.17	
	µmol/l	354	Jaffe rate blanked
	mg/dl	4.00	
	µmol/l	399	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.51	
	µmol/l	381	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.31	
	µmol/l	373	IDMS traceable
	mg/dl	4.21	
D-3-Hydroxybutyrate	mmol/l	1.19	Tris buffer 100mmol pH 8.5
gamma-GT	U/I	161	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	127	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	99	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	146	Gamma glutamyl-4-nitroanilide 37℃
	U/I	115	Gamma glutamyl-4-nitroanilide 30℃
	U/I	90	Gamma glutamyl-4-nitroanilide 25℃
	U/I	167	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	132	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	103	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
	U/I	180	Randox Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	142	Randox Gamma glutamyl3-carboxy-4-nitroanilide 30℃
21211	U/I	111	Randox Gamma glutamyl3-carboxy-4-nitroanilide 25℃
GLDH	U/I	32	Triethanolamine buffer 50 mmol 37℃
	U/I	25	Triethanolamine buffer 50 mmol 30℃
	U/I	20	Triethanolamine buffer 50 mmol 25℃
Glucose	mmol/l	15.3	Glucose dehydrogenase
	mg/dl	276	
	mmol/l	15.4	Hexokinase
	mg/dl	278	



<b>CALIBRATION SEI</b>	RUM L	EVEL	3 (CAL 3)
MEAN OF ALL INSTRUMENTS			Cat. No. CAL2351
Size 20 x 5ml Expiry 2023-05-2	28		
Analyte	unit	Target	methods
Glucose	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
	mmol/l	15.3	Glucose oxidase
	mg/dl	276	
Iron	µmol/l	39.6	Colorimetric with ppt.
	μg/dl	221	
	µmol/l	40.3	Colorimetric without ppt.
	μg/dl	225	
Lactate	mmol/l	5.36	Colorimetric Lactate Oxidase
	mg/dl	48.3	
	mmol/l	5.48	UV LDH
	mg/dl	49.4	
LAP	U/I	14	NAGEL 37℃
LD (LDH)	U/I	354	L->P 37℃
	U/I	256	L->P 30°C
	U/I	179	L->P 25℃
	U/I	742	P->L Scandinavian & Dutch 37°C
	U/I	536	P->L Scandinavian & Dutch 30°C
	U/I	376	P->L Scandinavian & Dutch 25°C
	U/I	709	P->L German methods 37℃
	U/I	512	P->L German methods 30℃
	U/I	359	P->L German methods 25℃
	U/I	723	P->L SFBC 37℃
	U/I	522	P->L SFBC 30℃
	U/I	367	P->L SFBC 25°C
	U/I	371	L->P IFCC 37℃
	U/I	268	L->P IFCC 30℃
Linna	U/I U/I	188 66	L->P IFCC 25℃
Lipase	U/I	54	Other Colorimetric 37℃  Roche Colorimetric 37℃
	U/I	95	Randox Colorimetric 37°C
Lithium	mmol/l	2.00	Flame photometry
Littiidiii	mg/dl	1.39	riame photometry
	mmol/l	2.10	Ion selective electrode
	mg/dl	1.46	ion ocioenvo diodnodo
	mmol/l	2.07	Spectrophotometric
	mg/dl	1.44	open opinotionio
	mmol/l	2.14	Randox Colorimetric
	mg/dl	1.49	
Magnesium	mmol/l	1.74	Arsenazo III
<b>5</b>	mg/dl	4.23	
	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	'
	1		



<b>CALIBRATION SEI</b>			3 (CAL 3)
MEAN OF ALL INSTRUMENTS	Lot. No. 1	155UE Ca	at. No. CAL2351
Size 20 x 5ml Expiry 2023-05-2	28		
Analyte	unit	Target	methods
Magnesium	mmol/l	1.69	Calmagite
	mg/dl	4.11	
	mmol/l	1.76	Xylidyl Blue
	mg/dl	4.28	
	mmol/l	1.74	Methylthymol blue
	mg/dl	4.23	
	mmol/l	1.77	Chlorphosphonazo III
	mg/dl	4.30	
	mmol/l	1.75	Enzymatic
	mg/dl	4.25	
Osmolality	mOsm/kg	348	Calculated
	mOsm/kg	381	Freezing point depression
Phosphate Inorganic	mmol/l	2.23	Phosphomolybdate enzymatic
	mg/dl	6.91	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.25	Enzymatic
	mmol/l	5.85	Flame photometry
	mmol/l	5.99	ISE method - direct
	mmol/l	6.07	ISE method - indirect
	mmol/l	6.32	Optical Fluorescence
	mmol/l	5.53	Colorimetric
Protein Total	g/l	44.3	Biuret reaction end point
	g/dl	4.43	
	g/l	43.9	Biuret reaction kinetic
	g/dl	4.39	-
Sodium	mmol/l	159	Enzymatic
	mmol/l	156	Flame photometry
	mmol/l	157	ISE method - direct
	mmol/l	159	ISE method - indirect
	mmol/l	158	Optical Fluorescence
TIDO	mmol/l	152	Colorimetric
TIBC	µmol/l	38.0	Removal of excess free iron
	µg/dl	212	FF (LUDO) - A making with in a)
	µmol/l	42.0	FE+UIBC(saturation with iron)
Trighyopridos	μg/dl mmol/l	235	Linear/CDO DAD no correction
Triglycerides	-	2.86	Lipase/GPO-PAP no correction
	mg/dl	253	Lingso/CDO DAD 0.41mmsl/l.correction
	mmol/l	2.86	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	253	L/G Kinase EP. no correction
	mmol/l	2.85	L/G NIIIase EP. 110 CONECTION
	mg/dl	252	



<b>CALIBRATION SE</b>	RUM L	EVEL:	3 (CAL 3)
MEAN OF ALL INSTRUMENTS	Lot. No.	1155UE C	at. No. CAL2351
Size 20 x 5ml Expiry 2023-05-	28		
Analyte	unit	Target	methods
Triglycerides	mmol/l	2.85	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	252	
	mmol/l	2.87	Lipase/Glycerol Dehydrogenase
	mg/dl	254	
Urea	mmol/l	20.1	Urease end point
	mg/dl	121	
	mmol/l	20.3	Urease kinetic
	mg/dl	122	
	mmol/l	19.5	Urease hypochlorite
	mg/dl	117	
	mmol/l	20.3	BUN
	mg/dl	57.0	
Uric Acid (Urate)	mmol/l	0.553	Uricase catalase 340nm
	mg/dl	9.29	
	mmol/l	0.567	Reduction methods
	mg/dl	9.53	
	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.31	
	mmol/l	0.546	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	
	mmol/l	0.553	Spectrophotometric at 280-290
	mg/dl	9.29	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	
Zinc	µmol/l	34.6	Atomic absorption
	μg/dl	226	
	µmol/l	38.2	Colorimetric with deproteinisation
	μg/dl	249	



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	29.1	Bromocresol Green
	g/dl	2.91	
Alkaline Phosphatase	U/I	362	AMP optimised to IFCC 37℃
	U/I	282	AMP optimised to IFCC 30℃
	U/I	231	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	152	Tris buffer without P5P 37℃
	U/I	112	Tris buffer without P5P 30℃
	U/I	86	Tris buffer without P5P 25℃
AST (GOT)	U/I	153	Tris buffer without P5P 37℃
	U/I	103	Tris buffer without P5P 30℃
	U/I	73	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	14.8	Enzymatic
Bilirubin Total	μmol/l	88.6	Diazo with Dichloroaniline (DCA)
	mg/dl	5.18	
	μmol/l	87.2	Diazo with Sulphanilic Acid
	mg/dl	5.10	
	μmol/l	86.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.06	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.21	Ion selective electrode
	mg/dl	12.9	
	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	
Chloride	mmol/l	120	ISE direct
Cholesterol	mmol/l	7.19	Cholesterol Oxidase - Abell Kendall
	mg/dl	278	
	mmol/l	7.01	Cholesterol Oxidase - IDMS
	mg/dl	271	
Cholinesterase	U/I	5119	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	565	CK-NAC substrate start (DGKC) 37℃
	U/I	354	CK-NAC substrate start (DGKC) 30℃
	U/I	240	CK-NAC substrate start (DGKC) 25℃
	U/I	509	CK-NAC (IFCC) 37°C
	U/I	319	CK-NAC (IFCC) 30°C
	U/I	216	CK-NAC (IFCC) 25℃
Creatinine	μmol/l	341	Alkaline picrate with deproteinization
	mg/dl	3.85	
	μmol/l	354	Alkaline picrate no deproteinization
	mg/dl	4.00	



MINDRAY BS-200/300/400 Lot. No. 1155UE Cat. No. CAL2351 Size 20 x 5ml Expiry 2023-05-28						
Analyte	unit	Target	methods			
Creatinine	µmol/l	383	Enzymatic UV method			
	mg/dl	4.33	,			
	µmol/l	374	Creatinine PAP method			
	mg/dl	4.22				
	µmol/l	344	Jaffe rate blanked			
	mg/dl	3.89				
gamma-GT	U/I	166	Gamma glutamyl3-carboxy-4-nitroanilide 37℃			
	U/I	131	Gamma glutamyl3-carboxy-4-nitroanilide 30℃			
	U/I	102	Gamma glutamyl3-carboxy-4-nitroanilide 25℃			
	U/I	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃			
	U/I	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃			
	U/I	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃			
Glucose	mmol/l	15.4	Hexokinase			
	mg/dl	278				
	mmol/l	15.4	Glucose oxidase			
	mg/dl	278				
Iron	μmol/l	37.4	Colorimetric with ppt.			
	μg/dl	209				
	μmol/l	39.6	Colorimetric without ppt.			
	μg/dl	221				
LD (LDH)	U/I	727	P->L German methods 37℃			
	U/I	525	P->L German methods 30℃			
	U/I	369	P->L German methods 25℃			
	U/I	377	L->P IFCC 37℃			
	U/I	272	L->P IFCC 30℃			
	U/I	191	L->P IFCC 25℃			
Magnesium	mmol/l	1.73	Xylidyl Blue			
	mg/dl	4.20				
	mmol/l	1.84	Enzymatic			
	mg/dl	4.47				
Phosphate Inorganic	mmol/l	2.03	Phosphomolybdate enzymatic			
	mg/dl	6.29	Discoulate the time			
	mmol/l	2.09	Phosphomolybdate UV			
Detections	mg/dl	6.48	ICC weekhood disease			
Protassium  Protain Total	mmol/l	5.97	ISE method - direct			
Protein Total	g/l	45.3 4.53	Biuret reaction end point			
	g/dl	4.53	Piurot reaction kinotio			
	g/l g/dl	45.7 4.57	Biuret reaction kinetic			
Sodium		159	ISE method - direct			
	mmol/l	2.79	Lipase/GPO-PAP no correction			
Triglycerides			Lipase/GFO-FAF IIU COITECTION			
	mg/dl	247				



CALIBRATION SERUM LEVEL 3 (CAL 3)					
MINDRAY BS-200/300/400 Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023-05-	-28				
Analyte	unit	Target	methods		
Triglycerides	mmol/l	2.83	Lipase/GPO-PAP 0.11mmol/l correction		
	mg/dl	250			
	mmol/l	2.84	L/G Kinase EP. no correction		
	mg/dl	251			
	mmol/l	2.79	Lipase/Glycerol Dehydrogenase		
	mg/dl	247			
Urea	mmol/l	20.4	Urease end point		
	mg/dl	123			
	mmol/l	20.4	Urease kinetic		
	mg/dl	123			
	mmol/l	20.4	BUN		
	mg/dl	57.3			
Uric Acid (Urate)	mmol/l	0.557	Uricase peroxidase with ascorbate oxidase		
	mg/dl	9.36			
	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.00			
	mmol/l	0.545	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	9.16			



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	29.3	Bromocresol Green
	g/dl	2.93	
Alkaline Phosphatase	U/I	360	AMP optimised to IFCC 37℃
	U/I	280	AMP optimised to IFCC 30℃
	U/I	230	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	148	Tris buffer without P5P 37℃
	U/I	110	Tris buffer without P5P 30℃
	U/I	83	Tris buffer without P5P 25℃
AST (GOT)	U/I	154	Tris buffer without P5P 37℃
	U/I	104	Tris buffer without P5P 30℃
	U/I	73	Tris buffer without P5P 25℃
Bilirubin Total	μmol/l	91.1	Diazo with Dichloroaniline (DCA)
	mg/dl	5.33	
	μmol/l	85.7	Diazo with Sulphanilic Acid
	mg/dl	5.01	
	μmol/l	92.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.40	
	μmol/l	98.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.76	
Calcium	mmol/l	3.12	Arsenazo III
	mg/dl	12.5	
Cholesterol	mmol/l	7.47	Cholesterol Oxidase - Abell Kendall
	mg/dl	288	
CK Total	U/I	536	CK-NAC (IFCC) 37°C
	U/I	336	CK-NAC (IFCC) 30°C
	U/I	228	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	343	Alkaline picrate no deproteinization
	mg/dl	3.88	
	µmol/l	380	Enzymatic UV method
	mg/dl	4.30	
	µmol/l	340	Jaffe rate blanked
O.T.	mg/dl	3.85	
gamma-GT	U/I	175	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	138	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	108	Gamma glutamyl3-carboxy-4-nitroanilide 25°C
	U/I	169	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	133	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	104	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.4	Glucose oxidase
	mg/dl	277	



CALIBRATION SERUM LEVEL 3 (CAL 3) PRESTIGE 24i Lot, No. 1155UE Cat, No. CAL2351					
Size 20 x 5ml Expiry 202		0. CAL235	<u>'</u>		
Analyte	unit	Target	methods		
Iron	μmol/l	40.8	Colorimetric without ppt.		
	μg/dl	228			
LD (LDH)	U/I	775	P->L German methods 37℃		
	U/I	560	P->L German methods 30℃		
	U/I	393	P->L German methods 25℃		
Phosphate Inorganic	mmol/l	2.28	Phosphomolybdate UV		
	mg/dl	7.07			
Protein Total	g/I	45.3	Biuret reaction end point		
	g/dl	4.53			
Triglycerides	mmol/l	2.86	Lipase/GPO-PAP no correction		
	mg/dl	253			
	mmol/l	2.86	L/G Kinase EP. no correction		
	mg/dl	253			
Urea	mmol/l	20.4	Urease kinetic		
	mg/dl	123			
	mmol/l	20.4	BUN		
	mg/dl	57.3			
Uric Acid (Urate)	mmol/l	0.539	Uricase peroxidase with ascorbate oxidase		
	mg/dl	9.06			
	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.29			
	mmol/l	0.547	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	9.19			



Roche Cobas 6000 c501 e601 Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023	-05-28				
Analyte	unit	Target	methods		
Albumin	g/I	30.1	Bromocresol Green		
	g/dl	3.01			
	g/I	28.9	Bromocresol Purple		
	g/dl	2.89			
	g/I	26.1	Turbidimetric Assays		
	g/dl	2.61			
Alkaline Phosphatase	U/I	276	Roche Integra AMP buffer 37℃		
	U/I	215	Roche Integra AMP buffer 30℃		
	U/I	176	Roche Integra AMP buffer 25℃		
	U/I	279	AMP optimised to IFCC 37℃		
	U/I	217	AMP optimised to IFCC 30℃		
	U/I	178	AMP optimised to IFCC 25℃		
	U/I	276	Colorimetric 37℃		
	U/I	215	Colorimetric 30℃		
	U/I	176	Colorimetric 25℃		
ALT (GPT)	U/I	140	Tris buffer without P5P 37℃		
	U/I	104	Tris buffer without P5P 30℃		
	U/I	79	Tris buffer without P5P 25℃		
Amylase Pancreatic	U/I	267	Immunoinhibition EPS substrate 37℃		
	U/I	256	Roche EPS Liquid 37℃		
Amylase Total	U/I	275	Randox Liquid Ethylidene pNPG7 37℃		
	U/I	277	Roche Integra 2-chloro-pNPG7 37℃		
	U/I	276	Other Roche 2-chloro-pNPG7 37℃		
	U/I	277	Roche liquid stable pNPG7 37℃		
AST (GOT)	U/I	149	Tris buffer without P5P 37℃		
	U/I	101	Tris buffer without P5P 30℃		
	U/I	71	Tris buffer without P5P 25℃		
Bicarbonate	mmol/l	14.2	Colorimetric		
	mmol/l	14.1	Enzymatic		
Bile Acids	μmol/l	40.5	Enzymatic Colorimetric		
Bilirubin Direct	μmol/l	29.7	Dichlorophenyl Diazonium (DPD)		
	mg/dl	1.74			
	μmol/l	29.9	Diazo with Sulphanilic Acid		
	mg/dl	1.75			
	μmol/l	29.7	Roche JG factored		
	mg/dl	1.74			
	μmol/l	29.4	Diazo with Dichloroaniline (DCA)		
	mg/dl	1.72			
Bilirubin Total	μmol/l	79.9	Diazo with Dichloroaniline (DCA)		
	mg/dl	4.67			



<b>CALIBRATION SE</b>	RUM L	EVEL	3 (CAL 3)
Roche Cobas 6000 c501 e601			nt. No. CAL2351
Size 20 x 5ml Expiry 2023-05-	28		
Analyte	unit	Target	methods
Bilirubin Total	µmol/l	79.7	Diazo with Sulphanilic Acid
	mg/dl	4.66	
	µmol/l	79.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.65	
	µmol/l	77.7	Nitrobenzenediazonium salt
	mg/dl	4.55	
	µmol/l	79.5	Diazonium ion
	mg/dl	4.65	
Calcium	mmol/l	3.21	Cresolphthalein complexone
	mg/dl	12.9	
	mmol/l	3.21	Arsenazo III
	mg/dl	12.9	
	mmol/l	3.21	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.91	Cholesterol Oxidase - Abell Kendall
	mg/dl	267	
	mmol/l	6.87	Cholesterol Oxidase - IDMS
	mg/dl	265	
Cholinesterase	U/I	5055	Colorimetric Benzoylcholine 37°C
	U/I	5028	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	478	CK-NAC serum start (DGKC) 37℃
	U/I	299	CK-NAC serum start (DGKC) 30℃
	U/I	203	CK-NAC serum start (DGKC) 25℃
	U/I	477	CK-NAC substrate start (DGKC) 37℃
	U/I	299	CK-NAC substrate start (DGKC) 30℃
	U/I	203	CK-NAC substrate start (DGKC) 25℃
	U/I	479	CK-NAC (IFCC) 37°C
	U/I	300	CK-NAC (IFCC) 30°C
	U/I	204	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	375	Alkaline picrate no deproteinization
	mg/dl	4.24	
	µmol/l	378	Enzymatic UV method
	mg/dl	4.27	Dacha Creatinina Diva
	µmol/l	380	Roche Creatinine Plus
	mg/dl	4.30	laffa vata blankad
	µmol/l	374	Jaffe rate blanked
	mg/dl	4.23	leffe vata blanked comp. ( OC uses!!!)
	µmol/l	399	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.51	leffe rate blanked composes to d ( 40 mms l//)
	µmol/l	393	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.44	



Size 20 x 5ml Expiry 2023-05-28	Roche Cobas 6000 c501 e601			WIND STEEDS!
DMS traceable   DMS traceab	<u> </u>	-		
mg/dl   4.30		_		
Samma-GT	Creatinine	'		IDMS traceable
U/I   123   Gamma glutamyl3-carboxy-4-nitroanilide 30°C   U/I   96   Gamma glutamyl3-carboxy-4-nitroanilide 25°C   U/I   135   Gamma Glutamyl3-Carboxy-4-nitroanilide (IFCC) 30°C   U/I   106   Gamma Glutamyl3-Carboxy-4-nitroanilide (IFCC) 25°C   U/I   106   Gamma Glutamyl3-Carboxy-4-nitroanilide (IFCC) 25°C   mmol/I   15.4   Hexokinase   mg/dl   276   mmol/I   15.4   Hexokinase   mg/dl   281   mmol/I   281   mmol/I   226   mmol/I   226   mmol/I   226   mmol/I   228   L.>P 37°C   U/I   37°2   L.>P 37°C   U/I   361   P.>L Scandinavian & Dutch 37°C   U/I   361   P.>L Scandinavian & Dutch 37°C   U/I   362   P.>L Scandinavian & Dutch 37°C   U/I   363   P.>L German methods 37°C   U/I   369   L.>P IFCC 30°C   U/I   361   P.>L German methods 25°C   U/I   269   L.>P IFCC 30°C   U/I   361   Roche Colorimetric 37°C   U/I   269   L.>P IFCC 30°C   U/I   361   L.42   mmol/I   2.00   Ion selective electrode   mg/dl   1.45   mmol/I   2.00   Ion selective electrode   mg/dl   1.45   mmol/I   2.00   Ion selective electrode   mg/dl   1.45   mmol/I   2.00   Ion selective electrode   mg/dl   1.44   mmol/I   2.00   Ion selective electrode   mg/dl   2.40   mmol/I   2.40   mmol/I   2.40   mmol/I   2.40   mmol/I   2.40   mmol/I   2.40   mmol/I   2.40   mmol				
U/I   96   Gamma glutamyl3-carboxy-4-nitroanilide (IFCC) 37°C   U/I   171   Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C   U/I   106   Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C   Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C   Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C   Gamma Glut	gamma-GT	-		
U/I				
U/I   135   Gamma Glutamyi-3-Carboxy-4-nitroanilide (IFCC) 30°C   Gamma Glutamyi-3-Carboxy-4-nitroanilide (IFCC) 25°C   mmol/I   15.3   Glucose dehydrogenase   mg/dl   276   mmol/I   15.4   Hexokinase   mg/dl   278   mmol/I   15.6   Glucose oxidase   mg/dl   281   mmol/I   40.4   Colorimetric with ppt.   ug/dl   226   ug/dl   228   ug				
U/I   106   Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C   mmol/I   15.3   Glucose dehydrogenase   mg/dl   276   mmol/I   15.4   Hexokinase   mg/dl   278   mmol/I   15.6   Glucose oxidase   mg/dl   281   mmol/I   226   mg/dl   228   mmol/I   248   mmol/I   248   mmol/I   249   mmol/I   249   L->P 37°C   U/I   269   L->P 30°C   U/I   189   L->P 25°C   U/I   2492   P->L Scandinavian & Dutch 37°C   U/I   269   P->L Scandinavian & Dutch 30°C   U/I   345   P->L Scandinavian & Dutch 25°C   U/I   351   P->L German methods 37°C   U/I   351   P->L German methods 30°C   U/I   351   P->L German methods 25°C   U/I   269   L->P IFCC 30°C   U/I   269   U/I   2		U/I		
Minor   15.3   Glucose dehydrogenase   mg/dl   276   mmol/l   15.4   Hexokinase   mg/dl   278   mmol/l   15.6   Glucose oxidase   mg/dl   281   mmol/l   281   226   mmol/l   226   mg/dl   228   mmol/l   228   mmol/l   228   mmol/l   228   mmol/l   228   mmol/l   228   mmol/l   228   mg/dl   228   mmol/l   238   mg/dl   248.  Lactate   mmol/l   5.37   Colorimetric without ppt.   mg/dl   48.4   mmol/l   269   L.>P 37°C   U/l   269   L.>P 30°C   U/l   189   L.>P 25°C   U/l   481   P.>L Scandinavian & Dutch 37°C   U/l   492   P.>L Scandinavian & Dutch 37°C   U/l   492   P.>L Scandinavian & Dutch 30°C   U/l   492   P.>L Scandinavian & Dutch 25°C   U/l   500   P.>L German methods 37°C   U/l   351   P.>L German methods 25°C   U/l   351   L.>P IFCC 37°C   U/l   269   L.>P IFCC 30°C   U/l   189   L.>P IFCC 30°C   U/l   54   Roche Turbidimetric with colipase 37°C   mg/dl   1.42   mmol/l   2.09   Ion selective electrode   mg/dl   1.44   mmol/l   2.09   Ion selective electrode   mg/dl   1.44   Magnesium   mmol/l   1.81   Arsenazo III   mg/dl   4.40   Magnesium   mmol/l   1.81   Arsenazo III   mg/dl   4.40   Magnesium   mmol/l   1.81   Arsenazo III   mg/dl   4.40   mmol/l   3.40   Magnesium   mmol/l   3.41   Arsenazo III   mg/dl   4.40   mmol/l   3.40   Magnesium   mmol/l   3.41   Arsenazo III   mg/dl   4.40   mmol/l   3.41   Magnesium   mmol/l   3.41   Arsenazo III   mg/dl   4.40   mmol/l   3.40   Magnesium   mmol/l   3.41   Arsenazo III   mg/dl   4.40   mmol/l   3.40   Magnesium   mmol/l   3.41   Arsenazo III   mg/dl   4.40   mmol/l   3.40   Magnesium   mmol/l   3.40   Magnesium   mmol/l   3.40   Magnesium   mmol/l   3.41   Magnesium   mmol/l   3.40   Magnesiu		_		
mg/dl   276     mmol/l   15.4   Hexokinase     mg/dl   278     mmol/l   281     mmol/l   281     mmol/l   40.4   Colorimetric with ppt.     μg/dl   226     μmol/l   40.8   Colorimetric without ppt.     μg/dl   228     μmol/l   48.4     μg/dl   372   L->P 37℃     U/l   372   L->P 37℃     U/l   189   L->P 25℃     U/l   345   P->L Scandinavian & Dutch 37℃     U/l   345   P->L Scandinavian & Dutch 25℃     U/l   371   L->P IFCC 37℃     U/l   373   L->P IFCC 37℃     U/l   373   L->P IFCC 37℃     U/l   373   L->P IFCC 37℃     U/l   369   L->P IFCC 37℃     U/l   369   L->P IFCC 37℃     U/l   373   L->P IFCC 37℃     U/l   369   L->P IFCC 37℃     U/l   360   L->P		U/I		Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
mmol/l   15.4   Hexokinase   mg/dl   278   mmol/l   15.6   Glucose oxidase   mg/dl   281   vmol/l   40.4   Colorimetric with ppt.   μg/dl   226   μmol/l   40.8   Colorimetric without ppt.   μg/dl   228   vmol/l   48.4   vmol/l   48.4   vmol/l   48.4   vmol/l   48.4   vmol/l   48.5   Colorimetric Lactate Oxidase   mg/dl   48.4   vmol/l   48.9   L->P 37°C   Vi/l   269   L->P 30°C   Vi/l   189   L->P 25°C   Vi/l   492   P->L Scandinavian & Dutch 37°C   Vi/l   345   P->L Scandinavian & Dutch 30°C   Vi/l   345   P->L Scandinavian & Dutch 30°C   Vi/l   345   P->L Scandinavian & Dutch 25°C   Vi/l   693   P->L German methods 30°C   Vi/l   351   P->L German methods 30°C   Vi/l   373   L->P IFCC 30°C   Vi/l   489   L->P IFCC 30°C   Vi/l   489   L->P IFCC 30°C   Vi/l   489   L->P IFCC 25°C   Vi/l   489   L->P IFCC 25°C   Vi/l   53   Roche Colorimetric 37°C   Vi/l   54   Roche Turbidimetric with colipase 37°C   mg/dl   1.42   mmol/l   2.09   Ion selective electrode   mg/dl   1.44   mmol/l   2.07   Spectrophotometric   mg/dl   1.44   mmol/l   2.07   Spectrophotometric   mg/dl   4.40   mmol/l   4	Glucose	mmol/l	15.3	Glucose dehydrogenase
mg/dl   278     mmol/l   15.6   Glucose oxidase     mg/dl   281     ron		mg/dl	276	
mmol/l   15.6   Glucose oxidase   mg/dl   281		mmol/l	15.4	Hexokinase
mg/dl   281		mg/dl	278	
		mmol/l	15.6	Glucose oxidase
Light   Ligh		mg/dl	281	
µmol/l   40.8   Colorimetric without ppt.   µg/dl   228	ron	µmol/l	40.4	Colorimetric with ppt.
Lactate		μg/dl	226	
		µmol/l	40.8	Colorimetric without ppt.
mg/dl		μg/dl	228	
D (LDH)   U/I   372	Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
U/I   269		mg/dl	48.4	
U/I   189	LD (LDH)	U/I	372	L->P 37℃
U/I   681		U/I	269	L->P 30℃
U/I   492		U/I	189	L->P 25℃
U/I   345		U/I	681	P->L Scandinavian & Dutch 37℃
U/I   693		U/I	492	P->L Scandinavian & Dutch 30℃
U/I   500   P->L German methods 30℃     U/I   351   P->L German methods 25℃     U/I   373   L->P IFCC 37℃     U/I   269   L->P IFCC 30℃     U/I   189   L->P IFCC 25℃     U/I   53   Roche Colorimetric 37℃     U/I   54   Roche Turbidimetric with colipase 37℃     Lithium   mmol/I   2.05   Flame photometry     mg/dI   1.42     mmol/I   2.09   Ion selective electrode     mg/dI   1.45     mmol/I   2.07   Spectrophotometric     mg/dI   1.44     Magnesium   mmol/I   1.81   Arsenazo III     mg/dI   4.40		U/I	345	P->L Scandinavian & Dutch 25℃
U/I   351		U/I	693	P->L German methods 37℃
U/I   373		U/I	500	P->L German methods 30℃
U/I   373		U/I	351	P->L German methods 25℃
U/I   269		_		
U/I   189		1		
Lipase         U/I         53         Roche Colorimetric 37℃           U/I         54         Roche Turbidimetric with colipase 37℃           Lithium         mmol/I         2.05         Flame photometry           mg/dI         1.42         Ion selective electrode           mg/dI         1.45         Ion selective electrode           mmol/I         2.07         Spectrophotometric           mg/dI         1.44           Magnesium         mmol/I         1.81         Arsenazo III           mg/dI         4.40		-		
U/I 54 Roche Turbidimetric with colipase 37℃  mmol/I 2.05 Flame photometry  mg/dI 1.42  mmol/I 2.09 Ion selective electrode  mg/dI 1.45  mmol/I 2.07 Spectrophotometric  mg/dI 1.44  Magnesium  mmol/I 1.81 Arsenazo III  mg/dI 4.40	ipase			
		U/I	54	Roche Turbidimetric with colipase 37℃
mg/dl	_ithium			*
mmol/l   2.09   Ion selective electrode   mg/dl   1.45   mmol/l   2.07   Spectrophotometric   mg/dl   1.44   Magnesium   mmol/l   1.81   Arsenazo III   mg/dl   4.40		mg/dl	1.42	
mg/dl				Ion selective electrode
mmol/l   2.07   Spectrophotometric   mg/dl   1.44   Magnesium   mmol/l   1.81   Arsenazo III   mg/dl   4.40		mg/dl		
mg/dl				Spectrophotometric
Magnesium mmol/l 1.81 Arsenazo III mg/dl 4.40		mg/dl		
mg/dl 4.40	Magnesium			Arsenazo III
		-		
		mmol/l	1.73	Atomic absorption
mg/dl 4.20				



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Magnesium	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
	mmol/l	1.72	Enzymatic
	mg/dl	4.18	
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate enzymatic
	mg/dl	6.85	
	mmol/l	2.23	Phosphomolybdate UV
	mg/dl	6.91	
Potassium	mmol/l	6.14	ISE method - indirect
Protein Total	g/I	43.9	Biuret reaction end point
	g/dl	4.39	8. (
	g/l	44.1	Biuret reaction kinetic
Sodium	g/dl mmol/l	4.41	ISE method - indirect
		159 42.2	FE+UIBC(saturation with iron)
TIBC	µmol/l	236	FETOIBC(Saturation with from)
	μg/dl μmol/l	42.8	Direct Colorimetric
	μg/dl	239	Direct Colonnellic
	µmol/l	44.1	Calculated from Transferrin
	µg/dl	247	Odiculated Hoff Transferrin
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
riigiyochiaco	mg/dl	254	Epacorer e 1711 no contection
	mmol/l	2.87	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	254	p
	mmol/l	2.86	L/G Kinase EP. no correction
	mg/dl	253	
	mmol/l	2.86	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	253	
	mmol/l	2.88	Lipase/Glycerol Dehydrogenase
	mg/dl	255	
Urea	mmol/l	20.2	Urease end point
	mg/dl	121	
	mmol/l	20.2	Urease kinetic
	mg/dl	121	
	mmol/l	20.2	BUN
	mg/dl	56.7	
Uric Acid (Urate)	mmol/l	0.547	Uricase catalase 340nm
	mg/dl	9.19	
	mmol/l	0.535	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.99	



CALIBRATION SERUM LEVEL 3 (CAL 3) Roche Cobas 6000 c501 e601 Lot, No. 1155UE Cat, No. CAL2351					
		SSUE Cal.	. NO. CAL2351		
Size 20 x 5ml Expiry 2023-05-2	8				
Analyte	unit	Target	methods		
Uric Acid (Urate)	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.00			
	mmol/l	0.535	Uricase Peroxidase with ascorbate oxidase @ 546nm		
	mg/dl	8.99			
Zinc	µmol/l	35.4	Colorimetric with deproteinisation		
	μg/dl	231			



<b>CALIBRATION SI</b>	ERUM I	LEVEL	3 (CAL 3)
Roche Cobas C111® Lot. N			
Size 20 x 5ml Expiry 2023-0	5-28		
Analyte	unit	Target	methods
Albumin	g/l	29.5	Bromocresol Green
	g/dl	2.95	
Alkaline Phosphatase	U/I	278	Roche Integra AMP buffer 37℃
	U/I	217	Roche Integra AMP buffer 30℃
	U/I	178	Roche Integra AMP buffer 25℃
	U/I	309	AMP optimised to IFCC 37℃
	U/I	241	AMP optimised to IFCC 30℃
	U/I	197	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	135	Tris buffer without P5P 37℃
	U/I	100	Tris buffer without P5P 30℃
	U/I	76	Tris buffer without P5P 25℃
Amylase Pancreatic	U/I	258	Roche EPS Liquid 37℃
Amylase Total	U/I	288	Other Roche 2-chloro-pNPG7 37℃
	U/I	284	Roche liquid stable pNPG7 37℃
AST (GOT)	U/I	147	Tris buffer without P5P 37℃
	U/I	99	Tris buffer without P5P 30℃
	U/I	70	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	31.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
	μmol/l	29.7	Diazo with Sulphanilic Acid
	mg/dl	1.74	
	μmol/l	31.2	Roche JG factored
	mg/dl	1.83	
Bilirubin Total	μmol/l	75.3	Diazo with Sulphanilic Acid
	mg/dl	4.41	
	μmol/l	75.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.43	
	µmol/l	79.3	Diazonium ion
	mg/dl	4.64	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.37	Arsenazo III
	mg/dl	13.5	
	mmol/l	3.20	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	119	ISE indirect
Cholesterol	mmol/l	7.05	Cholesterol Oxidase - Abell Kendall
	mg/dl	272	
	mmol/l	6.92	Cholesterol Oxidase - IDMS
	mg/dl	267	



CALIBRATION SE	RUM L	EVEL:	3 (CAL 3)
Roche Cobas C111® Lot. No.			
Size 20 x 5ml Expiry 2023-05-2	28		
Analyte	unit	Target	methods
CK Total	U/I	478	CK-NAC (IFCC) 37℃
	U/I	299	CK-NAC (IFCC) 30°C
	U/I	203	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	365	Alkaline picrate no deproteinization
	mg/dl	4.12	
	µmol/l	364	Roche Creatinine Plus
	mg/dl	4.11	
	µmol/l	362	Jaffe rate blanked
	mg/dl	4.09	
	µmol/l	389	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.40	
	µmol/l	382	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.32	
gamma-GT	U/I	154	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	121	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	95	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	162	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	128	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	100	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.6	Hexokinase
	mg/dl	280	
	mmol/l	15.5	Glucose oxidase
	mg/dl	279	
Iron	µmol/l	42.0	Colorimetric without ppt.
	μg/dl	235	
LD (LDH)	U/I	379	L->P IFCC 37℃
	U/I	274	L->P IFCC 30℃
	U/I	192	L->P IFCC 25℃
Magnesium	mmol/l	1.71	Chlorphosphonazo III
	mg/dl	4.16	
Phosphate Inorganic	mmol/l	2.33	Phosphomolybdate enzymatic
	mg/dl	7.22	
	mmol/l	2.28	Phosphomolybdate UV
	mg/dl	7.07	
Potassium	mmol/l	6.04	ISE method - indirect
Protein Total	g/l	45.1	Biuret reaction end point
0.1	g/dl	4.51	105
Sodium	mmol/l	158	ISE method - indirect
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	LOVingo ED no correction
	mmol/l	2.90	L/G Kinase EP. no correction
	mg/dl	257	



CALIBRATION S			
Roche Cobas C111® Lot.	No. 1155UE	Cat. No. Ca	AL2351
Size 20 x 5ml Expiry 2023	-05-28		
Analyte	unit	Target	methods
Triglycerides	mmol/l	2.96	Lipase/Glycerol Dehydrogenase
	mg/dl	262	
Urea	mmol/l	19.6	Urease kinetic
	mg/dl	118	
	mmol/l	19.6	BUN
	mg/dl	55.0	
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	
	mmol/l	0.544	Uricase Peroxidase with ascorbate oxidase @ 546nm
	ma/dl	9.14	



Roche Cobas C311® Lot. N	No. 1155UE	Cat. No. Ca	AL2351
Size 20 x 5ml Expiry 2023-0	05-28		
Analyte	unit	Target	methods
Albumin	g/l	30.0	Bromocresol Green
	g/dl	3.00	
	g/I	29.1	Bromocresol Purple
	g/dl	2.91	
Alkaline Phosphatase	U/I	272	Roche Integra AMP buffer 37℃
	U/I	212	Roche Integra AMP buffer 30℃
	U/I	174	Roche Integra AMP buffer 25℃
	U/I	277	AMP optimised to IFCC 37℃
	U/I	216	AMP optimised to IFCC 30℃
	U/I	177	AMP optimised to IFCC 25℃
ALT (GPT)	U/I	140	Tris buffer without P5P 37℃
	U/I	104	Tris buffer without P5P 30℃
	U/I	79	Tris buffer without P5P 25℃
Amylase Pancreatic	U/I	271	Immunoinhibition EPS substrate 37℃
	U/I	259	Roche EPS Liquid 37℃
Amylase Total	U/I	282	Other Roche 2-chloro-pNPG7 37℃
	U/I	279	Roche liquid stable pNPG7 37℃
AST (GOT)	U/I	149	Tris buffer without P5P 37℃
	U/I	101	Tris buffer without P5P 30℃
	U/I	71	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	14.2	Enzymatic
Bilirubin Direct	μmol/l	28.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	
	µmol/l	28.8	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	μmol/l	28.6	Roche JG factored
	mg/dl	1.67	
Bilirubin Total	µmol/l	84.3	Diazo with Dichloroaniline (DCA)
	mg/dl	4.93	
	µmol/l	80.1	Diazo with Sulphanilic Acid
	mg/dl	4.69	
	µmol/l	80.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.68	
	µmol/l	79.2	Diazonium ion
	mg/dl	4.63	
Calcium	mmol/l	3.24	Cresolphthalein complexone
	mg/dl	13.0	
	mmol/l	3.20	Arsenazo III
	mg/dl	12.8	



Size 20 x 5ml Expiry 2023	-05-28		
Analyte	unit	Target	methods
Calcium	mmol/l	3.22	NM-BAPTA
	mg/dl	12.9	
Chloride	mmol/l	116	ISE indirect
Cholesterol	mmol/l	6.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	269	
	mmol/l	6.98	Cholesterol Oxidase - IDMS
	mg/dl	269	
Cholinesterase	U/I	4942	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	488	CK-NAC substrate start (DGKC) 37℃
	U/I	305	CK-NAC substrate start (DGKC) 30℃
	U/I	207	CK-NAC substrate start (DGKC) 25℃
	U/I	483	CK-NAC (IFCC) 37℃
	U/I	302	CK-NAC (IFCC) 30℃
	U/I	205	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	381	Alkaline picrate no deproteinization
	mg/dl	4.30	
	µmol/l	383	Roche Creatinine Plus
	mg/dl	4.33	
	µmol/l	378	Jaffe rate blanked
	mg/dl	4.27	
	µmol/l	406	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.59	
	µmol/l	404	Jaffe rate blanked compensated (-18 μmol/l)
O.T.	mg/dl	4.57	0
gamma-GT	U/I	157	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	124	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	97	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	171	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/I	135	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
Clusoso	U/I mmol/I	106 15.5	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃  Hexokinase
Glucose	mg/dl	279	HEXONIIIASE
	mmol/l	15.7	Glucose oxidase
	mg/dl	283	Glucose oxidase
Iron	µmol/l	40.5	Colorimetric with ppt.
IIOII	μg/dl	226	Coloration with ppt.
	μmol/l	40.6	Colorimetric without ppt.
	μg/dl	227	
Lactate	mmol/l	5.40	Colorimetric Lactate Oxidase
	mg/dl	48.7	2
LD (LDH)	U/I	666	P->L German methods 37℃
(	U/I	481	P->L German methods 30°C
	U/I	338	P->L German methods 25℃
	0,1	555	



	No. 1155UE	Cat. No. Ca	ALZJJI
Size 20 x 5ml Expiry 2023-	05-28		
Analyte	unit	Target	methods
LD (LDH)	U/I	374	L->P IFCC 37℃
	U/I	270	L->P IFCC 30℃
	U/I	190	L->P IFCC 25℃
Lipase	U/I	63	Roche Turbidimetric with colipase 37℃
Magnesium	mmol/l	1.76	Atomic absorption
	mg/dl	4.28	
	mmol/l	1.77	Xylidyl Blue
	mg/dl	4.30	
	mmol/l	1.78	Chlorphosphonazo III
	mg/dl	4.33	
Phosphate Inorganic	mmol/l	2.26	Phosphomolybdate enzymatic
	mg/dl	7.01	
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.10	ISE method - indirect
Protein Total	g/I	43.8	Biuret reaction end point
	g/dl	4.38	
	g/l	45.5	Biuret reaction kinetic
	g/dl	4.55	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	41.0	FE+UIBC(saturation with iron)
<del></del>	μg/dl	229	L' (ODO DAD
Triglycerides	mmol/l	2.87	Lipase/GPO-PAP no correction
	mg/dl	254	Linear (ODO DAD 0.44
	mmol/l	2.87	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl mmol/l	254	L/G Kinase EP, no correction
		2.91	L/G Kinase EP. no correction
	mg/dl mmol/l	258	Lipase/Glycerol Dehydrogenase
	ł	2.90	Lipase/Glycerol Denydrogenase
Urea	mg/dl mmol/l	20.6	Urease end point
Olea	mg/dl	124	Orease end point
	mmol/l	20.3	Urease kinetic
	mg/dl	122	Orease killetic
	mmol/l	20.3	BUN
	mg/dl	57.0	BON
Uric Acid (Urate)	mmol/l	0.543	Uricase peroxidase with ascorbate oxidase
one riola (orate)	mg/dl	9.12	eses polonidado min addonado onidado
	mmol/l	0.540	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	ended polonidado no addonado onidado
	mmol/l	0.543	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl		The state of the s
	ma/dl	9.12	



<b>CALIBRATION S</b>	ERUM I	LEVEL	3 (CAL 3)
Roche Cobas c701 / c702 / c			
Size 20 x 5ml Expiry 2023-	05-28		
Analyte	unit	Target	methods
Albumin	g/l	29.9	Bromocresol Green
	g/dl	2.99	
	g/l	27.9	Turbidimetric Assays
	g/dl	2.79	
Alkaline Phosphatase	U/I	270	Roche Integra AMP buffer 37℃
	U/I	210	Roche Integra AMP buffer 30℃
	U/I	173	Roche Integra AMP buffer 25℃
ALT (GPT)	U/I	146	Tris buffer with P5P 37℃
	U/I	108	Tris buffer with P5P 30℃
	U/I	82	Tris buffer with P5P 25℃
	U/I	140	Tris buffer without P5P 37℃
	U/I	104	Tris buffer without P5P 30℃
	U/I	79	Tris buffer without P5P 25℃
Amylase Pancreatic	U/I	254	Immunoinhibition EPS substrate 37℃
	U/I	257	Roche EPS Liquid 37℃
Amylase Total	U/I	278	Roche liquid stable pNPG7 37℃
AST (GOT)	U/I	203	Tris buffer with P5P 37℃
	U/I	137	Tris buffer with P5P 30℃
	U/I	97	Tris buffer with P5P 25℃
	U/I	149	Tris buffer without P5P 37℃
	U/I	101	Tris buffer without P5P 30℃
	U/I	71	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	15.0	Enzymatic
Bilirubin Direct	µmol/l	30.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.79	
	µmol/l	29.8	Roche JG factored
	mg/dl	1.75	
Bilirubin Total	µmol/l	79.0	Diazo with Sulphanilic Acid
	mg/dl	4.62	
	µmol/l	78.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.59	
	µmol/l	78.2	Diazonium ion
	mg/dl	4.58	
Calcium	mmol/l	3.20	Cresolphthalein complexone
	mg/dl	12.8	
	mmol/l	3.19	NM-BAPTA
	mg/dl	12.8	
Chloride	mmol/l	117	ISE indirect
Cholesterol	mmol/l	6.88	Cholesterol Oxidase - Abell Kendall
	mg/dl	266	



<b>CALIBRATION S</b>	ERUM L	EVEL	3 (CAL 3)
Roche Cobas c701 / c702 / c		. 1155UE	Cat. No. CAL2351
Size 20 x 5ml Expiry 2023-			
Analyte	unit	Target	methods
Cholesterol	mmol/l	6.89	Cholesterol Oxidase - IDMS
	mg/dl	266	
Cholinesterase	U/I	5058	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	465	CK-NAC substrate start (DGKC) 37℃
	U/I	291	CK-NAC substrate start (DGKC) 30℃
	U/I	198	CK-NAC substrate start (DGKC) 25℃
	U/I	479	CK-NAC (IFCC) 37℃
	U/I	300	CK-NAC (IFCC) 30℃
	U/I	204	CK-NAC (IFCC) 25℃
Copper	μmol/l	25.6	Colorimetric
	μg/dl	163	
Creatinine	μmol/l	369	Enzymatic UV method
	mg/dl	4.17	
	μmol/l	380	Roche Creatinine Plus
	mg/dl	4.30	
	µmol/l	370	Jaffe rate blanked
	mg/dl	4.18	
	μmol/l	400	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	4.52	
	μmol/l	391	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	4.42	
	µmol/l	380	IDMS traceable
	mg/dl	4.29	
gamma-GT	U/I	151	Gamma glutamyl3-carboxy-4-nitroanilide 37℃
	U/I	119	Gamma glutamyl3-carboxy-4-nitroanilide 30℃
	U/I	93	Gamma glutamyl3-carboxy-4-nitroanilide 25℃
	U/I	166	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/I	131	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/I	102	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.4	Hexokinase
	mg/dl	277	
HDL - Cholesterol	mmol/l	3.26	Direct HDL Roche 4th Generation
	mg/dl	126	
Iron	µmol/l	40.0	Colorimetric without ppt.
	µg/dl	224	
Lactate	mmol/l	5.37	Colorimetric Lactate Oxidase
	mg/dl	48.4	
LD (LDH)	U/I	376	L->P IFCC 37℃
(	U/I	271	L->P IFCC 30°C
	U/I	191	L->P IFCC 25℃
Lithium	mmol/l	2.10	Spectrophotometric
Littidiii	mg/dl	1.46	oposi opriotorio iro
	my/ui	1.40	



CALIBRATION SEI			
Roche Cobas c701 / c702 / c711		1155UE	Cat. No. CAL2351
Size 20 x 5ml Expiry 2023-05-2	•		
Analyte	unit	Target	methods
Magnesium	mmol/l	1.75	Xylidyl Blue
	mg/dl	4.25	
	mmol/l	1.75	Chlorphosphonazo III
	mg/dl	4.25	
Osmolality	mOsm/kg	348	Calculated
Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV
	mg/dl	6.85	
Potassium	mmol/l	6.18	ISE method - indirect
Protein Total	g/l	43.6	Biuret reaction end point
	g/dl	4.36	
Sodium	mmol/l	161	ISE method - indirect
TIBC	µmol/l	44.4	FE+UIBC(saturation with iron)
	μg/dl	248	
Triglycerides	mmol/l	2.88	Lipase/GPO-PAP no correction
	mg/dl	255	
	mmol/l	2.83	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	250	
	mmol/l	2.93	L/G Kinase EP. no correction
	mg/dl	259	
	mmol/l	2.83	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	250	
Urea	mmol/l	20.0	Urease kinetic
	mg/dl	120	
	mmol/l	20.0	BUN
	mg/dl	56.1	
Uric Acid (Urate)	mmol/l	0.529	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.89	
	mmol/l	0.536	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	
	mmol/l	0.530	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.90	



Size 20 x 5ml Expiry 2023-	-05-28		
Analyte	unit	Target	methods
Albumin	g/l	29.8	Bromocresol Green
	g/dl	2.98	
Alkaline Phosphatase	U/I	527	Diethanolamine buffer DEA 37℃
	U/I	340	AMP optimised to IFCC 37℃
ALT (GPT)	U/I	149	Tris buffer without P5P 37℃
Amylase Pancreatic	U/I	290	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/I	312	Randox Liquid Ethylidene pNPG7 37℃
AST (GOT)	U/I	157	Tris buffer without P5P 37℃
Bile Acids	µmol/l	42.8	5th Generation Colorimetric
Bilirubin Direct	µmol/l	27.9	Diazo with Sulphanilic Acid
	mg/dl	1.63	
	µmol/l	28.5	Oxidation to Biliverdin/Vanadate
	mg/dl	1.67	
Bilirubin Total	µmol/l	84.1	Diazo with Sulphanilic Acid
	mg/dl	4.92	
	µmol/l	90.6	Oxidation to Biliverdin/Vanadate
	mg/dl	5.30	
Calcium	mmol/l	3.24	Arsenazo III
	mg/dl	13.0	
Cholesterol	mmol/l	7.59	Cholesterol Oxidase - Abell Kendall
	mg/dl	293	
CK Total	U/I	541	CK-NAC substrate start (DGKC) 37℃
	U/I	562	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	329	Alkaline picrate no deproteinization
	mg/dl	3.72	
	µmol/l	381	Enzymatic UV method
	mg/dl	4.31	
gamma-GT	U/I	180	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	14.6	Hexokinase
	mg/dl	263	
	mmol/l	15.6	Glucose oxidase
	mg/dl	281	
Iron	µmol/l	41.5	Colorimetric without ppt.
	μg/dl	232	
Lactate	mmol/l	5.25	Colorimetric Lactate Oxidase
	mg/dl	47.3	
LD (LDH)	U/I	775	P->L German methods 37℃
	U/I	367	L->P IFCC 37℃
Lipase	U/I	95	Randox Colorimetric 37℃



CALIBRATION SERUM LEVEL 3 (CAL 3)				
RX SERIES® Lot. No. 1155UE Cat. No. CAL2351				
28				
unit	Target	methods		
mmol/l	2.14	Colorimetric		
mg/dl	1.49			
mmol/l	1.78	Xylidyl Blue		
mg/dl	4.33			
mmol/l	2.24	Phosphomolybdate UV		
mg/dl	6.94			
mmol/l	6.25	Enzymatic		
g/l	46.2	Biuret reaction end point		
g/dl	4.62			
mmol/l	159	Enzymatic		
µmol/l	46.6	Direct Colorimetric		
μg/dl	260			
mmol/l	2.86	Lipase/GPO-PAP no correction		
mg/dl	253			
mmol/l	21.1	Urease kinetic		
mg/dl	127			
mmol/l	21.1	BUN		
mg/dl	59.2			
mmol/l	0.562	Uricase peroxidase no ascorbate oxidase		
mg/dl	9.44			
mmol/l	0.571	Uricase Peroxidase with ascorbate oxidase @ 546nm		
mg/dl	9.59			
	unit  mmol/l mg/dl mmol/l mg/dl mmol/l mg/dl mmol/l g/dl mmol/l g/dl mmol/l mg/dl	mmol/l 2.14 mg/dl 1.49 mmol/l 2.14 mg/dl 1.78 mg/dl 4.33 mmol/l 2.24 mg/dl 6.94 mmol/l 6.25 g/l 46.2 g/dl 4.62 mmol/l 159 μmol/l 46.6 μg/dl 260 mmol/l 2.86 mg/dl 253 mmol/l 21.1 mg/dl 127 mmol/l 21.1 mg/dl 59.2 mmol/l 0.562 mg/dl 9.44 mmol/l 0.571		



SIEMENS ATELLICA / ADV	IA 1200/1650/1	800/2400®	Lot. No. 1155UE Cat. No. CAL2351
Size 20 x 5ml Expiry 2023	-05-28		
Analyte	unit	Target	methods
Albumin	g/I	28.4	Bromocresol Green
	g/dl	2.84	
	g/I	27.4	Bromocresol Purple
	g/dl	2.74	
Alkaline Phosphatase	U/I	404	Diethanolamine buffer DEA 37℃
	U/I	296	AMP optimised to IFCC 37℃
ALT (GPT)	U/I	155	Tris buffer without P5P 37℃
	U/I	152	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Pancreatic	U/I	269	Immunoinhibition EPS substrate 37℃
Amylase Total	U/I	299	Siemens - blocked pNPG7 37℃
AST (GOT)	U/I	159	Tris buffer without P5P 37℃
	U/I	154	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	15.3	Enzymatic
Bilirubin Direct	μmol/l	26.8	Diazo with Sulphanilic Acid
	mg/dl	1.57	
	μmol/l	30.7	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	
Bilirubin Total	μmol/l	99.1	Diazo with Sulphanilic Acid
	mg/dl	5.80	
	μmol/l	95.5	Oxidation to Biliverdin/Vanadate
	mg/dl	5.58	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
	mmol/l	3.11	Arsenazo III
	mg/dl	12.5	
Chloride	mmol/l	120	ISE indirect
Cholesterol	mmol/l	7.15	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	
	mmol/l	7.05	Cholesterol Oxidase - IDMS
	mg/dl	272	
Cholinesterase	U/I	5821	Colorimetric Butyrylthiocholine 37℃
CK Total	U/I	515	CK-NAC (IFCC) 37℃
Creatinine	μmol/l	359	Alkaline picrate no deproteinization
	mg/dl	4.06	
	μmol/l	367	Enzymatic UV method
	mg/dl	4.15	
	μmol/l	371	Creatinine PAP method
	mg/dl	4.19	
	μmol/l	358	Jaffe rate blanked
	mg/dl	4.05	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400® Lot. No. 1155UE Cat. No. CAL2351  Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods		
Creatinine	µmol/l	389	Jaffe rate blanked comp. (-26 μmol/l)		
	mg/dl	4.40			
	µmol/l	377	Jaffe rate blanked compensated (-18 μmol/l)		
	mg/dl	4.26			
	μmol/l	364	IDMS traceable		
	mg/dl	4.11			
gamma-GT	U/I	166	Gamma glutamyl3-carboxy-4-nitroanilide 37℃		
	U/I	165	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃		
Glucose	mmol/l	14.9	Hexokinase		
	mg/dl	268			
	mmol/l	15.0	Glucose oxidase		
	mg/dl	270			
Iron	µmol/l	39.4	Colorimetric with ppt.		
	μg/dl	220			
	μmol/l	40.3	Colorimetric without ppt.		
	μg/dl	225			
Lactate	mmol/l	5.42	Colorimetric Lactate Oxidase		
	mg/dl	48.8			
LD (LDH)	U/I	356	L->P 37℃		
	U/I	723	P->L German methods 37℃		
	U/I	372	L->P IFCC 37℃		
Lipase	U/I	90	Other Colorimetric 37℃		
Lithium	mmol/l	2.04	Spectrophotometric		
	mg/dl	1.42			
Magnesium	mmol/l	1.73	Xylidyl Blue		
	mg/dl	4.20			
Phosphate Inorganic	mmol/l	2.27	Phosphomolybdate UV		
	mg/dl	7.04	105 # 1 : # 1		
Potassium	mmol/l	6.14	ISE method - indirect		
Protein Total	g/l	42.9	Biuret reaction end point		
	g/dl	4.29	B		
	g/l	43.7	Biuret reaction kinetic		
0!	g/dl	4.37	105 4 - 1 - 1 - 1 - 1		
Sodium	mmol/l	160	ISE method - indirect		
TIBC	µmol/l	44.4	Removal of excess free iron		
	μg/dl μmol/l	248 45.1	EE-LIBC(caturation with iran)		
	l'		FE+UIBC(saturation with iron)		
	μg/dl	252 45.4	Direct Colorimetric		
	µmol/l		Direct Colonnettic		
Triglyooridos	μg/dl mmol/l	254	Lingse/CDO DAD no correction		
Triglycerides		2.93	Lipase/GPO-PAP no correction		
	mg/dl	259			



CALIBRATION SERUM LEVEL 3 (CAL 3)				
SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400®			Lot. No. 1155UE Cat. No. CAL2351	
Size 20 x 5ml Expiry 2023-05-2	28			
Analyte	unit	Target	methods	
Triglycerides	mmol/l	2.87	L/G Kinase EP. no correction	
	mg/dl	254		
Urea	mmol/l	20.8	Urease end point	
	mg/dl	125		
	mmol/l	20.8	Urease kinetic	
	mg/dl	125		
	mmol/l	20.8	BUN	
	mg/dl	58.4		
Uric Acid (Urate)	mmol/l	0.554	Uricase peroxidase with ascorbate oxidase	
	mg/dl	9.31		
	mmol/l	0.552	Uricase peroxidase no ascorbate oxidase	
	mg/dl	9.27		
	mmol/l	0.572	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	9.61		



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	27.4	Bromocresol Green
	g/dl	2.74	
	g/l	27.0	Bromocresol Purple
	g/dl	2.70	
Alkaline Phosphatase	U/I	304	Siemens Dimension AMP buffer 37℃
	U/I	304	AMP optimised to IFCC 37℃
ALT (GPT)	U/I	153	Tris buffer with P5P 37℃
	U/I	153	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Total	U/I	347	Siemens - maltopenta/hexaoside 37℃
	U/I	342	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/I	191	Tris buffer with P5P 37℃
	U/I	191	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	15.9	Enzymatic
Bilirubin Direct	µmol/l	17.9	Diazo with Sulphanilic Acid
	mg/dl	1.05	
	µmol/l	17.5	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.02	
Bilirubin Total	µmol/l	83.2	Diazo with Sulphanilic Acid
	mg/dl	4.87	
Calcium	mmol/l	3.16	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	6.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	267	
	mmol/l	6.88	Dimension-Siemens reagents
	mg/dl	266	
Cholinesterase	U/I	8643	Colorimetric - Butyrythiochol. Dimension 37℃
CK Total	U/I	481	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	374	Alkaline picrate no deproteinization
	mg/dl	4.23	
	μmol/l	375	Enzymatic UV method
	mg/dl	4.23	
	µmol/l	374	Creatinine PAP method
	mg/dl	4.22	
	µmol/l	371	Jaffe rate blanked
	mg/dl	4.19	
	µmol/l	373	IDMS traceable
	mg/dl	4.21	
gamma-GT	U/I	175	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃



CALIBRATION SIEMENS DIMENSION EXL			. No. CAL2351
Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
gamma-GT	U/I	198	Siemens Dimension (non IFCC) 37℃
Glucose	mmol/l	15.2	Hexokinase
	mg/dl	274	
	mmol/l	15.1	Oxygen electrode
	mg/dl	272	
Iron	µmol/l	38.8	Colorimetric with ppt.
	μg/dl	217	
	µmol/l	38.8	Colorimetric without ppt.
2	μg/dl	217	
Lactate	mmol/l	5.49	UV LDH
1.D. (1.D.11)	mg/dl	49.5	1. D. 0779
LD (LDH)	U/I	355	L->P 37℃
	U/I U/I	352	Siemens Dimension L-P Non IFCC 37℃  L->P IFCC 37℃
Linean	U/I	359 264	
Lipase	mmol/l	1.73	Colorimetric Siemens Dimension (LIPL Kit) 37℃  Methylthymol blue
Magnesium	mg/dl	4.20	Methylitymol blue
Phosphate Inorganic	mmol/l	2.25	Phosphomolybdate enzymatic
Thospitate morganic	mg/dl	6.98	1 nosphomolybudic chzymulic
	mmol/l	2.25	Phosphomolybdate UV
	mg/dl	6.98	
Potassium	mmol/l	6.09	ISE method - indirect
Protein Total	g/l	45.3	Biuret reaction end point
	g/dl	4.53	
Sodium	mmol/l	159	ISE method - indirect
TIBC	µmol/l	37.0	FE+UIBC(saturation with iron)
	µg/dl	207	
	µmol/l	37.4	Direct Colorimetric
	μg/dl	209	
Triglycerides	mmol/l	2.85	Lipase/GPO-PAP no correction
	mg/dl	252	
	mmol/l	2.85	L/G Kinase EP. no correction
	mg/dl	252	
	mmol/l	2.79	Lipase/Glycerol Dehydrogenase
	mg/dl	247	
Urea	mmol/l	20.7	Urease end point
	mg/dl	124	
	mmol/l	20.9	Urease kinetic
	mg/dl	126	DIN
	mmol/l	20.9	BUN
Livia Apid (Livata)	mg/dl	58.7	Livings antalog 240mm
Uric Acid (Urate)	mmol/l	0.550	Uricase catalase 340nm
	mg/dl	9.24	



CALIBRATION SERUM LEVEL 3 (CAL 3)						
SIEMENS DIMENSION EXL® L	SIEMENS DIMENSION EXL® Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023-05-2	Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods			
Uric Acid (Urate)	mmol/l	0.553	Uricase peroxidase no ascorbate oxidase			
	mg/dl	9.29				
	mmol/l	0.554	Spectrophotometric at 280-290			
	mg/dl	9.31				



Size 20 x 5ml Expiry 2023	3-05-28		
Analyte	unit	Target	methods
Albumin	g/I	26.8	Bromocresol Green
	g/dl	2.68	
	g/I	27.1	Bromocresol Purple
	g/dl	2.71	
Alkaline Phosphatase	U/I	304	Siemens Dimension AMP buffer 37℃
	U/I	309	AMP optimised to IFCC 37℃
ALT (GPT)	U/I	155	Tris buffer with P5P 37℃
	U/I	155	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Pancreatic	U/I	261	Immunoinhibition EPS substrate 37℃
Amylase Total	U/I	337	Siemens - maltopenta/hexaoside 37℃
	U/I	344	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/I	196	Tris buffer with P5P 37℃
	U/I	192	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	16.1	Enzymatic
Bilirubin Direct	µmol/l	17.6	Diazo with Sulphanilic Acid
	mg/dl	1.03	
	µmol/l	17.8	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.04	
Bilirubin Total	µmol/l	84.0	Diazo with Sulphanilic Acid
	mg/dl	4.91	
Calcium	mmol/l	3.18	Cresolphthalein complexone
	mg/dl	12.7	
Chloride	mmol/l	118	ISE indirect
Cholesterol	mmol/l	6.89	Cholesterol Oxidase - Abell Kendall
	mg/dl	266	
	mmol/l	6.85	Dimension-Siemens reagents
	mg/dl	264	
Cholinesterase	U/I	8877	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/I	484	CK-NAC (IFCC) 37℃
Creatinine	μmol/l	377	Alkaline picrate no deproteinization
	mg/dl	4.26	
	μmol/l	365	Enzymatic UV method
	mg/dl	4.12	
	µmol/l	371	Creatinine PAP method
	mg/dl	4.19	
	µmol/l	383	Jaffe rate blanked
	mg/dl	4.32	
	µmol/l	371	IDMS traceable
	mg/dl	4.20	



Silements Diffeension Rexumax/Xpande 0         Lot. No. 1165UE Cat. No. CAL2351           Silez 2 o x 5ml Expiry 2023-05-28         monthods           Analyte gamma-GT         Url Url 178         Gamma Gutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C           Glucose memorial properties of month of the properties of the proper	<b>CALIBRATION SE</b>	RUM L	EVEL	3 (CAL 3)		
Analyte         unit         Target         methods           gamma-GT         UI         178         Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C           Ulus         197         Siemens Dimension (non IFCC) 37°C           Glucose         mmol/l         15.2         Glucose dehydrogenase           mg/dl         274         mmol/l         15.3         Hexokinase           mg/dl         276         leave in the pt.         pg/dl         pg/dl           lron         µmol/l         38.8         Colorimetric without ppt.         pg/dl         217           µmol/l         38.8         Colorimetric Lactate Oxidase         pg/dl         217           Lactate         mmol/l         5.45         Colorimetric Siemens Dimension LP Non IFCC 37°C           Lactate         mg/dl         49.0         UV LDH           LD (LDH)         U/l         354         Siemens Dimension LP Non IFCC 37°C           Lipse         U/l         357         L->P IFCC 37°C           Lipse         U/l         354         Siemens Dimension (LIPL Kit) 37°C           Lithium         mmol/l         2.33         Spectrophotometric           Magnesium         mmol/l         2.23         Spectrophotometric	· · · · · · · · · · · · · · · · · · ·					
Semana GT						
U/I   197   Siemens Dimension (non IFCC) 37°C						
Glucose         mmol/l mol/l mol	gamma-GT					
mg/dl   274   mmol/l   15.3   mg/dl   276   mg/dl   276   mg/dl   276   mg/dl   217   mmol/l   38.8   Colorimetric with ppt.   mg/dl   217   mmol/l   38.8   Colorimetric without ppt.   mg/dl   217   mmol/l   5.45   Colorimetric without ppt.   mmol/l   5.45   Mg/dl   49.1   mmol/l   49.0   Mg/dl   49.0						
Iron	Glucose			Glucose dehydrogenase		
Iron						
Iron				Hexokinase		
Ig/dl   217   Immol/  38.8   Colorimetric without ppt.   Ig/dl   217   Immol/  5.45   Colorimetric Lactate Oxidase   Immol/  5.44   UV LDH   Immol/  5.44   UV LDH   Immol/  5.44   Immol/  5.45   Immol/  5.46   Immol/  5.46   Immol/  5.46   Immol/  5.47   Immol/  5.46   Immo						
Punol/I   38.8   Colorimetric without ppt.	Iron	l'		Colorimetric with ppt.		
Lactate		_				
Lactate		'		Colorimetric without ppt.		
Mg/dl   49.1     mmol/l   5.44   UV LDH     mg/dl   49.0     LD (LDH)		<del>-  </del>				
Manifold   S.44	Lactate			Colorimetric Lactate Uxidase		
Mg/dl   49.0   Siemens Dimension L-P Non IFCC 37°C				LIVADU		
LD (LDH)				UV LDH		
U/I   357	LD (LDLI)			0: Di		
Lipase         U/I         267         Colorimetric Siemens Dimension (LIPL Kit) 37°C           Lithium         mmol/I         2.33         Spectrophotometric           mg/dI         1.62         Methylthymol blue           mg/dI         4.23         Phosphomolybdate enzymatic           Phosphate Inorganic         mmol/I         2.25         Phosphomolybdate enzymatic           mg/dI         6.98         mmol/I         6.98           Potassium         mmol/I         6.05         ISE method - indirect           Protein Total         g/I         45.2         Biuret reaction end point           g/dI         4.52         Biuret reaction end point           Sodium         mmol/I         37.4         Removal of excess free iron           µmol/I         37.4         Removal of excess free iron           µmol/I         38.5         FE+UIBC(saturation with iron)           µg/dI         215           µmol/I         37.7         Direct Colorimetric           µg/dI         215           µmol/I         2.82         Lipase/GPO-PAP no correction           mg/dI         250           mmol/I         2.85         Lipase/Glycerol Dehydrogenase           mg/dI         252	LD (LDH)					
Lithium         mmol/l mg/dl         2.33 spectrophotometric mg/dl         1.62 spectrophotometric mg/dl           Magnesium         mmol/l mg/dl         1.74 spectrophotometric mg/dl         Methylthymol blue           Phosphate Inorganic         mmol/l mg/dl         4.23 spectrophotometric mg/dl         Phosphomolybdate enzymatic mg/dl           Potassium         mmol/l mg/dl         6.98 spectrophotometric mg/dl         Phosphomolybdate enzymatic mg/dl           Protein Total         g/l spectrophotometric mg/dl         9.9 spectrophotometric mg/dl           Protein Total         g/l spectrophotometric mg/dl         9.9 spectrophotometric mg/dl           Sodium         mmol/l spectrophotometric mg/dl         15.5 spectrophotometric mg/dl           Protein Total         g/l spectrophotometric mg/dl         2.15 spectrophotometric mg/dl           Protein Total         9/l spectrophotometric mg/dl         2.50 spectrophotometric mg/dl           Protein Total         2.10 spectrophotometric mg/dl	12	_				
Magnesium   mg/dl   1.62   mmol/l   1.74   Methylthymol blue   mg/dl   4.23   mmol/l   2.25   Phosphate Inorganic   mmol/l   6.98   mmol/l   6.94   Phosphomolybdate UV   mg/dl   6.94   Protein Total   g/l   4.52   Biuret reaction end point   g/dl   2.52   mmol/l   37.4   Removal of excess free iron   μg/dl   2.09   μmol/l   38.5   FE+UIBC(saturation with iron)   μg/dl   2.15   μmol/l   37.7   Direct Colorimetric   μg/dl   2.11   Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction   mg/dl   247   mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mg/dl   252   Urease kinetic   Urease kinetic   Methylthymol blue   Methylthymol blue   mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mmol/l   2.50   Urease kinetic   Methylthymol blue   mmol/l   2.86   Lipase/Glycerol Dehydrogenase   mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mmol/l   2.85   Lipase Kinetic   Methylthymol blue   Methylthymologenase   mmol/l   2.85   Lipase Kinetic   Lipa						
Magnesium   mmol/l   1.74   Methylthymol blue   mg/dl   4.23	Litnium	-		Spectropnotometric		
Phosphate Inorganic	Magnagium			Masherithe me all blue		
Phosphate Inorganic         mmol/l mol/l mol/l e.98         2.25 mg/dl e.98         Phosphomolybdate enzymatic           mmol/l e.94         2.24 phosphomolybdate UV           Potassium         mmol/l e.94         6.94           Protein Total         g/l y/dl 45.2 g/dl 4.52         Biuret reaction end point           Sodium         mmol/l 158 p/dl 4.52         ISE method - indirect           TIBC         µmol/l 209 p/mol/l 209         Protein Total mol/l 209 p/mol/l 215           µmol/l 215 p/mol/l 215         PE+UIBC(saturation with iron) p/mol/l 211           Triglycerides         mmol/l 2.82 p/mol/l 250 mmol/l 2.82 Lipase/GPO-PAP no correction mol/l 2.79 mg/dl 247 mmol/l 2.47 mmol/l 2.85 Lipase/Glycerol Dehydrogenase mg/dl 252           Urea         mmol/l 2.88 Urease kinetic	wagnesium			Methylthymol blue		
mg/dl   6.98     mmol/l   2.24   Phosphomolybdate UV     mg/dl   6.94     Potassium   mmol/l   6.05   ISE method - indirect     Protein Total   g/l   45.2   Biuret reaction end point     g/dl   4.52     Sodium   mmol/l   158   ISE method - indirect     TIBC   μmol/l   37.4   Removal of excess free iron     μg/dl   209     μmol/l   38.5   FE+UIBC(saturation with iron)     μg/dl   215     μmol/l   37.7   Direct Colorimetric     μg/dl   211     Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction     mg/dl   247     mmol/l   2.85   Lipase/Glycerol Dehydrogenase     mg/dl   252     Urea   mmol/l   20.8   Urease kinetic	Dhaanhata Inarrania					
mmol/l   2.24   Phosphomolybdate UV	Phosphate Inorganic			Phosphomolypdate enzymatic		
Potassium   mmol/l   6.05   ISE method - indirect				Dheanhamal Indata LIV		
Potassium   mmol/l   6.05   ISE method - indirect		-		Phosphomolybuate ov		
Protein Total   g/l   45.2   Biuret reaction end point   g/dl   4.52	Dotaccium			ISE method indirect		
Sodium   mmol/l   158   ISE method - indirect     ISE method - indi						
Sodium	Protein rotal	1		Bluret reaction end point		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sodium			ISE method - indirect		
μg/dl   209     μmol/l   38.5   FE+UIBC(saturation with iron)     μg/dl   215     μmol/l   37.7   Direct Colorimetric     μg/dl   211     Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction     mmol/l   2.79   L/G Kinase EP. no correction     mg/dl   247     mmol/l   2.85   Lipase/Glycerol Dehydrogenase     mg/dl   252     Urea   mmol/l   20.8   Urease kinetic						
μmol/l   38.5   FE+UIBC(saturation with iron)     μg/dl   215     μmol/l   37.7   Direct Colorimetric     μg/dl   211     Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction     mg/dl   250     mmol/l   2.79   L/G Kinase EP. no correction     mg/dl   247     mmol/l   2.85   Lipase/Glycerol Dehydrogenase     mg/dl   252     Urea   mmol/l   20.8   Urease kinetic	TIBO	1.		Nemoval of excess free from		
$\frac{\mu g/dl}{\mu mol/l} = 215$ $\frac{\mu mol/l}{\mu g/dl} = 211$ Triglycerides $\frac{mmol/l}{mg/dl} = 2.82$ $\frac{mmol/l}{250} = 2.82$ $\frac{mmol/l}{mmol/l} = 2.79$ $\frac{2.47}{mmol/l} = 2.85$ $\frac{mg/dl}{252}$ Urea $\frac{\mu g/dl}{mmol/l} = 2.85$ $\frac{\mu g/dl}{20.8} = 2.85$ $\frac{\mu g/dl}{mmol/l} = 2.85$ $$		_		FF+LIBC(saturation with iron)		
μmol/l   37.7   Direct Colorimetric   μg/dl   211    Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction   mg/dl   250   mmol/l   2.79   L/G Kinase EP. no correction   mg/dl   247   mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mg/dl   252    Urea   mmol/l   20.8   Urease kinetic		1.		TE-OIDO(Saturation with non)		
μg/dl   211     Triglycerides   mmol/l   2.82   Lipase/GPO-PAP no correction   mg/dl   250     mmol/l   2.79   L/G Kinase EP. no correction   mg/dl   247     mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mg/dl   252     Urea   mmol/l   20.8   Urease kinetic				Direct Colorimetric		
Triglycerides		1.		Billion Colorinolate		
mg/dl   250     mmol/l   2.79   L/G Kinase EP. no correction   mg/dl   247     mmol/l   2.85   Lipase/Glycerol Dehydrogenase   mg/dl   252   Urease kinetic   mmol/l   20.8   Urease kinetic   mg/dl   250   Urease kinetic   mg/dl   20.8   Urease kinetic   mg/dl   20.8   Urease kinetic   mmol/l   20.8   Urease kinetic   Urease kinetic   Mmol/l   20.8   Urease kinetic   Urea	Triglycerides			Lipase/GPO-PAP no correction		
mmol/l   2.79	J ,	-		,		
mg/dl         247           mmol/l         2.85         Lipase/Glycerol Dehydrogenase           mg/dl         252           Urea         mmol/l         20.8         Urease kinetic				L/G Kinase EP. no correction		
mmol/l 2.85 Lipase/Glycerol Dehydrogenase mg/dl 252  Urea mmol/l 20.8 Urease kinetic		-				
mg/dl         252           Urea         mmol/l         20.8         Urease kinetic		_		Lipase/Glycerol Dehydrogenase		
Urea mmol/l 20.8 Urease kinetic						
	Urea			Urease kinetic		
		mg/dl				



CALIBRATION SERUM LEVEL 3 (CAL 3)					
SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1155UE Cat. No. CAL2351 Size 20 x 5ml Expiry 2023-05-28					
Analyte	unit	Target	methods		
Urea	mmol/l	20.8	BUN		
	mg/dl	58.4			
Uric Acid (Urate)	mmol/l	0.554	Uricase catalase 340nm		
	mg/dl	9.31			
	mmol/l	0.549	Uricase peroxidase with ascorbate oxidase		
	mg/dl	9.22			
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.26			
	mmol/l	0.552	Spectrophotometric at 280-290		
	mg/dl	9.27			



SIEMENS DIMENSION Vista® 10.1. No. 1155UE 10.1. No. CAL2351           Size 20 x 5ml Expiry 2023-05-28         Cat. No. CAL2351           Analyte         vint         Target methods           Albumin         g/l         27.3         Bromocresol Purple g/dl           g/d         2.73         Siemens Dimension AMP buffer 37°C           Alkaline Phosphatase         U/l         316         AMP optimised to IFCC 37°C           ALT (GPT)         U/l         340         Siemens Dimension AMP buffer 37°C           Amylase Total         U/l         340         Siemens 2-chloro-pNPG3 37°C           AST (GOT)         U/l         196         Tris buffer with P5P 37°C           May 10 mol/l         197         Discerbands Siemens Dade Standard Non IFCC Correlated 37°C           Bicarbonate         mmol/l         11.0         Enzymatic           Billrubin Direct         mmol/l         19.7         Diazo/Sulphanilic Siemens Dimension           Billrubin Total         mmol/l         83.0         Diazo with Sulphanilic Acid           mg/dl         4.85         Cresolphthalein complexone           mg/dl         4.85         Siemens Dimension reagents           Chloride         mmol/l         6.81         Dimension-Siemens reagents           mg/dl	CALIBRATION SE	RUM L	EVEL	3 (CAL 3)			
Analyte         unit         Target grid         methods           Albumin         g/l         27.3 gromocresol Purple           g/d         2.73         Bromocresol Purple           Alkaline Phosphatase         U/l         317         Siemens Dimension AMP buffer 37°C           U/l         316         AMP optimised to IFCC 37°C           ALT (GPT)         U/l         152         Tris buffer with PSP 37°C           Amylase Total         U/l         340         Siemens 2-chloro-pNPG3 37°C           AST (GOT)         U/l         196         Tris buffer with PSP 37°C           U/l         199         Siemens Dade Standard Non IFCC Correlated 37°C           Blarabonate         mmo/l         16.0         Enzymatic           Bilrubin Direct         µmo/l         19.7         Diazo/Sulphanilic Siemens Dimension           Bilirubin Total         µmo/l         19.7         Diazo/Sulphanilic Acid           mg/dl         4.85         Cresolphthalein complexone           Calcium         mmo/l         1.27         Interpretory (Cresolphthalein complexone           mg/dl         2.8         Cresolphthalein complexone           mg/dl         2.8         Cresolphthalein complexone           mg/dl         2.8 <td< th=""><th></th><th></th><th></th><th></th></td<>							
Albumin	Size 20 x 5ml Expiry 2023-05-28						
Alkaline Phosphatase	Analyte	unit	Target	methods			
Alkaline Phosphatase	Albumin	g/l	27.3	Bromocresol Purple			
MIT   316		g/dl	2.73				
ALT (GPT)	Alkaline Phosphatase	U/I	317	Siemens Dimension AMP buffer 37℃			
Amylase Total         U/I         340         Siemens 2-chloro-pNPG3 37°C           AST (GOT)         U/I         196         Tris buffer with PSP 37°C           U/I         199         Siemens Dade Standard Non IFCC Correlated 37°C           Bilirubin Direct         µmol/I         19.7         Diazo/Sulphanilic Siemens Dimension           Bilirubin Total         µmol/I         83.0         Diazo with Sulphanilic Acid           mg/dl         4.85         mol/I         3.18           Calcium         mmol/I         3.18         Cresolphthalein complexone           mg/dl         4.85         Les indirect           Chloride         mmol/I         6.95         Cholesterol Oxidase - Abell Kendall           mg/dl         268         Cholesterol Oxidase - Abell Kendall           mg/dl         268         Dimension-Siemens reagents           mg/dl         268         Dimension-Siemens reagents           mg/dl         4.33         Alkaline picrate no deproteinization           CK Total         U/I         493         CK-NAC (IFCC) 37°C           Creatinine         µmol/I         4.33         Alkaline picrate no deproteinization           gdlucse         nmol/I         15.1         Hexokinase           mg/dl		U/I	316	AMP optimised to IFCC 37℃			
AST (GOT)	ALT (GPT)	U/I	152	Tris buffer with P5P 37℃			
U/I   199   Siemens Dade Standard Non IFCC Correlated 37°C	Amylase Total	U/I	340	Siemens 2-chloro-pNPG3 37℃			
Bicarbonate         mmol/l         16.0         Enzymatic           Bilirubin Direct         µmol/l         19.7         Diazo/Sulphanilic Siemens Dimension           mg/dl         1.15         Diazo with Sulphanilic Acid           Bilirubin Total         µmol/l         83.0         Diazo with Sulphanilic Acid           mg/dl         4.85         Cresolphthalein complexone           mg/dl         12.7         Cresolphthalein complexone           Chloride         mmol/l         12.3         ISE indirect           Cholesterol         mmol/l         6.95         Cholesterol Oxidase - Abell Kendall           mg/dl         268         Pag/dl         268           mmol/l         6.81         Dimension-Siemens reagents           mg/dl         263         CK-NAC (IFCC) 37°C           Creatinine         µmol/l         383         Alkaline picrate no deproteinization           mg/dl         4.33         Alkaline picrate no deproteinization           gr/dl         4.33         Plexokinase           mg/dl         2.72           Iron         µmol/l         4.0         Colorimetric without ppt.           µg/dl         2.21         Protein Total         Methylthymol blue           Magnesium	AST (GOT)	U/I	196	Tris buffer with P5P 37℃			
Bilirubin Direct		U/I	199	Siemens Dade Standard Non IFCC Correlated 37℃			
Bilirubin Total	Bicarbonate	mmol/l	16.0	Enzymatic			
Bilirubin Total         µmol/I mg/dl         4.85         Diazo with Sulphanilic Acid           Calcium         mmol/I mg/dl         4.85           Chloride         mmol/I 12.7         1.25           Cholesterol         mmol/I 6.95 cholesterol Oxidase - Abell Kendall mg/dl         268           mmol/I 6.81 mg/dl         Dimension-Siemens reagents           CK Total         U/I 493 CK-NAC (IFCC) 37°C           Creatinine         µmol/I 383 mg/dl         Alkaline picrate no deproteinization           gamma-GT         U/I 206 Siemens Dimension (non IFCC) 37°C           Glucose         mmol/I 15.1 mg/dl         Hexokinase           mg/dl         272           Iron         µmol/I 40.0 colorimetric without ppt.           µg/dl         224           LD (LDH)         U/I 363 L->P IFCC 37°C           Lipase         U/I 329 Colorimetric Siemens Dimension (LIPL Kit) 37°C           Magnesium         mmol/I 1.85 methylthymol blue           mg/dl         4.50           Phosphate Inorganic         mmol/I 2.21 phosphonolybdate UV           protein Total         g/I 45.5 girler reaction end point           Sodium         mmol/I 161 ISE method - indirect           Triglycerides         mmol/I 161 ISE method - indirect	Bilirubin Direct	µmol/l	19.7	Diazo/Sulphanilic Siemens Dimension			
Calcium         mg/dl mol/l mol/l mol/l mol/l mol/l 12.7         3.18 cresolphthalein complexone mg/dl mol/l 12.7           Chloride         mmol/l mol/l mol/l 12.3 ISE indirect           Cholesterol         mmol/l 6.95 cholesterol Oxidase - Abell Kendall mg/dl 268 mmol/l 6.81 pimension-Siemens reagents           CK Total         U/l 493 CK-NAC (IFCC) 37°C           Creatinine         µmol/l 383 pimens Dimension (non IFCC) 37°C           Greatinine         µmol/l 4.33           gamma-GT         U/l 206 Siemens Dimension (non IFCC) 37°C           Glucose         mmol/l 15.1 Hexokinase mg/dl 272           Iron         µmol/l 40.0 Colorimetric without ppt.           µg/dl 224         L->P IFCC 37°C           Lipase         U/l 363 L->P IFCC 37°C           Lipase         U/l 363 L->P IFCC 37°C           Magnesium         mmol/l 1.85 Methylthymol blue mg/dl 4.50           Phosphate Inorganic         mmol/l 2.21 Phosphomolybdate UV           Potassium         mmol/l 6.02 ISE method - indirect           Protein Total         g/l 4.55           Sodium         mmol/l 161 ISE method - indirect           Triglycerides         mmol/l 161 ISE method - indirect           Triglycerides         mmol/l 3.05 Lipase/GPO-PAP no correction		mg/dl	1.15				
Calcium	Bilirubin Total	µmol/l	83.0	Diazo with Sulphanilic Acid			
Mg/dl   12.7   123   ISE indirect		mg/dl	4.85				
Cholesterol   mmol/I   123   ISE indirect	Calcium	mmol/l	3.18	Cresolphthalein complexone			
Cholesterol   mmol/l   6.95   Cholesterol Oxidase - Abell Kendall   mg/dl   268   mmol/l   6.81   Dimension-Siemens reagents   mg/dl   263   CK-NAC (IFCC) 37°C		mg/dl	12.7				
mg/dI         268           mmol/I         6.81         Dimension-Siemens reagents           mg/dI         263           CK Total         U/I         493         CK-NAC (IFCC) 37°C           Creatinine         µmol/I         383         Alkaline picrate no deproteinization           gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37°C           Glucose         mmol/I         15.1         Hexokinase           mg/dI         272         Iron         µmol/I         40.0         Colorimetric without ppt.           µg/dI         224         L>>P IFCC 37°C         Image: PIFCC 37°C           Lipase         U/I         363         L->P IFCC 37°C           Magnesium         mmol/I         1.85         Methylthymol blue           Phosphate Inorganic         mmol/I         4.50         Phosphomolybdate UV           Phosphate Inorganic         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           g/dI         4.55         Biuret reaction end point           g/dI         4.55         Biuret reaction end point end indirect           Triglycerides         mmol/I         161 <td>Chloride</td> <td>mmol/l</td> <td>123</td> <td>ISE indirect</td>	Chloride	mmol/l	123	ISE indirect			
mmol/l   6.81   Dimension-Siemens reagents   mg/dl   263	Cholesterol	mmol/l	6.95	Cholesterol Oxidase - Abell Kendall			
CK Total         U/I         493         CK-NAC (IFCC) 37°C           Creatinine         μmol/I         383         Alkaline picrate no deproteinization           gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37°C           Glucose         mmol/I         15.1         Hexokinase           mg/dI         272           Iron         μmol/I         40.0         Colorimetric without ppt.           μg/dI         224           LD (LDH)         U/I         363         L->P IFCC 37°C           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37°C           Magnesium         mmol/I         1.85         Methylthymol blue           mg/dI         4.50         Phosphomolybdate UV           Phosphate Inorganic         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction		mg/dl	268				
CK Total         U/I         493         CK-NAC (IFCC) 37°C           Creatinine         μmol/I         383         Alkaline picrate no deproteinization           gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37°C           Glucose         mmol/I         15.1         Hexokinase           mg/dl         272         Iron         μmol/I         40.0         Colorimetric without ppt.           Lipase         U/I         363         L->P IFCC 37°C           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37°C           Magnesium         mmol/I         1.85         Methylthymol blue           mg/dl         4.50         Phosphomolybdate UV           mg/dl         6.85         Potassium         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction		mmol/l	6.81	Dimension-Siemens reagents			
Creatinine         μmol/l         383         Alkaline picrate no deproteinization           gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37℃           Glucose         mmol/l         15.1         Hexokinase           mg/dl         272         Iron         μmol/l         40.0         Colorimetric without ppt.           LD (LDH)         U/I         363         L->P IFCC 37℃           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37℃           Magnesium         mmol/l         1.85         Methylthymol blue           mg/dl         4.50         Phosphomolybdate UV           Potassium         mmol/l         6.02         ISE method - indirect           Protein Total         g/l         45.5         Biuret reaction end point           Sodium         mmol/l         161         ISE method - indirect           Triglycerides         mmol/l         3.05         Lipase/GPO-PAP no correction		mg/dl	263				
gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37℃           Glucose         mmol/I         15.1         Hexokinase           mg/dl         272         Hexokinase           Iron         μmol/I         40.0         Colorimetric without ppt.           μg/dl         224         Logolorimetric Siemens Dimension (LIPL Kit) 37℃           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37℃           Magnesium         mmol/I         1.85         Methylthymol blue           mg/dl         4.50         Phosphate Inorganic         mmol/I         2.21         Phosphomolybdate UV           Potassium         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction	CK Total	U/I	493	CK-NAC (IFCC) 37°C			
gamma-GT         U/I         206         Siemens Dimension (non IFCC) 37℃           Glucose         mmol/I         15.1         Hexokinase           mg/dI         272           Iron         μmol/I         40.0         Colorimetric without ppt.           μg/dI         224           LD (LDH)         U/I         363         L->P IFCC 37℃           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37℃           Magnesium         mmol/I         1.85         Methylthymol blue           mg/dI         4.50         Phosphomolybdate UV           Phosphate Inorganic         mmol/I         2.21         Phosphomolybdate UV           mg/dI         6.85         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           g/dI         4.55         Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction	Creatinine	µmol/l	383	Alkaline picrate no deproteinization			
Soliucose   mmol/l   15.1   Hexokinase   mg/dl   272     Iron		mg/dl	4.33				
Iron         μmol/I μmol/I μmol/I μg/dI μmol/I μmo	gamma-GT	U/I	206	Siemens Dimension (non IFCC) 37℃			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Glucose	mmol/l	15.1	Hexokinase			
μg/dl         224           LD (LDH)         U/I         363         L->P IFCC 37℃           Lipase         U/I         329         Colorimetric Siemens Dimension (LIPL Kit) 37℃           Magnesium         mmol/I         1.85         Methylthymol blue           mg/dl         4.50         Phosphomolybdate UV           Potassium         mmol/I         6.85           Potassium         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point           g/dl         4.55           Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction		mg/dl	272				
LD (LDH)  Lipase  U/I  329  Colorimetric Siemens Dimension (LIPL Kit) 37℃  Magnesium  mmol/I  1.85  mg/dI  4.50  Phosphate Inorganic  mmol/I  Potassium  mmol/I  Potassium  mmol/I  6.02  ISE method - indirect  Protein Total  g/I  g/dI  4.55  Sodium  mmol/I  1.85  L->P IFCC 37℃  Methylthymol blue  Methylthymol blue  Methylthymol blue  ISE method - indirect  Biuret reaction end point  g/dI  4.55  Sodium  mmol/I  161  ISE method - indirect  Triglycerides  mmol/I  3.05  Lipase/GPO-PAP no correction	Iron	µmol/l	40.0	Colorimetric without ppt.			
Lipase U/I 329 Colorimetric Siemens Dimension (LIPL Kit) 37℃  Magnesium mmol/l 1.85 Methylthymol blue  mg/dl 4.50  Phosphate Inorganic mmol/l 2.21 Phosphomolybdate UV  mg/dl 6.85  Potassium mmol/l 6.02 ISE method - indirect  Protein Total g/l 45.5 Biuret reaction end point  g/dl 4.55  Sodium mmol/l 161 ISE method - indirect  Triglycerides mmol/l 3.05 Lipase/GPO-PAP no correction		μg/dl	224				
Magnesium         mmol/l mg/dl         1.85 methylthymol blue           Phosphate Inorganic         mmol/l 2.21 phosphomolybdate UV mg/dl         6.85           Potassium         mmol/l 6.02 ISE method - indirect           Protein Total         g/l 45.5 g/dl         Biuret reaction end point g/dl           Sodium         mmol/l 161 ISE method - indirect           Triglycerides         mmol/l 3.05 Lipase/GPO-PAP no correction	LD (LDH)	U/I	363	L->P IFCC 37℃			
mg/dl   4.50   Phosphate Inorganic   mmol/l   2.21   Phosphomolybdate UV   mg/dl   6.85   Potassium   mmol/l   6.02   ISE method - indirect   Protein Total   g/l   45.5   Biuret reaction end point   g/dl   4.55   Sodium   mmol/l   161   ISE method - indirect   ISE method - indirect   Triglycerides   mmol/l   3.05   Lipase/GPO-PAP no correction   Lipase/GPO-PAP no corr	Lipase	U/I	329	Colorimetric Siemens Dimension (LIPL Kit) 37℃			
Phosphate Inorganic         mmol/I mg/dI         2.21 phosphomolybdate UV           mg/dI         6.85           Potassium         mmol/I         6.02 ISE method - indirect           Protein Total         g/I         45.5 Biuret reaction end point g/dI           g/dI         4.55           Sodium         mmol/I         161 ISE method - indirect           Triglycerides         mmol/I         3.05 Lipase/GPO-PAP no correction	Magnesium	mmol/l	1.85	Methylthymol blue			
mg/dI         6.85           Potassium         mmol/I         6.02         ISE method - indirect           Protein Total         g/I         45.5         Biuret reaction end point g/dI           g/dI         4.55           Sodium         mmol/I         161         ISE method - indirect           Triglycerides         mmol/I         3.05         Lipase/GPO-PAP no correction		mg/dl	4.50				
Potassium         mmol/l         6.02         ISE method - indirect           Protein Total         g/l         45.5         Biuret reaction end point           g/dl         4.55           Sodium         mmol/l         161         ISE method - indirect           Triglycerides         mmol/l         3.05         Lipase/GPO-PAP no correction	Phosphate Inorganic	mmol/l	2.21	Phosphomolybdate UV			
Protein Total         g/l g/dl         45.5 g/dl         Biuret reaction end point g/dl           Sodium         mmol/l 161         ISE method - indirect           Triglycerides         mmol/l 3.05         Lipase/GPO-PAP no correction		mg/dl	6.85				
g/dl         4.55           Sodium         mmol/l         161         ISE method - indirect           Triglycerides         mmol/l         3.05         Lipase/GPO-PAP no correction	Potassium	mmol/l	6.02	ISE method - indirect			
Sodium mmol/l 161 ISE method - indirect  Triglycerides mmol/l 3.05 Lipase/GPO-PAP no correction	Protein Total	g/l	45.5	Biuret reaction end point			
Triglycerides mmol/l 3.05 Lipase/GPO-PAP no correction		g/dl	4.55				
	Sodium	mmol/l	161	ISE method - indirect			
mg/dl 270	Triglycerides	mmol/l	3.05	Lipase/GPO-PAP no correction			
		mg/dl	270				



CALIBRATION SERUM LEVEL 3 (CAL 3) SIEMENS DIMENSION Vista® Lot. No. 1155UE Cat. No. CAL2351					
Size 20 x 5ml Expiry 2023-05-2	28				
Analyte	unit	Target	methods		
Urea	mmol/l	20.5	Urease kinetic		
	mg/dl	123			
	mmol/l	20.5	BUN		
	mg/dl	57.5			
Uric Acid (Urate)	mmol/l	0.564	Uricase catalase 340nm		
	mg/dl	9.48			
	mmol/l	0.551	Uricase peroxidase no ascorbate oxidase		
	mg/dl	9.26			