

CALIBRATION SERUM LEVEL 2 (CAL 2)

CAT. NO. CAL 2350 **GTIN:** 05055273200959 **SIZE:** 20 x 5ml
LOT NO. 1588UN **EXPIRY:** 2024-10-28

INTENDED USE

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

SAFETY PRECAUTIONS AND WARNINGS

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

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

For *in vitro* diagnostic use only.

STORAGE AND STABILITY

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

PREPARATION FOR USE

Serum must only be reconstituted using the following procedure:

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

MATERIALS PROVIDED

Calibration Serum - Level 2
Cat No. CAL 2350 20 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Calibrated pipette, double deionised water.

LIMITATIONS

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

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

Alkaline Phosphatase is stable for 2 days at 2 - 8°C and levels in the reconstituted serum will rise over the stability period.

It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.

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

GLDH is stable for 1 day at 2 - 8°C.

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.

Due to the zinc content in some batches of rubber stoppers, the QC material should be aliquoted into suitable containers without rubber stoppers and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

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 Method section. If necessary, contact Randox Laboratories - Technical Services, Northern Ireland, tel: +44 (0) 28 9445 1070 or email Technical.Services@randox.com.

NOTES

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

EC REP Randox Teoranta, Meenmore,
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CALIBRATION SERUM LEVEL 2 (CAL 2)

METHOD Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	18.3	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	42.4	Bromocresol Green
	g/dl	4.24	
	g/l	43.7	Bromocresol Purple
	g/dl	4.37	
	g/l	42.6	Turbidimetric Assays
	g/dl	4.26	
Alkaline Phosphatase	U/l	299	Diethanolamine buffer DEA 37°C
	U/l	233	Diethanolamine buffer DEA 30°C
	U/l	191	Diethanolamine buffer DEA 25°C
	U/l	197	AMP optimised to IFCC 37°C
	U/l	153	AMP optimised to IFCC 30°C
	U/l	126	AMP optimised to IFCC 25°C
	U/l	220	AMP optimised to NVKC/SFBC 37°C
	U/l	171	AMP optimised to NVKC/SFBC 30°C
	U/l	141	AMP optimised to NVKC/SFBC 25°C
	U/l	198	AMP non-optimised 37°C
	U/l	154	AMP non-optimised 30°C
	U/l	127	AMP non-optimised 25°C
	U/l	190	Colorimetric 37°C
	U/l	148	Colorimetric 30°C
	U/l	121	Colorimetric 25°C
ALT (GPT)	U/l	42	Colorimetric 37°C
	U/l	31	Colorimetric 30°C
	U/l	24	Colorimetric 25°C
	U/l	43	Tris buffer with P5P 37°C
	U/l	32	Tris buffer with P5P 30°C
	U/l	24	Tris buffer with P5P 25°C
	U/l	40	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
	U/l	43	Phosphate buffer DGKC 37°C
	U/l	32	Phosphate buffer DGKC 30°C
	U/l	24	Phosphate buffer DGKC 25°C
	U/l	40	Tris buffer with P5P NVKC 37°C
	U/l	30	Tris buffer with P5P NVKC 30°C
	U/l	23	Tris buffer with P5P NVKC 25°C
	U/l	42	Tris buffer SCE 37°C
	U/l	31	Tris buffer SCE 30°C
	U/l	24	Tris buffer SCE 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

METHOD Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Amylase Pancreatic	U/l	63	Immuno-inhibition EPS substrate 37°C	
	U/l	61	Roche EPS Liquid 37°C	
	U/l	72	Randox Liquid Ethylidene pNPG7 37°C	
Amylase Total	U/l	91	pNP Maltotriose substrates 37°C	
	U/l	93	Siemens - blocked pNPG7 37°C	
	U/l	94	Randox Lyo. Ethylidene pNPG7 37°C	
	U/l	94	Randox Liquid Ethylidene pNPG7 37°C	
	U/l	88	Beckman Synchron CX4/CX5/CX7 37°C	
	U/l	91	Siemens - maltopenta/hexaoxide 37°C	
	U/l	81	Saccharogenic 37°C	
	U/l	88	Roche Integra 2-chloro-pNPG7 37°C	
	U/l	88	Other Roche 2-chloro-pNPG7 37°C	
	U/l	87	Roche liquid stable pNPG7 37°C	
	U/l	92	Siemens 2-chloro-pNPG3 37°C	
	U/l	89	bioMerieux 2-chloro-pNPG3 37°C	
	U/l	90	Beckman Coulter - blocked pNPG7 37°C	
	U/l	92	Beckman Synchron AMY7 37°C	
	U/l	86	Agappe - CNPG3 37°C	
	U/l	84	Weiner Amilokit (AU/dl) 37°C	
	U/l	85	I.L. 2-chloro-pNPG3 37°C	
	U/l	97	Abbott Architect IFCC Cal. 37°C	
	U/l	91	Abbott Architect Non-IFCC Cal. 37°C	
	U/l	82	Beckman CNPG3 (Extinction Coeff) 37°C	
	U/l	87	BM/Roche Colorimetric pNPG7 37°C	
	AST (GOT)	U/l	33	Colorimetric 37°C
		U/l	22	Colorimetric 30°C
U/l		16	Colorimetric 25°C	
U/l		40	Tris buffer with P5P 37°C	
U/l		27	Tris buffer with P5P 30°C	
U/l		19	Tris buffer with P5P 25°C	
U/l		33	Tris buffer without P5P 37°C	
U/l		22	Tris buffer without P5P 30°C	
U/l		16	Tris buffer without P5P 25°C	
U/l		34	Phosphate buffer DGKC 37°C	
U/l		23	Phosphate buffer DGKC 30°C	
U/l		16	Phosphate buffer DGKC 25°C	
U/l		33	Tris buffer with P5P NVKC 37°C	
U/l		22	Tris buffer with P5P NVKC 30°C	
U/l		16	Tris buffer with P5P NVKC 25°C	
U/l		34	Tris buffer SCE 37°C	
U/l		23	Tris buffer SCE 30°C	
U/l		16	Tris buffer SCE 25°C	

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Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Bicarbonate	mmol/l	11.1	Colorimetric
	mmol/l	10.3	Differential rate pH change
	mmol/l	10.9	Enzymatic
	mmol/l	11.6	Ion selective electrode
Bile Acids	µmol/l	24.3	4th Generation Colorimetric
	µmol/l	23.5	5th Generation Colorimetric
Bilirubin Direct	µmol/l	20.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.18	
	µmol/l	18.7	Diazo with Sulphanilic Acid
	mg/dl	1.09	
	µmol/l	20.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.18	
	µmol/l	18.2	Oxidation to Biliverdin/Vanadate
	mg/dl	1.06	
Bilirubin Total	µmol/l	28.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	
	µmol/l	29.8	Diazo with Sulphanilic Acid
	mg/dl	1.74	
	µmol/l	27.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.62	
	µmol/l	26.2	Nitrobenzenediazonium salt
	mg/dl	1.53	
Calcium	mmol/l	2.08	Cresolphthalein complexone
	mg/dl	8.34	
	mmol/l	2.14	Ion selective electrode
	mg/dl	8.58	
	mmol/l	2.16	Methylthymol blue
	mg/dl	8.66	
	mmol/l	2.13	Arsenazo III
	mg/dl	8.54	
Chloride	mmol/l	2.06	Phosponazo
	mg/dl	8.26	
	mmol/l	2.10	NM-BAPTA
	mg/dl	8.42	

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Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Chloride	mmol/l	93.5	ISE indirect
	mmol/l	96.4	ISE direct
	mmol/l	108	Optical Fluorescence
Cholesterol	mmol/l	4.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
	mmol/l	4.02	Cholesterol Oxidase - IDMS
	mg/dl	155	
	mmol/l	4.01	Cholesterol Dehydrogenase
	mg/dl	155	
Cholinesterase	U/l	5538	Colorimetric Benzoylcholine 37°C
	U/l	5727	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	196	CK-NAC serum start (DGKC) 37°C
	U/l	123	CK-NAC serum start (DGKC) 30°C
	U/l	83	CK-NAC serum start (DGKC) 25°C
	U/l	190	CK-NAC substrate start (DGKC) 37°C
	U/l	119	CK-NAC substrate start (DGKC) 30°C
	U/l	81	CK-NAC substrate start (DGKC) 25°C
	U/l	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C
	U/l	208	Monothioglycerol 37°C
	U/l	130	Monothioglycerol 30°C
	U/l	88	Monothioglycerol 25°C
	U/l	184	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	115	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	78	Dithioerythritol (DTE) IFCC correlated 25°C
	U/l	192	Creatinine phosphate substrate Start 37°C
	U/l	120	Creatinine phosphate substrate Start 30°C
	U/l	82	Creatinine phosphate substrate Start 25°C
Copper	µmol/l	16.3	Atomic absorption
	µg/dl	104	
	µmol/l	16.0	Colorimetric
	µg/dl	102	
Creatinine	µmol/l	130	Alkaline picrate with deproteinization
	mg/dl	1.47	
	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	132	Enzymatic UV method
	mg/dl	1.49	
	µmol/l	132	Creatinine PAP method
	mg/dl	1.49	
	µmol/l	130	Jaffe rate blanked
	mg/dl	1.47	

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Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Creatinine	µmol/l	158	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	1.79		
	µmol/l	147	Jaffe rate blanked compensated (-18 µmol/l)	
	mg/dl	1.66		
	µmol/l	130	IDMS traceable	
	mg/dl	1.47		
	gamma-GT	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
		U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
U/l		27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
U/l		43	Gamma glutamyl-4-nitroanilide 37°C	
U/l		34	Gamma glutamyl-4-nitroanilide 30°C	
U/l		27	Gamma glutamyl-4-nitroanilide 25°C	
U/l		46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
U/l		36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
U/l		28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
U/l		45	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C	
U/l		35	DCL gamma glutamyl-3-carboxy-4-nitroanilide 30°C	
U/l		28	DCL gamma glutamyl-3-carboxy-4-nitroanilide 25°C	
GLDH		U/l	48	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C	
	U/l	30	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
Glucose	U/l	16	Triethanolamine buffer 50 mmol 37°C	
	U/l	12	Triethanolamine buffer 50 mmol 30°C	
	U/l	10	Triethanolamine buffer 50 mmol 25°C	
Glucose	mmol/l	6.20	Glucose dehydrogenase	
	mg/dl	112		
	mmol/l	6.07	Hexokinase	
	mg/dl	109		
	mmol/l	5.97	Oxygen electrode	
	mg/dl	108		
	mmol/l	6.13	Glucose oxidase	
	mg/dl	110		
Iron	µmol/l	20.7	Colorimetric with ppt.	
	µg/dl	116		
	µmol/l	20.6	Colorimetric without ppt.	
	µg/dl	115		
	Lactate	mmol/l	1.54	Colorimetric Lactate Oxidase
mg/dl		13.9		
mmol/l		1.55	Enzymatic Electrode	
mg/dl		14.0		
	mmol/l	1.46	Ion selective electrode	
	mg/dl	13.2		
	mmol/l	1.48	UV LDH	
	mg/dl	13.3		

CALIBRATION SERUM LEVEL 2 (CAL 2)

METHOD Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
LD (LDH)	U/l	199	L->P 37°C
	U/l	144	L->P 30°C
	U/l	101	L->P 25°C
	U/l	418	P->L Scandinavian & Dutch 37°C
	U/l	302	P->L Scandinavian & Dutch 30°C
	U/l	212	P->L Scandinavian & Dutch 25°C
	U/l	397	P->L German methods 37°C
	U/l	287	P->L German methods 30°C
	U/l	201	P->L German methods 25°C
	U/l	400	P->L SFBC 37°C
	U/l	289	P->L SFBC 30°C
	U/l	203	P->L SFBC 25°C
	U/l	203	L->P IFCC 37°C
	U/l	147	L->P IFCC 30°C
	U/l	103	L->P IFCC 25°C
Lipase	U/l	33	Other Colorimetric 37°C
	U/l	33	Roche Colorimetric 37°C
	U/l	32	Roche Turbidimetric with colipase 37°C
	U/l	41	Randox Colorimetric 37°C
	U/l	130	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.00	Flame photometry
	mg/dl	0.696	
	mmol/l	0.972	Ion selective electrode
	mg/dl	0.675	
	mmol/l	1.00	Spectrophotometric
	mg/dl	0.697	
Magnesium	mmol/l	0.891	Arsenazo III
	mg/dl	2.17	
	mmol/l	0.917	Atomic absorption
	mg/dl	2.23	
	mmol/l	0.915	Calmagite
	mg/dl	2.22	
	mmol/l	0.921	Xylidyl Blue
	mg/dl	2.24	
	mmol/l	0.928	Methylthymol blue
	mg/dl	2.26	
Osmolality	mmol/l	0.926	Chlorphosphonazo III
	mg/dl	2.25	
	mmol/l	0.900	Enzymatic
	mg/dl	2.19	
	mOsm/kg	289	Calculated
	mOsm/kg	297	Freezing point depression

CALIBRATION SERUM LEVEL 2 (CAL 2)

METHOD Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Phosphate Inorganic	mmol/l	1.44	Phosphomolybdate enzymatic
	mg/dl	4.46	
	mmol/l	1.45	Phosphomolybdate UV
	mg/dl	4.50	
Potassium	mmol/l	4.04	Enzymatic
	mmol/l	4.01	Flame photometry
	mmol/l	3.93	ISE method - direct
	mmol/l	4.00	ISE method - indirect
	mmol/l	3.76	Optical Fluorescence
	mmol/l	3.92	Colorimetric
Protein Total	g/l	60.0	Biuret reaction end point
	g/dl	6.00	
	g/l	59.5	Biuret reaction kinetic
	g/dl	5.95	
Sodium	mmol/l	143	Enzymatic
	mmol/l	139	Flame photometry
	mmol/l	138	ISE method - direct
	mmol/l	140	ISE method - indirect
	mmol/l	138	Optical Fluorescence
	mmol/l	140	Colorimetric
TIBC	µmol/l	40.5	Removal of excess free iron
	µg/dl	226	
	µmol/l	42.1	FE+UIBC(saturation with iron)
	µg/dl	235	
	µmol/l	42.9	Direct Colorimetric
	µg/dl	240	
	µmol/l	42.2	Calculated from Transferrin
	µg/dl	236	
	µmol/l	48.2	Randox Direct
	µg/dl	269	
Triglycerides	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	
	mmol/l	1.07	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	
	mmol/l	1.07	L/G Kinase EP. no correction
	mg/dl	94.7	
	mmol/l	1.08	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	95.6	
mmol/l	1.07	Lipase/Glycerol Dehydrogenase	
mg/dl	94.7		
Urea	mmol/l	7.71	Urease end point
	mg/dl	46.3	
	mmol/l	7.73	Urease kinetic
	mg/dl	46.5	

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METHOD Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Urea	mmol/l	7.43	Urease hypochlorite
	mg/dl	44.7	
	mmol/l	7.73	BUN
	mg/dl	21.7	
Uric Acid (Urate)	mmol/l	0.354	Uricase catalase 340nm
	mg/dl	5.95	
	mmol/l	0.364	Reduction methods
	mg/dl	6.12	
	mmol/l	0.361	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.06	
	mmol/l	0.358	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.01	
mmol/l	0.353	Spectrophotometric at 280-290	
mg/dl	5.93		
Zinc	mmol/l	0.356	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	
Zinc	µmol/l	28.3	Colorimetric with deproteinisation
	µg/dl	185	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Albumin	g/l	42.5	Bromocresol Green	
	g/dl	4.25		
	g/l	43.7	Bromocresol Purple	
	g/dl	4.37		
Alkaline Phosphatase	U/l	188	AMP optimised to IFCC 37°C	
	U/l	186	AMP non-optimised 37°C	
	U/l	183	Colorimetric 37°C	
ALT (GPT)	U/l	41	Tris buffer without P5P 37°C	
Amylase Pancreatic	U/l	61	Immuno-inhibition EPS substrate 37°C	
Amylase Total	U/l	93	Abbott Architect IFCC Cal. 37°C	
	U/l	92	Abbott Architect Non-IFCC Cal. 37°C	
AST (GOT)	U/l	31	Tris buffer without P5P 37°C	
Bilirubin Direct	µmol/l	20.4	Dichlorophenyl Diazonium (DPD)	
	mg/dl	1.19		
	µmol/l	20.9	Diazo with Sulphanilic Acid	
	mg/dl	1.22		
Bilirubin Total	µmol/l	20.8	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.21		
Bilirubin Total	µmol/l	28.1	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.65		
	µmol/l	28.1	Diazo with Sulphanilic Acid	
	mg/dl	1.65		
	µmol/l	29.0	Dichlorophenyl Diazonium (DPD)	
	mg/dl	1.70		
	µmol/l	28.6	Diazonium ion	
	mg/dl	1.67		
Calcium	mmol/l	2.05	Arsenazo III	
	mg/dl	8.22		
Chloride	mmol/l	95.5	ISE indirect	
Cholesterol	mmol/l	3.98	Cholesterol Oxidase - Abell Kendall	
	mg/dl	154		
	mmol/l	3.99	Cholesterol Oxidase - IDMS	
	mg/dl	154		
Cholinesterase	mmol/l	3.98	Cholesterol Dehydrogenase	
	mg/dl	154		
Cholinesterase	U/l	6749	Colorimetric Butyrylthiocholine 37°C	
	CK Total	U/l	196	CK-NAC serum start (DGKC) 37°C
		U/l	201	CK-NAC substrate start (DGKC) 37°C
	U/l	195	CK-NAC (IFCC) 37°C	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
CK Total	U/l	207	Monothioglycerol 37°C
	U/l	197	Abbott CK-NAC (IFCC) 37°C
Copper	µg/dl	87.1	
Creatinine	µmol/l	131	Alkaline picrate with deproteinization
	mg/dl	1.48	
	µmol/l	133	Alkaline picrate no deproteinization
	mg/dl	1.50	
	µmol/l	132	Enzymatic UV method
	mg/dl	1.49	
	µmol/l	135	Jaffe rate blanked
	mg/dl	1.52	
	µmol/l	131	IDMS traceable
	mg/dl	1.48	
gamma-GT	U/l	45	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	47	Gamma glutamyl-4-nitroanilide 37°C
	U/l	45	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	44	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	5.96	Hexokinase
	mg/dl	107	
	mmol/l	6.05	Glucose oxidase
	mg/dl	109	
Iron	µmol/l	21.9	Colorimetric with ppt.
	µg/dl	122	
	µmol/l	21.8	Colorimetric without ppt.
	µg/dl	122	
Lactate	mmol/l	1.62	Colorimetric Lactate Oxidase
	mg/dl	14.6	
LD (LDH)	U/l	193	L->P 37°C
	U/l	192	L->P IFCC 37°C
Lipase	U/l	31	Other Colorimetric 37°C
Lithium	mmol/l	1.02	Spectrophotometric
	mg/dl	0.708	
Magnesium	mmol/l	0.879	Arsenazo III
	mg/dl	2.14	
	mmol/l	0.889	Xylidyl Blue
	mg/dl	2.16	
	mmol/l	0.885	Enzymatic
	mg/dl	2.15	
	Phosphate Inorganic	mmol/l	1.43
mg/dl		4.43	
	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Potassium	mmol/l	4.00	ISE method - indirect

CALIBRATION SERUM LEVEL 2 (CAL 2)

Abbott Alinity/ Architect c/ci Systems® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Protein Total	g/l	61.2	Biuret reaction end point
	g/dl	6.12	
	g/l	60.8	Biuret reaction kinetic
	g/dl	6.08	
Sodium	mmol/l	140	ISE method - indirect
TIBC	µmol/l	41.5	FE+UIBC(saturation with iron)
	µg/dl	232	
	µmol/l	45.4	Calculated from Transferrin
	µg/dl	254	
Triglycerides	mmol/l	1.02	Lipase/GPO-PAP no correction
	mg/dl	90.3	
	mmol/l	1.01	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	89.4	
	mmol/l	1.05	L/G Kinase EP. no correction
	mg/dl	92.9	
	mmol/l	1.02	Lipase/Glycerol Dehydrogenase
	mg/dl	90.3	
Urea	mmol/l	7.77	Urease end point
	mg/dl	46.7	
	mmol/l	7.80	Urease kinetic
	mg/dl	46.9	
	mmol/l	7.80	BUN
	mg/dl	21.9	
Uric Acid (Urate)	mmol/l	0.359	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.03	
	mmol/l	0.359	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.03	
	mmol/l	0.361	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.06	
Zinc	µmol/l	27.0	Colorimetric with deproteinisation
	µg/dl	176	

CALIBRATION SERUM LEVEL 2 (CAL 2)

ABX Pentra 400® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	41.5	Bromocresol Green
	g/dl	4.15	
Alkaline Phosphatase	U/l	189	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	22.0	Diazo with Sulphanilic Acid
	mg/dl	1.29	
	µmol/l	21.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.27	
Bilirubin Total	µmol/l	31.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.81	
	µmol/l	29.8	Diazo with Sulphanilic Acid
	mg/dl	1.74	
Calcium	mmol/l	2.16	Arsenazo III
	mg/dl	8.66	
Chloride	mmol/l	95.4	ISE direct
Cholesterol	mmol/l	4.07	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	
	mmol/l	4.08	Cholesterol Oxidase - IDMS
	mg/dl	157	
CK Total	U/l	190	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	
	µmol/l	125	Jaffe rate blanked
	mg/dl	1.41	
gamma-GT	U/l	41	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	41	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.25	Hexokinase
	mg/dl	113	
	mmol/l	6.18	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	20.3	Colorimetric without ppt.
	µg/dl	113	
LD (LDH)	U/l	404	P->L German methods 37°C
	U/l	215	L->P IFCC 37°C
Magnesium	mmol/l	0.905	Xylidyl Blue
	mg/dl	2.20	
Phosphate Inorganic	mmol/l	1.69	Phosphomolybdate UV
	mg/dl	5.24	
Potassium	mmol/l	3.96	ISE method - direct

CALIBRATION SERUM LEVEL 2 (CAL 2)

ABX Pentra 400® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Protein Total	g/l	63.3	Biuret reaction end point
	g/dl	6.33	
Sodium	mmol/l	138	ISE method - direct
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
Urea	mmol/l	7.27	Urease kinetic
	mg/dl	43.7	
	mmol/l	7.27	BUN
	mg/dl	20.4	
Uric Acid (Urate)	mmol/l	0.340	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	
	mmol/l	0.338	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.68	
	mmol/l	0.361	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.06	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	41.2	Bromocresol Green
	g/dl	4.12	
	g/l	40.8	Bromocresol Purple
	g/dl	4.08	
Alkaline Phosphatase	U/l	214	AMP optimised to IFCC 37°C
	U/l	207	AMP non-optimised 37°C
ALT (GPT)	U/l	43	Tris buffer without P5P 37°C
	U/l	42	Beckman Mod. IFCC Ref. without P5P 37°C
	U/l	42	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	55	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	89	pNP Maltotriose substrates 37°C
	U/l	87	Beckman Synchron CX4/CX5/CX7 37°C
	U/l	90	Beckman Coulter - blocked pNPG7 37°C
	U/l	92	Beckman Synchron AMY7 37°C
	U/l	82	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	36	Colorimetric 37°C
	U/l	35	Tris buffer without P5P 37°C
	U/l	35	Tris buffer SCE 37°C
	U/l	35	Beckman Mod. IFCC Ref. without P5P 37°C
Bicarbonate	mmol/l	11.2	Enzymatic
Bile Acids	µmol/l	23.9	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	20.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.19	
	µmol/l	19.5	Diazo with Sulphanilic Acid
	mg/dl	1.14	
	µmol/l	20.3	Diazo with Dichloroaniline (DCA)
	mg/dl	1.19	
Bilirubin Total	µmol/l	20.3	Diazo/ Sulphanilic Beckman DxC
	mg/dl	1.19	
	µmol/l	30.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.77	
	µmol/l	31.1	Diazo with Sulphanilic Acid
	mg/dl	1.82	
Bilirubin Total	µmol/l	31.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.84	
	µmol/l	32.3	Diazonium ion
	mg/dl	1.89	
	µmol/l	32.4	Oxidation to Biliverdin/Vanadate
	mg/dl	1.89	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	31.6	DPD (Beckman AU)
	mg/dl	1.85	
Calcium	mmol/l	2.12	Cresolphthalein complexone
	mg/dl	8.50	
	mmol/l	2.15	Ion selective electrode
	mg/dl	8.62	
	mmol/l	2.14	Arsenazo III
	mg/dl	8.58	
Chloride	mmol/l	93.9	ISE indirect
Cholesterol	mmol/l	4.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
	mmol/l	4.08	Cholesterol Oxidase - IDMS
	mg/dl	157	
	mmol/l	4.07	Cholesterol Dehydrogenase
	mg/dl	157	
Cholinesterase	U/l	6192	Colorimetric Benzoylcholine 37°C
	U/l	5521	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	200	CK-NAC (IFCC) 37°C
	U/l	208	Monothioglycerol 37°C
	U/l	191	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	127	Alkaline picrate with deproteinization
	mg/dl	1.44	
	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	133	Enzymatic UV method
	mg/dl	1.50	
	µmol/l	135	Creatinine PAP method
	mg/dl	1.53	
	µmol/l	132	Jaffe rate blanked
	mg/dl	1.50	
µmol/l	158	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	1.79		
µmol/l	146	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	1.65		
µmol/l	127	IDMS traceable	
mg/dl	1.43		
gamma-GT	U/l	46	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	Gamma glutamyl-4-nitroanilide 37°C
	U/l	47	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	47	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	46	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	17	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.18	GOD/02-Beckman method
	mg/dl	111	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.21	Glucose dehydrogenase
	mg/dl	112	
	mmol/l	6.12	Hexokinase
	mg/dl	110	
Iron	mmol/l	6.19	Glucose oxidase
	mg/dl	112	
	µmol/l	21.0	Colorimetric with ppt.
	µg/dl	117	
Lactate	µmol/l	20.8	Colorimetric without ppt.
	µg/dl	116	
	mmol/l	1.49	Colorimetric Lactate Oxidase
	mg/dl	13.4	
LD (LDH)	U/l	203	L->P 37°C
	U/l	425	P->L Scandinavian & Dutch 37°C
	U/l	202	L->P IFCC 37°C
	U/l	198	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	31	Other Colorimetric 37°C
Lithium	mmol/l	1.02	Ion selective electrode
	mg/dl	0.707	
	mmol/l	0.969	Spectrophotometric
	mg/dl	0.673	
Magnesium	mmol/l	0.940	Arsenazo III
	mg/dl	2.28	
	mmol/l	0.917	Calmagite
	mg/dl	2.23	
	mmol/l	0.925	Xylidyl Blue
	mg/dl	2.25	
	mmol/l	0.945	Methylthymol blue
	mg/dl	2.30	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate enzymatic
	mg/dl	4.43	
	mmol/l	1.43	Phosphomolybdate UV
	mg/dl	4.43	
Potassium	mmol/l	1.43	Beckman PHOSm (365nm)
	mg/dl	4.43	
	mmol/l	3.98	ISE method - indirect
	mg/dl	3.98	
Protein Total	g/l	59.7	Biuret reaction CX4/5/7
	g/dl	5.97	
	g/l	59.3	Biuret reaction end point
	g/dl	5.93	
	g/l	59.8	Biuret reaction kinetic
	g/dl	5.98	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman Coulter AU Series® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Sodium	mmol/l	140	ISE method - indirect	
TIBC	µmol/l	45.4	FE+UIBC(saturation with iron)	
	µg/dl	254		
	µmol/l	45.1	Direct Colorimetric	
	µg/dl	252		
Triglycerides	mmol/l	1.05	Lipase/GPO-PAP no correction	
	mg/dl	92.9		
	mmol/l	1.06	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	93.8		
	mmol/l	1.06	L/G Kinase EP. no correction	
	mg/dl	93.8		
Urea	mmol/l	1.03	L/G kinase EP. 0.11 mmol/l correction	
	mg/dl	91.2		
	mmol/l	1.07	Lipase/Glycerol Dehydrogenase	
	mg/dl	94.7		
	Urea	mmol/l	7.69	Beckman-Conductivity
		mg/dl	46.2	
mmol/l		7.78	Urease end point	
mg/dl		46.8		
mmol/l		7.88	Urease kinetic	
mg/dl		47.4		
Urea	mmol/l	7.72	Urease hypochlorite	
	mg/dl	46.4		
	mmol/l	7.88	BUN	
	mg/dl	22.1		
	Uric Acid (Urate)	mmol/l	0.363	Uricase peroxidase with ascorbate oxidase
		mg/dl	6.10	
mmol/l		0.363	Uricase peroxidase no ascorbate oxidase	
mg/dl		6.10		
mmol/l		0.364	Spectrophotometric at 280-290	
mg/dl	6.12			
Uric Acid (Urate)	mmol/l	0.365	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	6.13		
Zinc	µmol/l	27.4	Colorimetric without deprot.	
	µg/dl	179		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman DxC600/800® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	44.4	Bromocresol Purple
	g/dl	4.44	
Alkaline Phosphatase	U/l	192	AMP optimised to IFCC 37°C
	U/l	199	AMP non-optimised 37°C
ALT (GPT)	U/l	41	Beckman Mod. IFCC Ref. without P5P 37°C
Amylase Total	U/l	93	Beckman Coulter - blocked pNPG7 37°C
	U/l	93	Beckman Synchron AMY7 37°C
Bicarbonate	mmol/l	10.3	Differential rate pH change
Bilirubin Total	µmol/l	30.5	Diazo with Sulphanilic Acid
	mg/dl	1.78	
Calcium	mmol/l	2.07	Ion selective electrode
	mg/dl	8.30	
Chloride	mmol/l	94.1	ISE indirect
Cholesterol	mmol/l	3.92	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	
Cholinesterase	U/l	5563	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	196	CK-NAC (IFCC) 37°C
	U/l	209	Monothioglycerol 37°C
Creatinine	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	133	Jaffe rate blanked
	mg/dl	1.50	
gamma-GT	µmol/l	132	IDMS traceable
	mg/dl	1.49	
gamma-GT	U/l	37	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	5.98	Hexokinase
	mg/dl	108	
Iron	µmol/l	20.3	Colorimetric without ppt.
	µg/dl	113	
LD (LDH)	U/l	165	L->P 37°C
	U/l	502	Pyruvate 1.4 mM - Beckman LD-P 37°C
Lipase	U/l	35	Other Colorimetric 37°C
Magnesium	mmol/l	0.935	Calmagite
	mg/dl	2.27	
Phosphate Inorganic	mmol/l	1.51	Phosphomolybdate UV
	mg/dl	4.68	
Potassium	mmol/l	3.96	ISE method - indirect
Protein Total	g/l	58.4	Biuret reaction CX4/5/7
	g/dl	5.84	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Beckman DxC600/800® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Protein Total	g/l	60.7	Biuret reaction end point
	g/dl	6.07	
	g/l	59.3	Biuret reaction kinetic
	g/dl	5.93	
Sodium	mmol/l	138	ISE method - indirect
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
Urea	mmol/l	8.25	Urease kinetic
	mg/dl	49.6	
	mmol/l	8.25	BUN
	mg/dl	23.2	
Uric Acid (Urate)	mmol/l	0.356	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A15 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	43.0	Bromocresol Green
	g/dl	4.30	
Alkaline Phosphatase	U/l	190	AMP optimised to IFCC 37°C
	U/l	148	AMP optimised to IFCC 30°C
	U/l	121	AMP optimised to IFCC 25°C
	U/l	221	Diethanolamine buffer DEA 37°C
	U/l	172	Diethanolamine buffer DEA 30°C
	U/l	141	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	41	Tris buffer without P5P 37°C
	U/l	30	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
AST (GOT)	U/l	36	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
Calcium	mmol/l	2.23	Arsenazo III
	mg/dl	8.94	
Cholesterol	mmol/l	3.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
	mmol/l	4.03	Cholesterol Oxidase - IDMS
	mg/dl	156	
Creatinine	µmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	
	µmol/l	128	Jaffe rate blanked
	mg/dl	1.45	
gamma-GT	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.15	Glucose oxidase
	mg/dl	111	
LD (LDH)	U/l	407	P->L German methods 37°C
	U/l	294	P->L German methods 30°C
	U/l	206	P->L German methods 25°C
Protein Total	g/l	60.6	Biuret reaction end point
	g/dl	6.06	
Triglycerides	mmol/l	1.04	Lipase/GPO-PAP no correction
	mg/dl	92.0	
Urea	mmol/l	7.60	Urease end point
	mg/dl	45.7	
	mmol/l	7.40	Urease kinetic
	mg/dl	44.5	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A15 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Urea	mmol/l	7.40	BUN
	mg/dl	20.8	
Uric Acid (Urate)	mmol/l	0.359	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.03	
	mmol/l	0.364	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.12	
	mmol/l	0.356	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	

CALIBRATION SERUM LEVEL 2 (CAL 2)

BIOSYSTEMS A25 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	43.3	Bromocresol Green
	g/dl	4.33	
ALT (GPT)	U/l	45	Tris buffer without P5P 37°C
	U/l	33	Tris buffer without P5P 30°C
	U/l	25	Tris buffer without P5P 25°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
	U/l	25	Tris buffer without P5P 30°C
	U/l	18	Tris buffer without P5P 25°C
Cholesterol	mmol/l	4.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
	mmol/l	3.95	Cholesterol Oxidase - IDMS
	mg/dl	152	
Creatinine	µmol/l	126	Alkaline picrate no deproteinization
	mg/dl	1.43	
gamma-GT	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.14	Glucose oxidase
	mg/dl	111	
LD (LDH)	U/l	404	P->L German methods 37°C
	U/l	292	P->L German methods 30°C
	U/l	205	P->L German methods 25°C
Magnesium	mmol/l	0.875	Xylidyl Blue
	mg/dl	2.13	
Phosphate Inorganic	mmol/l	1.24	Phosphomolybdate UV
	mg/dl	3.84	
Protein Total	g/l	60.4	Biuret reaction end point
	g/dl	6.04	
Triglycerides	mmol/l	1.03	Lipase/GPO-PAP no correction
	mg/dl	91.2	
Urea	mmol/l	6.92	Urease end point
	mg/dl	41.6	
	mmol/l	7.15	Urease kinetic
	mg/dl	43.0	
Uric Acid (Urate)	mmol/l	7.15	BUN
	mg/dl	20.1	
	mmol/l	0.375	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.30	
mmol/l	0.366	Uricase peroxidase no ascorbate oxidase	
mg/dl	6.15		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	41.9	Bromocresol Green
	g/dl	4.19	
Alkaline Phosphatase	U/l	300	Diethanolamine buffer DEA 37°C
	U/l	234	Diethanolamine buffer DEA 30°C
	U/l	192	Diethanolamine buffer DEA 25°C
	U/l	203	AMP optimised to IFCC 37°C
	U/l	158	AMP optimised to IFCC 30°C
	U/l	130	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	42	Tris buffer without P5P 37°C
	U/l	31	Tris buffer without P5P 30°C
	U/l	24	Tris buffer without P5P 25°C
AST (GOT)	U/l	35	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.04	
	µmol/l	19.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.16	
Bilirubin Total	µmol/l	31.3	Diazo with Sulphanilic Acid
	mg/dl	1.83	
	µmol/l	25.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.48	
Calcium	mmol/l	2.00	Cresolphthalein complexone
	mg/dl	8.02	
	mmol/l	2.15	Arsenazo III
	mg/dl	8.62	
Chloride	mmol/l	97.6	Colorimetric
Cholesterol	mmol/l	3.98	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
	mmol/l	4.07	Cholesterol Oxidase - IDMS
	mg/dl	157	
Cholinesterase	U/l	5208	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	201	CK-NAC (IFCC) 37°C
	U/l	126	CK-NAC (IFCC) 30°C
	U/l	85	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	133	Alkaline picrate no deproteinization
	mg/dl	1.51	
	µmol/l	129	Creatinine PAP method
	mg/dl	1.45	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Biotechnica/Wiener BT and CB Series Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Creatinine	µmol/l	136	Jaffe rate blanked
	mg/dl	1.54	
	µmol/l	154	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.74	
gamma-GT	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	42	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	33	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	26	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.11	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	18.5	Colorimetric with ppt.
	µg/dl	103	
	µmol/l	20.3	Colorimetric without ppt.
	µg/dl	113	
LD (LDH)	U/l	352	P->L German methods 37°C
	U/l	254	P->L German methods 30°C
	U/l	178	P->L German methods 25°C
	U/l	405	P->L SFBC 37°C
	U/l	292	P->L SFBC 30°C
	U/l	205	P->L SFBC 25°C
Magnesium	mmol/l	0.999	Calmagite
	mg/dl	2.43	
	mmol/l	0.952	Xylidyl Blue
	mg/dl	2.31	
Phosphate Inorganic	mmol/l	1.55	Phosphomolybdate UV
	mg/dl	4.81	
Potassium	mmol/l	3.88	ISE method - direct
Protein Total	g/l	62.7	Biuret reaction end point
	g/dl	6.27	
Sodium	mmol/l	135	ISE method - direct
Triglycerides	mmol/l	1.04	Lipase/GPO-PAP no correction
	mg/dl	92.0	
Urea	mmol/l	7.71	Urease kinetic
	mg/dl	46.3	
	mmol/l	7.71	BUN
	mg/dl	21.6	
Uric Acid (Urate)	mmol/l	0.378	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.35	
	mmol/l	0.368	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.18	
	mmol/l	0.367	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.17	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	44.8	Bromocresol Green
	g/dl	4.48	
	g/l	42.7	Turbidimetric Assays
	g/dl	4.27	
Alkaline Phosphatase	U/l	186	Roche Integra AMP buffer 37°C
	U/l	145	Roche Integra AMP buffer 30°C
	U/l	119	Roche Integra AMP buffer 25°C
	U/l	185	AMP optimised to IFCC 37°C
	U/l	144	AMP optimised to IFCC 30°C
	U/l	118	AMP optimised to IFCC 25°C
	U/l	189	Colorimetric 37°C
	U/l	147	Colorimetric 30°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	62	Roche EPS Liquid 37°C
Amylase Total	U/l	87	pNP Maltotrioxide substrates 37°C
	U/l	89	Roche Integra 2-chloro-pNPG7 37°C
	U/l	88	Roche liquid stable pNPG7 37°C
	U/l	89	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	30	Tris buffer without P5P 37°C
	U/l	20	Tris buffer without P5P 30°C
	U/l	14	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	11.5	Enzymatic
Bilirubin Direct	µmol/l	20.5	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.20	
	µmol/l	20.3	Diazo with Sulphanilic Acid
	mg/dl	1.19	
	µmol/l	20.5	Roche DPD JG standardised
	mg/dl	1.20	
	µmol/l	19.6	Diazo with Dichloroaniline (DCA)
	mg/dl	1.15	
Bilirubin Total	µmol/l	28.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	
	µmol/l	27.7	Diazo with Sulphanilic Acid
	mg/dl	1.62	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	27.7	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.62	
	µmol/l	27.6	Diazonium ion
	mg/dl	1.62	
Calcium	mmol/l	2.07	Cresolphthalein complexone
	mg/dl	8.30	
	mmol/l	2.07	Arsenazo III
	mg/dl	8.30	
Calcium	mmol/l	2.10	NM-BAPTA
	mg/dl	8.42	
Chloride	mmol/l	94.9	ISE indirect
Cholesterol	mmol/l	3.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	
	mmol/l	3.97	Cholesterol Oxidase - IDMS
Cholesterol	mg/dl	153	
Cholinesterase	U/l	5537	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	183	CK-NAC serum start (DGKC) 37°C
	U/l	115	CK-NAC serum start (DGKC) 30°C
	U/l	78	CK-NAC serum start (DGKC) 25°C
	U/l	194	CK-NAC substrate start (DGKC) 37°C
	U/l	121	CK-NAC substrate start (DGKC) 30°C
	U/l	82	CK-NAC substrate start (DGKC) 25°C
	U/l	189	CK-NAC (IFCC) 37°C
	U/l	118	CK-NAC (IFCC) 30°C
	U/l	80	CK-NAC (IFCC) 25°C
	U/l	183	Creatinine phosphate substrate Start 37°C
	U/l	115	Creatinine phosphate substrate Start 30°C
	U/l	78	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	128	Alkaline picrate with deproteinization
	mg/dl	1.44	
	µmol/l	128	Alkaline picrate no deproteinization
	mg/dl	1.45	
	µmol/l	130	Roche Creatinine Plus
	mg/dl	1.47	
	µmol/l	120	Jaffe rate blanked
	mg/dl	1.36	
	µmol/l	151	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.71	
Creatinine	µmol/l	145	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.64	
	µmol/l	136	IDMS traceable
	mg/dl	1.53	
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
gamma-GT	U/l	45	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.19	Hexokinase
	mg/dl	112	
	mmol/l	6.20	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	21.3	Colorimetric with ppt.
	µg/dl	119	
	µmol/l	21.0	Colorimetric without ppt.
	µg/dl	117	
Lactate	mmol/l	1.57	Colorimetric Lactate Oxidase
	mg/dl	14.1	
LD (LDH)	U/l	207	L->P 37°C
	U/l	149	L->P 30°C
	U/l	105	L->P 25°C
	U/l	209	L->P IFCC 37°C
	U/l	151	L->P IFCC 30°C
	U/l	106	L->P IFCC 25°C
Lipase	U/l	32	Roche Colorimetric 37°C
	U/l	32	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	0.970	Ion selective electrode
	mg/dl	0.674	
Magnesium	mmol/l	0.930	Xylidyl Blue
	mg/dl	2.26	
	mmol/l	0.928	Chlorphosphonazo III
	mg/dl	2.26	
Phosphate Inorganic	mmol/l	1.48	Phosphomolybdate enzymatic
	mg/dl	4.59	
	mmol/l	1.49	Phosphomolybdate UV
	mg/dl	4.62	
Potassium	mmol/l	3.98	ISE method - indirect
Protein Total	g/l	57.9	Biuret reaction end point
	g/dl	5.79	
	g/l	57.4	Biuret reaction kinetic
	g/dl	5.74	
Sodium	mmol/l	139	ISE method - indirect
TIBC	µmol/l	41.5	FE+UIBC(saturation with iron)
	µg/dl	232	
Triglycerides	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	

CALIBRATION SERUM LEVEL 2 (CAL 2)

COBAS INTEGRA® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	
	mmol/l	1.07	L/G Kinase EP. no correction
	mg/dl	94.7	
	mmol/l	1.06	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	93.8	
	mmol/l	1.08	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	
Urea	mmol/l	7.44	Urease end point
	mg/dl	44.7	
	mmol/l	7.51	Urease kinetic
	mg/dl	45.1	
	mmol/l	7.51	BUN
	mg/dl	21.1	
Uric Acid (Urate)	mmol/l	0.362	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.08	
	mmol/l	0.367	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.17	
	mmol/l	0.363	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.10	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Elitech/Vitalab Selectra Series Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.6	Bromocresol Green
	g/dl	4.26	
ALT (GPT)	U/l	42	Tris buffer without P5P 37°C
AST (GOT)	U/l	35	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	14.8	Diazo with Sulphanilic Acid
	mg/dl	0.866	
Calcium	mmol/l	2.16	Arsenazo III
	mg/dl	8.66	
Cholesterol	mmol/l	4.07	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	
	mmol/l	3.89	Cholesterol Oxidase - IDMS
	mg/dl	150	
CK Total	U/l	192	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	136	Alkaline picrate no deproteinization
	mg/dl	1.53	
	µmol/l	125	Creatinine PAP method
	mg/dl	1.41	
	µmol/l	129	Jaffe rate blanked
	mg/dl	1.46	
gamma-GT	U/l	47	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.20	Hexokinase
	mg/dl	112	
	mmol/l	6.29	Glucose oxidase
	mg/dl	113	
Iron	µmol/l	19.0	Colorimetric without ppt.
	µg/dl	106	
LD (LDH)	U/l	205	L->P IFCC 37°C
Magnesium	mmol/l	0.908	Xylidyl Blue
	mg/dl	2.21	
Phosphate Inorganic	mmol/l	1.50	Phosphomolybdate UV
	mg/dl	4.65	
Protein Total	g/l	61.2	Biuret reaction end point
	g/dl	6.12	
Triglycerides	mmol/l	1.13	Lipase/GPO-PAP no correction
	mg/dl	100	
Urea	mmol/l	7.69	Urease kinetic
	mg/dl	46.2	
	mmol/l	7.69	BUN
	mg/dl	21.6	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Elitech/Vitalab Selectra Series Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.357	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	
	mmol/l	0.436	Uricase peroxidase no ascorbate oxidase
	mg/dl	7.32	
Uric Acid (Urate)	mmol/l	0.400	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.72	

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.4	Bromocresol Green
	g/dl	4.24	
Alkaline Phosphatase	U/l	179	AMP optimised to IFCC 37°C
	U/l	139	AMP optimised to IFCC 30°C
	U/l	114	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	41	Tris buffer without P5P 37°C
	U/l	31	Tris buffer without P5P 30°C
	U/l	23	Tris buffer without P5P 25°C
Amylase Total	U/l	84	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	Tris buffer without P5P 37°C
	U/l	23	Tris buffer without P5P 30°C
	U/l	16	Tris buffer without P5P 25°C
	U/l	33	Phosphate buffer DGKC 37°C
	U/l	22	Phosphate buffer DGKC 30°C
	U/l	16	Phosphate buffer DGKC 25°C
Bilirubin Direct	µmol/l	18.2	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.06	
	µmol/l	18.5	Diazo with Sulphanilic Acid
	mg/dl	1.08	
	µmol/l	18.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.07	
Bilirubin Total	µmol/l	26.5	Diazo with Dichloroaniline (DCA)
	mg/dl	1.55	
	µmol/l	28.7	Diazo with Sulphanilic Acid
	mg/dl	1.68	
	µmol/l	30.0	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.75	
Calcium	mmol/l	2.05	Cresolphthalein complexone
	mg/dl	8.22	
	mmol/l	2.07	Arsenazo III
	mg/dl	8.30	
Chloride	mmol/l	91.5	ISE indirect
Cholesterol	mmol/l	4.01	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
	mmol/l	3.87	Cholesterol Oxidase - IDMS
	mg/dl	149	
	mmol/l	4.23	Cholesterol Dehydrogenase
	mg/dl	163	
CK Total	U/l	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Creatinine	µmol/l	136	Alkaline picrate with deproteinization
	mg/dl	1.54	
	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	127	Jaffe rate blanked
	mg/dl	1.43	
gamma-GT	U/l	42	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.22	Glucose oxidase
	mg/dl	112	
Iron	µmol/l	19.9	Colorimetric without ppt.
	µg/dl	111	
LD (LDH)	U/l	206	L->P IFCC 37°C
	U/l	149	L->P IFCC 30°C
	U/l	104	L->P IFCC 25°C
Magnesium	mmol/l	0.886	Xylidyl Blue
	mg/dl	2.15	
Phosphate Inorganic	mmol/l	1.51	Phosphomolybdate UV
	mg/dl	4.68	
Potassium	mmol/l	4.04	ISE method - indirect
Protein Total	g/l	59.2	Biuret reaction end point
	g/dl	5.92	
Sodium	mmol/l	140	ISE method - indirect
Triglycerides	mmol/l	1.08	Lipase/GPO-PAP no correction
	mg/dl	95.6	
	mmol/l	1.15	L/G Kinase EP. no correction
	mg/dl	102	
	mmol/l	1.04	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	
Urea	mmol/l	7.90	Urease end point
	mg/dl	47.5	
	mmol/l	7.60	Urease kinetic
	mg/dl	45.7	
	mmol/l	7.60	BUN
	mg/dl	21.3	
Uric Acid (Urate)	mmol/l	0.367	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.17	

CALIBRATION SERUM LEVEL 2 (CAL 2)

HITACHI SERIES® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.352	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.363	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.10	

CALIBRATION SERUM LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.0	Bromocresol Green
	g/dl	4.20	
Alkaline Phosphatase	U/l	206	AMP optimised to IFCC 37°C
	U/l	160	AMP optimised to IFCC 30°C
	U/l	132	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
Amylase Total	U/l	85	I.L. 2-chloro-pNPG3 37°C
AST (GOT)	U/l	31	Tris buffer without P5P 37°C
	U/l	21	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	13.7	Diazo with Sulphanilic Acid
	mg/dl	0.801	
Bilirubin Total	µmol/l	31.5	Diazo with Sulphanilic Acid
	mg/dl	1.84	
	µmol/l	32.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.88	
Calcium	mmol/l	2.05	Cresolphthalein complexone
	mg/dl	8.22	
	mmol/l	2.07	Arsenazo III
	mg/dl	8.30	
Chloride	mmol/l	91.8	ISE indirect
Cholesterol	mmol/l	3.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
Cholinesterase	U/l	5771	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	193	CK-NAC (IFCC) 37°C
	U/l	121	CK-NAC (IFCC) 30°C
	U/l	82	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	138	Enzymatic UV method
	mg/dl	1.56	
	µmol/l	133	Creatinine PAP method
	mg/dl	1.51	
gamma-GT	U/l	42	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	34	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

ILab 600®/650®/Aries/Taurus Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.17	Glucose oxidase
	mg/dl	111	
Iron	µmol/l	20.9	Colorimetric without ppt.
	µg/dl	117	
LD (LDH)	U/l	394	P->L German methods 37°C
	U/l	284	P->L German methods 30°C
	U/l	200	P->L German methods 25°C
Lipase	U/l	33	Other Colorimetric 37°C
Magnesium	mmol/l	0.949	Xylidyl Blue
	mg/dl	2.31	
	mmol/l	0.925	Enzymatic
Phosphate Inorganic	mmol/l	1.41	Phosphomolybdate UV
	mg/dl	4.37	
Potassium	mmol/l	4.05	ISE method - indirect
Protein Total	g/l	59.3	Biuret reaction end point
	g/dl	5.93	
Sodium	mmol/l	140	ISE method - indirect
Triglycerides	mmol/l	1.07	Lipase/GPO-PAP no correction
	mg/dl	94.7	
	mmol/l	1.09	L/G Kinase EP. no correction
Urea	mmol/l	7.93	Urease kinetic
	mg/dl	47.7	
	mmol/l	7.93	BUN
Uric Acid (Urate)	mmol/l	0.340	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.71	
	mmol/l	0.343	Uricase peroxidase no ascorbate oxidase
mg/dl	5.76		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	41.2	Bromocresol Green
	g/dl	4.12	
Alkaline Phosphatase	U/l	186	AMP optimised to IFCC 37°C
	U/l	145	AMP optimised to IFCC 30°C
	U/l	119	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	42	Tris buffer without P5P 37°C
	U/l	31	Tris buffer without P5P 30°C
	U/l	24	Tris buffer without P5P 25°C
AST (GOT)	U/l	35	Tris buffer without P5P 37°C
	U/l	24	Tris buffer without P5P 30°C
	U/l	17	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	17.4	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	
	µmol/l	17.7	Diazo with Dichloroaniline (DCA)
	mg/dl	1.04	
Bilirubin Total	µmol/l	25.5	Nitrobenzenediazonium salt
	mg/dl	1.49	
Calcium	mmol/l	2.09	Arsenazo III
	mg/dl	8.38	
Chloride	mmol/l	99.3	ISE direct
Cholesterol	mmol/l	3.92	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	
	mmol/l	3.96	Cholesterol Oxidase - IDMS
	mg/dl	153	
mmol/l	3.95	Cholesterol Dehydrogenase	
	mg/dl		152
CK Total	U/l	184	CK-NAC (IFCC) 37°C
	U/l	115	CK-NAC (IFCC) 30°C
	U/l	78	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	131	Enzymatic UV method
	mg/dl	1.48	
	µmol/l	131	Creatinine PAP method
	mg/dl	1.47	
µmol/l	136	Jaffe rate blanked	
mg/dl	1.54		
µmol/l	161	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	1.82		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Konelab 20/30/60®/Thermo Scientific Indiko Plus® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
gamma-GT	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	35	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.11	Hexokinase
	mg/dl	110	
	mmol/l	6.05	Glucose oxidase
	mg/dl	109	
Iron	µmol/l	22.3	Colorimetric with ppt.
	µg/dl	124	
	µmol/l	22.7	Colorimetric without ppt.
	µg/dl	127	
LD (LDH)	U/l	212	L->P IFCC 37°C
	U/l	153	L->P IFCC 30°C
	U/l	107	L->P IFCC 25°C
Phosphate Inorganic	mmol/l	1.49	Phosphomolybdate enzymatic
	mg/dl	4.62	
	mmol/l	1.52	Phosphomolybdate UV
	mg/dl	4.71	
Potassium	mmol/l	3.91	ISE method - direct
Protein Total	g/l	60.7	Biuret reaction end point
	g/dl	6.07	
Sodium	mmol/l	137	ISE method - direct
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.06	Lipase/Glycerol Dehydrogenase
	mg/dl	93.8	
Urea	mmol/l	7.85	Urease end point
	mg/dl	47.2	
	mmol/l	7.77	Urease kinetic
	mg/dl	46.7	
	mmol/l	7.77	BUN
	mg/dl	21.8	
Uric Acid (Urate)	mmol/l	0.365	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.13	
	mmol/l	0.367	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.17	
	mmol/l	0.369	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.20	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Albumin	g/l	41.7	Bromocresol Green	
	g/dl	4.17		
Alkaline Phosphatase	U/l	204	AMP optimised to IFCC 37°C	
	U/l	159	AMP optimised to IFCC 30°C	
	U/l	130	AMP optimised to IFCC 25°C	
	U/l	197	Colorimetric 37°C	
	U/l	153	Colorimetric 30°C	
	U/l	126	Colorimetric 25°C	
ALT (GPT)	U/l	42	Colorimetric 37°C	
	U/l	31	Colorimetric 30°C	
	U/l	24	Colorimetric 25°C	
	U/l	43	Tris buffer without P5P 37°C	
	U/l	32	Tris buffer without P5P 30°C	
	U/l	24	Tris buffer without P5P 25°C	
Amylase Total	U/l	91	pNP Maltotrioxide substrates 37°C	
AST (GOT)	U/l	32	Colorimetric 37°C	
	U/l	22	Colorimetric 30°C	
	U/l	15	Colorimetric 25°C	
	U/l	35	Tris buffer without P5P 37°C	
	U/l	24	Tris buffer without P5P 30°C	
	U/l	17	Tris buffer without P5P 25°C	
Bicarbonate	mmol/l	10.3	Enzymatic	
Bilirubin Direct	µmol/l	21.6	Diazo with Sulphanilic Acid	
	mg/dl	1.26		
	µmol/l	21.1	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.24		
	µmol/l	18.6	Oxidation to Biliverdin/Vanadate	
	mg/dl	1.09		
Bilirubin Total	µmol/l	30.4	Diazo with Dichloroaniline (DCA)	
	mg/dl	1.78		
	µmol/l	30.4	Diazo with Sulphanilic Acid	
	mg/dl	1.78		
	µmol/l	30.4	Diazonium ion	
	mg/dl	1.78		
	µmol/l	28.5	Oxidation to Biliverdin/Vanadate	
	mg/dl	1.67		
	Calcium	mmol/l	2.26	Cresolphthalein complexone
		mg/dl	9.06	
mmol/l		2.15	Arsenazo III	
	mg/dl	8.62		

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Chloride	mmol/l	95.3	ISE direct
Cholesterol	mmol/l	3.97	Cholesterol Oxidase - Abell Kendall
	mg/dl	153	
	mmol/l	3.99	Cholesterol Oxidase - IDMS
	mg/dl	154	
	mmol/l	3.98	Cholesterol Dehydrogenase
	mg/dl	154	
Cholinesterase	U/l	5558	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	201	CK-NAC serum start (DGKC) 37°C
	U/l	126	CK-NAC serum start (DGKC) 30°C
	U/l	85	CK-NAC serum start (DGKC) 25°C
	U/l	194	CK-NAC (IFCC) 37°C
	U/l	121	CK-NAC (IFCC) 30°C
	U/l	82	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	130	Alkaline picrate with deproteinization
	mg/dl	1.47	
	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	133	Enzymatic UV method
	mg/dl	1.50	
	µmol/l	132	Creatinine PAP method
	mg/dl	1.49	
gamma-GT	µmol/l	130	Jaffe rate blanked
	mg/dl	1.47	
	µmol/l	160	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.81	
	U/l	46	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	6.12	Glucose dehydrogenase
	mg/dl	110	
	mmol/l	6.03	Hexokinase
Iron	mg/dl	109	
	mmol/l	6.18	Glucose oxidase
	mg/dl	111	
	µmol/l	20.3	Colorimetric with ppt.
	µg/dl	113	
	µmol/l	20.2	Colorimetric without ppt.
	µg/dl	113	

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Lactate	mmol/l	1.70	Colorimetric Lactate Oxidase
	mg/dl	15.3	
LD (LDH)	U/l	449	P->L Scandinavian & Dutch 37°C
	U/l	324	P->L Scandinavian & Dutch 30°C
	U/l	228	P->L Scandinavian & Dutch 25°C
	U/l	402	P->L German methods 37°C
	U/l	290	P->L German methods 30°C
	U/l	204	P->L German methods 25°C
	U/l	391	P->L SFBC 37°C
	U/l	282	P->L SFBC 30°C
	U/l	198	P->L SFBC 25°C
	U/l	203	L->P IFCC 37°C
	U/l	147	L->P IFCC 30°C
U/l	103	L->P IFCC 25°C	
Magnesium	mmol/l	1.02	Calmagite
	mg/dl	2.48	
	mmol/l	0.940	Xylidyl Blue
	mg/dl	2.28	
Phosphate Inorganic	mmol/l	1.39	Phosphomolybdate enzymatic
	mg/dl	4.31	
	mmol/l	1.45	Phosphomolybdate UV
mg/dl	4.50		
Potassium	mmol/l	3.92	ISE method - direct
Protein Total	g/l	61.4	Biuret reaction end point
	g/dl	6.14	
	g/l	58.7	Biuret reaction kinetic
	g/dl	5.87	
Sodium	mmol/l	140	ISE method - direct
TIBC	µmol/l	40.9	FE+UIBC(saturation with iron)
	µg/dl	229	
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
	mmol/l	1.09	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	96.5	
	mmol/l	1.05	L/G Kinase EP. no correction
	mg/dl	92.9	
	mmol/l	1.06	Lipase/Glycerol Dehydrogenase
	mg/dl	93.8	
Urea	mmol/l	7.82	Urease end point
	mg/dl	47.0	
	mmol/l	7.83	Urease kinetic
	mg/dl	47.1	
	mmol/l	7.73	Urease hypochlorite
mg/dl	46.5		

CALIBRATION SERUM LEVEL 2 (CAL 2)

MINDRAY BS-200/300/400 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Urea	mmol/l	7.83	BUN
	mg/dl	22.0	
Uric Acid (Urate)	mmol/l	0.354	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.95	
	mmol/l	0.363	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.10	
mmol/l	0.349	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl	5.86		

CALIBRATION SERUM LEVEL 2 (CAL 2)

PRESTIGE 24i Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.9	Bromocresol Green
	g/dl	4.29	
Alkaline Phosphatase	U/l	250	Diethanolamine buffer DEA 37°C
	U/l	195	Diethanolamine buffer DEA 30°C
	U/l	160	Diethanolamine buffer DEA 25°C
	U/l	195	AMP optimised to IFCC 37°C
	U/l	152	AMP optimised to IFCC 30°C
	U/l	125	AMP optimised to IFCC 25°C
Bilirubin Total	µmol/l	30.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.80	
	µmol/l	32.1	Oxidation to Biliverdin/Vanadate
	mg/dl	1.88	
Calcium	mmol/l	2.00	Arsenazo III
	mg/dl	8.02	
Cholesterol	mmol/l	4.03	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	125	Jaffe rate blanked
Glucose	mmol/l	6.34	Glucose oxidase
	mg/dl	114	
Iron	µmol/l	21.5	Colorimetric without ppt.
	µg/dl	120	
LD (LDH)	U/l	443	P->L German methods 37°C
	U/l	320	P->L German methods 30°C
	U/l	225	P->L German methods 25°C
Protein Total	g/l	61.2	Biuret reaction end point
	g/dl	6.12	
Triglycerides	mmol/l	1.06	Lipase/GPO-PAP no correction
	mg/dl	93.8	
Urea	mmol/l	7.59	Urease kinetic
	mg/dl	45.6	
	mmol/l	7.59	BUN
Uric Acid (Urate)	mmol/l	0.371	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.23	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	44.7	Bromocresol Green
	g/dl	4.47	
Alkaline Phosphatase	U/l	188	Roche Integra AMP buffer 37°C
	U/l	146	Roche Integra AMP buffer 30°C
	U/l	120	Roche Integra AMP buffer 25°C
	U/l	186	AMP optimised to IFCC 37°C
	U/l	145	AMP optimised to IFCC 30°C
	U/l	119	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	37	Tris buffer without P5P 37°C
	U/l	27	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
Amylase Total	U/l	89	Other Roche 2-chloro-pNPG7 37°C
	U/l	88	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	Tris buffer without P5P 37°C
	U/l	21	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	20.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.19	
	µmol/l	18.8	Diazo with Sulphanilic Acid
	mg/dl	1.10	
	µmol/l	20.8	Roche DPD JG standardised
	mg/dl	1.22	
	µmol/l	20.2	Diazo with Dichloroaniline (DCA)
	mg/dl	1.18	
Bilirubin Total	µmol/l	27.0	Diazo with Dichloroaniline (DCA)
	mg/dl	1.58	
	µmol/l	27.5	Diazo with Sulphanilic Acid
	mg/dl	1.61	
	µmol/l	27.8	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.62	
Calcium	mmol/l	2.07	Cresolphthalein complexone
	mg/dl	8.30	
	mmol/l	2.11	Arsenazo III
	mg/dl	8.46	
	mmol/l	2.09	NM-BAPTA
	mg/dl	8.38	
Chloride	mmol/l	98.8	ISE indirect
Cholesterol	mmol/l	3.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Cholesterol	mmol/l	3.92	Cholesterol Oxidase - IDMS
	mg/dl	151	
CK Total	U/l	183	CK-NAC (IFCC) 37°C
	U/l	115	CK-NAC (IFCC) 30°C
	U/l	78	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	127	Alkaline picrate no deproteinization
	mg/dl	1.43	
	µmol/l	127	Roche Creatinine Plus
	mg/dl	1.44	
	µmol/l	127	Jaffe rate blanked
	mg/dl	1.43	
gamma-GT	µmol/l	154	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.74	
	µmol/l	148	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.67	
	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
Glucose	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	34	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	27	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	mmol/l	6.22	Hexokinase
	mg/dl	112	
Iron	mmol/l	6.11	Glucose oxidase
	mg/dl	110	
LD (LDH)	µmol/l	21.2	Colorimetric without ppt.
	µg/dl	119	
Lipase	U/l	201	L->P 37°C
	U/l	145	L->P 30°C
	U/l	102	L->P 25°C
	U/l	210	L->P IFCC 37°C
	U/l	152	L->P IFCC 30°C
	U/l	106	L->P IFCC 25°C
Magnesium	U/l	32	Roche Colorimetric 37°C
	U/l	31	Roche Turbidimetric with colipase 37°C
Phosphate Inorganic	mmol/l	0.906	Xylidyl Blue
	mg/dl	2.20	
	mmol/l	0.916	Chlorphosphonazo III
Phosphate Inorganic	mg/dl	2.23	
	mmol/l	1.50	Phosphomolybdate enzymatic
	mg/dl	4.65	
	mmol/l	1.49	Phosphomolybdate UV
mg/dl	4.62		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C111® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Potassium	mmol/l	4.04	ISE method - indirect
Protein Total	g/l	60.2	Biuret reaction end point
	g/dl	6.02	
Sodium	mmol/l	140	ISE method - indirect
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.08	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	95.6	
	mmol/l	1.08	L/G Kinase EP. no correction
	mg/dl	95.6	
mmol/l	1.08	Lipase/Glycerol Dehydrogenase	
mg/dl	95.6		
Urea	mmol/l	7.64	Urease end point
	mg/dl	45.9	
	mmol/l	7.47	Urease kinetic
	mg/dl	44.9	
	mmol/l	7.47	
mg/dl	21.0	BUN	
Uric Acid (Urate)	mmol/l	0.355	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	
	mmol/l	0.364	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.12	
	mmol/l	0.357	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.00	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c303/501/502/503 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Acid Phosphatase (Total)	U/l	22.2	Naphthyl phosphate substrate End point 37°C
Albumin	g/l	44.2	Bromocresol Green
	g/dl	4.42	
	g/l	43.3	Bromocresol Purple
	g/dl	4.33	
	g/l	42.2	Turbidimetric Assays
	g/dl	4.22	
Alkaline Phosphatase	U/l	186	Roche Integra AMP buffer 37°C
	U/l	145	Roche Integra AMP buffer 30°C
	U/l	119	Roche Integra AMP buffer 25°C
	U/l	186	AMP optimised to IFCC 37°C
	U/l	145	AMP optimised to IFCC 30°C
	U/l	119	AMP optimised to IFCC 25°C
	U/l	182	Colorimetric 37°C
	U/l	142	Colorimetric 30°C
	U/l	116	Colorimetric 25°C
ALT (GPT)	U/l	38	Tris buffer without P5P 37°C
	U/l	28	Tris buffer without P5P 30°C
	U/l	21	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	61	Immunoinhibition EPS substrate 37°C
	U/l	61	Roche EPS Liquid 37°C
Amylase Total	U/l	86	Randox Liquid Ethylidene pNPG7 37°C
	U/l	87	Roche Integra 2-chloro-pNPG7 37°C
	U/l	87	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	Roche liquid stable pNPG7 37°C
	U/l	86	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	30	Tris buffer without P5P 37°C
	U/l	20	Tris buffer without P5P 30°C
	U/l	14	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	10.4	Colorimetric
	mmol/l	10.4	Enzymatic
Bile Acids	µmol/l	23.7	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	20.3	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.19	
	µmol/l	20.4	Diazo with Sulphanilic Acid
	mg/dl	1.19	
	µmol/l	20.6	Roche DPD JG standardised
	mg/dl	1.20	
	µmol/l	19.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.16	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c303/501/502/503 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Bilirubin Total	µmol/l	26.8	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	
	µmol/l	26.6	Diazo with Sulphanilic Acid
	mg/dl	1.56	
	µmol/l	26.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	
µmol/l	26.5	Nitrobenzenediazonium salt	
mg/dl	1.55		
Calcium	µmol/l	26.6	Diazonium ion
	mg/dl	1.55	
	mmol/l	2.10	Cresolphthalein complexone
	mg/dl	8.42	
	mmol/l	2.16	Arsenazo III
	mg/dl	8.66	
mmol/l	2.11	NM-BAPTA	
mg/dl	8.46		
Chloride	mmol/l	90.9	ISE indirect
Cholesterol	mmol/l	4.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
	mmol/l	4.02	Cholesterol Oxidase - IDMS
	mg/dl	155	
mmol/l	3.99	Cholesterol Dehydrogenase	
mg/dl	154		
Cholinesterase	U/l	5256	Colorimetric Benzoylcholine 37°C
	U/l	5365	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	184	CK-NAC serum start (DGKC) 37°C
	U/l	115	CK-NAC serum start (DGKC) 30°C
	U/l	78	CK-NAC serum start (DGKC) 25°C
	U/l	187	CK-NAC substrate start (DGKC) 37°C
	U/l	117	CK-NAC substrate start (DGKC) 30°C
	U/l	79	CK-NAC substrate start (DGKC) 25°C
	U/l	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C
	U/l	187	Creatinine phosphate substrate Start 37°C
	U/l	117	Creatinine phosphate substrate Start 30°C
U/l	79	Creatinine phosphate substrate Start 25°C	
Creatinine	µmol/l	135	Alkaline picrate with deproteinization
	mg/dl	1.52	
	µmol/l	133	Alkaline picrate no deproteinization
	mg/dl	1.50	
	µmol/l	135	Enzymatic UV method
	mg/dl	1.53	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c303/501/502/503 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Creatinine	µmol/l	133	Creatinine PAP method
	mg/dl	1.50	
	µmol/l	135	Roche Creatinine Plus
	mg/dl	1.53	
	µmol/l	131	Jaffe rate blanked
	mg/dl	1.48	
	µmol/l	157	Jaffe rate blanked comp. (-26 µmol/l)
mg/dl	1.77		
µmol/l	148	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	1.67		
gamma-GT	U/l	42	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	33	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	26	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	46	Gamma glutamyl-4-nitroanilide 37°C
	U/l	36	Gamma glutamyl-4-nitroanilide 30°C
	U/l	28	Gamma glutamyl-4-nitroanilide 25°C
	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	5.99	Glucose dehydrogenase
	mg/dl	108	
	mmol/l	6.05	Hexokinase
	mg/dl	109	
mmol/l	6.03	Glucose oxidase	
mg/dl	109		
Iron	µmol/l	20.8	Colorimetric with ppt.
	µg/dl	116	
	µmol/l	20.8	Colorimetric without ppt.
µg/dl	116		
Lactate	mmol/l	1.55	Colorimetric Lactate Oxidase
	mg/dl	14.0	
LD (LDH)	U/l	203	L->P 37°C
	U/l	147	L->P 30°C
	U/l	103	L->P 25°C
	U/l	205	L->P IFCC 37°C
	U/l	148	L->P IFCC 30°C
	U/l	104	L->P IFCC 25°C
Lipase	U/l	32	Other Colorimetric 37°C
	U/l	33	Roche Colorimetric 37°C
	U/l	33	Roche Turbidimetric with colipase 37°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c303/501/502/503 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Lithium	mmol/l	0.979	Ion selective electrode
	mg/dl	0.680	
	mmol/l	1.00	Spectrophotometric
	mg/dl	0.697	
Magnesium	mmol/l	0.921	Arsenazo III
	mg/dl	2.24	
	mmol/l	0.914	Atomic absorption
	mg/dl	2.22	
	mmol/l	0.926	Xylidyl Blue
	mg/dl	2.25	
	mmol/l	0.923	Methylthymol blue
	mg/dl	2.24	
Phosphate Inorganic	mmol/l	1.43	Phosphomolybdate enzymatic
	mg/dl	4.43	
	mmol/l	1.44	Phosphomolybdate UV
	mg/dl	4.46	
	mmol/l	0.926	Chlorphosphonazo III
	mg/dl	2.25	
Potassium	mmol/l	4.03	ISE method - indirect
Protein Total	g/l	59.4	Biuret reaction end point
	g/dl	5.94	
	g/l	59.4	Biuret reaction kinetic
	g/dl	5.94	
Sodium	mmol/l	140	ISE method - indirect
TIBC	µmol/l	41.3	FE+UIBC(saturation with iron)
	µg/dl	231	
	µmol/l	40.2	Direct Colorimetric
	µg/dl	225	
	µmol/l	45.0	Calculated from Transferrin
	µg/dl	252	
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	
	mmol/l	1.10	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	
	mmol/l	1.09	L/G Kinase EP. no correction
	mg/dl	96.5	
Urea	mmol/l	1.09	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	96.5	
	mmol/l	1.09	Lipase/Glycerol Dehydrogenase
	mg/dl	96.5	
Urea	mmol/l	7.69	Urease end point
	mg/dl	46.2	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c303/501/502/503 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Urea	mmol/l	7.75	Urease kinetic
	mg/dl	46.6	
	mmol/l	7.75	BUN
	mg/dl	21.8	
Uric Acid (Urate)	mmol/l	0.346	Uricase catalase 340nm
	mg/dl	5.81	
	mmol/l	0.354	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.95	
	mmol/l	0.352	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.351	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	
Zinc	µmol/l	29.4	Colorimetric without deprot.
	µg/dl	192	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	44.0	Bromocresol Green
	g/dl	4.40	
	g/l	43.7	Bromocresol Purple
	g/dl	4.37	
	g/l	44.6	Turbidimetric Assays
g/dl	4.46		
Alkaline Phosphatase	U/l	183	Roche Integra AMP buffer 37°C
	U/l	143	Roche Integra AMP buffer 30°C
	U/l	117	Roche Integra AMP buffer 25°C
	U/l	180	AMP optimised to IFCC 37°C
	U/l	140	AMP optimised to IFCC 30°C
	U/l	115	AMP optimised to IFCC 25°C
	U/l	179	Colorimetric 37°C
	U/l	139	Colorimetric 30°C
	U/l	114	Colorimetric 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	61	Roche EPS Liquid 37°C
Amylase Total	U/l	87	Roche Integra 2-chloro-pNPG7 37°C
	U/l	88	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	Roche liquid stable pNPG7 37°C
	U/l	87	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	31	Tris buffer without P5P 37°C
	U/l	21	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	10.7	Enzymatic
Bilirubin Direct	µmol/l	20.1	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.18	
	µmol/l	21.3	Diazo with Sulphanilic Acid
	mg/dl	1.25	
	µmol/l	20.2	Roche DPD JG standardised
mg/dl	1.18		
Bilirubin Total	µmol/l	26.8	Diazo with Sulphanilic Acid
	mg/dl	1.57	
	µmol/l	26.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	
	µmol/l	26.8	Diazonium ion
	mg/dl	1.57	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Calcium	mmol/l	2.11	Cresolphthalein complexone
	mg/dl	8.46	
	mmol/l	2.12	Arsenazo III
	mg/dl	8.50	
	mmol/l	2.11	NM-BAPTA
	mg/dl	8.46	
Chloride	mmol/l	90.9	ISE indirect
Cholesterol	mmol/l	4.03	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	
	mmol/l	4.04	Cholesterol Oxidase - IDMS
	mg/dl	156	
	mmol/l	3.91	Cholesterol Dehydrogenase
	mg/dl	151	
Cholinesterase	U/l	5274	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	191	CK-NAC (IFCC) 37°C
	U/l	120	CK-NAC (IFCC) 30°C
	U/l	81	CK-NAC (IFCC) 25°C
	U/l	188	Creatinine phosphate substrate Start 37°C
	U/l	118	Creatinine phosphate substrate Start 30°C
	U/l	80	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	132	Alkaline picrate no deproteinization
	mg/dl	1.49	
	µmol/l	135	Roche Creatinine Plus
	mg/dl	1.52	
	µmol/l	133	Jaffe rate blanked
	mg/dl	1.51	
	µmol/l	158	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.79	
µmol/l	151	Jaffe rate blanked compensated (-18 µmol/l)	
mg/dl	1.71		
µmol/l	134	IDMS traceable	
mg/dl	1.51		
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	43	Gamma glutamyl-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl-4-nitroanilide 25°C
	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.05	Hexokinase
	mg/dl	109	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Glucose	mmol/l	6.13	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	20.4	Colorimetric with ppt.
	µg/dl	114	
	µmol/l	20.4	Colorimetric without ppt.
	µg/dl	114	
Lactate	mmol/l	1.55	Colorimetric Lactate Oxidase
	mg/dl	14.0	
LD (LDH)	U/l	206	L->P 37°C
	U/l	149	L->P 30°C
	U/l	104	L->P 25°C
	U/l	208	P->L German methods 37°C
	U/l	150	P->L German methods 30°C
	U/l	105	P->L German methods 25°C
	U/l	205	L->P IFCC 37°C
	U/l	148	L->P IFCC 30°C
Lipase	U/l	32	Roche Colorimetric 37°C
	U/l	32	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.01	Spectrophotometric
	mg/dl	0.703	
Magnesium	mmol/l	0.907	Atomic absorption
	mg/dl	2.20	
	mmol/l	0.916	Xylidyl Blue
	mg/dl	2.23	
Phosphate Inorganic	mmol/l	0.922	Chlorphosphonazo III
	mg/dl	2.24	
	mmol/l	1.45	Phosphomolybdate enzymatic
	mg/dl	4.50	
Phosphate Inorganic	mmol/l	1.45	Phosphomolybdate UV
	mg/dl	4.50	
Potassium	mmol/l	4.04	ISE method - indirect
Protein Total	g/l	59.5	Biuret reaction end point
	g/dl	5.95	
	g/l	58.1	Biuret reaction kinetic
	g/dl	5.81	
Sodium	mmol/l	139	ISE method - indirect
TIBC	µmol/l	42.9	FE+UIBC(saturation with iron)
	µg/dl	240	
	µmol/l	41.7	Direct Colorimetric
Triglycerides	µg/dl	233	
	mmol/l	1.09	Lipase/GPO-PAP no correction
	mg/dl	96.5	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas C311® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	96.5	
	mmol/l	1.09	L/G Kinase EP. no correction
	mg/dl	96.5	
	mmol/l	1.07	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	94.7	
	mmol/l	1.10	Lipase/Glycerol Dehydrogenase
	mg/dl	97.4	
Urea	mmol/l	7.73	Urease end point
	mg/dl	46.5	
	mmol/l	7.83	Urease kinetic
	mg/dl	47.1	
Uric Acid (Urate)	mmol/l	7.83	BUN
	mg/dl	22.0	
	mmol/l	0.348	Uricase catalase 340nm
	mg/dl	5.85	
	mmol/l	0.357	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	
	mmol/l	0.356	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	
	mmol/l	0.356	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	43.9	Bromocresol Green
	g/dl	4.39	
Alkaline Phosphatase	U/l	178	Roche Integra AMP buffer 37°C
	U/l	139	Roche Integra AMP buffer 30°C
	U/l	114	Roche Integra AMP buffer 25°C
	U/l	181	Colorimetric 37°C
	U/l	141	Colorimetric 30°C
	U/l	116	Colorimetric 25°C
ALT (GPT)	U/l	39	Tris buffer without P5P 37°C
	U/l	29	Tris buffer without P5P 30°C
	U/l	22	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	61	Immunoinhibition EPS substrate 37°C
	U/l	60	Roche EPS Liquid 37°C
Amylase Total	U/l	86	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	31	Tris buffer without P5P 37°C
	U/l	21	Tris buffer without P5P 30°C
	U/l	15	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	10.5	Enzymatic
Bilirubin Direct	µmol/l	20.6	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.21	
	µmol/l	20.8	Roche DPD JG standardised
	mg/dl	1.22	
Bilirubin Total	µmol/l	27.0	Diazo with Sulphanilic Acid
	mg/dl	1.58	
	µmol/l	26.9	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	
	µmol/l	26.8	Diazonium ion
	mg/dl	1.57	
Calcium	mmol/l	2.09	Cresolphthalein complexone
	mg/dl	8.38	
	mmol/l	2.10	NM-BAPTA
	mg/dl	8.42	
Chloride	mmol/l	91.9	ISE indirect
Cholesterol	mmol/l	4.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	154	
	mmol/l	3.98	Cholesterol Oxidase - IDMS
	mg/dl	154	
Cholinesterase	U/l	5355	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	184	CK-NAC substrate start (DGKC) 37°C
	U/l	115	CK-NAC substrate start (DGKC) 30°C
	U/l	78	CK-NAC substrate start (DGKC) 25°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
CK Total	U/l	188	CK-NAC (IFCC) 37°C
	U/l	118	CK-NAC (IFCC) 30°C
	U/l	80	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	132	Enzymatic UV method
	mg/dl	1.49	
	µmol/l	137	Roche Creatinine Plus
	mg/dl	1.55	
	µmol/l	161	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.82	
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	34	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	46	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	36	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	28	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.00	Hexokinase
	mg/dl	108	
Iron	µmol/l	19.7	Colorimetric without ppt.
	µg/dl	110	
Lactate	mmol/l	1.54	Colorimetric Lactate Oxidase
	mg/dl	13.9	
LD (LDH)	U/l	200	L->P 37°C
	U/l	144	L->P 30°C
	U/l	101	L->P 25°C
	U/l	205	L->P IFCC 37°C
	U/l	148	L->P IFCC 30°C
	U/l	104	L->P IFCC 25°C
Lipase	U/l	32	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	Spectrophotometric
	mg/dl	0.715	
Magnesium	mmol/l	0.939	Xylidyl Blue
	mg/dl	2.28	
	mmol/l	0.932	Chlorphosphonazo III
Phosphate Inorganic	mmol/l	1.42	Phosphomolybdate UV
	mg/dl	4.40	
Potassium	mmol/l	4.08	ISE method - indirect

CALIBRATION SERUM LEVEL 2 (CAL 2)

Roche Cobas c701 / c702 / c711 Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods	
Protein Total	g/l	59.3	Biuret reaction end point	
	g/dl	5.93		
	g/l	59.6	Biuret reaction kinetic	
	g/dl	5.96		
Sodium	mmol/l	141	ISE method - indirect	
TIBC	µmol/l	41.6	FE+UIBC(saturation with iron)	
	µg/dl	232		
Triglycerides	mmol/l	1.09	Lipase/GPO-PAP no correction	
	mg/dl	96.5		
	mmol/l	1.07	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	94.7		
	mmol/l	1.09	L/G Kinase EP. no correction	
	mg/dl	96.5		
mmol/l	1.08	L/G kinase EP. 0.11 mmol/l correction		
mg/dl	95.6			
Urea	mmol/l	1.09	Lipase/Glycerol Dehydrogenase	
	mg/dl	96.5		
	Urea	mmol/l	7.66	Urease kinetic
		mg/dl	46.0	
	Uric Acid (Urate)	mmol/l	7.66	BUN
		mg/dl	21.5	
mmol/l		0.344	Uricase peroxidase with ascorbate oxidase	
mg/dl		5.78		
mmol/l	0.345	Uricase peroxidase no ascorbate oxidase		
mg/dl	5.80			
Uric Acid (Urate)	mmol/l	0.347	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	5.83		

CALIBRATION SERUM LEVEL 2 (CAL 2)

RX SERIES® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Creatinine	µmol/l	129	Alkaline picrate no deproteinization
	mg/dl	1.45	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.0	Bromocresol Green
	g/dl	4.20	
Alkaline Phosphatase	U/l	184	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	65	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	89	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	37	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	11.8	Enzymatic
Bilirubin Direct	µmol/l	18.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.05	
Bilirubin Total	µmol/l	31.8	Diazo with Sulphanilic Acid
	mg/dl	1.86	
	µmol/l	32.2	Oxidation to Biliverdin/Vanadate
	mg/dl	1.88	
Calcium	mmol/l	2.13	Arsenazo III
	mg/dl	8.54	
Chloride	mmol/l	95.1	ISE indirect
Cholesterol	mmol/l	4.02	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	
Cholinesterase	U/l	6538	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	195	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	130	Alkaline picrate no deproteinization
	mg/dl	1.47	
	µmol/l	132	Enzymatic UV method
	mg/dl	1.50	
	µmol/l	129	Creatinine PAP method
	mg/dl	1.45	
	µmol/l	132	Jaffe rate blanked
	mg/dl	1.49	
µmol/l	157	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	1.77		
gamma-GT	U/l	43	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	43	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.88	Hexokinase
	mg/dl	106	
	mmol/l	6.09	Glucose oxidase
	mg/dl	110	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS ADVIA 1200/1650/1800/2400® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Iron	µmol/l	20.2	Colorimetric with ppt.
	µg/dl	113	
	µmol/l	20.2	Colorimetric without ppt.
	µg/dl	113	
Lactate	mmol/l	1.39	Colorimetric Lactate Oxidase
	mg/dl	12.5	
LD (LDH)	U/l	196	L->P 37°C
	U/l	402	P->L German methods 37°C
	U/l	203	L->P IFCC 37°C
Lipase	U/l	39	Other Colorimetric 37°C
Magnesium	mmol/l	0.901	Xylidyl Blue
	mg/dl	2.19	
Phosphate Inorganic	mmol/l	1.48	Phosphomolybdate UV
	mg/dl	4.59	
Potassium	mmol/l	4.02	ISE method - indirect
Protein Total	g/l	58.2	Biuret reaction end point
	g/dl	5.82	
	g/l	58.8	Biuret reaction kinetic
	g/dl	5.88	
Sodium	mmol/l	141	ISE method - indirect
TIBC	µmol/l	45.2	FE+UIBC(saturation with iron)
	µg/dl	253	
	µmol/l	43.7	Direct Colorimetric
	µg/dl	244	
Triglycerides	mmol/l	1.12	Lipase/GPO-PAP no correction
	mg/dl	99.1	
	mmol/l	1.11	L/G Kinase EP. no correction
	mg/dl	98.2	
Urea	mmol/l	8.18	Urease end point
	mg/dl	49.2	
	mmol/l	8.04	Urease kinetic
	mg/dl	48.3	
	mmol/l	8.04	BUN
	mg/dl	22.6	
Uric Acid (Urate)	mmol/l	0.368	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.18	
	mmol/l	0.363	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.10	
	mmol/l	0.370	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.22	

CALIBRATION SERUM LEVEL 2 (CAL 2)

Siemens Atellica Solution Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	42.0	Bromocresol Green
	g/dl	4.20	
	g/l	43.1	Bromocresol Purple
	g/dl	4.31	
Alkaline Phosphatase	U/l	182	Siemens Dimension AMP buffer 37°C
	U/l	180	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	44	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	65	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	95	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	35	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	11.3	Enzymatic
Bilirubin Direct	µmol/l	18.2	Oxidation to Biliverdin/Vanadate
	mg/dl	1.06	
Bilirubin Total	µmol/l	33.2	Diazo with Sulphanilic Acid
	mg/dl	1.94	
	µmol/l	32.0	Oxidation to Biliverdin/Vanadate
	mg/dl	1.87	
Calcium	mmol/l	2.04	Cresolphthalein complexone
	mg/dl	8.18	
	mmol/l	2.14	Arsenazo III
	mg/dl	8.58	
Chloride	mmol/l	96.5	ISE indirect
Cholesterol	mmol/l	4.03	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	
Cholinesterase	U/l	6909	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	131	Alkaline picrate no deproteinization
	mg/dl	1.48	
	µmol/l	133	Enzymatic UV method
	mg/dl	1.50	
	µmol/l	133	Creatinine PAP method
	mg/dl	1.50	
	µmol/l	131	Jaffe rate blanked
	mg/dl	1.48	
µmol/l	159	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	1.80		
gamma-GT	U/l	44	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	46	Gamma glutamyl-4-nitroanilide 37°C
	U/l	44	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

Siemens Atellica Solution Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Glucose	mmol/l	5.98	Hexokinase
	mg/dl	108	
	mmol/l	6.11	Glucose oxidase
	mg/dl	110	
Iron	µmol/l	20.1	Colorimetric with ppt.
	µg/dl	112	
	µmol/l	20.1	Colorimetric without ppt.
	µg/dl	112	
Lactate	mmol/l	1.39	Colorimetric Lactate Oxidase
	mg/dl	12.5	
LD (LDH)	U/l	205	L->P 37°C
	U/l	201	L->P IFCC 37°C
Lipase	U/l	37	Other Colorimetric 37°C
Lithium	mmol/l	1.01	Spectrophotometric
	mg/dl	0.701	
Magnesium	mmol/l	0.880	Xylidyl Blue
	mg/dl	2.14	
	mmol/l	0.857	Methylthymol blue
Phosphate Inorganic	mmol/l	1.47	Phosphomolybdate UV
	mg/dl	4.56	
Potassium	mmol/l	3.90	ISE method - indirect
Protein Total	g/l	59.0	Biuret reaction end point
	g/dl	5.90	
Sodium	mmol/l	139	ISE method - indirect
TIBC	µmol/l	47.8	FE+UIBC(saturation with iron)
	µg/dl	267	
	µmol/l	47.9	Direct Colorimetric
	µg/dl	268	
Triglycerides	mmol/l	1.14	Lipase/GPO-PAP no correction
	mg/dl	101	
	mmol/l	1.17	L/G Kinase EP. no correction
Urea	mmol/l	8.15	Urease end point
	mg/dl	49.0	
	mmol/l	8.13	Urease kinetic
	mg/dl	48.9	
	mmol/l	8.13	BUN
	mg/dl	22.8	
Uric Acid (Urate)	mmol/l	0.363	Uricase catalase 340nm
	mg/dl	6.10	
	mmol/l	0.367	Uricase peroxidase with ascorbate oxidase
mg/dl	6.17		

CALIBRATION SERUM LEVEL 2 (CAL 2)

Siemens Atellica Solution Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.365	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.13	
	mmol/l	0.366	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	6.15	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	44.5	Bromocresol Green
	g/dl	4.45	
	g/l	44.3	Bromocresol Purple
	g/dl	4.43	
Alkaline Phosphatase	U/l	182	Siemens Dimension AMP buffer 37°C
	U/l	183	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	48	Tris buffer with P5P 37°C
	U/l	48	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	92	Siemens - blocked pNPG7 37°C
	U/l	91	Siemens - maltopenta/hexaoside 37°C
	U/l	92	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	40	Tris buffer with P5P 37°C
	U/l	41	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	12.1	Enzymatic
Bilirubin Direct	µmol/l	13.7	Diazo with Sulphanilic Acid
	mg/dl	0.804	
	µmol/l	13.6	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.795	
Bilirubin Total	µmol/l	30.0	Diazo with Sulphanilic Acid
	mg/dl	1.76	
Calcium	mmol/l	1.99	Cresolphthalein complexone
	mg/dl	7.98	
	mmol/l	1.91	Arsenazo III
mg/dl	7.66		
Chloride	mmol/l	93.9	ISE indirect
Cholesterol	mmol/l	3.56	Cholesterol Oxidase - Abell Kendall
	mg/dl	137	
	mmol/l	3.58	Dimension-Siemens reagents
	mg/dl	138	
Cholinesterase	U/l	9561	Colorimetric - Butyrylthiochol. Dimension 37°C
CK Total	U/l	188	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	135	Alkaline picrate with deproteinization
	mg/dl	1.52	
	µmol/l	135	Alkaline picrate no deproteinization
	mg/dl	1.52	
	µmol/l	134	Enzymatic UV method
	mg/dl	1.52	
µmol/l	133	Creatinine PAP method	
mg/dl	1.51		

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Creatinine	µmol/l	134	Jaffe rate blanked
	mg/dl	1.51	
	µmol/l	134	IDMS traceable
	mg/dl	1.52	
gamma-GT	U/l	51	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	59	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.19	Hexokinase
	mg/dl	112	
	mmol/l	6.09	Oxygen electrode
	mg/dl	110	
Iron	µmol/l	19.8	Colorimetric with ppt.
	µg/dl	110	
	µmol/l	19.7	Colorimetric without ppt.
	µg/dl	110	
Lactate	mmol/l	1.44	UV LDH
	mg/dl	13.0	
LD (LDH)	U/l	193	Siemens Dimension L-P Non IFCC 37°C
	U/l	196	L->P IFCC 37°C
Lipase	U/l	128	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.878	Xylidyl Blue
	mg/dl	2.13	
	mmol/l	0.931	Methylthymol blue
	mg/dl	2.26	
Phosphate Inorganic	mmol/l	1.50	Phosphomolybdate enzymatic
	mg/dl	4.65	
	mmol/l	1.52	Phosphomolybdate UV
	mg/dl	4.71	
Potassium	mmol/l	3.94	ISE method - indirect
Protein Total	g/l	61.7	Biuret reaction end point
	g/dl	6.17	
Sodium	mmol/l	140	ISE method - indirect
TIBC	µmol/l	39.8	Removal of excess free iron
	µg/dl	223	
	µmol/l	40.5	FE+UIBC(saturation with iron)
	µg/dl	226	
	µmol/l	39.8	Direct Colorimetric
	µg/dl	222	
Triglycerides	mmol/l	1.03	Lipase/GPO-PAP no correction
	mg/dl	91.2	
	mmol/l	1.03	L/G Kinase EP. no correction
	mg/dl	91.2	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION EXL® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Triglycerides	mmol/l	1.03	Lipase/Glycerol Dehydrogenase
	mg/dl	91.2	
Urea	mmol/l	7.99	Urease end point
	mg/dl	48.0	
	mmol/l	7.92	Urease kinetic
	mg/dl	47.6	
	mmol/l	7.92	BUN
	mg/dl	22.2	
Uric Acid (Urate)	mmol/l	0.351	Uricase catalase 340nm
	mg/dl	5.90	
	mmol/l	0.359	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.03	
	mmol/l	0.350	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.88	
	mmol/l	0.353	Spectrophotometric at 280-290
	mg/dl	5.93	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Albumin	g/l	45.2	Bromocresol Green
	g/dl	4.52	
	g/l	44.3	Bromocresol Purple
	g/dl	4.43	
Alkaline Phosphatase	U/l	182	Siemens Dimension AMP buffer 37°C
	U/l	182	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	48	Tris buffer with P5P 37°C
	U/l	49	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	58	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	91	Siemens - maltopenta/hexaoside 37°C
	U/l	93	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	41	Tris buffer with P5P 37°C
	U/l	42	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	12.9	Enzymatic
Bilirubin Direct	µmol/l	13.7	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.799	
Bilirubin Total	µmol/l	29.9	Diazo with Sulphanilic Acid
	mg/dl	1.75	
Calcium	mmol/l	2.01	Cresolphthalein complexone
	mg/dl	8.06	
	mmol/l	2.05	Arsenazo III
	mg/dl	8.22	
Chloride	mmol/l	93.1	ISE indirect
Cholesterol	mmol/l	3.60	Cholesterol Oxidase - Abell Kendall
	mg/dl	139	
	mmol/l	3.55	Dimension-Siemens reagents
	mg/dl	137	
Cholinesterase	U/l	9832	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	190	CK-NAC (IFCC) 37°C
	U/l	192	Dithioerythritol (DTE) IFCC correlated 37°C
Creatinine	µmol/l	135	Alkaline picrate no deproteinization
	mg/dl	1.52	
	µmol/l	132	Creatinine PAP method
	mg/dl	1.49	
	µmol/l	134	Jaffe rate blanked
	mg/dl	1.52	
µmol/l	135	IDMS traceable	
mg/dl	1.53		
gamma-GT	U/l	52	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
gamma-GT	U/l	57	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.14	Glucose dehydrogenase
	mg/dl	111	
	mmol/l	6.22	Hexokinase
	mg/dl	112	
Iron	mmol/l	6.16	Glucose oxidase
	mg/dl	111	
	µmol/l	19.8	Colorimetric with ppt.
	µg/dl	111	
Iron	µmol/l	19.6	Colorimetric without ppt.
	µg/dl	110	
Lactate	mmol/l	1.48	UV LDH
	mg/dl	13.3	
LD (LDH)	U/l	193	Siemens Dimension L-P Non IFCC 37°C
	U/l	198	L->P IFCC 37°C
Lipase	U/l	133	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.01	Spectrophotometric
	mg/dl	0.701	
Magnesium	mmol/l	0.932	Methylthymol blue
	mg/dl	2.26	
Phosphate Inorganic	mmol/l	1.47	Phosphomolybdate enzymatic
	mg/dl	4.56	
	mmol/l	1.50	Phosphomolybdate UV
	mg/dl	4.65	
Potassium	mmol/l	3.91	ISE method - indirect
Protein Total	g/l	61.5	Biuret reaction end point
	g/dl	6.15	
Sodium	mmol/l	139	ISE method - indirect
TIBC	µmol/l	40.6	Removal of excess free iron
	µg/dl	227	
	µmol/l	41.3	FE+UIBC(saturation with iron)
	µg/dl	231	
	µmol/l	39.6	Direct Colorimetric
	µg/dl	221	
Triglycerides	mmol/l	1.03	Lipase/GPO-PAP no correction
	mg/dl	91.2	
	mmol/l	1.03	L/G Kinase EP. no correction
	mg/dl	91.2	
	mmol/l	1.03	Lipase/Glycerol Dehydrogenase
	mg/dl	91.2	
Urea	mmol/l	7.89	Urease kinetic
	mg/dl	47.4	
	mmol/l	7.89	BUN
	mg/dl	22.1	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION RxL/Max/Xpand® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Uric Acid (Urate)	mmol/l	0.353	Uricase catalase 340nm
	mg/dl	5.93	
	mmol/l	0.352	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.91	
	mmol/l	0.351	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	
	mmol/l	0.352	Spectrophotometric at 280-290
	mg/dl	5.91	
	mmol/l	0.350	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.88	

CALIBRATION SERUM LEVEL 2 (CAL 2)

SIEMENS DIMENSION Vista® Lot. No. 1588UN Cat. No. CAL 2350

Size 20 x 5ml Expiry 2024-10-28

Analyte	unit	Target	methods
Alkaline Phosphatase	U/l	184	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	47	Tris buffer with P5P 37°C
Amylase Total	U/l	92	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	41	Tris buffer with P5P 37°C
Bilirubin Total	µmol/l	29.8	Diazo with Sulphanilic Acid
	mg/dl	1.74	
Calcium	mmol/l	2.03	Cresolphthalein complexone
	mg/dl	8.14	
Chloride	mmol/l	95.7	ISE indirect
Cholesterol	mmol/l	3.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	136	
CK Total	U/l	183	CK-NAC (IFCC) 37°C
gamma-GT	U/l	54	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	5.95	Hexokinase
	mg/dl	107	
Iron	µmol/l	19.8	Colorimetric without ppt.
	µg/dl	111	
LD (LDH)	U/l	197	L->P IFCC 37°C
Lipase	U/l	123	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Phosphate Inorganic	mmol/l	1.36	Phosphomolybdate UV
	mg/dl	4.22	
Potassium	mmol/l	3.89	ISE method - indirect
Protein Total	g/l	61.0	Biuret reaction end point
	g/dl	6.10	
Sodium	mmol/l	138	ISE method - indirect
Triglycerides	mmol/l	1.15	Lipase/GPO-PAP no correction
	mg/dl	102	
Urea	mmol/l	7.97	Urease kinetic
	mg/dl	47.9	
	mmol/l	7.97	BUN
Uric Acid (Urate)	mmol/l	0.341	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.73	