

HUMAN ASSAYED MULTI-SERA - LEVEL 2 (HUM ASY CONTROL 2)

CAT. NO. HNI530	GTIN: 05055273203783	SIZE: 20 x 5ml
CAT. NO. HS2611	GTIN: 05055273203813	SIZE: 5 x 5ml
LOT NO. 1379UN	EXPIRY: 2023-01-28	

INTENDED USE

This product is intended for *in vitro* diagnostic use, in the quality control of diagnostic assays. The Human Assayed Multi-sera is for the control of accuracy.

DEVICE DESCRIPTION

The Human Assayed Multi-sera is supplied at 2 levels, level 2 and 3. Target values and ranges are supplied for the analytes listed in the values section at both levels.

SAFETY PRECAUTIONS AND WARNINGS

For *in vitro* diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.

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.

Health and Safety Data Sheets are available on request.

STORAGE AND STABILITY

OPENED: Store refrigerated (+2°C to +8°C). Reconstituted serum is stable for 8 hours at +15°C to +25°C or 7 days at +2°C to +8°C, and 28 days when frozen once at -18°C to -24°C. (See Limitations)

UNOPENED: Store refrigerated (+2°C to +8°C). Stable to expiration date printed on individual vials.

LIMITATIONS

For Total & 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 and Prostatic Acid Phosphatase is 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 -18°C to -24°C.

Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.

NEFA is stable for 1 day at +2°C to +8°C.

Total PSA is stable for 4 days at +2°C to +8°C, or 28 days in aliquots frozen at -18°C to -24°C.

Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components.

Different lot numbers of this control should not be interchanged, as the values assigned to the controls vary from lot to lot.

The control should not be used as a calibration material.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

- Carefully reconstitute each vial of lyophilised serum with exactly 5ml of distilled water at +15°C to +25°C. Close the bottle and allow to stand for 30 minutes before use. Ensure contents are completely dissolved by swirling gently. Avoid formation of foam. Do not shake.
- Refer to the Control section of the individual analyser application.
- Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

Human Assayed Multi-sera - Level 2 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

Each batch of assayed human serum is submitted to reference laboratories for assignment against international Reference Standards. Where international Reference Standards are unavailable, Reference Methods are used. Values are also collected from approx. 3000 laboratories worldwide and using a unique statistical analysis, a value is assigned.

With each batch, a control range is provided for individual parameters and each parameter method. The control range is equivalent to the assigned mean $\pm 2S.D.$ This results in an assayed serum with extremely accurate values, which may be confidently used by laboratories to ensure the accuracy of their methods.

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

NOTES

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

Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.9	35.6	48.2	3.15	6.30	Bromocresol Green
	g/dl	4.19	3.56	4.82	0.32	0.63	
	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Purple
	g/dl	4.33	3.68	4.98	0.33	0.65	
Alkaline Phosphatase	U/l	147	125	169	11.00	22.00	AMP optimised to IFCC 37°C
	U/l	144	122	166	11.00	22.00	AMP non-optimised 37°C
	U/l	144	122	166	11.00	22.00	Colorimetric 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	103	88	118	7.50	15.00	Abbott Architect IFCC Cal. 37°C
	U/l	98	83	113	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Enzymatic
Bile Acids	µmol/l	25.7	20.6	30.8	2.55	5.10	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	19.4	15.3	23.5	2.05	4.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.13	0.895	1.37	0.12	0.24	
	µmol/l	19.4	15.3	23.5	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.13	0.895	1.37	0.12	0.24	
	µmol/l	19.3	15.2	23.4	2.05	4.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.13	0.889	1.37	0.12	0.24	
Bilirubin Total	µmol/l	27.3	21.6	33.0	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.60	1.26	1.94	0.17	0.34	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	28.1	22.2	34.0	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	1.30	1.98	0.17	0.34	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Diazonium ion
	mg/dl	1.58	1.25	1.91	0.17	0.33	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.21	1.99	2.43	0.11	0.22	Arsenazo III
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Chloride	mmol/l	101	92.9	109	4.05	8.10	ISE indirect
Cholesterol	mmol/l	4.02	3.50	4.54	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	135	175	10.00	20.00	
	mmol/l	4.01	3.49	4.53	0.26	0.52	Cholesterol Dehydrogenase
	mg/dl	155	135	175	10.00	20.00	
Cholinesterase	U/l	6586	5269	7903	658.50	1317.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	193	158	228	17.50	35.00	CK-NAC serum start (DGKC) 37°C
	U/l	198	162	234	18.00	36.00	CK-NAC substrate start (DGKC) 37°C
	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	203	166	240	18.50	37.00	Monothioglycerol 37°C
Copper	µmol/l	13.3	10.7	15.9	1.30	2.60	Colorimetric
	µg/dl	84.6	68.1	101	8.25	16.50	
Creatinine	µmol/l	133	107	159	13.00	26.00	Alkaline picrate with deproteinization
	mg/dl	1.50	1.21	1.79	0.15	0.29	


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Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	132	105	159	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	μmol/l	128	103	153	12.50	25.00	Enzymatic UV method
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	μmol/l	133	106	160	13.50	27.00	Jaffe rate blanked
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	μmol/l	131	105	157	13.00	26.00	IDMS traceable
	mg/dl	1.48	1.19	1.77	0.15	0.29	
Free T4	pmol/l	17.2	12.9	21.5	2.15	4.30	Abbott Architect
	ng/dl	1.34	1.01	1.67	0.17	0.33	
	pg/ml	13.4	10.1	16.7	1.65	3.30	Abbott Architect
gamma-GT	U/l	51	44	58	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	51	44	58	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	52	44	60	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	5.89	5.01	6.77	0.44	0.88	Hexokinase
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	6.05	5.14	6.96	0.46	0.91	Glucose oxidase
	mg/dl	109	92.6	125	8.20	16.40	
HDL - Cholesterol	mmol/l	1.54	1.31	1.77	0.12	0.23	Direct HDL PPD
	mg/dl	59.4	50.6	68.2	4.40	8.80	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Direct HDL Immunoseparation
	mg/dl	54.0	45.9	62.1	4.05	8.10	
	mmol/l	1.52	1.29	1.75	0.12	0.23	Direct Clearance Method
	mg/dl	58.7	49.8	67.6	4.45	8.90	
	mmol/l	1.50	1.27	1.73	0.12	0.23	HDL - Ultra
	mg/dl	57.9	49.0	66.8	4.45	8.90	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	19.7	16.2	23.2	1.75	3.50	Colorimetric with ppt.
	µg/dl	110	90.6	129	9.70	19.40	
	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	202	172	232	15.00	30.00	L->P 37°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	33	27	39	3.00	6.00	Other Colorimetric 37°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Spectrophotometric
	mg/dl	0.715	0.630	0.800	0.04	0.09	
Magnesium	mmol/l	0.87	0.77	0.97	0.05	0.10	Arsenazo III
	mg/dl	2.11	1.86	2.36	0.13	0.25	
	mmol/l	0.90	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.18	1.91	2.45	0.14	0.27	
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Enzymatic
	mg/dl	2.13	1.88	2.38	0.13	0.25	
Osmolality	mOsm/kg	298	239	357	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	
Potassium	mmol/l	3.99	3.67	4.31	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.6	46.9	70.3	5.85	11.70	Biuret reaction end point
	g/dl	5.86	4.69	7.03	0.59	1.17	


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Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Protein Total	g/l	58.7	47.0	70.4	5.85	11.70	Biuret reaction kinetic	
	g/dl	5.87	4.70	7.04	0.59	1.17		
PSA Total	ng/ml =	12.1	9.04	15.2	1.53	3.06	Abbott Architect	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect	
Thyroid Stimulating Hormone	μU/ml =	0.98	0.78	1.17	0.10	0.20	Abbott Architect	
TIBC	μmol/l	37.6	29.7	45.5	3.95	7.90	FE+UIBC(saturation with iron)	
	μg/dl	210	166	254	22.00	44.00		
	μmol/l	42.7	33.7	51.7	4.50	9.00	Calculated from Transferrin	
	μg/dl	239	188	290	25.50	51.00		
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP no correction	
	mg/dl	94.7	79.5	110	7.60	15.20		
	mmol/l	1.09	0.91	1.27	0.09	0.18	L/G Kinase EP. no correction	
	mg/dl	96.5	80.9	112	7.80	15.60		
	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/Glycerol Dehydrogenase	
	mg/dl	94.7	79.4	110	7.65	15.30		
	UIBC	μmol/l	17.8	14.6	21.0	1.60	3.20	Direct Colorimetric
		μg/dl	99.5	81.6	117	8.95	17.90	
Urea	mmol/l	7.15	6.08	8.22	0.54	1.07	Urease end point	
	mg/dl	43.0	36.5	49.5	3.25	6.50		
	mmol/l	7.13	6.06	8.20	0.54	1.07	Urease kinetic	
	mg/dl	42.9	36.4	49.4	3.25	6.50		
	mmol/l	7.13	6.06	8.20	0.54	1.07	BUN	
	mg/dl	20.0	17.0	23.0	1.50	3.00		
	Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
		mg/dl	5.88	5.12	6.64	0.38	0.76	

**Abbott Alinity/ Architect c/ci Systems®**

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.85	5.09	6.61	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	
Zinc	µmol/l	24.3	19.4	29.2	2.45	4.90	Colorimetric with deproteinisation
	µg/dl	159	127	191	16.00	32.00	

ABX Pentra 400®

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Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.7	34.6	46.8	3.05	6.10	Bromocresol Green
	g/dl	4.07	3.46	4.68	0.31	0.61	
Alkaline Phosphatase	U/l	162	138	186	12.00	24.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	20.0	15.8	24.2	2.10	4.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.17	0.924	1.42	0.12	0.25	
Bilirubin Total	µmol/l	28.4	22.4	34.4	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.66	1.31	2.01	0.18	0.35	
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Arsenazo III
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Chloride	mmol/l	97.5	89.7	105	3.90	7.80	ISE direct
Cholesterol	mmol/l	4.13	3.59	4.67	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	139	179	10.00	20.00	
CK Total	U/l	196	160	232	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Hexokinase
	mg/dl	112	95.1	129	8.45	16.90	
	mmol/l	6.10	5.19	7.01	0.46	0.91	Glucose oxidase
	mg/dl	110	93.5	127	8.25	16.50	


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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.46	1.25	1.67	0.11	0.21	HDL - Ultra
	mg/dl	56.4	48.3	64.5	4.05	8.10	
Iron	µmol/l	18.0	14.7	21.3	1.65	3.30	Colorimetric without ppt.
	µg/dl	101	82.2	120	9.40	18.80	
LD (LDH)	U/l	386	328	444	29.00	58.00	P->L German methods 37°C
	U/l	221	188	254	16.50	33.00	L->P IFCC 37°C
Lipase	U/l	27	22	32	2.50	5.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Xylidyl Blue
	mg/dl	2.13	1.88	2.38	0.13	0.25	
Phosphate Inorganic	mmol/l	1.54	1.31	1.77	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.77	4.06	5.48	0.36	0.71	
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - direct
Protein Total	g/l	58.4	46.7	70.1	5.85	11.70	Biuret reaction end point
	g/dl	5.84	4.67	7.01	0.59	1.17	
Sodium	mmol/l	140	133	147	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.16	0.98	1.34	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	103	86.4	120	8.30	16.60	
Urea	mmol/l	6.74	5.73	7.75	0.51	1.01	Urease kinetic
	mg/dl	40.5	34.4	46.6	3.05	6.10	
	mmol/l	6.74	5.73	7.75	0.51	1.01	BUN
	mg/dl	18.9	16.1	21.7	1.40	2.80	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.58	4.86	6.30	0.36	0.72	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	

Beckman Coulter AU Series®

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.1	34.1	46.1	3.00	6.00	Bromocresol Green
	g/dl	4.01	3.41	4.61	0.30	0.60	
	g/l	39.7	33.8	45.6	2.95	5.90	Bromocresol Purple
	g/dl	3.97	3.38	4.56	0.30	0.59	
Alkaline Phosphatase	U/l	174	148	200	13.00	26.00	AMP optimised to IFCC 37°C
	U/l	166	141	191	12.50	25.00	AMP non-optimised 37°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	42	34	50	4.00	8.00	Beckman (Extinction Coefficient) 37°C
Amylase Pancreatic	U/l	63	53	73	5.00	10.00	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	88	75	101	6.50	13.00	pNP Maltotriose substrates 37°C
	U/l	88	75	101	6.50	13.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	92	78	106	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	91	78	104	6.50	13.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	91	77	105	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	89	75	103	7.00	14.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Colorimetric 37°C
	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	37	29	45	4.00	8.00	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	14.4	11.4	17.4	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.848	1.31	0.12	0.23	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	18.3	14.5	22.1	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.07	0.848	1.29	0.11	0.22	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.09	0.860	1.32	0.12	0.23	
Bilirubin Total	µmol/l	29.3	23.1	35.5	3.10	6.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	30.0	23.7	36.3	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	30.5	24.1	36.9	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.78	1.41	2.15	0.19	0.37	
	µmol/l	31.6	25.0	38.2	3.30	6.60	Diazonium ion
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	30.7	24.3	37.1	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	30.7	24.2	37.2	3.25	6.50	DPD (Beckman AU)
	mg/dl	1.80	1.42	2.18	0.19	0.38	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.26	2.04	2.48	0.11	0.22	Ion selective electrode
	mg/dl	9.06	8.18	9.94	0.44	0.88	
	mmol/l	2.26	2.03	2.49	0.12	0.23	Arsenazo III
	mg/dl	9.06	8.14	9.98	0.46	0.92	
Chloride	mmol/l	103	94.3	112	4.35	8.70	Colorimetric
	mmol/l	99.1	91.2	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.08	3.55	4.61	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.00	3.48	4.52	0.26	0.52	Cholesterol Dehydrogenase
	mg/dl	154	134	174	10.00	20.00	
Cholinesterase	U/l	5385	4308	6462	538.50	1077.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	209	172	246	18.50	37.00	Beckman CK-NAC (Extinction Coeff) 37°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate with deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	132	106	158	13.00	26.00	Enzymatic UV method
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	133	107	159	13.00	26.00	Creatinine PAP method
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	124	99.2	149	12.40	24.80	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	IDMS traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.29	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	50	43	57	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	52	45	59	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	53	45	61	4.00	8.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
	U/l	51	44	58	3.50	7.00	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	20	16	24	2.00	4.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	6.01	5.11	6.91	0.45	0.90	GOD/02-Beckman method
	mg/dl	108	92.1	124	7.95	15.90	
	mmol/l	6.08	5.17	6.99	0.46	0.91	Glucose dehydrogenase
	mg/dl	110	93.2	127	8.40	16.80	
	mmol/l	6.09	5.18	7.00	0.46	0.91	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
mmol/l	6.15	5.23	7.07	0.46	0.92	Glucose oxidase	
mg/dl	111	94.2	128	8.40	16.80		
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL PPD
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Direct HDL Immunoseparation
	mg/dl	56.0	47.5	64.5	4.25	8.50	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Direct HDL PEGME
	mg/dl	54.0	45.9	62.1	4.05	8.10	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct Clearance Method
	mg/dl	56.4	47.9	64.9	4.25	8.50	
	mmol/l	1.37	1.17	1.57	0.10	0.20	HDL - Ultra
	mg/dl	52.9	45.2	60.6	3.85	7.70	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Direct HDL Roche 4th Generation
	mg/dl	57.1	48.6	65.6	4.25	8.50	
Iron	µmol/l	19.7	16.1	23.3	1.80	3.60	Colorimetric with ppt.
	µg/dl	110	90.0	130	10.00	20.00	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
Lactate	mmol/l	1.50	1.23	1.77	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.5	11.1	15.9	1.20	2.40	
LD (LDH)	U/l	209	177	241	16.00	32.00	L->P 37°C
	U/l	444	377	511	33.50	67.00	P->L Scandinavian & Dutch 37°C
	U/l	399	339	459	30.00	60.00	P->L German methods 37°C
	U/l	208	177	239	15.50	31.00	L->P IFCC 37°C
	U/l	210	179	241	15.50	31.00	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	31	25	37	3.00	6.00	Other Colorimetric 37°C
	U/l	29	23	35	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.03	0.90	1.16	0.06	0.13	Ion selective electrode
	mg/dl	0.715	0.627	0.803	0.04	0.09	
	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
Magnesium	mg/dl	0.708	0.624	0.792	0.04	0.08	Xylidyl Blue
	mmol/l	0.91	0.80	1.02	0.06	0.11	
	mg/dl	2.22	1.95	2.49	0.14	0.27	Methylthymol blue
	mmol/l	0.94	0.83	1.05	0.06	0.11	
Osmolality	mg/dl	2.28	2.01	2.55	0.14	0.27	Calculated
	mOsm/kg	292	234	350	29.00	58.00	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.37	3.72	5.02	0.33	0.65	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.40	3.75	5.05	0.33	0.65	

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Phosphate Inorganic	mmol/l	1.44	1.23	1.65	0.11	0.21	Beckman PHOSm (365nm)	
	mg/dl	4.46	3.81	5.11	0.33	0.65		
Potassium	mmol/l	3.98	3.67	4.29	0.16	0.31	ISE method - indirect	
Protein Total	g/l	58.3	46.6	70.0	5.85	11.70	Biuret reaction end point	
	g/dl	5.83	4.66	7.00	0.59	1.17		
	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction kinetic	
	g/dl	5.80	4.64	6.96	0.58	1.16		
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect	
TIBC	μmol/l	41.3	32.6	50.0	4.35	8.70	FE+UIBC(saturation with iron)	
	μg/dl	231	182	280	24.50	49.00		
	μmol/l	41.2	32.5	49.9	4.35	8.70	Direct Colorimetric	
	μg/dl	230	182	278	24.00	48.00		
	μmol/l	38.5	30.4	46.6	4.05	8.10	Calculated from Transferrin	
	μg/dl	215	170	260	22.50	45.00		
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction	
	mg/dl	99.1	83.0	115	8.05	16.10		
	mmol/l	1.11	0.94	1.29	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction	
	mg/dl	98.2	82.7	114	7.75	15.50		
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction	
	mg/dl	98.2	82.4	114	7.90	15.80		
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase	
	mg/dl	99.1	83.5	115	7.80	15.60		
	UIBC	μmol/l	22.2	18.2	26.2	2.00	4.00	Direct Colorimetric
		μg/dl	124	102	146	11.00	22.00	
Urea	mmol/l	7.42	6.31	8.53	0.56	1.11	Beckman-Conductivity	
	mg/dl	44.6	37.9	51.3	3.35	6.70		

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.44	6.33	8.55	0.56	1.11	Urease end point
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.40	6.29	8.51	0.56	1.11	Urease kinetic
	mg/dl	44.5	37.8	51.2	3.35	6.70	
	mmol/l	7.27	6.18	8.36	0.55	1.09	Urease hypochlorite
	mg/dl	43.7	37.1	50.3	3.30	6.60	
mmol/l	7.40	6.29	8.51	0.56	1.11	BUN	
mg/dl	20.8	17.7	23.9	1.55	3.10		
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.91	5.14	6.68	0.39	0.77	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	6.03	5.24	6.82	0.40	0.79	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.90	5.14	6.66	0.38	0.76	
Zinc	µmol/l	22.7	18.1	27.3	2.30	4.60	Colorimetric with deproteinisation
	µg/dl	148	118	178	15.00	30.00	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Green
	g/dl	4.40	3.74	5.06	0.33	0.66	
	g/l	44.3	37.6	51.0	3.35	6.70	Bromocresol Purple
	g/dl	4.43	3.76	5.10	0.34	0.67	
Alkaline Phosphatase	U/l	156	133	179	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	154	131	177	11.50	23.00	AMP non-optimised 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Total	U/l	94	80	108	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	94	80	108	7.00	14.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.2	11.2	17.2	1.50	3.00	Differential rate pH change
Bilirubin Total	µmol/l	31.4	24.8	38.0	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.84	1.45	2.23	0.20	0.39	
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Ion selective electrode
	mg/dl	8.74	7.86	9.62	0.44	0.88	
	mmol/l	2.19	1.97	2.41	0.11	0.22	Arsenazo III
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Chloride	mmol/l	99.3	91.4	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.03	3.51	4.55	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	135	177	10.50	21.00	
Cholinesterase	U/l	5649	4519	6779	565.00	1130.00	Colorimetric Butyrylthiocholine 37°C


Beckman DxC600/800®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	202	166	238	18.00	36.00	CK-NAC (IFCC) 37°C
	U/l	208	170	246	19.00	38.00	Monothioglycerol 37°C
Creatinine	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	132	106	158	13.00	26.00	Jaffe rate blanked
	mg/dl	1.49	1.20	1.78	0.15	0.29	
µmol/l	126	100	152	13.00	26.00	IDMS traceable	
mg/dl	1.42	1.13	1.71	0.15	0.29		
gamma-GT	U/l	42	36	48	3.00	6.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	5.92	5.04	6.80	0.44	0.88	GOD/02-Beckman method
	mg/dl	107	90.8	123	8.10	16.20	
	mmol/l	5.89	5.01	6.77	0.44	0.88	Hexokinase
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	5.85	4.97	6.73	0.44	0.88	Oxygen electrode
	mg/dl	105	89.6	120	7.70	15.40	
mmol/l	5.78	4.91	6.65	0.44	0.87	Glucose oxidase	
mg/dl	104	88.5	120	7.75	15.50		
HDL - Cholesterol	mmol/l	1.52	1.29	1.75	0.12	0.23	Direct HDL PPD
	mg/dl	58.7	49.8	67.6	4.45	8.90	
	mmol/l	1.55	1.32	1.78	0.12	0.23	HDL - Ultra
mg/dl	59.8	51.0	68.6	4.40	8.80		
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric with ppt.
	µg/dl	109	89.4	129	9.80	19.60	
	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric without ppt.
	µg/dl	107	87.8	126	9.60	19.20	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	1.45	1.19	1.71	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.1	10.7	15.5	1.20	2.40	
LD (LDH)	U/l	168	143	193	12.50	25.00	L->P 37°C
	U/l	550	468	632	41.00	82.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	254	216	292	19.00	38.00	L->P IFCC 37°C
	U/l	165	140	190	12.50	25.00	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	36	29	43	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	0.99	0.88	1.11	0.06	0.12	Spectrophotometric
	mg/dl	0.690	0.608	0.772	0.04	0.08	
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Calmagite
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Osmolality	mOsm/kg	298	239	357	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.43	1.21	1.65	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.43	3.75	5.11	0.34	0.68	
Potassium	mmol/l	3.94	3.62	4.26	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.5	46.8	70.2	5.85	11.70	Biuret reaction end point
	g/dl	5.85	4.68	7.02	0.59	1.17	
	g/l	58.0	46.4	69.6	5.80	11.60	Biuret reaction kinetic
	g/dl	5.80	4.64	6.96	0.58	1.16	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
	mmol/l	1.10	0.93	1.27	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	97.4	82.0	113	7.70	15.40	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Beckman-Conductivity
	mg/dl	42.8	36.4	49.2	3.20	6.40	

**Beckman DxC600/800®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.44	6.32	8.56	0.56	1.12	Urease kinetic
	mg/dl	44.7	38.0	51.4	3.35	6.70	
	mmol/l	7.44	6.32	8.56	0.56	1.12	BUN
	mg/dl	20.9	17.8	24.0	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.70	4.96	6.44	0.37	0.74	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.73	4.99	6.47	0.37	0.74	

BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.3	35.1	47.5	3.10	6.20	Bromocresol Green
	g/dl	4.13	3.51	4.75	0.31	0.62	
Alkaline Phosphatase	U/l	160	136	184	12.00	24.00	AMP optimised to IFCC 37°C
	U/l	125	106	144	9.50	19.00	AMP optimised to IFCC 30°C
	U/l	102	87	117	7.50	15.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37°C
	U/l	29	24	34	2.50	5.00	Tris buffer without P5P 30°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	29.3	23.1	35.5	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	137	177	10.00	20.00	
Creatinine	µmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	128	103	153	12.50	25.00	Jaffe rate blanked
	mg/dl	1.45	1.16	1.74	0.15	0.29	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.01	5.11	6.91	0.45	0.90	Glucose oxidase
	mg/dl	108	92.1	124	7.95	15.90	
Iron	μmol/l	20.6	16.9	24.3	1.85	3.70	Colorimetric without ppt.
	μg/dl	115	94.5	136	10.25	20.50	
Protein Total	g/l	59.8	47.9	71.7	5.95	11.90	Biuret reaction end point
	g/dl	5.98	4.79	7.17	0.60	1.19	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.5	114	7.85	15.70	
Urea	mmol/l	6.92	5.88	7.96	0.52	1.04	Urease end point
	mg/dl	41.6	35.3	47.9	3.15	6.30	
	mmol/l	7.08	6.02	8.14	0.53	1.06	Urease kinetic
	mg/dl	42.6	36.2	49.0	3.20	6.40	
Uric Acid (Urate)	mmol/l	7.08	6.02	8.14	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.12	6.68	0.39	0.78	

BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1379UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.5	35.2	47.8	3.15	6.30	Bromocresol Green
	g/dl	4.15	3.52	4.78	0.32	0.63	
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	38	31	45	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	15	21	1.50	3.00	Tris buffer without P5P 25°C
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	Arsenazo III
	mg/dl	9.06	8.18	9.94	0.44	0.88	
Cholesterol	mmol/l	4.06	3.53	4.59	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	157	136	178	10.50	21.00	
Cholinesterase	U/l	4682	3746	5618	468.00	936.00	Colorimetric Butyrylthiocholine 37°C
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	26	34	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Glucose oxidase
	mg/dl	110	93.9	126	8.05	16.10	

BIOSYSTEMS A25

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Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.55	1.31	1.79	0.12	0.24	Direct HDL PPD
	mg/dl	59.8	50.6	69.0	4.60	9.20	
Protein Total	g/l	59.1	47.3	70.9	5.90	11.80	Biuret reaction end point
	g/dl	5.91	4.73	7.09	0.59	1.18	
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.5	113	7.95	15.90	
Urea	mmol/l	6.82	5.79	7.85	0.52	1.03	Urease end point
	mg/dl	41.0	34.8	47.2	3.10	6.20	
	mmol/l	6.72	5.71	7.73	0.51	1.01	Urease kinetic
	mg/dl	40.4	34.3	46.5	3.05	6.10	
	mmol/l	6.72	5.71	7.73	0.51	1.01	BUN
	mg/dl	18.9	16.1	21.7	1.40	2.80	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.73	4.97	6.49	0.38	0.76	
	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.06	5.28	6.84	0.39	0.78	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Tobramycin	µmol/l	6.30	5.04	7.56	0.63	1.26	Gravimetric
	µg/ml	2.95	2.36	3.54	0.30	0.59	
Total T3	nmol/l	1.96	1.47	2.45	0.25	0.49	Abbott Architect
	ng/ml	1.28	0.957	1.60	0.16	0.32	
	ng/dl	128	95.7	160	16.15	32.30	Abbott Architect
	nmol/l	2.16	1.62	2.70	0.27	0.54	BioMerieux Vidas
	ng/ml	1.41	1.05	1.77	0.18	0.36	
	ng/dl	141	105	177	18.00	36.00	BioMerieux Vidas
	nmol/l	2.31	1.73	2.89	0.29	0.58	Siemens Centaur XP/XPT/Classic
	ng/ml	1.50	1.13	1.87	0.19	0.37	
	ng/dl	150	113	187	18.50	37.00	Siemens Centaur XP/XPT/Classic
	nmol/l	1.85	1.39	2.31	0.23	0.46	Siemens Immulite 2000/2500
	ng/ml	1.20	0.905	1.50	0.15	0.30	
	ng/dl	120	90.5	150	14.75	29.50	Siemens Immulite 2000/2500
	nmol/l	1.87	1.41	2.33	0.23	0.46	Siemens Immulite 1000
	ng/ml	1.22	0.918	1.52	0.15	0.30	
	ng/dl	122	91.8	152	15.10	30.20	Siemens Immulite 1000
	nmol/l	2.19	1.64	2.74	0.28	0.55	Beckman Dxl800
	ng/ml	1.43	1.07	1.79	0.18	0.36	
	ng/dl	143	107	179	18.00	36.00	Beckman Dxl800
	nmol/l	2.28	1.71	2.85	0.29	0.57	Roche Elecsys
	ng/ml	1.48	1.11	1.85	0.19	0.37	
ng/dl	148	111	185	18.50	37.00	Roche Elecsys	
nmol/l	2.44	1.83	3.05	0.31	0.61	Beckman Access	
ng/ml	1.59	1.19	1.99	0.20	0.40		
ng/dl	159	119	199	20.00	40.00	Beckman Access	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T3	nmol/l	2.08	1.56	2.60	0.26	0.52	Tosoh Series
	ng/ml	1.35	1.02	1.68	0.17	0.33	
	ng/dl	135	102	168	16.50	33.00	Tosoh Series
	nmol/l	2.70	2.02	3.38	0.34	0.68	Vitros ECi
	ng/ml	1.76	1.32	2.20	0.22	0.44	
	ng/dl	176	132	220	22.00	44.00	Vitros ECi
	nmol/l	2.37	1.78	2.96	0.30	0.59	Roche Cobas E411
	ng/ml	1.54	1.16	1.92	0.19	0.38	
	ng/dl	154	116	192	19.00	38.00	Roche Cobas E411
	nmol/l	2.27	1.70	2.84	0.29	0.57	Roche Cobas 6000/8000
	ng/ml	1.48	1.11	1.85	0.19	0.37	
	ng/dl	148	111	185	18.50	37.00	Roche Cobas 6000/8000
	nmol/l	2.32	1.74	2.90	0.29	0.58	Monobind Inc. ELISA / CLIA
	ng/ml	1.51	1.13	1.89	0.19	0.38	
	ng/dl	151	113	189	19.00	38.00	Monobind Inc. ELISA / CLIA
	nmol/l	2.53	1.89	3.17	0.32	0.64	SNIBE Maglumi Analysers
	ng/ml	1.65	1.23	2.07	0.21	0.42	
	ng/dl	165	123	207	21.00	42.00	SNIBE Maglumi Analysers
nmol/l	2.30	1.72	2.88	0.29	0.58	Siemens Centaur CP	
ng/ml	1.50	1.12	1.88	0.19	0.38		
ng/dl	150	112	188	19.00	38.00	Siemens Centaur CP	
Total T4	nmol/l	93.7	70.3	117	11.70	23.40	Abbott Architect
	µg/dl	7.31	5.48	9.14	0.92	1.83	
	ng/ml	73.1	54.8	91.4	9.15	18.30	Abbott Architect



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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	90.3	67.8	113	11.25	22.50	BioMerieux Vidas
	µg/dl	7.04	5.29	8.79	0.88	1.75	
	ng/ml	70.4	52.9	87.9	8.75	17.50	BioMerieux Vidas
	nmol/l	87.7	65.8	110	10.95	21.90	Siemens Centaur XP/XPT/Classic
	µg/dl	6.84	5.13	8.55	0.86	1.71	
	ng/ml	68.4	51.3	85.5	8.55	17.10	Siemens Centaur XP/XPT/Classic
	nmol/l	95.1	71.4	119	11.85	23.70	Siemens Immulite 2000/2500
	µg/dl	7.42	5.57	9.27	0.93	1.85	
	ng/ml	74.2	55.7	92.7	9.25	18.50	Siemens Immulite 2000/2500
	nmol/l	100	75.2	125	12.40	24.80	Siemens Immulite 1000
	µg/dl	7.80	5.87	9.73	0.97	1.93	
	ng/ml	78.0	58.7	97.3	9.65	19.30	Siemens Immulite 1000
	nmol/l	94.8	71.1	119	11.85	23.70	Beckman Dxl800
	µg/dl	7.39	5.55	9.23	0.92	1.84	
	ng/ml	73.9	55.5	92.3	9.20	18.40	Beckman Dxl800
	nmol/l	92.6	69.4	116	11.60	23.20	Roche Elecsys
	µg/dl	7.22	5.41	9.03	0.91	1.81	
	ng/ml	72.2	54.1	90.3	9.05	18.10	Roche Elecsys
	nmol/l	92.6	69.5	116	11.55	23.10	Beckman Access
	µg/dl	7.22	5.42	9.02	0.90	1.80	
ng/ml	72.2	54.2	90.2	9.00	18.00	Beckman Access	
nmol/l	89.6	67.2	112	11.20	22.40	Tosoh Series	
µg/dl	6.99	5.24	8.74	0.88	1.75		
ng/ml	69.9	52.4	87.4	8.75	17.50	Tosoh Series	
nmol/l	84.8	63.6	106	10.60	21.20	Vitros ECI	
µg/dl	6.61	4.96	8.26	0.83	1.65		
ng/ml	66.1	49.6	82.6	8.25	16.50	Vitros ECI	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	91.8	68.9	115	11.45	22.90	Roche Cobas E411
	µg/dl	7.16	5.37	8.95	0.90	1.79	
	ng/ml	71.6	53.7	89.5	8.95	17.90	Roche Cobas E411
	nmol/l	91.8	68.8	115	11.50	23.00	Roche Cobas 6000/8000
	µg/dl	7.16	5.37	8.95	0.90	1.79	
	ng/ml	71.6	53.7	89.5	8.95	17.90	Roche Cobas 6000/8000
	nmol/l	113	84.7	141	14.15	28.30	Microgenics DRI assay
	µg/dl	8.81	6.61	11.0	1.10	2.20	
	ng/ml	88.1	66.1	110	11.00	22.00	Microgenics DRI assay
	nmol/l	92.8	69.6	116	11.60	23.20	Monobind Inc. ELISA / CLIA
	µg/dl	7.24	5.43	9.05	0.91	1.81	
	ng/ml	72.4	54.3	90.5	9.05	18.10	Monobind Inc. ELISA / CLIA
	nmol/l	97.7	73.3	122	12.20	24.40	SNIBE Maglumi Analysers
	µg/dl	7.62	5.72	9.52	0.95	1.90	
	ng/ml	76.2	57.2	95.2	9.50	19.00	SNIBE Maglumi Analysers
nmol/l	96.9	72.7	121	12.10	24.20	Siemens Centaur CP	
µg/dl	7.56	5.67	9.45	0.95	1.89		
ng/ml	75.6	56.7	94.5	9.45	18.90	Siemens Centaur CP	
Transferrin	g/l	1.93	1.54	2.32	0.20	0.39	Immunoturbidimetric
	mg/dl	193	154	232	19.50	39.00	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.0	115	8.05	16.10	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	83.5	115	7.80	15.60	



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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.7	114	7.75	15.50	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	99.1	83.4	115	7.85	15.70	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	99.1	83.0	115	8.05	16.10	
	mmol/l	1.28	1.07	1.49	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	113	94.7	131	9.15	18.30	
Urea	mmol/l	6.98	5.93	8.03	0.53	1.05	Ortho Vitros Microslide Systems
	mg/dl	41.9	35.6	48.2	3.15	6.30	
	mmol/l	7.21	6.13	8.29	0.54	1.08	Urease end point
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.26	6.17	8.35	0.55	1.09	Urease kinetic
	mg/dl	43.6	37.1	50.1	3.25	6.50	
	mmol/l	7.32	6.22	8.42	0.55	1.10	Urease hypochlorite
	mg/dl	44.0	37.4	50.6	3.30	6.60	
	mmol/l	7.26	6.17	8.35	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.68	4.94	6.42	0.37	0.74	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Reduction methods
	mg/dl	5.70	4.96	6.44	0.37	0.74	

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.11	6.61	0.38	0.75	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.78	5.04	6.52	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.85	5.09	6.61	0.38	0.76	
Vitamin B12	pmol/l	464	371	556	46.27	92.54	Roche Cobas E411
	pg/ml	628	503	753	62.50	125.00	
Zinc	µmol/l	22.4	17.9	26.9	2.25	4.50	Colorimetric with deproteinisation
	µg/dl	146	117	175	14.50	29.00	

MINDRAY BS-200/300/400

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.3	35.1	47.5	3.10	6.20	Bromocresol Green
	g/dl	4.13	3.51	4.75	0.31	0.62	
Alkaline Phosphatase	U/l	163	138	188	12.50	25.00	AMP optimised to IFCC 37°C
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 30°C
	U/l	104	88	120	8.00	16.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30°C
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	14.2	11.2	17.2	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	18.8	14.8	22.8	2.00	4.00	Diazo with Sulphanilic Acid
	mg/dl	1.10	0.866	1.33	0.12	0.23	
	µmol/l	18.4	14.6	22.2	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.08	0.854	1.31	0.11	0.23	
Bilirubin Total	µmol/l	28.2	22.3	34.1	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.65	1.30	2.00	0.18	0.35	
	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.72	1.36	2.08	0.18	0.36	
	µmol/l	25.9	20.4	31.4	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	1.19	1.85	0.17	0.33	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	29.3	23.1	35.5	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Calcium	mmol/l	2.25	2.03	2.47	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.02	8.14	9.90	0.44	0.88	
	mmol/l	2.08	1.87	2.29	0.11	0.21	Ion selective electrode
	mg/dl	8.34	7.49	9.19	0.43	0.85	
Cholesterol	mmol/l	2.29	2.06	2.52	0.12	0.23	Arsenazo III
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Cholesterol	mmol/l	4.05	3.52	4.58	0.27	0.53	Cholesterol Oxidase - Abell Kendall
	mg/dl	156	136	176	10.00	20.00	
Cholinesterase	U/l	5764	4611	6917	576.50	1153.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	205	168	242	18.50	37.00	CK-NAC (IFCC) 37°C
	U/l	128	105	151	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	87	71	103	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	131	105	157	13.00	26.00	Alkaline picrate with deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	128	103	153	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	130	104	156	13.00	26.00	Enzymatic UV method
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	129	103	155	13.00	26.00	Creatinine PAP method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked
	mg/dl	1.44	1.15	1.73	0.15	0.29	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Creatinine	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	1.44	1.15	1.73	0.15	0.29		
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C	
	U/l	41	35	47	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C	
	U/l	32	27	37	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C	
	U/l	51	44	58	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C	
	U/l	40	35	45	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C	
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C	
Glucose	mmol/l	6.12	5.21	7.03	0.46	0.91	Hexokinase	
	mg/dl	110	93.9	126	8.05	16.10		
	mmol/l	6.11	5.19	7.03	0.46	0.92	Glucose oxidase	
	mg/dl	110	93.5	127	8.25	16.50		
HDL - Cholesterol	mmol/l	1.46	1.24	1.68	0.11	0.22	Direct HDL PPD	
	mg/dl	56.4	47.9	64.9	4.25	8.50		
	mmol/l	1.40	1.19	1.61	0.11	0.21	Direct HDL Immunoseparation	
	mg/dl	54.0	45.9	62.1	4.05	8.10		
	mmol/l	1.37	1.16	1.58	0.11	0.21	Direct HDL PEGME	
	mg/dl	52.9	44.8	61.0	4.05	8.10		
	mmol/l	1.44	1.22	1.66	0.11	0.22	Direct Clearance Method	
	mg/dl	55.6	47.1	64.1	4.25	8.50		
	Iron	µmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric without ppt.
		µg/dl	108	88.3	128	9.85	19.70	
Lactate	mmol/l	1.47	1.21	1.73	0.13	0.26	Colorimetric Lactate Oxidase	
	mg/dl	13.2	10.9	15.5	1.15	2.30		
LD (LDH)	U/l	400	340	460	30.00	60.00	P->L German methods 37°C	
	U/l	289	245	333	22.00	44.00	P->L German methods 30°C	
	U/l	203	172	234	15.50	31.00	P->L German methods 25°C	


MINDRAY BS-200/300/400
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	411	350	472	30.50	61.00	P->L SFBC 37°C
	U/l	297	253	341	22.00	44.00	P->L SFBC 30°C
	U/l	208	177	239	15.50	31.00	P->L SFBC 25°C
	U/l	215	183	247	16.00	32.00	L->P IFCC 37°C
	U/l	155	132	178	11.50	23.00	L->P IFCC 30°C
	U/l	109	93	125	8.00	16.00	L->P IFCC 25°C
Magnesium	mmol/l	0.92	0.81	1.04	0.06	0.11	Xylidyl Blue
	mg/dl	2.25	1.98	2.52	0.14	0.27	
	mmol/l	0.93	0.82	1.04	0.06	0.11	Enzymatic
	mg/dl	2.26	1.99	2.53	0.14	0.27	
Phosphate Inorganic	mmol/l	1.44	1.22	1.66	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.46	3.78	5.14	0.34	0.68	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Protein Total	g/l	58.4	46.8	70.0	5.80	11.60	Biuret reaction end point
	g/dl	5.84	4.68	7.00	0.58	1.16	
TIBC	µmol/l	42.5	33.5	51.5	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	238	187	289	25.50	51.00	
Triglycerides	mmol/l	1.10	0.93	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.9	113	7.75	15.50	
	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	100	84.0	116	8.00	16.00	
	mmol/l	1.10	0.93	1.28	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	97.4	81.9	113	7.75	15.50	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	99.1	83.3	115	7.90	15.80	
Urea	mmol/l	7.05	5.99	8.11	0.53	1.06	Urease end point
	mg/dl	42.4	36.0	48.8	3.20	6.40	
	mmol/l	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.79	6.62	8.96	0.59	1.17	Urease hypochlorite
	mg/dl	46.8	39.8	53.8	3.50	7.00	
	mmol/l	7.33	6.23	8.43	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.86	5.09	6.63	0.39	0.77	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.80	5.04	6.56	0.38	0.76	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.6	34.5	46.7	3.05	6.10	Ortho Vitros Microslide Systems
	g/dl	4.06	3.45	4.67	0.31	0.61	
Alkaline Phosphatase	U/l	137	116	158	10.50	21.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	45	36	54	4.50	9.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	68	58	78	5.00	10.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	52	42	62	5.00	10.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	24.5	19.4	29.6	2.55	5.10	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Bilirubin, Unconjugated Vitros BU	µmol/l	15.0	11.9	18.1	1.55	3.10	BuBc Vitros Slide
	mg/dl	0.878	0.696	1.06	0.09	0.18	
Calcium	mmol/l	2.29	2.06	2.52	0.12	0.23	Ortho Vitros Microslide Systems
	mg/dl	9.18	8.26	10.1	0.46	0.92	
Chloride	mmol/l	101	92.7	109	4.15	8.30	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	3.99	3.47	4.51	0.26	0.52	Ortho Vitros Microslide Systems
	mg/dl	154	134	174	10.00	20.00	
Cholinesterase	U/l	5381	4305	6457	538.00	1076.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	182	149	215	16.50	33.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	126	101	151	12.50	25.00	Vitros DT60/DT60 II/DTSC II
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	127	102	152	12.50	25.00	Vitros IDMS Traceable
mg/dl	1.44	1.15	1.73	0.15	0.29		

Ortho VITROS®

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Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	36.1	27.0	45.2	4.55	9.10	Vitros ECi
	ng/dl	2.82	2.11	3.53	0.36	0.71	
	pg/ml	28.2	21.1	35.3	3.55	7.10	Vitros ECi
gamma-GT	U/l	64	54	74	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	5.99	5.10	6.88	0.45	0.89	Ortho Vitros Microslide Systems
	mg/dl	108	91.9	124	8.05	16.10	
HDL - Cholesterol	mmol/l	1.40	1.19	1.61	0.11	0.21	Vitros Magnetic HDL
	mg/dl	54.0	45.9	62.1	4.05	8.10	Vitros 5.1 FS microtip assay
	mmol/l	1.40	1.19	1.61	0.11	0.21	
	mg/dl	54.0	45.9	62.1	4.05	8.10	
Iron	mmol/l	1.38	1.17	1.59	0.11	0.21	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	53.3	45.2	61.4	4.05	8.10	
Iron	µmol/l	20.2	16.5	23.9	1.85	3.70	Ortho Vitros Microslide Systems
	µg/dl	113	92.2	134	10.40	20.80	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	600	510	690	45.00	90.00	Ortho Vitros Microslide Systems 37°C
	U/l	242	206	278	18.00	36.00	Ortho Vitros IFCC Traceable 37°C
Lipase	U/l	180	144	216	18.00	36.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.23	1.08	1.38	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.854	0.750	0.958	0.05	0.10	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Ortho Vitros Microslide Systems
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.50	1.28	1.72	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.65	3.97	5.33	0.34	0.68	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.07	3.74	4.40	0.17	0.33	Ortho Vitros Microslide Systems
Protein Total	g/l	59.1	47.3	70.9	5.90	11.80	Ortho Vitros Microslide Systems
	g/dl	5.91	4.73	7.09	0.59	1.18	
Sodium	mmol/l	142	135	149	3.50	7.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.14	0.92	1.37	0.11	0.23	Vitros ECi
TIBC	µmol/l	47.4	37.4	57.4	5.00	10.00	Ortho Vitros Microslide Systems
	µg/dl	265	209	321	28.00	56.00	
Total T3	nmol/l	2.70	2.02	3.38	0.34	0.68	Vitros ECi
	ng/ml	1.76	1.32	2.20	0.22	0.44	
	ng/dl	176	132	220	22.00	44.00	Vitros ECi
Total T4	nmol/l	84.8	63.6	106	10.60	21.20	Vitros ECi
	µg/dl	6.61	4.96	8.26	0.83	1.65	
	ng/ml	66.1	49.6	82.6	8.25	16.50	Vitros ECi
Triglycerides	mmol/l	1.28	1.07	1.49	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	113	94.7	131	9.15	18.30	
Urea	mmol/l	6.98	5.93	8.03	0.53	1.05	Ortho Vitros Microslide Systems
	mg/dl	41.9	35.6	48.2	3.15	6.30	
	mmol/l	6.98	5.93	8.03	0.53	1.05	BUN
	mg/dl	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.68	4.94	6.42	0.37	0.74	

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.2	35.0	47.4	3.10	6.20	Bromocresol Green
	g/dl	4.12	3.50	4.74	0.31	0.62	
Alkaline Phosphatase	U/l	152	129	175	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	118	100	136	9.00	18.00	AMP optimised to IFCC 30°C
	U/l	97	82	112	7.50	15.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 25°C
Amylase Total	U/l	99	84	114	7.50	15.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30°C
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.0	14.2	21.8	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	18.1	14.3	21.9	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.06	0.837	1.28	0.11	0.22	
Bilirubin Total	µmol/l	28.3	22.4	34.2	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.66	1.31	2.01	0.18	0.35	
	µmol/l	29.2	23.1	35.3	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	30.2	23.8	36.6	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.77	1.39	2.15	0.19	0.38	

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	30.5	24.1	36.9	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.78	1.41	2.15	0.19	0.37	
Calcium	mmol/l	2.27	2.05	2.49	0.11	0.22	Cresolphthalein complexone
	mg/dl	9.10	8.22	9.98	0.44	0.88	
	mmol/l	2.24	2.02	2.46	0.11	0.22	Arsenazo III
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Cholesterol	mmol/l	4.12	3.58	4.66	0.27	0.54	Cholesterol Oxidase - Abell Kendall
	mg/dl	159	138	180	10.50	21.00	
CK Total	U/l	210	172	248	19.00	38.00	CK-NAC (IFCC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC (IFCC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	129	103	155	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	133	107	159	13.00	26.00	Jaffe rate blanked
	mg/dl	1.50	1.21	1.79	0.15	0.29	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.17	5.24	7.10	0.47	0.93	Glucose oxidase
	mg/dl	111	94.4	128	8.30	16.60	



PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.37	1.16	1.58	0.11	0.21	Direct Clearance Method
	mg/dl	52.9	44.8	61.0	4.05	8.10	
Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric without ppt.
	µg/dl	109	89.4	129	9.80	19.60	
Lactate	mmol/l	1.56	1.28	1.84	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.5	16.7	1.30	2.60	
LD (LDH)	U/l	419	356	482	31.50	63.00	P->L German methods 37°C
	U/l	303	257	349	23.00	46.00	P->L German methods 30°C
	U/l	212	180	244	16.00	32.00	P->L German methods 25°C
Lipase	U/l	40	32	48	4.00	8.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.43	1.21	1.65	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.43	3.75	5.11	0.34	0.68	
Protein Total	g/l	58.6	46.9	70.3	5.85	11.70	Biuret reaction end point
	g/dl	5.86	4.69	7.03	0.59	1.17	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.6	117	8.20	16.40	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
Urea	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	7.42	6.31	8.53	0.56	1.11	Urease kinetic
	mg/dl	44.6	37.9	51.3	3.35	6.70	
	mmol/l	7.42	6.31	8.53	0.56	1.11	BUN
	mg/dl	20.8	17.7	23.9	1.55	3.10	

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	4.99	6.51	0.38	0.76	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Acid Phosphatase (Total)	U/l	14.7	9.82	19.6	2.44	4.88	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	15.3	10.3	20.3	2.50	5.00	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Albumin	g/l	43.1	36.7	49.5	3.20	6.40	Bromocresol Green
	g/dl	4.31	3.67	4.95	0.32	0.64	
	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Purple
	g/dl	4.34	3.69	4.99	0.33	0.65	
	g/l	41.1	34.9	47.3	3.10	6.20	Turbidimetric Assays
	g/dl	4.11	3.49	4.73	0.31	0.62	
Alkaline Phosphatase	U/l	127	108	146	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	99	84	114	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	81	69	93	6.00	12.00	Roche Integra AMP buffer 25°C
	U/l	128	109	147	9.50	19.00	AMP optimised to IFCC 37°C
	U/l	100	85	115	7.50	15.00	AMP optimised to IFCC 30°C
	U/l	82	70	94	6.00	12.00	AMP optimised to IFCC 25°C
	U/l	126	107	145	9.50	19.00	Colorimetric 37°C
	U/l	98	83	113	7.50	15.00	Colorimetric 30°C
	U/l	81	68	94	6.50	13.00	Colorimetric 25°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Roche EPS Liquid 37°C

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Amylase Total	U/l	88	74	102	7.00	14.00	Radox Liquid Ethylidene pNPG7 37°C
	U/l	86	73	99	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Roche liquid stable pNPG7 37°C
	U/l	88	75	101	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	16	12	20	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.3	10.5	16.1	1.40	2.80	Enzymatic
Bile Acids	µmol/l	24.8	19.8	29.8	2.50	5.00	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	18.1	14.3	21.9	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	17.9	14.2	21.6	1.85	3.70	Roche JG factored
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	17.9	14.1	21.7	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.05	0.825	1.28	0.11	0.23	
Bilirubin Total	µmol/l	27.8	22.0	33.6	2.90	5.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	27.0	21.3	32.7	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.58	1.25	1.91	0.17	0.33	
	µmol/l	26.9	21.3	32.5	2.80	5.60	Nitrobenzenediazonium salt
	mg/dl	1.57	1.25	1.89	0.16	0.32	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazonium ion
	mg/dl	1.59	1.25	1.93	0.17	0.34	
Calcium	mmol/l	2.22	2.00	2.44	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.90	8.02	9.78	0.44	0.88	
	mmol/l	2.21	1.99	2.43	0.11	0.22	Arsenazo III
	mg/dl	8.86	7.98	9.74	0.44	0.88	
mmol/l	2.22	2.00	2.44	0.11	0.22	NM-BAPTA	
mg/dl	8.90	8.02	9.78	0.44	0.88		
Chloride	mmol/l	95.8	88.2	103	3.80	7.60	ISE indirect
Cholesterol	mmol/l	3.91	3.41	4.41	0.25	0.50	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	132	170	9.50	19.00	
Cholinesterase	U/l	5438	4351	6525	543.50	1087.00	Colorimetric Benzoylcholine 37°C
	U/l	5323	4258	6388	532.50	1065.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	194	159	229	17.50	35.00	CK-NAC serum start (DGKC) 37°C
	U/l	121	100	142	10.50	21.00	CK-NAC serum start (DGKC) 30°C
	U/l	82	68	96	7.00	14.00	CK-NAC serum start (DGKC) 25°C
	U/l	190	156	224	17.00	34.00	CK-NAC substrate start (DGKC) 37°C
	U/l	119	98	140	10.50	21.00	CK-NAC substrate start (DGKC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	192	158	226	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	120	99	141	10.50	21.00	CK-NAC (IFCC) 30°C
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate with deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	



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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	μmol/l	131	105	157	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	μmol/l	133	107	159	13.00	26.00	Enzymatic UV method
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	μmol/l	133	106	160	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	μmol/l	132	106	158	13.00	26.00	Jaffe rate blanked
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	132	106	158	13.00	26.00	Jaffe rate blanked comp. (-26 μmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	132	106	158	13.00	26.00	Jaffe rate blanked compensated (-18 μmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	μmol/l	133	106	160	13.50	27.00	IDMS traceable
	mg/dl	1.50	1.20	1.80	0.15	0.30	
Free T4	pmol/l	22.1	16.5	27.7	2.80	5.60	Roche Cobas 6000/8000
	ng/dl	1.72	1.29	2.15	0.22	0.43	
	pg/ml	17.2	12.9	21.5	2.15	4.30	Roche Cobas 6000/8000
gamma-GT	U/l	47	40	54	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	37	32	42	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	29	25	33	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	45	59	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	28	36	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.03	5.12	6.94	0.46	0.91	Glucose dehydrogenase
	mg/dl	109	92.3	126	8.35	16.70	



Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Glucose	mmol/l	6.06	5.15	6.97	0.46	0.91	Hexokinase	
	mg/dl	109	92.8	125	8.10	16.20		
	mmol/l	6.07	5.16	6.98	0.46	0.91	Glucose oxidase	
	mg/dl	109	93.0	125	8.00	16.00		
HDL - Cholesterol	mmol/l	1.58	1.35	1.81	0.12	0.23	Direct HDL Immunoseparation	
	mg/dl	61.0	52.1	69.9	4.45	8.90		
	mmol/l	1.62	1.37	1.87	0.13	0.25	Direct HDL PEGME	
	mg/dl	62.5	52.9	72.1	4.80	9.60		
Iron	mmol/l	1.63	1.38	1.88	0.13	0.25	Direct HDL Roche 4th Generation	
	mg/dl	62.9	53.3	72.5	4.80	9.60		
	Iron	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric with ppt.
		µg/dl	109	89.4	129	9.80	19.60	
µmol/l		19.9	16.4	23.4	1.75	3.50	Colorimetric without ppt.	
µg/dl		111	91.7	130	9.65	19.30		
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase	
	mg/dl	14.0	11.4	16.6	1.30	2.60		
LD (LDH)	U/l	209	177	241	16.00	32.00	L->P 37°C	
	U/l	151	128	174	11.50	23.00	L->P 30°C	
	U/l	106	90	122	8.00	16.00	L->P 25°C	
	U/l	401	341	461	30.00	60.00	P->L German methods 37°C	
	U/l	290	246	334	22.00	44.00	P->L German methods 30°C	
	U/l	203	173	233	15.00	30.00	P->L German methods 25°C	
	U/l	211	179	243	16.00	32.00	L->P IFCC 37°C	
	U/l	152	129	175	11.50	23.00	L->P IFCC 30°C	
	U/l	107	91	123	8.00	16.00	L->P IFCC 25°C	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	28	22	34	3.00	6.00	Other Colorimetric 37°C
	U/l	28	23	33	2.50	5.00	Roche Colorimetric 37°C
	U/l	28	23	33	2.50	5.00	Roche Turbidimetric with colipase 37°C
Lithium	mmol/l	1.03	0.91	1.15	0.06	0.12	Ion selective electrode
	mg/dl	0.715	0.629	0.801	0.04	0.09	
	mmol/l	1.02	0.90	1.14	0.06	0.12	Spectrophotometric
	mg/dl	0.708	0.626	0.790	0.04	0.08	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Arsenazo III
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Atomic absorption
	mg/dl	2.20	1.94	2.46	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.21	1.95	2.47	0.13	0.26	
mmol/l	0.89	0.79	1.00	0.05	0.11	Enzymatic	
mg/dl	2.17	1.91	2.43	0.13	0.26		
Osmolality	mOsm/kg	293	234	352	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.50	3.81	5.19	0.35	0.69	
	mmol/l	1.44	1.23	1.65	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.46	3.81	5.11	0.33	0.65	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.0	47.2	70.8	5.90	11.80	Biuret reaction end point
	g/dl	5.90	4.72	7.08	0.59	1.18	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction kinetic
	g/dl	5.88	4.70	7.06	0.59	1.18	
PSA Total	ng/ml =	15.5	11.6	19.4	1.95	3.90	Roche Cobas 6000/8000
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.36	1.09	1.63	0.14	0.27	Roche Cobas 6000/8000
TIBC	μmol/l	38.1	30.1	46.1	4.00	8.00	FE+UIBC(saturation with iron)
	μg/dl	213	168	258	22.50	45.00	
	μmol/l	38.9	30.8	47.0	4.05	8.10	Direct Colorimetric
	μg/dl	217	172	262	22.50	45.00	
	μmol/l	44.3	35.0	53.6	4.65	9.30	Calculated from Transferrin
Total T3	nmol/l	2.27	1.70	2.84	0.29	0.57	Roche Cobas 6000/8000
	ng/ml	1.48	1.11	1.85	0.19	0.37	
	ng/dl	148	111	185	18.50	37.00	Roche Cobas 6000/8000
Total T4	nmol/l	91.8	68.8	115	11.50	23.00	Roche Cobas 6000/8000
	μg/dl	7.16	5.37	8.95	0.90	1.79	
	ng/ml	71.6	53.7	89.5	8.95	17.90	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.7	117	8.15	16.30	
	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	84.3	116	7.85	15.70	
	mmol/l	1.15	0.97	1.33	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	102	85.6	118	8.20	16.40	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	100	84.0	116	8.00	16.00	
UIBC	μmol/l	18.2	15.0	21.5	1.62	3.24	Direct Colorimetric
	μg/dl	102	83.9	120	9.05	18.10	
Urea	mmol/l	7.05	5.99	8.11	0.53	1.06	Urease end point
	mg/dl	42.4	36.0	48.8	3.20	6.40	
	mmol/l	7.13	6.06	8.20	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.4	49.4	3.25	6.50	
Uric Acid (Urate)	mmol/l	7.13	6.06	8.20	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase catalase 340nm
		mg/dl	5.78	5.04	6.52	0.37	
mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase	
	mg/dl	5.73	4.97	6.49	0.38		0.76
mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase	
	mg/dl	5.73	4.99	6.47	0.37		0.74
mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm	
	mg/dl	5.73	4.99	6.47	0.37		0.74
Zinc	μmol/l	21.7	17.3	26.1	2.20	4.40	Colorimetric with deproteinisation
	μg/dl	142	113	171	14.50	29.00	



Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.0	36.5	49.5	3.25	6.50	Bromocresol Green
	g/dl	4.30	3.65	4.95	0.33	0.65	
	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Purple
	g/dl	4.20	3.57	4.83	0.32	0.63	
Alkaline Phosphatase	U/l	130	110	150	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	101	86	116	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	83	70	96	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	90	76	104	7.00	14.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30°C
	U/l	16	12	20	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	μmol/l	17.3	13.7	20.9	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.01	0.801	1.22	0.10	0.21	
	μmol/l	16.3	12.9	19.7	1.70	3.40	Diazo with Sulphanilic Acid
	mg/dl	0.954	0.755	1.15	0.10	0.20	
	μmol/l	17.1	13.5	20.7	1.80	3.60	Roche JG factored
	mg/dl	1.00	0.790	1.21	0.11	0.21	



Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	26.0	20.5	31.5	2.75	5.50	Diazo with Sulphanilic Acid
	mg/dl	1.52	1.20	1.84	0.16	0.32	
	µmol/l	25.7	20.3	31.1	2.70	5.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.50	1.19	1.81	0.16	0.31	
	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazonium ion
	mg/dl	1.48	1.17	1.79	0.16	0.31	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Chloride	mmol/l	98.9	91.0	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.90	3.39	4.41	0.26	0.51	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	131	171	10.00	20.00	
CK Total	U/l	190	156	224	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	119	98	140	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
	U/l	184	151	217	16.50	33.00	Creatinine phosphate substrate Start 37°C
	U/l	115	95	135	10.00	20.00	Creatinine phosphate substrate Start 30°C
	U/l	78	64	92	7.00	14.00	Creatinine phosphate substrate Start 25°C
Creatinine	µmol/l	124	99.0	149	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	



Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	125	99.7	150	12.65	25.30	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
gamma-GT	U/l	50	43	57	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	34	44	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	31	27	35	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	49	41	57	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	39	32	46	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	30	25	35	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.13	5.21	7.05	0.46	0.92	Hexokinase
	mg/dl	110	93.9	126	8.05	16.10	
	mmol/l	6.13	5.21	7.05	0.46	0.92	Glucose oxidase
	mg/dl	110	93.9	126	8.05	16.10	
HDL - Cholesterol	mmol/l	1.64	1.39	1.89	0.13	0.25	Direct HDL Roche 4th Generation
	mg/dl	63.3	53.7	72.9	4.80	9.60	
Iron	µmol/l	20.4	16.7	24.1	1.85	3.70	Colorimetric without ppt.
	µg/dl	114	93.4	135	10.30	20.60	
LD (LDH)	U/l	218	185	251	16.50	33.00	L->P IFCC 37°C
	U/l	157	134	180	11.50	23.00	L->P IFCC 30°C
	U/l	111	94	128	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.91	0.80	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.20	1.94	2.46	0.13	0.26	
Phosphate Inorganic	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	



Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.97	3.66	4.28	0.16	0.31	ISE method - indirect
Protein Total	g/l	59.2	47.3	71.1	5.95	11.90	Biuret reaction end point
	g/dl	5.92	4.73	7.11	0.60	1.19	
Sodium	mmol/l	139	132	146	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.9	117	8.05	16.10	
	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	94.7	79.9	110	7.40	14.80	
	mmol/l	1.17	0.98	1.36	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	104	86.9	121	8.55	17.10	
	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/Glycerol Dehydrogenase
	mg/dl	100	84.3	116	7.85	15.70	
Urea	mmol/l	6.86	5.83	7.89	0.52	1.03	Urease kinetic
	mg/dl	41.2	35.0	47.4	3.10	6.20	
	mmol/l	6.86	5.83	7.89	0.52	1.03	BUN
	mg/dl	19.3	16.4	22.2	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.85	5.09	6.61	0.38	0.76	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.80	5.04	6.56	0.38	0.76	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Green
	g/dl	4.33	3.68	4.98	0.33	0.65	
	g/l	43.0	36.6	49.4	3.20	6.40	Bromocresol Purple
	g/dl	4.30	3.66	4.94	0.32	0.64	
Alkaline Phosphatase	U/l	126	107	145	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	98	83	113	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	81	68	94	6.50	13.00	Roche Integra AMP buffer 25°C
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 37°C
	U/l	99	84	114	7.50	15.00	AMP optimised to IFCC 30°C
	U/l	81	69	93	6.00	12.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	68	58	78	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	89	75	103	7.00	14.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	87	74	100	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	91	77	105	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	13.5	10.7	16.3	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	18.0	14.2	21.8	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	18.0	14.2	21.8	1.90	3.80	Roche JG factored
	mg/dl	1.05	0.831	1.27	0.11	0.22	
Bilirubin Total	µmol/l	18.3	14.5	22.1	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.07	0.848	1.29	0.11	0.22	
	µmol/l	26.9	21.2	32.6	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	27.3	21.6	33.0	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.26	1.94	0.17	0.34	
Calcium	µmol/l	27.1	21.4	32.8	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazonium ion
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	mmol/l	2.23	2.00	2.46	0.12	0.23	Cresolphthalein complexone
	mg/dl	8.94	8.02	9.86	0.46	0.92	
Chloride	mmol/l	2.26	2.03	2.49	0.12	0.23	Arsenazo III
	mg/dl	9.06	8.14	9.98	0.46	0.92	
	mmol/l	2.23	2.00	2.46	0.12	0.23	NM-BAPTA
	mg/dl	8.94	8.02	9.86	0.46	0.92	
Chloride	mmol/l	96.1	88.4	104	3.85	7.70	ISE indirect
Cholesterol	mmol/l	3.94	3.43	4.45	0.26	0.51	Cholesterol Oxidase - Abell Kendall
	mg/dl	152	132	172	10.00	20.00	



Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	5396	4317	6475	539.50	1079.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	192	157	227	17.50	35.00	CK-NAC substrate start (DGKC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	82	67	97	7.50	15.00	CK-NAC substrate start (DGKC) 25°C
	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	121	100	142	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	82	68	96	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	132	105	159	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	µmol/l	131	105	157	13.00	26.00	Jaffe rate blanked
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	132	105	159	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.49	1.19	1.79	0.15	0.30	
	µmol/l	132	106	158	13.00	26.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
gamma-GT	U/l	49	41	57	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	39	32	46	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	42	35	49	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.08	5.17	6.99	0.46	0.91	Hexokinase
	mg/dl	110	93.2	127	8.40	16.80	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	6.08	5.17	6.99	0.46	0.91	Glucose oxidase
	mg/dl	110	93.2	127	8.40	16.80	
HDL - Cholesterol	mmol/l	1.65	1.40	1.90	0.13	0.25	Direct HDL Immunoseparation
	mg/dl	63.7	54.0	73.4	4.85	9.70	
	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL PEGME
	mg/dl	62.5	53.3	71.7	4.60	9.20	
Iron	mmol/l	1.62	1.38	1.86	0.12	0.24	Direct HDL Roche 4th Generation
	mg/dl	62.5	53.3	71.7	4.60	9.20	
	µmol/l	19.5	16.0	23.0	1.75	3.50	Colorimetric with ppt.
	µg/dl	109	89.4	129	9.80	19.60	
Iron	µmol/l	19.8	16.2	23.4	1.80	3.60	Colorimetric without ppt.
	µg/dl	111	90.6	131	10.20	20.40	
Lactate	mmol/l	1.55	1.27	1.83	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	213	181	245	16.00	32.00	L->P 37°C
	U/l	154	131	177	11.50	23.00	L->P 30°C
	U/l	108	92	124	8.00	16.00	L->P 25°C
	U/l	397	337	457	30.00	60.00	P->L German methods 37°C
	U/l	287	243	331	22.00	44.00	P->L German methods 30°C
	U/l	201	171	231	15.00	30.00	P->L German methods 25°C
	U/l	212	180	244	16.00	32.00	L->P IFCC 37°C
	U/l	153	130	176	11.50	23.00	L->P IFCC 30°C
Lipase	U/l	107	91	123	8.00	16.00	L->P IFCC 25°C
	U/l	28	23	33	2.50	5.00	Roche Colorimetric 37°C

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	28	22	34	3.00	6.00	Roche Turbidimetric with colipase 37°C
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Atomic absorption
	mg/dl	2.19	1.93	2.45	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.06	0.11	Xylidyl Blue
	mg/dl	2.22	1.95	2.49	0.14	0.27	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Chlorphosphonazo III
Phosphate Inorganic	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.50	3.81	5.19	0.35	0.69	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	4.07	3.75	4.39	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.1	47.3	70.9	5.90	11.80	Biuret reaction end point
	g/dl	5.91	4.73	7.09	0.59	1.18	
	g/l	59.4	47.5	71.3	5.95	11.90	Biuret reaction kinetic
	g/dl	5.94	4.75	7.13	0.60	1.19	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
TIBC	µmol/l	37.6	29.7	45.5	3.95	7.90	FE+UIBC(saturation with iron)
	µg/dl	210	166	254	22.00	44.00	
	µmol/l	38.4	30.3	46.5	4.05	8.10	Direct Colorimetric
	µg/dl	215	169	261	23.00	46.00	
Triglycerides	mmol/l	1.15	0.96	1.34	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	102	85.2	119	8.40	16.80	
	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	103	85.9	120	8.55	17.10	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction	
	mg/dl	101	85.0	117	8.00	16.00		
	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/Glycerol Dehydrogenase	
	mg/dl	102	85.5	119	8.25	16.50		
UIBC	µmol/l	18.8	15.4	22.2	1.70	3.40	Direct Colorimetric	
	µg/dl	105	86.1	124	9.45	18.90		
Urea	mmol/l	7.24	6.16	8.32	0.54	1.08	Urease end point	
	mg/dl	43.5	37.0	50.0	3.25	6.50		
	mmol/l	7.31	6.21	8.41	0.55	1.10	Urease kinetic	
	mg/dl	43.9	37.3	50.5	3.30	6.60		
	mmol/l	7.31	6.21	8.41	0.55	1.10	BUN	
	mg/dl	20.5	17.4	23.6	1.55	3.10		
	Uric Acid (Urate)	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
		mg/dl	5.85	5.07	6.63	0.39	0.78	
mmol/l		0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase	
mg/dl		5.81	5.06	6.56	0.38	0.75		
mmol/l		0.34	0.30	0.39	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm	
mg/dl		5.76	5.02	6.50	0.37	0.74		

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
	g/l	42.1	35.8	48.4	3.15	6.30	Turbidimetric Assays
	g/dl	4.21	3.58	4.84	0.32	0.63	
Alkaline Phosphatase	U/l	123	104	142	9.50	19.00	Roche Integra AMP buffer 37°C
	U/l	96	81	111	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	79	66	92	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	37	29	45	4.00	8.00	Colorimetric 37°C
	U/l	27	21	33	3.00	6.00	Colorimetric 30°C
	U/l	21	16	26	2.50	5.00	Colorimetric 25°C
	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	66	56	76	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	66	56	76	5.00	10.00	Roche EPS Liquid 37°C
Amylase Total	U/l	89	75	103	7.00	14.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	34	27	41	3.50	7.00	Colorimetric 37°C
	U/l	23	18	28	2.50	5.00	Colorimetric 30°C
	U/l	16	13	19	1.50	3.00	Colorimetric 25°C
	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 37°C
	U/l	23	18	28	2.50	5.00	Tris buffer without P5P 30°C
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25°C



Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bicarbonate	mmol/l	14.3	11.3	17.3	1.50	3.00	Enzymatic
	mmol/l	14.6	11.6	17.6	1.50	3.00	
Bilirubin Direct	µmol/l	18.0	14.2	21.8	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.831	1.27	0.11	0.22	
	µmol/l	17.7	13.9	21.5	1.90	3.80	Roche JG factored
	mg/dl	1.04	0.813	1.27	0.11	0.23	
Bilirubin Total	µmol/l	26.7	21.1	32.3	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
	µmol/l	26.2	20.7	31.7	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.53	1.21	1.85	0.16	0.32	
	µmol/l	26.4	20.8	32.0	2.80	5.60	Diazonium ion
	mg/dl	1.54	1.22	1.86	0.16	0.32	
Calcium	mmol/l	2.23	2.01	2.45	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.94	8.06	9.82	0.44	0.88	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Chloride	mmol/l	96.5	88.8	104	3.85	7.70	ISE indirect
Cholesterol	mmol/l	3.91	3.40	4.42	0.26	0.51	Cholesterol Oxidase - Abell Kendall
	mg/dl	151	131	171	10.00	20.00	
Cholinesterase	U/l	5420	4336	6504	542.00	1084.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	191	157	225	17.00	34.00	CK-NAC substrate start (DGKC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC substrate start (DGKC) 30°C
	U/l	81	67	95	7.00	14.00	CK-NAC substrate start (DGKC) 25°C
	U/l	190	156	224	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	119	98	140	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Copper	µmol/l	14.6	11.7	17.5	1.45	2.90	Colorimetric
	µg/dl	92.9	74.4	111	9.25	18.50	
Creatinine	µmol/l	134	107	161	13.50	27.00	Enzymatic UV method
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	136	108	164	14.00	28.00	Roche Creatinine Plus
	mg/dl	1.54	1.22	1.86	0.16	0.32	
	µmol/l	132	106	158	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.49	1.20	1.78	0.15	0.29	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	132	105	159	13.50	27.00	IDMS traceable
	mg/dl	1.49	1.19	1.79	0.15	0.30	
gamma-GT	U/l	46	39	53	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	36	31	41	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	28	24	32	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	52	44	60	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	41	35	47	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	32	27	37	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.09	5.18	7.00	0.46	0.91	Hexokinase
	mg/dl	110	93.3	127	8.35	16.70	
HDL - Cholesterol	mmol/l	1.64	1.40	1.88	0.12	0.24	Direct HDL Roche 4th Generation
	mg/dl	63.3	54.0	72.6	4.65	9.30	
Iron	µmol/l	19.3	15.9	22.7	1.70	3.40	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	1.57	1.29	1.85	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.6	16.6	1.25	2.50	
LD (LDH)	U/l	213	181	245	16.00	32.00	L->P IFCC 37°C
	U/l	154	131	177	11.50	23.00	L->P IFCC 30°C
	U/l	108	92	124	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.04	0.91	1.17	0.06	0.13	Spectrophotometric
	mg/dl	0.722	0.634	0.810	0.04	0.09	
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.23	1.96	2.50	0.14	0.27	
Osmolality	mOsm/kg	290	232	348	29.00	58.00	Calculated
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.43	3.78	5.08	0.33	0.65	
Potassium	mmol/l	4.06	3.73	4.39	0.17	0.33	ISE method - indirect
Protein Total	g/l	58.7	46.9	70.5	5.90	11.80	Biuret reaction end point
	g/dl	5.87	4.69	7.05	0.59	1.18	
Sodium	mmol/l	143	135	151	4.00	8.00	ISE method - indirect
TIBC	µmol/l	38.6	30.5	46.7	4.05	8.10	FE+UIBC(saturation with iron)
	µg/dl	216	170	262	23.00	46.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.6	117	8.20	16.40	
	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	100	83.9	116	8.05	16.10	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.14	0.95	1.33	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	101	84.4	118	8.30	16.60	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	101	84.8	117	8.10	16.20	
UIBC	µmol/l	20.0	16.4	23.6	1.80	3.60	Direct Colorimetric
	µg/dl	112	91.7	132	10.15	20.30	
Urea	mmol/l	7.07	6.01	8.13	0.53	1.06	Urease kinetic
	mg/dl	42.5	36.1	48.9	3.20	6.40	
	mmol/l	7.07	6.01	8.13	0.53	1.06	BUN
	mg/dl	19.8	16.8	22.8	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.71	4.97	6.45	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.63	4.89	6.37	0.37	0.74	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.7	35.5	47.9	3.10	6.20	Bromocresol Green
	g/dl	4.17	3.55	4.79	0.31	0.62	
Alkaline Phosphatase	U/l	260	221	299	19.50	39.00	Diethanolamine buffer DEA 37°C
	U/l	167	142	192	12.50	25.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	80	68	92	6.00	12.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	97	83	111	7.00	14.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.2	12.8	19.6	1.70	3.40	Enzymatic
Bile Acids	µmol/l	24.0	19.2	28.8	2.40	4.80	5th Generation Colorimetric
Bilirubin Direct	µmol/l	18.1	14.3	21.9	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.06	0.837	1.28	0.11	0.22	
	µmol/l	16.3	12.9	19.7	1.70	3.40	Oxidation to Biliverdin/Vanadate
	mg/dl	0.954	0.755	1.15	0.10	0.20	
Bilirubin Total	µmol/l	31.7	25.0	38.4	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	29.2	23.0	35.4	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Calcium	mmol/l	2.30	2.07	2.53	0.12	0.23	Arsenazo III
	mg/dl	9.22	8.30	10.1	0.46	0.92	
Chloride	mmol/l	99.7	91.7	108	4.00	8.00	ISE direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.42	3.85	4.99	0.29	0.57	Cholesterol Oxidase - Abell Kendall
	mg/dl	171	149	193	11.00	22.00	
CK Total	U/l	226	185	267	20.50	41.00	CK-NAC substrate start (DGKC) 37°C
	U/l	239	196	282	21.50	43.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Enzymatic UV method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
gamma-GT	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.63	5.64	7.62	0.50	0.99	Hexokinase
	mg/dl	119	102	136	8.50	17.00	
	mmol/l	6.51	5.53	7.49	0.49	0.98	Glucose oxidase
	mg/dl	117	99.7	134	8.65	17.30	
Iron	µmol/l	20.2	16.6	23.8	1.80	3.60	Colorimetric without ppt.
	µg/dl	113	92.8	133	10.10	20.20	
Lactate	mmol/l	1.52	1.25	1.79	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.7	11.3	16.1	1.20	2.40	
LD (LDH)	U/l	418	356	480	31.00	62.00	P->L German methods 37°C
	U/l	205	174	236	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	45	36	54	4.50	9.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.01	0.89	1.13	0.06	0.12	Colorimetric
	mg/dl	0.701	0.617	0.785	0.04	0.08	
Magnesium	mmol/l	0.95	0.83	1.06	0.06	0.11	Xylidyl Blue
	mg/dl	2.30	2.02	2.58	0.14	0.28	
Phosphate Inorganic	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	Enzymatic
	mmol/l	3.97	3.65	4.29	0.16	0.32	ISE method - direct
Protein Total	g/l	61.4	49.1	73.7	6.15	12.30	Biuret reaction end point
	g/dl	6.14	4.91	7.37	0.62	1.23	
Sodium	mmol/l	139	133	145	3.00	6.00	ISE method - direct
	mmol/l	143	136	150	3.50	7.00	Enzymatic
TIBC	µmol/l	50.7	40.1	61.3	5.30	10.60	Direct Colorimetric
	µg/dl	283	224	342	29.50	59.00	
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	84.6	117	8.20	16.40	
Urea	mmol/l	7.25	6.17	8.33	0.54	1.08	Urease kinetic
	mg/dl	43.6	37.1	50.1	3.25	6.50	
	mmol/l	7.25	6.16	8.34	0.55	1.09	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	5.21	6.75	0.39	0.77	

SIEMENS ATELLICA / ADVIA 1200/1650/1800/240 (ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2))

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.6	34.5	46.7	3.05	6.10	Bromocresol Green
	g/dl	4.06	3.45	4.67	0.31	0.61	
	g/l	41.0	34.9	47.1	3.05	6.10	Bromocresol Purple
	g/dl	4.10	3.49	4.71	0.31	0.61	
Alkaline Phosphatase	U/l	217	184	250	16.50	33.00	Diethanolamine buffer DEA 37°C
	U/l	139	118	160	10.50	21.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	69	58	80	5.50	11.00	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	92	78	106	7.00	14.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.3	11.4	17.2	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	17.6	13.9	21.3	1.85	3.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.03	0.813	1.25	0.11	0.22	
Bilirubin Total	µmol/l	31.7	25.0	38.4	3.35	6.70	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
	µmol/l	30.9	24.4	37.4	3.25	6.50	Oxidation to Biliverdin/Vanadate
	mg/dl	1.81	1.43	2.19	0.19	0.38	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.23	2.00	2.46	0.12	0.23	Arsenazo III
	mg/dl	8.94	8.02	9.86	0.46	0.92	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/240 (ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2))

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Chloride	mmol/l	101	92.8	109	4.10	8.20	ISE indirect
Cholesterol	mmol/l	4.01	3.49	4.53	0.26	0.52	Cholesterol Oxidase - Abell Kendall
	mg/dl	155	135	175	10.00	20.00	
Cholinesterase	U/l	6418	5134	7702	642.00	1284.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	200	164	236	18.00	36.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	131	105	157	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	125	99.6	150	12.70	25.40	Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	125	100	150	12.50	25.00	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	131	104	158	13.50	27.00	Jaffe rate blanked
	mg/dl	1.48	1.18	1.78	0.15	0.30	
	µmol/l	127	101	153	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	126	101	151	12.50	25.00	IDMS traceable
	mg/dl	1.42	1.14	1.70	0.14	0.28	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.90	5.01	6.79	0.45	0.89	Hexokinase
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	5.95	5.06	6.84	0.45	0.89	Glucose oxidase
	mg/dl	107	91.2	123	7.90	15.80	

SIEMENS ATELLICA / ADVIA 1200/1650/1800/240 (ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2))

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.25	1.07	1.43	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	48.3	41.3	55.3	3.50	7.00	
	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct Clearance Method
	mg/dl	48.6	41.3	55.9	3.65	7.30	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric with ppt.
	µg/dl	107	87.8	126	9.60	19.20	
	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.42	1.17	1.67	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.8	10.5	15.1	1.15	2.30	
LD (LDH)	U/l	211	179	243	16.00	32.00	L->P 37°C
	U/l	406	345	467	30.50	61.00	P->L German methods 37°C
	U/l	211	180	242	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	38	31	45	3.50	7.00	Other Colorimetric 37°C
Lithium	mmol/l	1.01	0.89	1.13	0.06	0.12	Spectrophotometric
	mg/dl	0.701	0.618	0.784	0.04	0.08	
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Phosphate Inorganic	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	4.04	3.71	4.37	0.17	0.33	ISE method - indirect
Protein Total	g/l	56.8	45.4	68.2	5.70	11.40	Biuret reaction end point
	g/dl	5.68	4.54	6.82	0.57	1.14	
	g/l	58.6	46.9	70.3	5.85	11.70	Biuret reaction kinetic
	g/dl	5.86	4.69	7.03	0.59	1.17	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/240 (ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2))

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
TIBC	μmol/l	50.9	40.2	61.6	5.35	10.70	Removal of excess free iron
	μg/dl	285	225	345	30.00	60.00	
	μmol/l	47.1	37.2	57.0	4.95	9.90	FE+UIBC(saturation with iron)
	μg/dl	263	208	318	27.50	55.00	
	μmol/l	49.2	38.8	59.6	5.20	10.40	Direct Colorimetric
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.6	118	8.20	16.40	
	mmol/l	1.18	0.99	1.37	0.10	0.19	L/G Kinase EP. no correction
	mg/dl	104	87.3	121	8.35	16.70	
Urea	mmol/l	7.58	6.45	8.71	0.57	1.13	Urease end point
	mg/dl	45.6	38.8	52.4	3.40	6.80	
	mmol/l	7.50	6.38	8.62	0.56	1.12	Urease kinetic
	mg/dl	45.1	38.3	51.9	3.40	6.80	
	mmol/l	7.50	6.38	8.62	0.56	1.12	BUN
mg/dl	21.1	17.9	24.3	1.60	3.20		
Uric Acid (Urate)	mmol/l	0.35	0.30	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.11	6.65	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.93	5.16	6.70	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
mg/dl	5.95	5.17	6.73	0.39	0.78		

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Purple
	g/dl	4.34	3.69	4.99	0.33	0.65	
Alkaline Phosphatase	U/l	140	119	161	10.50	21.00	Siemens Dimension AMP buffer 37°C
	U/l	140	119	161	10.50	21.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	36	56	5.00	10.00	Tris buffer with P5P 37°C
	U/l	46	37	55	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	98	83	113	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	50	40	60	5.00	10.00	Tris buffer with P5P 37°C
	U/l	51	40	62	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	14.8	11.8	17.8	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	12.1	9.56	14.6	1.27	2.54	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.708	0.559	0.857	0.07	0.15	
Bilirubin Total	µmol/l	28.3	22.4	34.2	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.31	2.01	0.18	0.35	
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Chloride	mmol/l	98.0	90.1	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.71	3.23	4.19	0.24	0.48	Cholesterol Oxidase - Abell Kendall
	mg/dl	143	125	161	9.00	18.00	
	mmol/l	3.66	3.18	4.14	0.24	0.48	Dimension-Siemens reagents
	mg/dl	141	123	159	9.00	18.00	


SIEMENS DIMENSION EXL®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	9529	7623	10000	953.00	1906.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	195	160	230	17.50	35.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	136	109	163	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	µmol/l	134	107	161	13.50	27.00	Enzymatic UV method
	mg/dl	1.51	1.21	1.81	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Creatinine PAP method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	133	107	159	13.00	26.00	Jaffe rate blanked
	mg/dl	1.50	1.21	1.79	0.15	0.29	
µmol/l	132	106	158	13.00	26.00	IDMS traceable	
mg/dl	1.49	1.20	1.78	0.15	0.29		
gamma-GT	U/l	56	48	64	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	66	56	76	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.06	5.15	6.97	0.46	0.91	Hexokinase
	mg/dl	109	92.8	125	8.10	16.20	
	mmol/l	5.99	5.10	6.88	0.45	0.89	Oxygen electrode
	mg/dl	108	91.9	124	8.05	16.10	
HDL - Cholesterol	mmol/l	1.41	1.20	1.62	0.11	0.21	Direct HDL PPD
	mg/dl	54.4	46.3	62.5	4.05	8.10	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Direct HDL PEGME
	mg/dl	54.0	45.9	62.1	4.05	8.10	
	mmol/l	1.35	1.15	1.55	0.10	0.20	Direct Clearance Method
	mg/dl	52.1	44.4	59.8	3.85	7.70	
Iron	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric with ppt.
	µg/dl	103	85.0	121	9.00	18.00	


SIEMENS DIMENSION EXL®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
Lactate	mmol/l	1.60	1.31	1.89	0.15	0.29	UV LDH
	mg/dl	14.4	11.8	17.0	1.30	2.60	
LD (LDH)	U/l	195	165	225	15.00	30.00	L->P 37°C
	U/l	198	169	227	14.50	29.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	127	102	152	12.50	25.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Methylthymol blue
	mg/dl	2.13	1.87	2.39	0.13	0.26	
Osmolality	mOsm/kg	287	230	344	28.50	57.00	Calculated
Phosphate Inorganic	mmol/l	1.52	1.29	1.75	0.12	0.23	Phosphomolybdate enzymatic
	mg/dl	4.71	4.00	5.42	0.36	0.71	
	mmol/l	1.49	1.27	1.71	0.11	0.22	Phosphomolybdate UV
mg/dl	4.62	3.94	5.30	0.34	0.68		
Potassium	mmol/l	3.95	3.63	4.27	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.8	48.6	73.0	6.10	12.20	Biuret reaction end point
	g/dl	6.08	4.86	7.30	0.61	1.22	
PSA Total	ng/ml =	11.7	8.74	14.7	1.48	2.96	Siemens Dimension
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.17	0.94	1.41	0.12	0.24	
TIBC	µmol/l	35.7	28.2	43.2	3.75	7.50	Removal of excess free iron
	µg/dl	200	158	242	21.00	42.00	
	µmol/l	37.2	29.3	45.1	3.95	7.90	FE+UIBC(saturation with iron)
	µg/dl	208	164	252	22.00	44.00	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	µmol/l	36.2	28.6	43.8	3.80	7.60	Direct Colorimetric
	µg/dl	202	160	244	21.00	42.00	
Triglycerides	mmol/l	1.05	0.89	1.22	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.9	78.3	108	7.30	14.60	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.6	110	7.55	15.10	
Urea	mmol/l	1.03	0.87	1.19	0.08	0.16	Lipase/Glycerol Dehydrogenase
	mg/dl	91.2	76.6	106	7.30	14.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease end point
		mg/dl	44.1	37.5	50.7	3.30	
mmol/l	7.39	6.28	8.50	0.56	1.11	Urease kinetic	
	mg/dl	44.4	37.7	51.1	3.35		6.70
mmol/l	7.39	6.28	8.50	0.56	1.11	BUN	
	mg/dl	20.7	17.6	23.8	1.55		3.10
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.96	5.19	6.73	0.39	0.77	
	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.90	5.14	6.66	0.38	0.76	
	mmol/l	0.35	0.30	0.40	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.88	5.11	6.65	0.39	0.77	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	44.4	37.7	51.1	3.35	6.70	Bromocresol Green
	g/dl	4.44	3.77	5.11	0.34	0.67	
	g/l	43.3	36.8	49.8	3.25	6.50	Bromocresol Purple
	g/dl	4.33	3.68	4.98	0.33	0.65	
Alkaline Phosphatase	U/l	140	119	161	10.50	21.00	Siemens Dimension AMP buffer 37°C
	U/l	140	119	161	10.50	21.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	46	37	55	4.50	9.00	Tris buffer with P5P 37°C
	U/l	47	38	56	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Pancreatic	U/l	67	57	77	5.00	10.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	99	84	114	7.50	15.00	Siemens - maltopenta/hexaoside 37°C
	U/l	99	84	114	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	52	42	62	5.00	10.00	Tris buffer with P5P 37°C
	U/l	51	41	61	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	15.6	12.4	18.8	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	12.2	9.64	14.8	1.28	2.56	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.714	0.564	0.864	0.08	0.15	
Bilirubin Total	µmol/l	28.7	22.6	34.8	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.32	2.04	0.18	0.36	
Calcium	mmol/l	2.14	1.93	2.35	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.58	7.74	9.42	0.42	0.84	
Chloride	mmol/l	98.1	90.3	106	3.90	7.80	ISE indirect


SIEMENS DIMENSION RxL/Max/Xpand®
ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	3.76	3.27	4.25	0.25	0.49	Cholesterol Oxidase - Abell Kendall
	mg/dl	145	126	164	9.50	19.00	
	mmol/l	3.70	3.22	4.18	0.24	0.48	Dimension-Siemens reagents
	mg/dl	143	124	162	9.50	19.00	
Cholinesterase	U/l	9555	7644	10000	955.50	1911.00	Colorimetric - Butyrythiochol. Dimension 37°C
CK Total	U/l	193	159	227	17.00	34.00	CK-NAC (IFCC) 37°C
Creatinine	μmol/l	135	108	162	13.50	27.00	Alkaline picrate no deproteinization
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	μmol/l	130	104	156	13.00	26.00	Enzymatic UV method
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	μmol/l	129	103	155	13.00	26.00	Creatinine PAP method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	μmol/l	136	109	163	13.50	27.00	Jaffe rate blanked
	mg/dl	1.54	1.23	1.85	0.16	0.31	
	μmol/l	135	108	162	13.50	27.00	IDMS traceable
	mg/dl	1.53	1.22	1.84	0.16	0.31	
gamma-GT	U/l	58	50	66	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	65	55	75	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.23	5.29	7.17	0.47	0.94	Glucose dehydrogenase
	mg/dl	112	95.3	129	8.35	16.70	
	mmol/l	6.10	5.19	7.01	0.46	0.91	Hexokinase
	mg/dl	110	93.5	127	8.25	16.50	
HDL - Cholesterol	mmol/l	1.41	1.20	1.62	0.11	0.21	Direct HDL PPD
	mg/dl	54.4	46.3	62.5	4.05	8.10	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Direct HDL PEGME
	mg/dl	54.8	46.7	62.9	4.05	8.10	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Iron	µmol/l	18.8	15.4	22.2	1.70	3.40	Colorimetric with ppt.
	µg/dl	105	86.1	124	9.45	18.90	
	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
Lactate	mmol/l	1.50	1.23	1.77	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.5	11.1	15.9	1.20	2.40	
	mmol/l	1.55	1.27	1.83	0.14	0.28	UV LDH
	mg/dl	14.0	11.4	16.6	1.30	2.60	
LD (LDH)	U/l	199	169	229	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	198	168	228	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	128	103	153	12.50	25.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	1.07	0.94	1.20	0.07	0.13	Spectrophotometric
	mg/dl	0.743	0.653	0.833	0.05	0.09	
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Methylthymol blue
	mg/dl	2.15	1.89	2.41	0.13	0.26	
Phosphate Inorganic	mmol/l	1.49	1.27	1.71	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.62	3.94	5.30	0.34	0.68	
	mmol/l	1.49	1.26	1.72	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.62	3.91	5.33	0.36	0.71	
Potassium	mmol/l	4.05	3.73	4.37	0.16	0.32	ISE method - direct
	mmol/l	3.96	3.64	4.28	0.16	0.32	ISE method - indirect
Protein Total	g/l	60.4	48.3	72.5	6.05	12.10	Biuret reaction end point
	g/dl	6.04	4.83	7.25	0.61	1.21	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - indirect

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	μmol/l	36.3	28.7	43.9	3.80	7.60	Removal of excess free iron
	μg/dl	203	160	246	21.50	43.00	
	μmol/l	38.0	30.0	46.0	4.00	8.00	FE+UIBC(saturation with iron)
	μg/dl	212	168	256	22.00	44.00	
	μmol/l	36.7	29.0	44.4	3.85	7.70	Direct Colorimetric
	μg/dl	205	162	248	21.50	43.00	
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	79.0	109	7.40	14.80	
	mmol/l	1.07	0.90	1.24	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	94.7	79.7	110	7.50	15.00	
	mmol/l	1.06	0.89	1.23	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	93.8	78.8	109	7.50	15.00	
Urea	mmol/l	7.49	6.37	8.61	0.56	1.12	Urease end point
	mg/dl	45.0	38.3	51.7	3.35	6.70	
	mmol/l	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.33	6.23	8.43	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase catalase 340nm
	mg/dl	5.90	5.12	6.68	0.39	0.78	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.83	5.07	6.59	0.38	0.76	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Spectrophotometric at 280-290
	mg/dl	5.85	5.09	6.61	0.38	0.76	

**SIEMENS DIMENSION RxL/Max/Xpand®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.98	5.21	6.75	0.39	0.77	

SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1374UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2023-01-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	43.9	37.3	50.5	3.30	6.60	Bromocresol Purple
	g/dl	4.39	3.73	5.05	0.33	0.66	
Alkaline Phosphatase	U/l	155	132	178	11.50	23.00	Siemens Dimension AMP buffer 37°C
	U/l	144	122	166	11.00	22.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	44	35	53	4.50	9.00	Tris buffer with P5P 37°C
Amylase Total	U/l	96	81	111	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	52	41	63	5.50	11.00	Tris buffer with P5P 37°C
	U/l	48	38	58	5.00	10.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	12.9	10.2	15.6	1.35	2.70	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.755	0.597	0.913	0.08	0.16	
Bilirubin Total	µmol/l	29.1	23.0	35.2	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.35	2.05	0.18	0.35	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.54	7.66	9.42	0.44	0.88	
Chloride	mmol/l	103	94.4	112	4.30	8.60	ISE indirect
Cholesterol	mmol/l	3.84	3.34	4.34	0.25	0.50	Cholesterol Oxidase - Abell Kendall
	mg/dl	148	129	167	9.50	19.00	
	mmol/l	3.70	3.22	4.18	0.24	0.48	Dimension-Siemens reagents
	mg/dl	143	124	162	9.50	19.00	
CK Total	U/l	196	161	231	17.50	35.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	


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gamma-GT	U/l	64	54	74	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.03	5.13	6.93	0.45	0.90	Hexokinase
	mg/dl	109	92.4	126	8.30	16.60	
HDL - Cholesterol	mmol/l	1.47	1.25	1.69	0.11	0.22	Direct HDL PPD
	mg/dl	56.7	48.3	65.1	4.20	8.40	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Direct HDL PEGME
	mg/dl	54.4	46.3	62.5	4.05	8.10	
Iron	µmol/l	19.6	16.1	23.1	1.75	3.50	Colorimetric without ppt.
	µg/dl	110	90.0	130	10.00	20.00	
LD (LDH)	U/l	200	170	230	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	138	111	165	13.50	27.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Methylthymol blue
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - indirect
Protein Total	g/l	61.2	48.9	73.5	6.15	12.30	Biuret reaction end point
	g/dl	6.12	4.89	7.35	0.62	1.23	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.16	0.97	1.35	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	103	86.0	120	8.50	17.00	
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.38	6.27	8.49	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.32	0.28	0.36	0.02	0.04	Uricase catalase 340nm
	mg/dl	5.38	4.69	6.07	0.35	0.69	