

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	216	184	248	16.00	32.00	L->P IFCC 37°C
	U/l	156	133	179	11.50	23.00	L->P IFCC 30°C
	U/l	110	93	127	8.50	17.00	L->P IFCC 25°C
Lipase	U/l	31	25	37	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.02	0.90	1.15	0.06	0.13	Ion selective electrode
	mg/dl	0.708	0.621	0.795	0.04	0.09	
Magnesium	mmol/l	0.90	0.79	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.19	1.92	2.46	0.14	0.27	
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	
	mmol/l	1.36	1.16	1.56	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.22	3.60	4.84	0.31	0.62	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	54.5	43.6	65.4	5.45	10.90	Biuret reaction end point
	g/dl	5.45	4.36	6.54	0.55	1.09	
	g/l	54.6	43.7	65.5	5.45	10.90	Biuret reaction kinetic
	g/dl	5.46	4.37	6.55	0.55	1.09	
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
TIBC	µmol/l	43.2	34.1	52.3	4.55	9.10	FE+UIBC(saturation with iron)
	µg/dl	241	191	291	25.00	50.00	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	82.9	115	8.10	16.20	
	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	99.1	83.2	115	7.95	15.90	

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Triglycerides	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	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Urease kinetic
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
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	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.91	6.35	0.36	0.72	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.71	4.97	6.45	0.37	0.74	

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Acid Phosphatase (Total)	U/l	10.0	6.70	13.3	1.65	3.30	1-Naphthyl Phosphate substrate Kinetic 37°C
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	
Alkaline Phosphatase	U/l	135	114	156	10.50	21.00	Roche Integra AMP buffer 37°C
	U/l	105	89	121	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	86	73	99	6.50	13.00	Roche Integra AMP buffer 25°C
	U/l	291	247	335	22.00	44.00	Radox AMP 37°C
	U/l	227	192	262	17.50	35.00	Radox AMP 30°C
	U/l	186	158	214	14.00	28.00	Radox AMP 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	81	69	93	6.00	12.00	Radox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	88	74	102	7.00	14.00	Roche liquid stable pNPG7 37°C
	U/l	99	84	114	7.50	15.00	Radox 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
Bicarbonate	mmol/l	17.0	13.5	20.5	1.75	3.50	Enzymatic
Bile Acids	µmol/l	22.5	18.0	27.0	2.25	4.50	5th Generation Colorimetric
Bilirubin Total	µmol/l	25.1	19.8	30.4	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	2.15	1.94	2.36	0.11	0.21	NM-BAPTA
	mg/dl	8.62	7.78	9.46	0.42	0.84	
Chloride	mmol/l	94.5	86.9	102	3.80	7.60	ISE indirect
Cholesterol	mmol/l	3.85	3.35	4.35	0.25	0.50	Cholesterol Oxidase
	mg/dl	149	129	169	10.00	20.00	
CK Total	U/l	191	156	226	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	66	96	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	123	98.1	148	12.45	24.90	Roche Creatinine Plus
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	122	97.6	146	12.20	24.40	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.38	1.10	1.66	0.14	0.28	
gamma-GT	U/l	44	38	50	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	35	30	40	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	40	34	46	3.00	6.00	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
	U/l	60	51	69	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	47	40	54	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	37	31	43	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
Glucose	mmol/l	5.98	5.08	6.88	0.45	0.90	Hexokinase
	mg/dl	108	91.5	125	8.25	16.50	
	mmol/l	5.84	4.96	6.72	0.44	0.88	Glucose oxidase
	mg/dl	105	89.4	121	7.80	15.60	

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Lipase	U/l	28	22	34	3.00	6.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Xylidyl Blue
	mg/dl	2.13	1.87	2.39	0.13	0.26	
Phosphate Inorganic	mmol/l	1.29	1.10	1.48	0.10	0.19	Phosphomolybdate UV
	mg/dl	4.00	3.41	4.59	0.30	0.59	
Potassium	mmol/l	4.05	3.73	4.37	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.4	45.9	68.9	5.75	11.50	Biuret reaction end point
	g/dl	5.74	4.59	6.89	0.58	1.15	
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.14	0.96	1.33	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	101	84.5	118	8.25	16.50	
Urea	mmol/l	7.78	6.61	8.95	0.59	1.17	Urease kinetic
	mg/dl	46.8	39.7	53.9	3.55	7.10	
	mmol/l	7.78	6.61	8.95	0.59	1.17	BUN
	mg/dl	21.8	18.5	25.1	1.65	3.30	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.51	4.79	6.23	0.36	0.72	

Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

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Albumin	g/l	38.0	32.3	43.7	2.85	5.70	Bromocresol Green
	g/dl	3.80	3.23	4.37	0.29	0.57	
Alkaline Phosphatase	U/l	266	226	306	20.00	40.00	Diethanolamine buffer DEA 37°C
	U/l	207	176	238	15.50	31.00	Diethanolamine buffer DEA 30°C
	U/l	170	144	196	13.00	26.00	Diethanolamine buffer DEA 25°C
	U/l	158	135	181	11.50	23.00	AMP optimised to IFCC 37°C
	U/l	123	105	141	9.00	18.00	AMP optimised to IFCC 30°C
	U/l	101	86	116	7.50	15.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	42	33	51	4.50	9.00	Tris buffer without P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	22.2	17.5	26.9	2.35	4.70	Nitrobenzenediazonium salt
	mg/dl	1.30	1.02	1.58	0.14	0.28	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Arsenazo III
	mg/dl	8.46	7.62	9.30	0.42	0.84	
Chloride	mmol/l	101	92.7	109	4.15	8.30	ISE direct
Cholesterol	mmol/l	3.86	3.36	4.36	0.25	0.50	Cholesterol Oxidase
	mg/dl	149	130	168	9.50	19.00	

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Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	195	160	230	17.50	35.00	CK-NAC (IFCC) 37°C
	U/l	122	100	144	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	122	97.4	147	12.30	24.60	Alkaline picrate no deproteinization
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	124	99.5	149	12.25	24.50	Creatinine PAP method
gamma-GT	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	6.27	5.33	7.21	0.47	0.94	Hexokinase
	mg/dl	113	96.0	130	8.50	17.00	
	mmol/l	6.02	5.12	6.92	0.45	0.90	Glucose oxidase
HDL - Cholesterol	mmol/l	1.07	0.91	1.23	0.08	0.16	Direct HDL PEGME
	mg/dl	41.3	35.2	47.4	3.05	6.10	
Iron	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	
LD (LDH)	U/l	432	367	497	32.50	65.00	P->L SFBC 37°C
	U/l	312	265	359	23.50	47.00	P->L SFBC 30°C
	U/l	219	186	252	16.50	33.00	P->L SFBC 25°C
Magnesium	mmol/l	0.86	0.75	0.96	0.05	0.10	Xylidyl Blue
	mg/dl	2.08	1.83	2.33	0.13	0.25	
Phosphate Inorganic	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	



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Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.87	3.56	4.18	0.16	0.31	ISE method - direct
Protein Total	g/l	57.4	45.9	68.9	5.75	11.50	Biuret reaction end point
	g/dl	5.74	4.59	6.89	0.58	1.15	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.5	111	7.55	15.10	
Urea	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.28	6.19	8.37	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	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	5.81	5.06	6.56	0.38	0.75	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	5.21	6.75	0.39	0.77	
	mmol/l	0.34	0.30	0.38	0.02	0.04	
mg/dl	5.71	4.97	6.45	0.37	0.74		

**MEAN OF ALL INSTRUMENTS (Elec.)**

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Albumin (electrophoresis)		67.2	60.5	73.9	3.35	6.70	% of total Protein (Beckman Capillary)
alpha-1-globulin		5.8	4.4	7.2	0.70	1.39	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.6	5.0	8.2	0.79	1.58	% of total Protein (Beckman Capillary)
beta-globulin		9.5	7.2	11.8	1.14	2.28	% of total Protein (Beckman Capillary)
gamma-globulin		10.9	8.3	13.5	1.31	2.62	% of total Protein (Beckman Capillary)

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alpha-HBDH	U/l	220	174	266	23.00	46.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	166	131	201	17.50	35.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	125	98	152	13.50	27.00	Oxobutyrate < 10 mmol/l 25°C
Acid Phosphatase (Total)	U/l	10.0	6.70	13.3	1.65	3.30	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	40.3	34.3	46.3	3.00	6.00	Bromocresol Green
	g/dl	4.03	3.43	4.63	0.30	0.60	
	g/l	40.9	34.7	47.1	3.10	6.20	Bromocresol Purple
	g/dl	4.09	3.47	4.71	0.31	0.62	
	g/l	38.3	32.6	44.0	2.85	5.70	Ortho Vitros Microslide Systems
	g/dl	3.83	3.26	4.40	0.29	0.57	
	g/l	38.7	32.9	44.5	2.90	5.80	Turbidimetric Assays
Alkaline Phosphatase	U/l	136	116	156	10.00	20.00	Ortho Vitros Microslide Systems 37°C
	U/l	264	225	303	19.50	39.00	Diethanolamine buffer DEA 37°C
	U/l	206	175	237	15.50	31.00	Diethanolamine buffer DEA 30°C
	U/l	169	144	194	12.50	25.00	Diethanolamine buffer DEA 25°C
	U/l	167	142	192	12.50	25.00	AMP optimised to IFCC 37°C
	U/l	130	111	149	9.50	19.00	AMP optimised to IFCC 30°C
	U/l	107	91	123	8.00	16.00	AMP optimised to IFCC 25°C
	U/l	160	136	184	12.00	24.00	AMP non-optimised 37°C
	U/l	125	106	144	9.50	19.00	AMP non-optimised 30°C
U/l	102	87	117	7.50	15.00	AMP non-optimised 25°C	

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ALT (GPT)	U/l	46	37	55	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	38	30	46	4.00	8.00	Tris buffer with P5P 37°C
	U/l	28	22	34	3.00	6.00	Tris buffer with P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer with P5P 25°C
	U/l	34	28	40	3.00	6.00	Tris buffer without P5P 37°C
	U/l	25	21	29	2.00	4.00	Tris buffer without P5P 30°C
	U/l	19	16	22	1.50	3.00	Tris buffer without P5P 25°C
	U/l	34	27	41	3.50	7.00	Tris buffer SCE 37°C
	U/l	25	20	30	2.50	5.00	Tris buffer SCE 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	68	58	78	5.00	10.00	Immunoinhibition EPS substrate 37°C
	U/l	69	59	79	5.00	10.00	Roche EPS Liquid 37°C
	U/l	81	69	93	6.00	12.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	89	76	102	6.50	13.00	pNP Maltotrioxide substrates 37°C
	U/l	93	79	107	7.00	14.00	Siemens - blocked pNPG7 37°C
	U/l	74	63	85	5.50	11.00	Randox Lyo. Ethylidene pNPG7 37°C
	U/l	98	83	113	7.50	15.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	90	76	104	7.00	14.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	102	86	118	8.00	16.00	Siemens - maltopenta/hexaoside 37°C
	U/l	90	77	103	6.50	13.00	Saccharogenic 37°C
	U/l	91	78	104	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	65	56	74	4.50	9.00	Ortho Vitros Microslide Systems 37°C
	U/l	91	78	104	6.50	13.00	Other Roche 2-chloro-pNPG7 37°C
	U/l	90	76	104	7.00	14.00	Roche liquid stable pNPG7 37°C

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Amylase Total	U/l	103	87	119	8.00	16.00	Siemens 2-chloro-pNPG3 37°C
	U/l	94	80	108	7.00	14.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	95	81	109	7.00	14.00	Beckman Synchron AMY7 37°C
	U/l	99	84	114	7.50	15.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	111	95	127	8.00	16.00	Abbott Architect IFCC Cal. 37°C
	U/l	88	75	101	6.50	13.00	Beckman CNPG3 (Extinction Coeff) 37°C
Apolipoprotein B	g/l	0.60	0.49	0.71	0.05	0.11	Immunoturbidimetric
	mg/dl	60.2	49.4	71.0	5.40	10.80	
AST (GOT)	U/l	53	42	64	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
	U/l	56	45	67	5.50	11.00	Tris buffer with P5P 37°C
	U/l	38	30	46	4.00	8.00	Tris buffer with P5P 30°C
	U/l	27	21	33	3.00	6.00	Tris buffer with P5P 25°C
	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
	U/l	38	30	46	4.00	8.00	Tris buffer SCE 37°C
	U/l	26	20	32	3.00	6.00	Tris buffer SCE 30°C
U/l	18	14	22	2.00	4.00	Tris buffer SCE 25°C	
Bicarbonate	mmol/l	16.1	12.7	19.5	1.70	3.40	Colorimetric
	mmol/l	18.1	14.4	21.8	1.85	3.70	Ortho Vitros Microslide Systems
	mmol/l	15.9	12.6	19.2	1.65	3.30	Differential rate pH change
	mmol/l	16.4	13.0	19.8	1.70	3.40	Enzymatic
	mmol/l	16.6	13.2	20.0	1.70	3.40	Ion selective electrode
Bile Acids	µmol/l	22.5	18.0	27.0	2.25	4.50	5th Generation Colorimetric
	µmol/l	24.9	19.9	29.9	2.50	5.00	4th Generation Colorimetric

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Bilirubin Direct	µmol/l	17.8	14.0	21.6	1.90	3.80	Dichlorophenyl Diazonium (DPD)	
	mg/dl	1.04	0.819	1.26	0.11	0.22		
	µmol/l	21.0	16.6	25.4	2.20	4.40	Diazo with Sulphanilic Acid	
	mg/dl	1.23	0.971	1.49	0.13	0.26		
	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		
	µmol/l	16.4	13.0	19.8	1.70	3.40	Oxidation to Biliverdin/Vanadate	
	mg/dl	0.959	0.761	1.16	0.10	0.20		
	µmol/l	16.5	13.0	20.0	1.75	3.50	Modified Jendrassik	
	mg/dl	0.965	0.761	1.17	0.10	0.20		
	Bilirubin Total	µmol/l	25.6	20.2	31.0	2.70	5.40	Vitros 250/500/700/950 Total Bilirubin
		mg/dl	1.50	1.18	1.82	0.16	0.32	
µmol/l		25.9	20.5	31.3	2.70	5.40	Vitros 250/500/700/950 Total BUBC	
mg/dl		1.52	1.20	1.84	0.16	0.32		
µmol/l		34.2	27.0	41.4	3.60	7.20	Diazo with Dichloroaniline (DCA)	
mg/dl		2.00	1.58	2.42	0.21	0.42		
µmol/l		27.4	21.7	33.1	2.85	5.70	Diazo with Sulphanilic Acid	
mg/dl		1.60	1.27	1.93	0.17	0.33		
µmol/l		28.6	22.6	34.6	3.00	6.00	Dichlorophenyl Diazonium (DPD)	
mg/dl		1.67	1.32	2.02	0.18	0.35		
µmol/l		22.2	17.5	26.9	2.35	4.70	Nitrobenzenediazonium salt	
mg/dl		1.30	1.02	1.58	0.14	0.28		
µmol/l		25.2	19.9	30.5	2.65	5.30	Diazonium ion	
mg/dl		1.47	1.16	1.78	0.16	0.31		
µmol/l	29.0	22.9	35.1	3.05	6.10	Oxidation to Biliverdin/Vanadate		
mg/dl	1.70	1.34	2.06	0.18	0.36			

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	33.6	26.5	40.7	3.55	7.10	Modified Jendrassik
	mg/dl	1.97	1.55	2.39	0.21	0.42	
Calcium	mmol/l	2.12	1.90	2.34	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.50	7.62	9.38	0.44	0.88	
	mmol/l	2.18	1.96	2.40	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.74	7.86	9.62	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	
	mmol/l	2.16	1.94	2.38	0.11	0.22	Arsenazo III
	mg/dl	8.66	7.78	9.54	0.44	0.88	
	mmol/l	2.14	1.92	2.36	0.11	0.22	NM-BAPTA
	mg/dl	8.58	7.70	9.46	0.44	0.88	
mmol/l	0.98	0.88	1.07	0.05	0.10	Ionised calcium	
mg/dl	3.91	3.52	4.30	0.20	0.39		
Chloride	mmol/l	101	92.9	109	4.05	8.10	Colorimetric
	mmol/l	97.9	90.1	106	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	96.7	88.9	105	3.90	7.80	ISE indirect
	mmol/l	97.7	89.9	106	3.90	7.80	ISE direct
Cholesterol	mmol/l	3.78	3.29	4.27	0.25	0.49	Ortho Vitros Microslide Systems
	mg/dl	146	127	165	9.50	19.00	
	mmol/l	3.92	3.41	4.43	0.26	0.51	Cholesterol Oxidase
mg/dl	151	132	170	9.50	19.00		
Cholinesterase	U/l	5487	4390	6584	548.50	1097.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	187	153	221	17.00	34.00	Ortho Vitros Microslide Systems 37°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	195	160	230	17.50	35.00	CK-NAC serum start (DGKC) 37°C
	U/l	122	100	144	11.00	22.00	CK-NAC serum start (DGKC) 30°C
	U/l	83	68	98	7.50	15.00	CK-NAC serum start (DGKC) 25°C
	U/l	192	158	226	17.00	34.00	CK-NAC substrate start (DGKC) 37°C
	U/l	120	99	141	10.50	21.00	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	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
	U/l	82	67	97	7.50	15.00	CK-NAC (IFCC) 25°C
	U/l	200	164	236	18.00	36.00	Monothioglycerol 37°C
	U/l	125	103	147	11.00	22.00	Monothioglycerol 30°C
U/l	85	70	100	7.50	15.00	Monothioglycerol 25°C	
Copper	µmol/l	17.8	14.2	21.4	1.80	3.60	Atomic absorption
	µg/dl	113	90.3	136	11.35	22.70	
	µmol/l	16.8	13.4	20.2	1.70	3.40	Colorimetric
	µg/dl	107	85.2	129	10.90	21.80	
Cortisol	nmol/l	446	335	557	55.50	111.00	Roche Cobas E411
	µg/dl	16.1	12.1	20.1	2.00	4.00	
Creatinine	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	121	96.8	145	12.10	24.20	Enzymatic UV method
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	122	97.3	147	12.35	24.70	Creatinine PAP method
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Roche Creatinine Plus
mg/dl	1.42	1.14	1.70	0.14	0.28		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	120	96.3	144	11.85	23.70	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.36	1.09	1.63	0.14	0.27	
	µmol/l	115	92.4	138	11.30	22.60	Vitros IDMS Traceable
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	122	97.8	146	12.10	24.20	IDMS traceable
	mg/dl	1.38	1.11	1.65	0.14	0.27	
D-3-Hydroxybutyrate	mmol/l	0.27	0.23	0.31	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.74	1.39	2.09	0.18	0.35	Immunoturbidimetric
	ng/ml	1.36	1.09	1.63	0.14	0.27	
Folate	nmol/l	36.3	27.6	45.0	4.35	8.70	Roche Cobas E411
	ng/ml	16.0	12.2	19.8	1.90	3.80	
Free T4	pmol/l	15.5	11.7	19.3	1.90	3.80	Abbott Architect
	ng/dl	1.21	0.913	1.51	0.15	0.30	
	pg/ml	12.1	9.13	15.1	1.49	2.97	Abbott Architect
	pmol/l	17.5	13.1	21.9	2.20	4.40	Siemens Centaur XP/XPT/Classic
	ng/dl	1.37	1.02	1.72	0.18	0.35	
	pg/ml	13.7	10.2	17.2	1.75	3.50	Siemens Centaur XP/XPT/Classic
	pmol/l	16.9	12.7	21.1	2.10	4.20	Beckman Access
	ng/dl	1.32	0.991	1.65	0.16	0.33	
	pg/ml	13.2	9.91	16.5	1.65	3.29	Beckman Access

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Free T4	pmol/l	15.9	11.9	19.9	2.00	4.00	Beckman Dxl800
	ng/dl	1.24	0.928	1.55	0.16	0.31	
	pg/ml	12.4	9.28	15.5	1.56	3.12	Beckman Dxl800
	pmol/l	27.2	20.4	34.0	3.40	6.80	Vitros ECi
	ng/dl	2.12	1.59	2.65	0.27	0.53	
	pg/ml	21.2	15.9	26.5	2.65	5.30	Vitros ECi
	pmol/l	20.4	15.3	25.5	2.55	5.10	Roche Elecsys
	ng/dl	1.59	1.19	1.99	0.20	0.40	
	pg/ml	15.9	11.9	19.9	2.00	4.00	Roche Elecsys
	pmol/l	20.2	15.2	25.2	2.50	5.00	Roche Cobas E411
	ng/dl	1.58	1.19	1.97	0.20	0.39	
	pg/ml	15.8	11.9	19.7	1.95	3.90	Roche Cobas E411
	pmol/l	19.3	14.5	24.1	2.40	4.80	Roche Cobas 6000/8000
	ng/dl	1.51	1.13	1.89	0.19	0.38	
	pg/ml	15.1	11.3	18.9	1.90	3.80	Roche Cobas 6000/8000
Gentamicin	pmol/l	18.2	13.6	22.8	2.30	4.60	Biomerieux Vidas FT4N Kit
	ng/dl	1.42	1.06	1.78	0.18	0.36	
	pg/ml	14.2	10.6	17.8	1.80	3.60	Biomerieux Vidas FT4N Kit
Gentamicin	µmol/l	7.62	6.10	9.14	0.76	1.52	Immunoturbidimetric
	µg/ml	3.64	2.92	4.36	0.36	0.72	
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	67	57	77	5.00	10.00	Ortho Vitros Microslide Systems 37°C
	U/l	44	37	51	3.50	7.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	35	29	41	3.00	6.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	27	23	31	2.00	4.00	Gamma glutamyl-4-nitroanilide 25°C

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	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
	U/l	60	51	69	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	47	40	54	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	37	31	43	3.00	6.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	5.89	5.01	6.77	0.44	0.88	Ortho Vitros Microslide Systems
	mg/dl	106	90.3	122	7.85	15.70	
	mmol/l	5.97	5.08	6.86	0.45	0.89	Glucose dehydrogenase
	mg/dl	108	91.5	125	8.25	16.50	
	mmol/l	6.00	5.10	6.90	0.45	0.90	Hexokinase
	mg/dl	108	91.9	124	8.05	16.10	
	mmol/l	5.73	4.87	6.59	0.43	0.86	Oxygen electrode
	mg/dl	103	87.8	118	7.60	15.20	
HDL - Cholesterol	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL PPD
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.16	0.99	1.33	0.09	0.17	Direct HDL Immunoseparation
	mg/dl	44.8	38.1	51.5	3.35	6.70	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
HDL - Cholesterol	mmol/l	1.16	0.98	1.34	0.09	0.18	Vitros Magnetic HDL
	mg/dl	44.8	38.0	51.6	3.40	6.80	
	mmol/l	1.11	0.95	1.27	0.08	0.16	Direct HDL PEGME
	mg/dl	42.8	36.5	49.1	3.15	6.30	
	mmol/l	1.16	0.98	1.34	0.09	0.18	Direct Clearance Method
	mg/dl	44.8	37.9	51.7	3.45	6.90	
	mmol/l	1.17	0.99	1.35	0.09	0.18	Vitros 5.1 FS microtip assay
	mg/dl	45.2	38.3	52.1	3.45	6.90	
	mmol/l	1.15	0.98	1.32	0.09	0.17	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	44.4	37.7	51.1	3.35	6.70	
mmol/l	1.14	0.97	1.31	0.09	0.17	Direct HDL Roche 3rd generation	
mg/dl	44.0	37.3	50.7	3.35	6.70		
mmol/l	1.22	1.03	1.41	0.10	0.19	HDL - Ultra	
mg/dl	47.1	39.8	54.4	3.65	7.30		
Immunoglobulin A	g/l	1.78	1.34	2.22	0.22	0.44	Immunoturbidimetric
	mg/dl	178	134	222	22.00	44.00	
Immunoglobulin G	g/l	7.54	6.18	8.90	0.68	1.36	Immunoturbidimetric
	mg/dl	754	618	890	68.00	136.00	
Immunoglobulin M	g/l	0.81	0.65	0.97	0.08	0.16	Immunoturbidimetric
	mg/dl	81.0	64.8	97.2	8.10	16.20	
Iron	μmol/l	17.5	14.3	20.7	1.60	3.20	Colorimetric with ppt.
	μg/dl	97.8	79.9	116	8.95	17.90	
	μmol/l	17.3	14.2	20.4	1.55	3.10	Colorimetric without ppt.
	μg/dl	96.7	79.4	114	8.65	17.30	
	μmol/l	17.2	14.1	20.3	1.55	3.10	Ortho Vitros Microslide Systems
	μg/dl	96.1	78.8	113	8.65	17.30	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lactate	mmol/l	1.36	1.11	1.61	0.13	0.25	Ion selective electrode
	mg/dl	12.3	10.0	14.6	1.15	2.30	
	mmol/l	1.40	1.15	1.65	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.6	10.4	14.8	1.10	2.20	
	mmol/l	1.29	1.05	1.53	0.12	0.24	Ortho Vitros Microslide Systems
	mg/dl	11.6	9.46	13.7	1.07	2.14	
mmol/l	1.33	1.09	1.57	0.12	0.24	UV LDH	
mg/dl	12.0	9.82	14.2	1.09	2.18		
LAP	U/l	17	14	20	1.50	3.00	NAGEL 37°C
LD (LDH)	U/l	543	462	624	40.50	81.00	Ortho Vitros Microslide Systems 37°C
	U/l	180	153	207	13.50	27.00	L->P 37°C
	U/l	130	110	150	10.00	20.00	L->P 30°C
	U/l	91	78	104	6.50	13.00	L->P 25°C
	U/l	441	375	507	33.00	66.00	P->L Scandinavian & Dutch 37°C
	U/l	318	271	365	23.50	47.00	P->L Scandinavian & Dutch 30°C
	U/l	224	190	258	17.00	34.00	P->L Scandinavian & Dutch 25°C
	U/l	405	344	466	30.50	61.00	P->L German methods 37°C
	U/l	292	248	336	22.00	44.00	P->L German methods 30°C
	U/l	205	174	236	15.50	31.00	P->L German methods 25°C
	U/l	409	347	471	31.00	62.00	P->L SFBC 37°C
	U/l	295	251	339	22.00	44.00	P->L SFBC 30°C
	U/l	207	176	238	15.50	31.00	P->L SFBC 25°C
	U/l	205	174	236	15.50	31.00	L->P IFCC 37°C
U/l	148	126	170	11.00	22.00	L->P IFCC 30°C	
U/l	104	88	120	8.00	16.00	L->P IFCC 25°C	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lipase	U/l	33	26	40	3.50	7.00	Other Colorimetric 37°C
	U/l	192	154	230	19.00	38.00	Ortho Vitros Microslide Systems 37°C
	U/l	30	24	36	3.00	6.00	Roche Colorimetric 37°C
	U/l	39	32	46	3.50	7.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.27	1.12	1.42	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.882	0.778	0.986	0.05	0.10	
	mmol/l	1.02	0.90	1.14	0.06	0.12	Ion selective electrode
	mg/dl	0.708	0.626	0.790	0.04	0.08	
	mmol/l	1.04	0.92	1.17	0.06	0.13	Spectrophotometric
	mg/dl	0.722	0.635	0.809	0.04	0.09	
Magnesium	mmol/l	1.07	0.94	1.20	0.06	0.13	Randox Colorimetric
	mg/dl	0.743	0.654	0.832	0.04	0.09	
	mmol/l	0.85	0.75	0.96	0.05	0.10	Arsenazo III
	mg/dl	2.07	1.82	2.32	0.13	0.25	
	mmol/l	0.87	0.76	0.97	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.11	1.86	2.36	0.13	0.25	
	mmol/l	0.86	0.76	0.96	0.05	0.10	Calmagite
	mg/dl	2.09	1.84	2.34	0.13	0.25	
	mmol/l	0.88	0.78	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.14	1.88	2.40	0.13	0.26	
	mmol/l	0.86	0.76	0.96	0.05	0.10	Methylthymol blue
	mg/dl	2.08	1.83	2.33	0.13	0.25	
mmol/l	0.89	0.78	0.99	0.05	0.11	Chlorphosphonazo III	
mg/dl	2.15	1.90	2.40	0.13	0.25		

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.83	0.73	0.93	0.05	0.10	Enzymatic
	mg/dl	2.02	1.78	2.26	0.12	0.24	
NEFA	mmol/l	1.01	0.86	1.16	0.08	0.15	Colorimetric
Osmolality	mOsm/kg	299	239	359	30.00	60.00	Calculated
	mOsm/kg	313	250	376	31.50	63.00	Freezing point depression
	mOsm/kg	311	249	373	31.00	62.00	Vapour pressure
Paracetamol	mmol/l	0.08	0.06	0.09	0.01	0.02	Colorimetric
	mg/l	11.8	9.38	14.2	1.21	2.42	
Phosphate Inorganic	mmol/l	1.37	1.17	1.57	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	4.25	3.63	4.87	0.31	0.62	
	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.12	3.50	4.74	0.31	0.62	
	mmol/l	1.31	1.12	1.50	0.10	0.19	
mg/dl	4.06	3.47	4.65	0.30	0.59	Phosphomolybdate UV	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	Ortho Vitros Microslide Systems
	mmol/l	3.97	3.65	4.29	0.16	0.32	Enzymatic
	mmol/l	3.96	3.64	4.28	0.16	0.32	ISE method - direct
	mmol/l	4.02	3.70	4.34	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.0	45.6	68.4	5.70	11.40	Ortho Vitros Microslide Systems
	g/dl	5.70	4.56	6.84	0.57	1.14	
	g/l	57.3	45.8	68.8	5.75	11.50	Biuret reaction end point
	g/dl	5.73	4.58	6.88	0.58	1.15	
	g/l	56.3	45.0	67.6	5.65	11.30	
g/dl	5.63	4.50	6.76	0.57	1.13		
PSA Total	ng/ml =	12.8	9.58	16.0	1.61	3.22	Roche Elecsys Modular E170

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
PSA Total	ng/ml =	11.5	8.62	14.4	1.44	2.88	Beckman Access standardised to Hybritech
	ng/ml =	11.6	8.71	14.5	1.45	2.89	bioMerieux VIDAS TPSA
	ng/ml =	9.95	7.46	12.4	1.25	2.49	Abbott Architect
	ng/ml =	12.7	9.52	15.9	1.59	3.18	Cobas E411
	ng/ml =	12.0	8.98	15.0	1.51	3.02	Roche Cobas 6000/8000
Salicylate	mmol/l	0.43	0.35	0.52	0.04	0.09	Gravimetric
	mg/dl	5.99	4.79	7.19	0.60	1.20	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	148	141	155	3.50	7.00	Enzymatic
	mmol/l	144	137	151	3.50	7.00	ISE method - direct
	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
Theophylline	µmol/l	28.3	22.6	34.0	2.85	5.70	Gravimetric
	µg/ml	5.10	4.07	6.13	0.52	1.03	
Thyroid Stimulating Hormone	µU/ml =	1.09	0.88	1.31	0.11	0.22	Abbott Architect
	µU/ml =	1.14	0.92	1.37	0.11	0.23	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.38	1.11	1.65	0.14	0.27	bioMerieux VIDAS TSH
	µU/ml =	1.24	0.99	1.49	0.13	0.25	Vitros ECi
	µU/ml =	1.43	1.14	1.72	0.15	0.29	Roche Elecsys
	µU/ml =	1.42	1.13	1.71	0.15	0.29	Roche Cobas E411
	µU/ml =	1.42	1.13	1.71	0.15	0.29	Roche Cobas 6000/8000
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Beckman Dxl800 Hyper TSH
	µU/ml =	1.14	0.91	1.37	0.12	0.23	Siemens Centaur XP/XPT/Classic TSH3-Ultra
TIBC	µmol/l	48.0	37.9	58.1	5.05	10.10	Ortho Vitros Microslide Systems
	µg/dl	268	212	324	28.00	56.00	
	µmol/l	40.3	31.8	48.8	4.25	8.50	Removal of excess free iron
	µg/dl	225	178	272	23.50	47.00	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
TIBC	μmol/l	43.3	34.2	52.4	4.55	9.10	FE+UIBC(saturation with iron)
	μg/dl	242	191	293	25.50	51.00	
	μmol/l	47.5	37.5	57.5	5.00	10.00	Direct Colorimetric
	μg/dl	266	210	322	28.00	56.00	
	μmol/l	47.5	37.5	57.5	5.00	10.00	Calculated from Transferrin
	μg/dl	266	210	322	28.00	56.00	
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	2.20	1.65	2.75	0.28	0.55	Abbott Architect
	ng/ml	1.43	1.07	1.79	0.18	0.36	
	ng/dl	143	107	179	18.00	36.00	Abbott Architect
	nmol/l	2.47	1.85	3.09	0.31	0.62	Siemens Centaur XP/XPT/Classic
	ng/ml	1.61	1.20	2.02	0.21	0.41	
	ng/dl	161	120	202	20.50	41.00	Siemens Centaur XP/XPT/Classic
	nmol/l	3.02	2.26	3.78	0.38	0.76	Vitros ECi
	ng/ml	1.97	1.47	2.47	0.25	0.50	
	ng/dl	197	147	247	25.00	50.00	Vitros ECi
	nmol/l	2.69	2.02	3.36	0.34	0.67	Roche Cobas E411
	ng/ml	1.75	1.32	2.18	0.22	0.43	
	ng/dl	175	132	218	21.50	43.00	Roche Cobas E411
	nmol/l	2.59	1.94	3.24	0.33	0.65	Roche Cobas 6000/8000
	ng/ml	1.69	1.26	2.12	0.22	0.43	
ng/dl	169	126	212	21.50	43.00	Roche Cobas 6000/8000	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Total T4	nmol/l	85.4	64.1	107	10.65	21.30	Abbott Architect
	µg/dl	6.66	5.00	8.32	0.83	1.66	
	ng/ml	66.6	50.0	83.2	8.30	16.60	Abbott Architect
	nmol/l	79.1	59.3	98.9	9.90	19.80	Siemens Centaur XP/XPT/Classic
	µg/dl	6.17	4.63	7.71	0.77	1.54	
	ng/ml	61.7	46.3	77.1	7.70	15.40	Siemens Centaur XP/XPT/Classic
	nmol/l	77.6	58.2	97.0	9.70	19.40	Vitros ECi
	µg/dl	6.05	4.54	7.56	0.76	1.51	
	ng/ml	60.5	45.4	75.6	7.55	15.10	Vitros ECi
	nmol/l	84.1	63.1	105	10.50	21.00	Roche Cobas E411
	µg/dl	6.56	4.92	8.20	0.82	1.64	
	ng/ml	65.6	49.2	82.0	8.20	16.40	Roche Cobas E411
	nmol/l	83.3	62.5	104	10.40	20.80	Roche Cobas 6000/8000
	µg/dl	6.50	4.88	8.12	0.81	1.62	
ng/ml	65.0	48.8	81.2	8.10	16.20	Roche Cobas 6000/8000	
Transferrin	g/l	2.01	1.61	2.41	0.20	0.40	Immunoturbidimetric
	mg/dl	201	161	241	20.00	40.00	
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.4	113	8.00	16.00	
	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	97.4	82.1	113	7.65	15.30	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.2	114	8.00	16.00	
	mmol/l	1.05	0.88	1.22	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.9	77.7	108	7.60	15.20	

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.23	1.04	1.42	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	109	92.0	126	8.50	17.00	
UIBC	µmol/l	25.1	20.6	29.6	2.25	4.50	Direct Colorimetric
	µg/dl	140	115	165	12.50	25.00	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Ortho Vitros Microslide Systems
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.53	6.40	8.66	0.57	1.13	Urease end point
	mg/dl	45.3	38.5	52.1	3.40	6.80	
	mmol/l	7.46	6.34	8.58	0.56	1.12	Urease kinetic
	mg/dl	44.8	38.1	51.5	3.35	6.70	
mmol/l	7.46	6.34	8.58	0.56	1.12	BUN	
mg/dl	20.9	17.8	24.0	1.55	3.10		
Uric Acid (Urate)	mmol/l	0.32	0.28	0.36	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.41	4.70	6.12	0.36	0.71	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	4.91	6.35	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	
mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290	
mg/dl	5.63	4.91	6.35	0.36	0.72		
Vitamin B12	pmol/l	405	324	486	40.50	81.00	Roche Cobas E411
	pg/ml	549	439	659	55.00	110.00	



MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Zinc	µmol/l	22.2	17.8	26.6	2.20	4.40	Colorimetric with deproteinisation
	µg/dl	145	116	174	14.50	29.00	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	42.4	36.1	48.7	3.15	6.30	Bromocresol Green
	g/dl	4.24	3.61	4.87	0.32	0.63	
Alkaline Phosphatase	U/l	248	211	285	18.50	37.00	Diethanolamine buffer DEA 37°C
	U/l	193	164	222	14.50	29.00	Diethanolamine buffer DEA 30°C
	U/l	158	135	181	11.50	23.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30°C
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37°C
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30°C
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	18.5	14.6	22.4	1.95	3.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.08	0.854	1.31	0.11	0.23	
Calcium	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	
Cholesterol	mmol/l	3.98	3.47	4.49	0.26	0.51	Cholesterol Oxidase
	mg/dl	154	134	174	10.00	20.00	
CK Total	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	125	99.6	150	12.70	25.40	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	118	94.3	142	11.85	23.70	Jaffe rate blanked
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	38	32	44	3.00	6.00	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	6.09	5.17	7.01	0.46	0.92	Hexokinase
	mg/dl	110	93.2	127	8.40	16.80	
	mmol/l	6.39	5.43	7.35	0.48	0.96	Glucose oxidase
	mg/dl	115	97.8	132	8.60	17.20	
HDL - Cholesterol	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL PPD
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.16	0.99	1.33	0.09	0.17	Direct Clearance Method
	mg/dl	44.8	38.2	51.4	3.30	6.60	
Iron	µmol/l	17.1	14.0	20.2	1.55	3.10	Colorimetric without ppt.
	µg/dl	95.6	78.3	113	8.65	17.30	
LD (LDH)	U/l	421	358	484	31.50	63.00	P->L German methods 37°C
	U/l	304	258	350	23.00	46.00	P->L German methods 30°C
	U/l	213	182	244	15.50	31.00	P->L German methods 25°C
	U/l	409	348	470	30.50	61.00	P->L SFBC 37°C
	U/l	295	251	339	22.00	44.00	P->L SFBC 30°C
	U/l	207	176	238	15.50	31.00	P->L SFBC 25°C

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	212	181	243	15.50	31.00	L->P IFCC 37°C
	U/l	153	131	175	11.00	22.00	L->P IFCC 30°C
	U/l	107	92	122	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	33	26	40	3.50	7.00	Other Colorimetric 37°C
Magnesium	mmol/l	0.94	0.83	1.06	0.06	0.11	Xylidyl Blue
	mg/dl	2.29	2.02	2.56	0.14	0.27	
Phosphate Inorganic	mmol/l	1.42	1.20	1.64	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.40	3.72	5.08	0.34	0.68	
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	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.2	115	7.95	15.90	
Urea	mmol/l	7.61	6.47	8.75	0.57	1.14	Urease kinetic
	mg/dl	45.7	38.9	52.5	3.40	6.80	
	mmol/l	7.61	6.47	8.75	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.00	5.22	6.78	0.39	0.78	
	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	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.63	4.91	6.35	0.36	0.72	

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	38.3	32.6	44.0	2.85	5.70	Ortho Vitros Microslide Systems
	g/dl	3.83	3.26	4.40	0.29	0.57	
Alkaline Phosphatase	U/l	136	116	156	10.00	20.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	46	37	55	4.50	9.00	Ortho Vitros Microslide Systems 37°C
Amylase Total	U/l	65	56	74	4.50	9.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	53	42	64	5.50	11.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	18.1	14.4	21.8	1.85	3.70	Ortho Vitros Microslide Systems
Bilirubin Conjugated Vitros BC	µmol/l	10.4	8.22	12.6	1.09	2.18	BuBc Vitros Slide
	mg/dl	0.608	0.481	0.735	0.06	0.13	
Bilirubin Total	µmol/l	25.6	20.2	31.0	2.70	5.40	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.50	1.18	1.82	0.16	0.32	
	µmol/l	25.9	20.5	31.3	2.70	5.40	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.52	1.20	1.84	0.16	0.32	
Bilirubin, Unconjugated Vitros BU	µmol/l	11.8	9.32	14.3	1.24	2.48	BuBc Vitros Slide
	mg/dl	0.690	0.545	0.835	0.07	0.15	
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.74	7.86	9.62	0.44	0.88	
Chloride	mmol/l	97.9	90.1	106	3.90	7.80	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	3.78	3.29	4.27	0.25	0.49	Ortho Vitros Microslide Systems
	mg/dl	146	127	165	9.50	19.00	
Cholinesterase	U/l	5328	4262	6394	533.00	1066.00	Ortho Vitros Microslide Systems 37°C

Ortho VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	187	153	221	17.00	34.00	Ortho Vitros Microslide Systems 37°C
Creatinine	μmol/l	115	91.9	138	11.55	23.10	Vitros DT60/DT60 II/DTSC II
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	μmol/l	115	92.4	138	11.30	22.60	Vitros IDMS Traceable
	mg/dl	1.30	1.04	1.56	0.13	0.26	
Free T4	pmol/l	27.2	20.4	34.0	3.40	6.80	Vitros ECi
	ng/dl	2.12	1.59	2.65	0.27	0.53	
	pg/ml	21.2	15.9	26.5	2.65	5.30	Vitros ECi
gamma-GT	U/l	67	57	77	5.00	10.00	Ortho Vitros Microslide Systems 37°C
Glucose	mmol/l	5.89	5.01	6.77	0.44	0.88	Ortho Vitros Microslide Systems
	mg/dl	106	90.3	122	7.85	15.70	
HDL - Cholesterol	mmol/l	1.16	0.98	1.34	0.09	0.18	Vitros Magnetic HDL
	mg/dl	44.8	38.0	51.6	3.40	6.80	
	mmol/l	1.17	0.99	1.35	0.09	0.18	Vitros 5.1 FS microtip assay
	mg/dl	45.2	38.3	52.1	3.45	6.90	
	mmol/l	1.15	0.98	1.32	0.09	0.17	Vitros dHDL PTA/MgCl ₂ direct precipitation
	mg/dl	44.4	37.7	51.1	3.35	6.70	
Iron	μmol/l	17.2	14.1	20.3	1.55	3.10	Ortho Vitros Microslide Systems
	μg/dl	96.1	78.8	113	8.65	17.30	
Lactate	mmol/l	1.29	1.05	1.53	0.12	0.24	Ortho Vitros Microslide Systems
	mg/dl	11.6	9.46	13.7	1.07	2.14	
LD (LDH)	U/l	543	462	624	40.50	81.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	192	154	230	19.00	38.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	1.27	1.12	1.42	0.08	0.15	Ortho Vitros Microslide Systems
	mg/dl	0.882	0.778	0.986	0.05	0.10	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.11	1.86	2.36	0.13	0.25	
Phosphate Inorganic	mmol/l	1.37	1.17	1.57	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	4.25	3.63	4.87	0.31	0.62	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	Ortho Vitros Microslide Systems
Protein Total	g/l	57.0	45.6	68.4	5.70	11.40	Ortho Vitros Microslide Systems
	g/dl	5.70	4.56	6.84	0.57	1.14	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.24	0.99	1.49	0.13	0.25	Vitros ECi
TIBC	µmol/l	48.0	37.9	58.1	5.05	10.10	Ortho Vitros Microslide Systems
	µg/dl	268	212	324	28.00	56.00	
Total T3	nmol/l	3.02	2.26	3.78	0.38	0.76	Vitros ECi
	ng/ml	1.97	1.47	2.47	0.25	0.50	
	ng/dl	197	147	247	25.00	50.00	Vitros ECi
Triglycerides	mmol/l	1.23	1.04	1.42	0.10	0.19	Ortho Vitros Microslide Systems
	mg/dl	109	92.0	126	8.50	17.00	
Urea	mmol/l	7.12	6.05	8.19	0.54	1.07	Ortho Vitros Microslide Systems
	mg/dl	42.8	36.4	49.2	3.20	6.40	
	mmol/l	7.12	6.05	8.19	0.54	1.07	BUN
Uric Acid (Urate)	mmol/l	0.32	0.28	0.36	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.41	4.70	6.12	0.36	0.71	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	41.4	35.2	47.6	3.10	6.20	Bromocresol Green
	g/dl	4.14	3.52	4.76	0.31	0.62	
	g/l	40.0	34.0	46.0	3.00	6.00	Bromocresol Purple
	g/dl	4.00	3.40	4.60	0.30	0.60	
	g/l	38.3	32.5	44.1	2.90	5.80	Turbidimetric Assays
	g/dl	3.83	3.25	4.41	0.29	0.58	
Alkaline Phosphatase	U/l	143	121	165	11.00	22.00	Roche Integra AMP buffer 37°C
	U/l	111	94	128	8.50	17.00	Roche Integra AMP buffer 30°C
	U/l	91	77	105	7.00	14.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	19	15	23	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	90	77	103	6.50	13.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	88	75	101	6.50	13.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	89	76	102	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.2	12.8	19.6	1.70	3.40	Colorimetric
	mmol/l	16.3	12.9	19.7	1.70	3.40	Enzymatic

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Analyte	unit	Target	low	high	1SD	2SD	methods
Bile Acids	µmol/l	24.1	19.3	28.9	2.40	4.80	Enzymatic Colorimetric
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	17.3	13.7	20.9	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.801	1.22	0.10	0.21	
	µmol/l	17.3	13.7	20.9	1.80	3.60	Roche JG factored
	mg/dl	1.01	0.801	1.22	0.10	0.21	
Bilirubin Total	µmol/l	17.3	13.6	21.0	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.01	0.796	1.22	0.11	0.21	
	µmol/l	24.7	19.5	29.9	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	25.2	19.9	30.5	2.65	5.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	µmol/l	25.2	19.9	30.5	2.65	5.30	Diazonium ion
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	mmol/l	2.14	1.92	2.36	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.58	7.70	9.46	0.44	0.88	
	mmol/l	2.14	1.92	2.36	0.11	0.22	NM-BAPTA
	mg/dl	8.58	7.70	9.46	0.44	0.88	
Chloride	mmol/l	93.7	86.2	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	3.90	3.39	4.41	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	
Cholinesterase	U/l	5236	4189	6283	523.50	1047.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	184	151	217	16.50	33.00	CK-NAC substrate start (DGKC) 37°C
	U/l	115	95	135	10.00	20.00	CK-NAC substrate start (DGKC) 30°C
	U/l	78	64	92	7.00	14.00	CK-NAC substrate start (DGKC) 25°C

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CK Total	U/l	187	153	221	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	117	96	138	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	79	65	93	7.00	14.00	CK-NAC (IFCC) 25°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	100	150	12.50	25.00	Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	127	101	153	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	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	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.33	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	19.3	14.5	24.1	2.40	4.80	Roche Cobas 6000/8000
	ng/dl	1.51	1.13	1.89	0.19	0.38	
	pg/ml	15.1	11.3	18.9	1.90	3.80	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	54	46	62	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	36	50	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

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GLDH	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 30°C
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	5.96	5.07	6.85	0.45	0.89	Glucose dehydrogenase
	mg/dl	107	91.4	123	7.80	15.60	
	mmol/l	5.99	5.09	6.89	0.45	0.90	Hexokinase
	mg/dl	108	91.7	124	8.15	16.30	
HDL - Cholesterol	mmol/l	5.93	5.04	6.82	0.45	0.89	Glucose oxidase
	mg/dl	107	90.8	123	8.10	16.20	
HDL - Cholesterol	mmol/l	1.16	0.99	1.33	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	44.8	38.1	51.5	3.35	6.70	
Iron	µmol/l	17.1	14.0	20.2	1.55	3.10	Colorimetric with ppt.
	µg/dl	95.6	78.3	113	8.65	17.30	
	µmol/l	17.3	14.2	20.4	1.55	3.10	Colorimetric without ppt.
	µg/dl	96.7	79.4	114	8.65	17.30	
Lactate	mmol/l	1.39	1.14	1.64	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.5	10.3	14.7	1.10	2.20	
LD (LDH)	U/l	405	344	466	30.50	61.00	P->L German methods 37°C
	U/l	292	248	336	22.00	44.00	P->L German methods 30°C
	U/l	205	174	236	15.50	31.00	P->L German methods 25°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
	U/l	149	126	172	11.50	23.00	L->P IFCC 30°C
	U/l	104	89	119	7.50	15.00	L->P IFCC 25°C
Lipase	U/l	29	23	35	3.00	6.00	Roche Colorimetric 37°C

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Lithium	mmol/l	1.04	0.92	1.16	0.06	0.12	Spectrophotometric
	mg/dl	0.722	0.636	0.808	0.04	0.09	
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Xylidyl Blue
	mg/dl	2.13	1.87	2.39	0.13	0.26	
	mmol/l	0.87	0.77	0.98	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.12	1.87	2.37	0.13	0.25	
Phosphate Inorganic	mmol/l	1.31	1.12	1.50	0.10	0.19	Phosphomolybdate enzymatic
	mg/dl	4.06	3.47	4.65	0.30	0.59	
	mmol/l	1.31	1.11	1.51	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.06	3.44	4.68	0.31	0.62	
Potassium	mmol/l	4.06	3.74	4.38	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.2	45.7	68.7	5.75	11.50	Biuret reaction end point
	g/dl	5.72	4.57	6.87	0.58	1.15	
	g/l	57.3	45.8	68.8	5.75	11.50	Biuret reaction kinetic
	g/dl	5.73	4.58	6.88	0.58	1.15	
PSA Total	ng/ml =	12.0	8.96	15.0	1.52	3.04	Roche Cobas 6000/8000
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.42	1.13	1.71	0.15	0.29	Roche Cobas 6000/8000
TIBC	μmol/l	42.0	33.2	50.8	4.40	8.80	FE+UIBC(saturation with iron)
	μg/dl	235	186	284	24.50	49.00	
	μmol/l	47.6	37.6	57.6	5.00	10.00	Calculated from Transferrin
	μg/dl	266	210	322	28.00	56.00	
Total T3	nmol/l	2.59	1.94	3.24	0.33	0.65	Roche Cobas 6000/8000
	ng/ml	1.69	1.26	2.12	0.22	0.43	
	ng/dl	169	126	212	21.50	43.00	Roche Cobas 6000/8000

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Total T4	nmol/l	83.3	62.5	104	10.40	20.80	Roche Cobas 6000/8000
	µg/dl	6.50	4.88	8.12	0.81	1.62	
	ng/ml	65.0	48.8	81.2	8.10	16.20	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.3	115	7.90	15.80	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
UIBC	mg/dl	101	84.8	117	8.10	16.20	
	µmol/l	24.5	20.1	28.9	2.20	4.40	Direct Colorimetric
Urea	µg/dl	137	112	162	12.50	25.00	
	mmol/l	7.60	6.46	8.74	0.57	1.14	Urease end point
Urea	mg/dl	45.7	38.8	52.6	3.45	6.90	
	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
Uric Acid (Urate)	mg/dl	20.6	17.5	23.7	1.55	3.10	
	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.48	4.75	6.21	0.37	0.73	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
Uric Acid (Urate)	mg/dl	5.53	4.82	6.24	0.36	0.71	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.54	4.82	6.26	0.36	0.72	
	mmol/l	0.33	0.29	0.37	0.02	0.04	

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Albumin	g/l	41.1	35.0	47.2	3.05	6.10	Bromocresol Green
	g/dl	4.11	3.50	4.72	0.31	0.61	
Alkaline Phosphatase	U/l	143	122	164	10.50	21.00	Roche Integra AMP buffer 37°C
	U/l	111	95	127	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	91	78	104	6.50	13.00	Roche Integra AMP buffer 25°C
	U/l	146	125	167	10.50	21.00	AMP optimised to IFCC 37°C
	U/l	114	97	131	8.50	17.00	AMP optimised to IFCC 30°C
	U/l	93	80	106	6.50	13.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	33	26	40	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	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	91	78	104	6.50	13.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	37	29	45	4.00	8.00	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
Bicarbonate	mmol/l	15.8	12.5	19.1	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	16.9	13.4	20.4	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.989	0.784	1.19	0.10	0.21	
	µmol/l	16.9	13.3	20.5	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	0.989	0.778	1.20	0.11	0.21	
	µmol/l	17.3	13.6	21.0	1.85	3.70	Roche JG factored
	mg/dl	1.01	0.796	1.22	0.11	0.21	

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Bilirubin Total	µmol/l	24.2	19.1	29.3	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.5	19.3	29.7	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	24.4	19.3	29.5	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	mmol/l	2.08	1.87	2.29	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.34	7.49	9.19	0.43	0.85	
	mmol/l	2.17	1.95	2.39	0.11	0.22	NM-BAPTA
	mg/dl	8.70	7.82	9.58	0.44	0.88	
Chloride	mmol/l	97.9	90.1	106	3.90	7.80	ISE indirect
Cholesterol	mmol/l	3.90	3.39	4.41	0.26	0.51	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	
CK Total	U/l	183	150	216	16.50	33.00	CK-NAC (IFCC) 37°C
	U/l	115	94	136	10.50	21.00	CK-NAC (IFCC) 30°C
	U/l	78	64	92	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	119	95.1	143	11.95	23.90	Alkaline picrate no deproteinization
	mg/dl	1.34	1.07	1.61	0.14	0.27	
	µmol/l	121	96.5	146	12.25	24.50	Roche Creatinine Plus
	mg/dl	1.37	1.09	1.65	0.14	0.28	
	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	115	91.9	138	11.55	23.10	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.30	1.04	1.56	0.13	0.26	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	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	
LD (LDH)	U/l	215	182	248	16.50	33.00	L->P IFCC 37°C
	U/l	155	131	179	12.00	24.00	L->P IFCC 30°C
	U/l	109	92	126	8.50	17.00	L->P IFCC 25°C
Magnesium	mmol/l	0.88	0.78	0.99	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.15	1.89	2.41	0.13	0.26	
Phosphate Inorganic	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.12	3.50	4.74	0.31	0.62	
Potassium	mmol/l	3.98	3.66	4.30	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.6	46.1	69.1	5.75	11.50	Biuret reaction end point
	g/dl	5.76	4.61	6.91	0.58	1.15	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.4	113	8.00	16.00	
Urea	mmol/l	7.14	6.07	8.21	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.5	49.3	3.20	6.40	
	mmol/l	7.14	6.07	8.21	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	

**Roche Cobas C111®**

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.56	4.84	6.28	0.36	0.72	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.56	4.84	6.28	0.36	0.72	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.54	4.82	6.26	0.36	0.72	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

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	
	g/l	40.9	34.8	47.0	3.05	6.10	Bromocresol Purple
	g/dl	4.09	3.48	4.70	0.31	0.61	
Alkaline Phosphatase	U/l	140	119	161	10.50	21.00	Roche Integra AMP buffer 37°C
	U/l	109	93	125	8.00	16.00	Roche Integra AMP buffer 30°C
	U/l	89	76	102	6.50	13.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	34	27	41	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	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Total	U/l	91	77	105	7.00	14.00	Roche liquid stable 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
Bicarbonate	mmol/l	16.1	12.7	19.5	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	17.9	14.1	21.7	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.825	1.28	0.11	0.23	
	µmol/l	17.3	13.6	21.0	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.796	1.22	0.11	0.21	
	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		

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	24.6	19.4	29.8	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.13	1.75	0.16	0.31	
	µmol/l	25.1	19.9	30.3	2.60	5.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.47	1.16	1.78	0.16	0.31	
	µmol/l	25.2	19.9	30.5	2.65	5.30	Diazonium ion
	mg/dl	1.47	1.16	1.78	0.16	0.31	
Calcium	mmol/l	2.15	1.93	2.37	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.62	7.74	9.50	0.44	0.88	
	mmol/l	2.15	1.94	2.36	0.11	0.21	NM-BAPTA
	mg/dl	8.62	7.78	9.46	0.42	0.84	
Chloride	mmol/l	93.8	86.3	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	3.89	3.38	4.40	0.26	0.51	Cholesterol Oxidase
	mg/dl	150	130	170	10.00	20.00	
CK Total	U/l	191	157	225	17.00	34.00	CK-NAC (IFCC) 37°C
	U/l	120	98	142	11.00	22.00	CK-NAC (IFCC) 30°C
	U/l	81	67	95	7.00	14.00	CK-NAC (IFCC) 25°C
Creatinine	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	127	102	152	12.50	25.00	Enzymatic UV method
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	127	102	152	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	135	108	162	13.50	27.00	Jaffe rate blanked
	mg/dl	1.53	1.22	1.84	0.16	0.31	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.47	1.18	1.76	0.15	0.29	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
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	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	43	37	49	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	6.04	5.13	6.95	0.46	0.91	Hexokinase
	mg/dl	109	92.4	126	8.30	16.60	
	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	1.13	0.96	1.30	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	43.6	37.1	50.1	3.25	6.50	
Iron	µmol/l	17.2	14.1	20.3	1.55	3.10	Colorimetric without ppt.
	µg/dl	96.1	78.8	113	8.65	17.30	
Lactate	mmol/l	1.41	1.15	1.67	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	12.7	10.4	15.0	1.15	2.30	
LD (LDH)	U/l	396	337	455	29.50	59.00	P->L German methods 37°C
	U/l	286	243	329	21.50	43.00	P->L German methods 30°C
	U/l	201	171	231	15.00	30.00	P->L German methods 25°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
	U/l	149	127	171	11.00	22.00	L->P IFCC 30°C
	U/l	105	89	121	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	29	23	35	3.00	6.00	Roche Colorimetric 37°C
Magnesium	mmol/l	0.87	0.77	0.98	0.05	0.11	Xylidyl Blue
	mg/dl	2.12	1.87	2.37	0.13	0.25	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.32	1.13	1.51	0.10	0.19	Phosphomolybdate UV
	mg/dl	4.09	3.50	4.68	0.30	0.59	
Potassium	mmol/l	4.09	3.76	4.42	0.17	0.33	ISE method - indirect
Protein Total	g/l	57.3	45.8	68.8	5.75	11.50	Biuret reaction end point
	g/dl	5.73	4.58	6.88	0.58	1.15	
Sodium	mmol/l	148	140	156	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.2	115	7.95	15.90	
	mmol/l	1.13	0.95	1.32	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	100	83.6	116	8.20	16.40	
UIBC	µmol/l	25.4	20.8	30.0	2.30	4.60	Direct Colorimetric
	µg/dl	142	116	168	13.00	26.00	
Urea	mmol/l	7.50	6.37	8.63	0.57	1.13	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	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.56	4.84	6.28	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	
mg/dl	5.59	4.87	6.31	0.36	0.72	Uricase Peroxidase with ascorbate oxidase @ 546nm	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

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	134	114	154	10.00	20.00	Roche Integra AMP buffer 37°C
	U/l	104	89	119	7.50	15.00	Roche Integra AMP buffer 30°C
	U/l	86	73	99	6.50	13.00	Roche Integra AMP buffer 25°C
	U/l	129	110	148	9.50	19.00	AMP optimised to IFCC 37°C
	U/l	100	86	114	7.00	14.00	AMP optimised to IFCC 30°C
	U/l	82	70	94	6.00	12.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	34	27	41	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	19	15	23	2.00	4.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	69	59	79	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	36	29	43	3.50	7.00	Tris buffer without P5P 37°C
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30°C
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.8	13.3	20.3	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	17.5	13.8	21.2	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	0.807	1.23	0.11	0.21	
	µmol/l	17.2	13.6	20.8	1.80	3.60	Roche JG factored
	mg/dl	1.01	0.796	1.22	0.11	0.21	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	µmol/l	24.7	19.5	29.9	2.60	5.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	24.4	19.2	29.6	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.43	1.12	1.74	0.16	0.31	
	µmol/l	24.2	19.2	29.2	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.42	1.12	1.72	0.15	0.30	
µmol/l	25.1	19.8	30.4	2.65	5.30	Diazonium ion	
mg/dl	1.47	1.16	1.78	0.16	0.31		
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
	mmol/l	2.13	1.91	2.35	0.11	0.22	Arsenazo III
	mg/dl	8.54	7.66	9.42	0.44	0.88	
	mmol/l	2.12	1.91	2.33	0.11	0.21	NM-BAPTA
	mg/dl	8.50	7.66	9.34	0.42	0.84	
Chloride	mmol/l	94.5	86.9	102	3.80	7.60	ISE indirect
Cholesterol	mmol/l	3.83	3.33	4.33	0.25	0.50	Cholesterol Oxidase
	mg/dl	148	129	167	9.50	19.00	
Cholinesterase	U/l	5283	4226	6340	528.50	1057.00	Colorimetric Butyrylthiocholine 37°C
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
Creatinine	µmol/l	128	103	153	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
mg/dl	1.46	1.16	1.76	0.15	0.30		

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	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	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	5.95	5.06	6.84	0.45	0.89	Hexokinase
	mg/dl	107	91.2	123	7.90	15.80	
Iron	µmol/l	16.7	13.7	19.7	1.50	3.00	Colorimetric without ppt.
	µg/dl	93.4	76.6	110	8.40	16.80	
Lactate	mmol/l	1.40	1.14	1.66	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	12.6	10.3	14.9	1.15	2.30	
LD (LDH)	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
	U/l	149	127	171	11.00	22.00	L->P IFCC 30°C
	U/l	105	89	121	8.00	16.00	L->P IFCC 25°C
Lipase	U/l	30	24	36	3.00	6.00	Roche Colorimetric 37°C
Lithium	mmol/l	1.06	0.93	1.19	0.06	0.13	Spectrophotometric
	mg/dl	0.736	0.649	0.823	0.04	0.09	
Magnesium	mmol/l	0.87	0.77	0.98	0.05	0.10	Xylidyl Blue
	mg/dl	2.12	1.87	2.37	0.13	0.25	
Phosphate Inorganic	mmol/l	1.29	1.09	1.49	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.00	3.38	4.62	0.31	0.62	
Potassium	mmol/l	4.08	3.75	4.41	0.17	0.33	ISE method - indirect

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Protein Total	g/l	57.0	45.6	68.4	5.70	11.40	Biuret reaction end point
	g/dl	5.70	4.56	6.84	0.57	1.14	
Sodium	mmol/l	148	140	156	4.00	8.00	ISE method - indirect
TIBC	μmol/l	43.4	34.3	52.5	4.55	9.10	FE+UIBC(saturation with iron)
	μg/dl	243	192	294	25.50	51.00	
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	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.1	115	8.00	16.00	
Urea	mmol/l	7.23	6.14	8.32	0.55	1.09	Urease kinetic
	mg/dl	43.5	36.9	50.1	3.30	6.60	
	mmol/l	7.23	6.15	8.31	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.51	4.79	6.23	0.36	0.72	
	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.48	4.77	6.19	0.36	0.71	
	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.48	4.75	6.21	0.37	0.73	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	39.9	33.9	45.9	3.00	6.00	Bromocresol Green
	g/dl	3.99	3.39	4.59	0.30	0.60	
Alkaline Phosphatase	U/l	289	246	332	21.50	43.00	Diethanolamine buffer DEA 37°C
	U/l	186	158	214	14.00	28.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	81	69	93	6.00	12.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	98	83	113	7.50	15.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.5	14.7	22.3	1.90	3.80	Enzymatic
Bile Acids	µmol/l	22.5	18.0	27.0	2.25	4.50	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	16.0	12.6	19.4	1.70	3.40	Oxidation to Biliverdin/Vanadate
	mg/dl	0.936	0.737	1.14	0.10	0.20	
Bilirubin Total	µmol/l	30.4	24.0	36.8	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.78	1.40	2.16	0.19	0.38	
	µmol/l	27.8	22.0	33.6	2.90	5.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	1.29	1.97	0.17	0.34	
Calcium	mmol/l	2.22	2.00	2.44	0.11	0.22	Arsenazo III
	mg/dl	8.90	8.02	9.78	0.44	0.88	
Chloride	mmol/l	94.0	86.5	102	3.75	7.50	ISE direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase
	mg/dl	158	138	178	10.00	20.00	
CK Total	U/l	214	175	253	19.50	39.00	CK-NAC substrate start (DGKC) 37°C
	U/l	222	182	262	20.00	40.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	121	97.2	145	11.90	23.80	Alkaline picrate no deproteinization
	mg/dl	1.37	1.10	1.64	0.14	0.27	
	µmol/l	119	95.2	143	11.90	23.80	Enzymatic UV method
	mg/dl	1.34	1.08	1.60	0.13	0.26	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	6.37	5.42	7.32	0.48	0.95	Hexokinase
	mg/dl	115	97.7	132	8.65	17.30	
	mmol/l	6.33	5.38	7.28	0.48	0.95	Glucose oxidase
	mg/dl	114	96.9	131	8.55	17.10	
Iron	µmol/l	18.0	14.8	21.2	1.60	3.20	Colorimetric without ppt.
	µg/dl	101	82.7	119	9.15	18.30	
Lactate	mmol/l	1.37	1.12	1.62	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.3	10.1	14.5	1.10	2.20	
LD (LDH)	U/l	398	338	458	30.00	60.00	P->L German methods 37°C
	U/l	199	169	229	15.00	30.00	L->P IFCC 37°C
Lipase	U/l	39	31	47	4.00	8.00	Randox Colorimetric 37°C
Lithium	mmol/l	1.07	0.94	1.20	0.06	0.13	Colorimetric
	mg/dl	0.743	0.654	0.832	0.04	0.09	
Magnesium	mmol/l	0.88	0.77	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.14	1.88	2.40	0.13	0.26	
Phosphate Inorganic	mmol/l	1.34	1.14	1.54	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.15	3.53	4.77	0.31	0.62	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	3.97	3.65	4.29	0.16	0.32	Enzymatic
	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - direct
Protein Total	g/l	57.9	46.3	69.5	5.80	11.60	Biuret reaction end point
	g/dl	5.79	4.63	6.95	0.58	1.16	
Sodium	mmol/l	148	141	155	3.50	7.00	Enzymatic
	mmol/l	144	137	151	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	96.5	81.3	112	7.60	15.20	
Urea	mmol/l	7.59	6.45	8.73	0.57	1.14	Urease kinetic
	mg/dl	45.6	38.8	52.4	3.40	6.80	
	mmol/l	7.59	6.45	8.73	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	
Uric Acid (Urate)	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	0.35	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	



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

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	39.0	33.2	44.8	2.90	5.80	Bromocresol Green
	g/dl	3.90	3.32	4.48	0.29	0.58	
	g/l	38.6	32.8	44.4	2.90	5.80	Bromocresol Purple
	g/dl	3.86	3.28	4.44	0.29	0.58	
Alkaline Phosphatase	U/l	148	126	170	11.00	22.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	38	30	46	4.00	8.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	69	58	80	5.50	11.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	93	79	107	7.00	14.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.2	14.4	22.0	1.90	3.80	Enzymatic
Bilirubin Direct	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	28.9	22.8	35.0	3.05	6.10	Oxidation to Biliverdin/Vanadate
	mg/dl	1.69	1.33	2.05	0.18	0.36	
Calcium	mmol/l	2.08	1.87	2.29	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.34	7.49	9.19	0.43	0.85	
	mmol/l	2.13	1.91	2.35	0.11	0.22	Arsenazo III
	mg/dl	8.54	7.66	9.42	0.44	0.88	
Chloride	mmol/l	98.5	90.6	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.90	3.40	4.40	0.25	0.50	Cholesterol Oxidase
	mg/dl	151	131	171	10.00	20.00	



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

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	5895	4716	7074	589.50	1179.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	193	158	228	17.50	35.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	123	98.1	148	12.45	24.90	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	115	92.4	138	11.30	22.60	Enzymatic UV method
	mg/dl	1.30	1.04	1.56	0.13	0.26	
	µmol/l	123	98.2	148	12.40	24.80	Jaffe rate blanked
	mg/dl	1.39	1.11	1.67	0.14	0.28	
µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)	
mg/dl	1.42	1.14	1.70	0.14	0.28		
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	5.80	4.93	6.67	0.44	0.87	Hexokinase
	mg/dl	105	88.8	121	8.10	16.20	
	mmol/l	5.94	5.05	6.83	0.45	0.89	Glucose oxidase
	mg/dl	107	91.0	123	8.00	16.00	
HDL - Cholesterol	mmol/l	1.06	0.90	1.22	0.08	0.16	Direct Clearance Method
	mg/dl	40.9	34.8	47.0	3.05	6.10	
Iron	µmol/l	17.2	14.1	20.3	1.55	3.10	Colorimetric without ppt.
	µg/dl	96.1	78.8	113	8.65	17.30	
Lactate	mmol/l	1.24	1.01	1.47	0.12	0.23	Colorimetric Lactate Oxidase
	mg/dl	11.2	9.10	13.3	1.05	2.10	
LD (LDH)	U/l	404	343	465	30.50	61.00	P->L German methods 37°C
	U/l	206	175	237	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	38	30	46	4.00	8.00	Other Colorimetric 37°C
Lithium	mmol/l	1.07	0.94	1.20	0.06	0.13	Spectrophotometric
	mg/dl	0.743	0.654	0.832	0.04	0.09	



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

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	0.88	0.77	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.14	1.88	2.40	0.13	0.26	
Phosphate Inorganic	mmol/l	1.32	1.13	1.51	0.10	0.19	Phosphomolybdate UV
	mg/dl	4.09	3.50	4.68	0.30	0.59	
Potassium	mmol/l	4.07	3.75	4.39	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.2	45.7	68.7	5.75	11.50	Biuret reaction end point
	g/dl	5.72	4.57	6.87	0.58	1.15	
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
TIBC	μmol/l	48.3	38.1	58.5	5.10	10.20	FE+UIBC(saturation with iron)
	μg/dl	270	213	327	28.50	57.00	
	μmol/l	47.5	37.5	57.5	5.00	10.00	Direct Colorimetric
	μg/dl	266	210	322	28.00	56.00	
Triglycerides	mmol/l	1.14	0.96	1.33	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	101	84.5	118	8.25	16.50	
Urea	mmol/l	7.74	6.58	8.90	0.58	1.16	Urease kinetic
	mg/dl	46.5	39.5	53.5	3.50	7.00	
	mmol/l	7.74	6.58	8.90	0.58	1.16	BUN
	mg/dl	21.7	18.4	25.0	1.65	3.30	
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	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	39.9	33.9	45.9	3.00	6.00	Bromocresol Purple
	g/dl	3.99	3.39	4.59	0.30	0.60	
Alkaline Phosphatase	U/l	156	133	179	11.50	23.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer with P5P 37°C
	U/l	41	33	49	4.00	8.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	103	88	118	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	54	44	64	5.00	10.00	Tris buffer with P5P 37°C
	U/l	54	43	65	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.4	13.8	21.0	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	11.8	9.31	14.3	1.25	2.49	Diazo with Sulphanilic Acid
	mg/dl	0.690	0.545	0.835	0.07	0.15	
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	
Calcium	mmol/l	2.04	1.84	2.24	0.10	0.20	Cresolphthalein complexone
	mg/dl	8.18	7.37	8.99	0.41	0.81	
Chloride	mmol/l	99.1	91.2	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.50	3.05	3.95	0.23	0.45	Cholesterol Oxidase
	mg/dl	135	118	152	8.50	17.00	
	mmol/l	3.43	2.99	3.87	0.22	0.44	Dimension-Siemens reagents
	mg/dl	132	115	149	8.50	17.00	
CK Total	U/l	189	155	223	17.00	34.00	CK-NAC (IFCC) 37°C

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	133	106	160	13.50	27.00	Alkaline picrate no deproteinization
	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	
gamma-GT	U/l	57	49	65	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	67	57	77	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	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	1.11	0.94	1.28	0.08	0.17	Direct HDL PEGME
	mg/dl	42.8	36.4	49.2	3.20	6.40	
Iron	µmol/l	16.3	13.4	19.2	1.45	2.90	Colorimetric without ppt.
	µg/dl	91.1	74.9	107	8.10	16.20	
Lactate	mmol/l	1.35	1.11	1.59	0.12	0.24	Colorimetric Lactate Oxidase
	mg/dl	12.2	10.0	14.4	1.10	2.20	
LD (LDH)	U/l	194	165	223	14.50	29.00	L->P IFCC 37°C
Lipase	U/l	131	105	157	13.00	26.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.85	0.74	0.95	0.05	0.10	Methylthymol blue
	mg/dl	2.06	1.81	2.31	0.13	0.25	
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	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	
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
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	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	1.01	0.85	1.17	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	89.4	75.1	104	7.15	14.30	
	mmol/l	1.01	0.85	1.17	0.08	0.16	L/G Kinase EP. no correction
	mg/dl	89.4	75.2	104	7.10	14.20	
Urea	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	92.0	77.2	107	7.40	14.80	
	mmol/l	7.59	6.45	8.73	0.57	1.14	Urease kinetic
	mg/dl	45.6	38.8	52.4	3.40	6.80	
Uric Acid (Urate)	mmol/l	7.59	6.45	8.73	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.64	4.92	6.36	0.36	0.72	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.1	34.1	46.1	3.00	6.00	Bromocresol Purple
	g/dl	4.01	3.41	4.61	0.30	0.60	
Alkaline Phosphatase	U/l	154	131	177	11.50	23.00	Siemens Dimension AMP buffer 37°C
	U/l	155	132	178	11.50	23.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer with P5P 37°C
	U/l	40	32	48	4.00	8.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	102	87	117	7.50	15.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	54	43	65	5.50	11.00	Tris buffer with P5P 37°C
	U/l	56	45	67	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	11.6	9.15	14.1	1.23	2.45	Diazo with Sulphanilic Acid
	mg/dl	0.679	0.535	0.823	0.07	0.14	
Bilirubin Total	µmol/l	27.7	21.9	33.5	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.62	1.28	1.96	0.17	0.34	
Calcium	mmol/l	2.06	1.85	2.27	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.26	7.41	9.11	0.43	0.85	
Chloride	mmol/l	98.9	91.0	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.42	2.98	3.86	0.22	0.44	Dimension-Siemens reagents
	mg/dl	132	115	149	8.50	17.00	
CK Total	U/l	189	155	223	17.00	34.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	129	104	154	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.46	1.18	1.74	0.14	0.28	

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	125	100	150	12.50	25.00	Enzymatic UV method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	131	105	157	13.00	26.00	IDMS traceable
	mg/dl	1.48	1.19	1.77	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	68	58	78	5.00	10.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	6.19	5.26	7.12	0.47	0.93	Hexokinase
	mg/dl	112	94.8	129	8.60	17.20	
HDL - Cholesterol	mmol/l	1.07	0.91	1.23	0.08	0.16	Direct HDL PPD
	mg/dl	41.3	35.0	47.6	3.15	6.30	
	mmol/l	1.14	0.97	1.31	0.09	0.17	Direct HDL PEGME
	mg/dl	44.0	37.4	50.6	3.30	6.60	
Iron	µmol/l	16.5	13.5	19.5	1.50	3.00	Colorimetric without ppt.
	µg/dl	92.2	75.5	109	8.35	16.70	
LD (LDH)	U/l	197	167	227	15.00	30.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	207	176	238	15.50	31.00	L->P IFCC 37°C
Lipase	U/l	135	108	162	13.50	27.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.10	Methylthymol blue
	mg/dl	2.11	1.85	2.37	0.13	0.26	
Phosphate Inorganic	mmol/l	1.35	1.15	1.55	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.19	3.57	4.81	0.31	0.62	
	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	0.33	0.65	
Potassium	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - indirect
Protein Total	g/l	58.2	46.5	69.9	5.85	11.70	Biuret reaction end point
	g/dl	5.82	4.65	6.99	0.59	1.17	


SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1290UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2022-03-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Sodium	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.04	0.87	1.21	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.0	77.1	107	7.45	14.90	
	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/Glycerol Dehydrogenase
	mg/dl	90.3	75.9	105	7.20	14.40	
Urea	mmol/l	7.56	6.42	8.70	0.57	1.14	Urease kinetic
	mg/dl	45.4	38.6	52.2	3.40	6.80	
	mmol/l	7.56	6.43	8.69	0.57	1.13	BUN
	mg/dl	21.2	18.0	24.4	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.32	0.28	0.36	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.41	4.70	6.12	0.36	0.71	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.61	4.89	6.33	0.36	0.72	

URIT 8000 Series

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
Alkaline Phosphatase	U/l	260	221	299	19.50	39.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37°C
Calcium	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	
Cholesterol	mmol/l	4.07	3.54	4.60	0.27	0.53	Cholesterol Oxidase
	mg/dl	157	137	177	10.00	20.00	
Creatinine	µmol/l	124	99.5	149	12.25	24.50	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
Glucose	mmol/l	6.28	5.34	7.22	0.47	0.94	Glucose oxidase
	mg/dl	113	96.2	130	8.40	16.80	
HDL - Cholesterol	mmol/l	1.21	1.03	1.39	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	46.7	39.8	53.6	3.45	6.90	
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	
Triglycerides	mmol/l	1.08	0.91	1.26	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	95.6	80.1	111	7.75	15.50	
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	



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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	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	