HUMAN ASSAYED MULTI-SERA - LEVEL 3 (HUM ASY CONTROL 3)

CAT. NO.	HE1532	**GTIN:**	05055273203608	**SIZE:**	20 x 5ml
CAT. NO.	HS2611	**GTIN:**	05055273203813	**SIZE:**	5 x 5ml
LOT NO.	1381UE	**EXPIRY:**	2028-09-28		

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.
GLDH is stable for 2 days at +2°C to +8°C.
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.

Due to the zinc content in some batches of rubber stoppers, the QC and calibrator material should be aliquoted into polypropylene tubes and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

Lipase may generate error flags when run on Dry Chemistry systems. If error flags are generated, the control should be diluted 1:1 with distilled water.

PREPARATION FOR USE

The Human Assayed Multi-sera is supplied lyophilised.

1. 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.

2. Refer to the Control section of the individual analyser application.

3. Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

Human Assayed Multi-sera - Level 3 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

Due to the variation caused by test equipment, test reagents and laboratory technique, the quoted ranges are provided for guidance. It is recommended that these ranges are used until each laboratory has established its own ranges, based on individual laboratory requirements.

Each batch of Assayed Human Serum Control is assigned at Randox Laboratories and a number of external laboratories. Values are assigned from a consensus of results obtained by these laboratories.

With each batch, a control range is provided for individual parameters and each parameter method. The control range is equivalent to the assigned mean ±2S.D.

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

NOTES

® All trademarks recognised.

(1) 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.

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Table of Content

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Abaxis Piccolo

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.26	2.77	3.75	0.245	0.490	Bromocresol Purple
	g/l	32.6	27.7	37.5	2.45	4.90	
ALT (GPT)	U/l	122	98	146	12.0	24.0	LDH - JSCC
AST (GOT)	U/l	122	98	146	12.0	24.0	MDH - JSCC
Bilirubin Total	mg/dl	4.62	3.65	5.59	0.485	0.970	Oxidation to Biliverdin/Vanadate
	µmol/l	78.9	62.3	95.5	8.30	16.6	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	3.00	2.70	3.30	0.150	0.300	
CK Total	U/l	549	450	648	49.5	99.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	4.37	3.50	5.24	0.435	0.870	Jaffe Rate Blanked
	µmol/l	387	310	464	38.5	77.0	
Glucose	mg/dl	272	231	313	20.5	41.0	Hexokinase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
Potassium	mmol/l	6.24	5.74	6.74	0.250	0.500	Enzymatic
Sodium	mmol/l	153	145	161	4.00	8.00	Enzymatic
Urea	mg/dl	130	111	149	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.8	51.7	69.9	4.55	9.10	
	mmol/l	21.7	18.4	25.0	1.65	3.30	

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Abbott Alinity c — Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml — **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	2.91	2.47	3.35	0.220	0.440	Abbott Alinity Albumin BCG 2
	g/l	29.1	24.7	33.5	2.20	4.40	
	g/dl	2.75	2.34	3.16	0.205	0.410	Abbott Alinity Albumin BCP 2
	g/l	27.5	23.4	31.6	2.05	4.10	
	g/dl	2.90	2.47	3.33	0.215	0.430	Bromocresol Green
	g/l	29.0	24.7	33.3	2.15	4.30	
	g/dl	2.77	2.35	3.19	0.210	0.420	Bromocresol Purple
	g/l	27.7	23.5	31.9	2.10	4.20	
Alkaline Phosphatase	U/l	346	294	398	26.0	52.0	Abbott Alinity Alkaline Phosphatase 2
	U/l	346	294	398	26.0	52.0	AMP non-optimised
	U/l	345	293	397	26.0	52.0	AMP optimised to IFCC
	U/l	349	297	401	26.0	52.0	Colorimetric
	U/l	346	294	398	26.0	52.0	Other AMP kits
ALT (GPT)	U/l	134	107	161	13.5	27.0	Abbott Alinity ALT 2
	U/l	152	122	182	15.0	30.0	Tris Buffer With P5P
	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	216	184	248	16.0	32.0	Immunoinhibition, EPS substrate
Amylase Total	U/l	266	226	306	20.0	40.0	Abbott Alinity Amylase 2
	U/l	267	227	307	20.0	40.0	Abbott Architect/Alinity cal factor 3431
	U/l	272	231	313	20.5	41.0	Abbott Architect/Alinity cal factor 3806
AST (GOT)	U/l	141	113	169	14.0	28.0	Abbott Alinity AST 2
	U/l	158	126	190	16.0	32.0	Tris Buffer With P5P
	U/l	142	114	170	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	12.1	9.60	14.6	1.25	2.50	Enzymatic
	mmol/l	12.5	9.91	15.1	1.30	2.60	PEP Carboxylase
Bile Acids	µmol/l	45.1	36.1	54.1	4.50	9.00	Enzymatic Colorimetric
Bilirubin Direct	mg/dl	1.62	1.28	1.96	0.170	0.340	Diazo with Dichloroanaline
	µmol/l	27.7	21.9	33.5	2.90	5.80	
	mg/dl	1.61	1.27	1.95	0.170	0.340	Diazo With Sulphanilic Acid
	µmol/l	27.6	21.8	33.4	2.90	5.80	
	mg/dl	1.58	1.25	1.91	0.165	0.330	Dichlorophenyl Diazonium
	µmol/l	27.0	21.3	32.7	2.85	5.70	
Bilirubin Total	mg/dl	4.76	3.76	5.76	0.500	1.00	Abbott Alin/Arch cal batch no >97447/8/9
	µmol/l	81.4	64.3	98.5	8.55	17.1	
	mg/dl	4.83	3.82	5.84	0.505	1.01	Abbott Alinity Total Bilirubin 2
	µmol/l	82.5	65.2	99.8	8.65	17.3	
	mg/dl	4.80	3.79	5.81	0.505	1.01	Diazo With Dichloroaniline
	µmol/l	82.1	64.9	99.3	8.60	17.2	

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RANDOX

Abbott Alinity c

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Bilirubin Total	mg/dl	4.72	3.73	5.71	0.495	0.990	Diazo With Sulphanilic Acid
	µmol/l	80.6	63.7	97.5	8.45	16.9	
	mg/dl	4.76	3.76	5.76	0.500	1.00	Diazonium Ion
	µmol/l	81.3	64.2	98.4	8.55	17.1	
	mg/dl	4.79	3.78	5.80	0.505	1.01	Dichlorophenyl Diazonium
	µmol/l	81.9	64.7	99.1	8.60	17.2	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.97	2.67	3.27	0.150	0.300	
	mg/dl	11.4	10.3	12.5	0.550	1.10	Cresolphthalein Complexone
	mmol/l	2.85	2.57	3.13	0.140	0.280	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
	mmol/l	114	105	123	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	283	246	320	18.5	37.0	Abbott Alinity Cholesterol 2
	mmol/l	7.34	6.39	8.29	0.475	0.950	
	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.34	6.39	8.29	0.475	0.950	
	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.37	6.41	8.33	0.480	0.960	
Cholinesterase	U/l	6390	5112	7668	639	1278	Colorimetric - Butyrylthiocholine
CK Total	U/l	558	458	658	50.0	100	Abbott CK-NAC (IFCC)
	U/l	565	463	667	51.0	102	CK-NAC (IFCC)
	U/l	555	455	655	50.0	100	CK-NAC serum start (DGKC)
	U/l	563	462	664	50.5	101	CK-NAC substrate start (DGKC)
Creatinine	mg/dl	4.31	3.45	5.17	0.430	0.860	Abbott Alinity Creatinine 2
	µmol/l	381	305	457	38.0	76.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	Alkaline picrate no deproteinisation
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.34	3.47	5.21	0.435	0.870	Enzymatic
	µmol/l	384	307	461	38.5	77.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	IDMS Traceable
	µmol/l	382	306	458	38.0	76.0	
D-3-Hydroxybutyrate	mmol/l	1.20	1.02	1.38	0.090	0.180	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	166	141	191	12.5	25.0	Abbott Alinity GGT 2
	U/l	166	141	191	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	165	140	190	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Dehydrogenase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	

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Abbott Alinity c

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Glucose	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	88.0	74.8	101	6.50	13.0	Direct HDL, Clearance method
	mmol/l	2.28	1.94	2.62	0.170	0.340	
	mg/dl	89.6	76.2	103	6.70	13.4	Direct HDL, Immunoseparation
	mmol/l	2.32	1.97	2.67	0.175	0.350	
	mg/dl	88.4	75.1	102	6.80	13.6	Direct HDL, PPD
	mmol/l	2.29	1.95	2.63	0.170	0.340	
	mg/dl	88.0	74.8	101	6.50	13.0	HDL Ultra/Accel Selective Detergent
	mmol/l	2.28	1.94	2.62	0.170	0.340	
Iron	µg/dl	232	190	274	21.0	42.0	Abbott Alinity Iron 2
	µmol/l	41.5	34.0	49.0	3.75	7.50	
	µg/dl	233	191	275	21.0	42.0	Colorimetric with ppt.
	µmol/l	41.6	34.1	49.1	3.75	7.50	
	µg/dl	233	191	275	21.0	42.0	Colorimetric without ppt.
	µmol/l	41.7	34.2	49.2	3.75	7.50	
Lactate	mg/dl	50.9	41.7	60.1	4.60	9.20	Colorimetric - Lactate oxidase
	mmol/l	5.65	4.63	6.67	0.510	1.02	
LD (LDH)	U/l	334	284	384	25.0	50.0	Abbott Alinity LD 2
	U/l	334	284	384	25.0	50.0	L to P, IFCC
	U/l	335	285	385	25.0	50.0	Lactate to Pyruvate methods
Lipase	U/l	79	63	95	8.00	16.0	Other Colorimetric
Lithium	mg/dl	1.38	1.21	1.55	0.085	0.170	Spectrophotometric
	mmol/l	1.99	1.75	2.23	0.120	0.240	
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Arsenazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Chlorphosphonazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.37	3.85	4.89	0.260	0.520	Enzymatic
	mmol/l	1.80	1.58	2.02	0.110	0.220	
	mg/dl	4.33	3.81	4.85	0.260	0.520	Xylidyl Blue
	mmol/l	1.78	1.57	1.99	0.105	0.210	
Osmolality	mOsm/Kg	359	287	431	36.0	72.0	Calculated
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	7.04	5.98	8.10	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.27	1.93	2.61	0.170	0.340	
Potassium	mmol/l	6.09	5.60	6.58	0.245	0.490	ISE method - direct

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Abbott Alinity c

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Potassium	mmol/l	6.11	5.62	6.60	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.74	3.79	5.69	0.475	0.950	Abbott Alinity Total Protein 2
	g/l	47.4	37.9	56.9	4.75	9.50	
	g/dl	4.75	3.80	5.70	0.475	0.950	Biuret reaction, end point
	g/l	47.5	38.0	57.0	4.75	9.50	
PSA Total	ng/ml = µg/l	17.5	13.1	21.9	2.20	4.40	Abbott Architect/ Alinity
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml = mlU/l	0.953	0.762	1.14	0.094	0.187	Abbott Architect
TIBC	µg/dl	214	169	259	22.5	45.0	Calculated from Transferrin
	µmol/l	38.3	30.3	46.3	4.00	8.00	
	µg/dl	250	198	302	26.0	52.0	FE+UIBC(saturation with iron)
	µmol/l	44.8	35.4	54.2	4.70	9.40	
Triglycerides	mg/dl	251	211	291	20.0	40.0	Abbott Alinity i
	mmol/l	2.84	2.39	3.29	0.225	0.450	
	mg/dl	253	213	293	20.0	40.0	Lipase/GK UV. no correction
	mmol/l	2.86	2.40	3.32	0.230	0.460	
	mg/dl	250	210	290	20.0	40.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.83	2.38	3.28	0.225	0.450	
	mg/dl	251	211	291	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.84	2.39	3.29	0.225	0.450	
Urea	mg/dl	125	106	144	9.50	19.0	Abbott Architect Urea Nitrogen 2
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	125	106	144	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Abbott Alinity Uric Acid 2
	mmol/l	0.539	0.469	0.609	0.035	0.070	

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Abbott Alinity c

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.09	7.91	10.3	0.605	1.21	Uricase perox. no ascorb. ox.
	mmol/l	0.541	0.471	0.611	0.035	0.070	
	mg/dl	9.09	7.91	10.3	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.541	0.471	0.611	0.035	0.070	

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
PSA Total	ng/ml = µg/l	17.2	12.9	21.5	2.15	4.30	Abbott Architect/ Alinity
Thyroid Stimulating Hormone	µU/ml = mlU/l	0.941	0.753	1.13	0.095	0.189	Abbott Architect
Total T3	ng/dl	166	125	207	20.5	41.0	Abbott Architect
	ng/ml	1.67	1.25	2.09	0.210	0.420	
	nmol/l	2.56	1.92	3.20	0.320	0.640	
Total T4	ng/ml	182	137	227	22.5	45.0	Abbott Architect
	nmol/l	233	175	291	29.0	58.0	
	µg/dl	18.2	13.7	22.7	2.25	4.50	

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Abbott Architect c Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	2.94	2.50	3.38	0.220	0.440	Abbott Architect Albumin BCG 2
	g/l	29.4	25.0	33.8	2.20	4.40	
	g/dl	2.77	2.35	3.19	0.210	0.420	Abbott Architect Albumin BCP 2
	g/l	27.7	23.5	31.9	2.10	4.20	
	g/dl	2.92	2.48	3.36	0.220	0.440	Bromocresol Green
	g/l	29.2	24.8	33.6	2.20	4.40	
	g/dl	2.87	2.44	3.30	0.215	0.430	Bromocresol Purple
	g/l	28.7	24.4	33.0	2.15	4.30	
Alkaline Phosphatase	U/l	346	294	398	26.0	52.0	Abbott Architect Alkaline Phosphatase 2
	U/l	346	294	398	26.0	52.0	AMP non-optimised
	U/l	344	292	396	26.0	52.0	AMP optimised to IFCC
	U/l	335	285	385	25.0	50.0	Colorimetric
	U/l	339	288	390	25.5	51.0	Other AMP kits
ALT (GPT)	U/l	139	111	167	14.0	28.0	Abbott Architect ALT 2
	U/l	144	115	173	14.5	29.0	Tris Buffer With P5P
	U/l	142	114	170	14.0	28.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	224	190	258	17.0	34.0	Immunoinhibition, EPS substrate
Amylase Total	U/l	267	227	307	20.0	40.0	Abbott Architect Amylase 2
	U/l	267	227	307	20.0	40.0	Abbott Architect/Alinity cal factor 3431
	U/l	269	229	309	20.0	40.0	Abbott blocked pNPG7
AST (GOT)	U/l	142	114	170	14.0	28.0	Abbott Architect AST 2
	U/l	152	122	182	15.0	30.0	Tris Buffer With P5P
	U/l	142	114	170	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	12.4	9.83	15.0	1.30	2.60	Enzymatic
	mmol/l	12.1	9.60	14.6	1.25	2.50	PEP Carboxylase
Bile Acids	µmol/l	46.8	37.4	56.2	4.70	9.40	Enzymatic Colorimetric
Bilirubin Direct	mg/dl	1.67	1.32	2.02	0.175	0.350	Diazo with Dichloroanaline
	µmol/l	28.6	22.6	34.6	3.00	6.00	
	mg/dl	1.64	1.30	1.98	0.170	0.340	Diazo With Sulphanilic Acid
	µmol/l	28.1	22.2	34.0	2.95	5.90	
	mg/dl	1.68	1.33	2.03	0.175	0.350	Dichlorophenyl Diazonium
	µmol/l	28.8	22.8	34.8	3.00	6.00	
Bilirubin Total	mg/dl	4.84	3.82	5.86	0.510	1.02	Abbott Alin/Arch cal batch no >97447/8/9
	µmol/l	82.7	65.3	100	8.65	17.3	
	mg/dl	4.97	3.93	6.01	0.520	1.04	Abbott Architect Total Bilirubin 2
	µmol/l	84.9	67.1	103	9.05	18.1	
	mg/dl	4.88	3.86	5.90	0.510	1.02	Diazo With Dichloroaniline
	µmol/l	83.5	66.0	101	8.75	17.5	

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Abbott Architect c Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	High	1SD	2SD	Method
Bilirubin Total	mg/dl	4.93	3.89	5.97	0.520	1.04	Diazo With Sulphanilic Acid
	µmol/l	84.2	66.5	102	8.90	17.8	
	mg/dl	4.92	3.89	5.95	0.515	1.03	Diazonium Ion
	µmol/l	84.1	66.4	102	8.95	17.9	
	mg/dl	4.98	3.93	6.03	0.525	1.05	Dichlorophenyl Diazonium
	µmol/l	85.1	67.2	103	8.95	17.9	
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Arsenazo III
	mmol/l	2.95	2.66	3.24	0.145	0.290	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE Direct
	mmol/l	114	105	123	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	285	248	322	18.5	37.0	Abbott Architect Cholesterol 2
	mmol/l	7.38	6.42	8.34	0.480	0.960	
	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.37	6.41	8.33	0.480	0.960	
Cholinesterase	U/l	6306	5045	7567	631	1261	Colorimetric - Butyrylthiocholine
CK Total	U/l	548	449	647	49.5	99.0	Abbott CK-NAC (IFCC)
	U/l	541	444	638	48.5	97.0	CK-NAC (IFCC)
	U/l	553	453	653	50.0	100	CK-NAC serum start (DGKC)
	U/l	552	453	651	49.5	99.0	CK-NAC substrate start (DGKC)
Copper	µg/dl	125	100	150	12.5	25.0	Colorimetric
	µmol/l	19.7	15.8	23.6	1.95	3.90	
Creatinine	mg/dl	4.27	3.42	5.12	0.425	0.850	Abbott Architect Creatinine 2
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.28	3.42	5.14	0.430	0.860	Alkaline picrate no deproteinisation
	µmol/l	379	303	455	38.0	76.0	
	mg/dl	4.40	3.52	5.28	0.440	0.880	Enzymatic
	µmol/l	389	311	467	39.0	78.0	
	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe Rate Blanked
	µmol/l	350	280	420	35.0	70.0	
gamma-GT	U/l	167	142	192	12.5	25.0	Abbott Architect GGT 2
	U/l	172	146	198	13.0	26.0	DCL, gamma glut.-3-carb.-4-nitro.
	U/l	166	141	191	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	166	141	191	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	272	231	313	20.5	41.0	Glucose Dehydrogenase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
	mg/dl	272	231	313	20.5	41.0	Glucose Oxidase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	

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Abbott Architect c Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
HDL - Cholesterol	mg/dl	89.2	75.8	103	6.90	13.8	Direct HDL, Clearance method
	mmol/l	2.31	1.96	2.66	0.175	0.350	
	mg/dl	104	88.4	120	8.00	16.0	Direct HDL, Immunoseparation
	mmol/l	2.69	2.29	3.09	0.200	0.400	
	mg/dl	79.9	67.9	91.9	6.00	12.0	Direct HDL, PEGME
	mmol/l	2.07	1.76	2.38	0.155	0.310	
	mg/dl	91.9	78.1	106	7.05	14.1	Direct HDL, PPD
	mmol/l	2.38	2.02	2.74	0.180	0.360	
	mg/dl	89.6	76.2	103	6.70	13.4	HDL Ultra/Accel Selective Detergent
	mmol/l	2.32	1.97	2.67	0.175	0.350	
Iron	µg/dl	236	194	278	21.0	42.0	Abbott Architect Chemilum
	µmol/l	42.2	34.6	49.8	3.80	7.60	
	µg/dl	236	194	278	21.0	42.0	Colorimetric with ppt.
	µmol/l	42.3	34.7	49.9	3.80	7.60	
	µg/dl	234	192	276	21.0	42.0	Colorimetric without ppt.
	µmol/l	41.9	34.4	49.4	3.75	7.50	
Lactate	mg/dl	50.5	41.4	59.6	4.55	9.10	Colorimetric - Lactate oxidase
	mmol/l	5.61	4.60	6.62	0.505	1.01	
LD (LDH)	U/l	328	279	377	24.5	49.0	Abbott Architect LD 2
	U/l	331	281	381	25.0	50.0	L to P, IFCC
	U/l	322	274	370	24.0	48.0	Lactate to Pyruvate methods
Lipase	U/l	78	63	93	7.50	15.0	Other Colorimetric
Lithium	mg/dl	1.39	1.22	1.56	0.085	0.170	Spectrophotometric
	mmol/l	2.00	1.76	2.24	0.120	0.240	
Magnesium	mg/dl	4.25	3.74	4.76	0.255	0.510	Arsenazo III
	mmol/l	1.75	1.54	1.96	0.105	0.210	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Enzymatic
	mmol/l	1.77	1.56	1.98	0.105	0.210	
	mg/dl	4.35	3.83	4.87	0.260	0.520	Xylidyl Blue
	mmol/l	1.79	1.58	2.00	0.105	0.210	
Osmolality	mOsm/Kg	352	282	422	35.0	70.0	Calculated
Phosphate Inorganic	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.26	1.92	2.60	0.170	0.340	
	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate UV
	mmol/l	2.26	1.92	2.60	0.170	0.340	
Potassium	mmol/l	6.03	5.55	6.51	0.240	0.480	ISE method - direct
	mmol/l	6.10	5.61	6.59	0.245	0.490	ISE method - indirect

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Abbott Architect c Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Protein Total	g/dl	4.87	3.90	5.84	0.485	0.970	Abbott Architect total Protein 2
	g/l	48.7	39.0	58.4	4.85	9.70	
	g/dl	4.84	3.87	5.81	0.485	0.970	Biuret reaction, end point
	g/l	48.4	38.7	58.1	4.85	9.70	
	g/dl	5.00	4.00	6.00	0.500	1.00	Biuret reaction, kinetic
	g/l	50.0	40.0	60.0	5.00	10.0	
PSA Total	ng/ml = µg/l	18.3	13.7	22.9	2.30	4.60	Abbott Architect/ Alinity
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µg/dl	255	201	309	27.0	54.0	FE+UIBC(saturation with iron)
	µmol/l	45.7	36.1	55.3	4.80	9.60	
Triglycerides	mg/dl	251	211	291	20.0	40.0	Abbott Architect Triglyceride 2
	mmol/l	2.84	2.39	3.29	0.225	0.450	
	mg/dl	233	196	270	18.5	37.0	Lipase/GK UV. no correction
	mmol/l	2.63	2.21	3.05	0.210	0.420	
	mg/dl	250	210	290	20.0	40.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.83	2.38	3.28	0.225	0.450	
	mg/dl	251	211	291	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.84	2.39	3.29	0.225	0.450	
Urea	mg/dl	129	110	148	9.50	19.0	Abbott Architect Urea Nitrogen 2
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	
	mg/dl	126	107	145	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.5	49.7	67.3	4.40	8.80	
	mmol/l	20.9	17.8	24.0	1.55	3.10	
	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.4	50.5	68.3	4.45	8.90	
	mmol/l	21.2	18.0	24.4	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Abbott Architect Uric Acid 2
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.535	0.465	0.605	0.035	0.070	

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Abbott Architect c Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.539	0.469	0.609	0.035	0.070	

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Abbott Architect i Systems

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
PSA Total	ng/ml = µg/l	17.3	13.0	21.6	2.15	4.30	Abbott Architect/ Alinity
Thyroid Stimulating Hormone	µU/ml = mlU/l	0.955	0.764	1.15	0.098	0.195	Abbott Architect
Total T3	ng/dl	164	123	205	20.5	41.0	Abbott Architect
	ng/ml	1.65	1.24	2.06	0.205	0.410	
	nmol/l	2.53	1.90	3.16	0.315	0.630	
Total T4	ng/ml	189	142	236	23.5	47.0	Abbott Architect
	nmol/l	242	182	302	30.0	60.0	
	µg/dl	18.9	14.2	23.6	2.35	4.70	

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Abbott i-STAT Roche AVL 980 series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.13	4.62	5.64	0.255	0.510	Ion Selective Electrode
	mmol/l	1.28	1.15	1.41	0.065	0.130	

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Advanced Instruments Micro Osmometer 3300/3320

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Osmolality	mOsm/Kg	387	310	464	38.5	77.0	Freezing Point Depression

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Advanced Instruments Osmometer

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	391	313	469	39.0	78.0	Freezing Point Depression

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.38	2.87	3.89	0.255	0.510	Agappe - Bromocresol Green
	g/l	33.8	28.7	38.9	2.55	5.10	
ALT (GPT)	U/l	142	114	170	14.0	28.0	Agappe - IFCC
Amylase Total	U/l	287	244	330	21.5	43.0	Agappe - CNPG3
AST (GOT)	U/l	124	99	149	12.5	25.0	Agappe - IFCC
Bilirubin Direct	mg/dl	1.15	0.909	1.39	0.120	0.240	Agappe - DIAZO
	µmol/l	19.6	15.5	23.7	2.05	4.10	
Bilirubin Total	mg/dl	4.70	3.71	5.69	0.495	0.990	Agappe - TAB
	µmol/l	80.3	63.4	97.2	8.45	16.9	
Calcium	mg/dl	12.4	11.2	13.6	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.09	2.78	3.40	0.155	0.310	
Chloride	mmol/l	113	104	122	4.50	9.00	Agappe - THIOCYANATE
Cholesterol	mg/dl	275	239	311	18.0	36.0	Agappe - CHOD-PAP
	mmol/l	7.12	6.19	8.05	0.465	0.930	
CK Total	U/l	533	437	629	48.0	96.0	Gel Agglutination
Creatinine	mg/dl	3.74	2.99	4.49	0.375	0.750	Agappe - JAFFE'S KINETIC
	µmol/l	331	265	397	33.0	66.0	
Glucose	mg/dl	281	239	323	21.0	42.0	Agappe - GOD-PAP
	mmol/l	15.6	13.3	17.9	1.15	2.30	
HDL - Cholesterol	mg/dl	97.7	83.0	112	7.15	14.3	Agappe - SELECTIVE INHIBITION
	mmol/l	2.53	2.15	2.91	0.190	0.380	
Iron	µg/dl	288	236	340	26.0	52.0	Agappe - CHROMAZUROL
	µmol/l	51.5	42.2	60.8	4.65	9.30	
LD (LDH)	U/l	707	601	813	53.0	106	Agappe - SCE
Lipase	U/l	81	65	97	8.00	16.0	Agappe - METHYL RESORUFIN
Magnesium	mg/dl	4.18	3.68	4.68	0.250	0.500	Agappe - XYLIDYL BLUE
	mmol/l	1.72	1.51	1.93	0.105	0.210	
Phosphate Inorganic	mg/dl	6.94	5.90	7.98	0.520	1.04	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Potassium	mmol/l	6.00	5.52	6.48	0.240	0.480	Agappe - ISE DIRECT
Protein Total	g/dl	4.77	3.82	5.72	0.475	0.950	Agappe Ultra Stik
	g/l	47.7	38.2	57.2	4.75	9.50	
Sodium	mmol/l	153	145	161	4.00	8.00	Agappe - ISE DIRECT
Triglycerides	mg/dl	248	208	288	20.0	40.0	Quidel Triage Meter Plus
	mmol/l	2.80	2.35	3.25	0.225	0.450	
Urea	mg/dl	125	106	144	9.50	19.0	Agappe Ultra Stik
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Uric Acid (Urate)	mg/dl	9.61	8.36	10.9	0.645	1.29	Agappe - URICASE - PAP
	mmol/l	0.572	0.498	0.646	0.037	0.074	

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Agappe Mispa CXL Pro

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.38	2.87	3.89	0.255	0.510	Agappe - Bromocresol Green
	g/l	33.8	28.7	38.9	2.55	5.10	
	g/dl	3.27	2.78	3.76	0.245	0.490	Bromocresol Green
	g/l	32.7	27.8	37.6	2.45	4.90	
ALT (GPT)	U/l	142	114	170	14.0	28.0	Agappe - IFCC
Amylase Total	U/l	292	248	336	22.0	44.0	Agappe - CNPG3
AST (GOT)	U/l	125	100	150	12.5	25.0	Agappe - IFCC
Bilirubin Total	mg/dl	4.80	3.79	5.81	0.505	1.01	Agappe - TAB
	µmol/l	82.0	64.8	99.2	8.60	17.2	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.06	2.75	3.37	0.155	0.310	
Chloride	mmol/l	114	105	123	4.50	9.00	Agappe - THIOCYANATE
Cholesterol	mg/dl	279	243	315	18.0	36.0	Agappe - CHOD-PAP
	mmol/l	7.23	6.29	8.17	0.470	0.940	
CK Total	U/l	538	441	635	48.5	97.0	Gel Agglutination
Creatinine	mg/dl	3.94	3.15	4.73	0.395	0.790	Agappe - ENZYMATIC
	µmol/l	349	279	419	35.0	70.0	
	mg/dl	4.09	3.27	4.91	0.410	0.820	Agappe - JAFFE'S KINETIC
	µmol/l	362	290	434	36.0	72.0	
gamma-GT	U/l	164	139	189	12.5	25.0	Agappe - SZASZ KINETIC
Glucose	mg/dl	285	242	328	21.5	43.0	Agappe - GOD-PAP
	mmol/l	15.8	13.4	18.2	1.20	2.40	
HDL - Cholesterol	mg/dl	95.4	81.1	110	7.30	14.6	Agappe - SELECTIVE INHIBITION
	mmol/l	2.47	2.10	2.84	0.185	0.370	
LD (LDH)	U/l	702	597	807	52.5	105	Agappe - SCE
Lipase	U/l	79	63	95	8.00	16.0	Agappe - METHYL RESORUFIN
Magnesium	mg/dl	4.23	3.72	4.74	0.255	0.510	Agappe - XYLIDYL BLUE
	mmol/l	1.74	1.53	1.95	0.105	0.210	
Phosphate Inorganic	mg/dl	7.04	5.98	8.10	0.530	1.06	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.27	1.93	2.61	0.170	0.340	
Potassium	mmol/l	6.18	5.69	6.67	0.245	0.490	Agappe - ISE DIRECT
Protein Total	g/dl	4.75	3.80	5.70	0.475	0.950	Agappe Ultra Stik
	g/l	47.5	38.0	57.0	4.75	9.50	
Sodium	mmol/l	162	154	170	4.00	8.00	Agappe - ISE DIRECT
Triglycerides	mg/dl	252	212	292	20.0	40.0	Quidel Triage Meter Plus
	mmol/l	2.85	2.39	3.31	0.230	0.460	

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RANDOX

Agappe Mispa CXL Pro

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Urea	mg/dl	124	105	143	9.50	19.0	Agappe Ultra Stik
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.18	7.99	10.4	0.610	1.22	Agappe - URICASE - PAP
	mmol/l	0.546	0.475	0.617	0.036	0.071	

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Agappe Mispa Nano

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.22	2.74	3.70	0.240	0.480	Agappe - Bromocresol Green
	g/l	32.2	27.4	37.0	2.40	4.80	
	g/dl	3.22	2.74	3.70	0.240	0.480	Bromocresol Green
	g/l	32.2	27.4	37.0	2.40	4.80	
Alkaline Phosphatase	U/l	351	298	404	26.5	53.0	AMP optimised to IFCC
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
Amylase Total	U/l	245	208	282	18.5	37.0	Agappe - CNPG3
AST (GOT)	U/l	122	98	146	12.0	24.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.62	3.65	5.59	0.485	0.970	Agappe - TAB
	µmol/l	78.9	62.3	95.5	8.30	16.6	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.03	2.73	3.33	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.03	2.73	3.33	0.150	0.300	
Cholesterol	mg/dl	274	238	310	18.0	36.0	Agappe - CHOD-PAP
	mmol/l	7.10	6.18	8.02	0.460	0.920	
	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.28	6.33	8.23	0.475	0.950	
Creatinine	mg/dl	4.33	3.46	5.20	0.435	0.870	Agappe - ENZYMATIC
	µmol/l	383	306	460	38.5	77.0	
gamma-GT	U/l	172	146	198	13.0	26.0	Agappe - SZASZ KINETIC
Glucose	mg/dl	274	233	315	20.5	41.0	Agappe - GOD-PAP
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	288	245	331	21.5	43.0	Glucose Oxidase
	mmol/l	16.0	13.6	18.4	1.20	2.40	
HDL - Cholesterol	mg/dl	97.7	83.0	112	7.15	14.3	Agappe - SELECTIVE INHIBITION
	mmol/l	2.53	2.15	2.91	0.190	0.380	
Phosphate Inorganic	mg/dl	6.73	5.72	7.74	0.505	1.01	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.17	1.84	2.50	0.165	0.330	
	mg/dl	6.60	5.61	7.59	0.495	0.990	Phosphomolybdate UV
	mmol/l	2.13	1.81	2.45	0.160	0.320	
Protein Total	g/dl	4.83	3.86	5.80	0.485	0.970	Agappe Ultra Stik
	g/l	48.3	38.6	58.0	4.85	9.70	
Triglycerides	mg/dl	244	205	283	19.5	39.0	Quidel Triage Meter Plus
	mmol/l	2.76	2.32	3.20	0.220	0.440	

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Agappe Mispa Nano

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	117	99.5	135	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	54.3	46.2	62.4	4.05	8.10	
	mmol/l	19.4	16.5	22.3	1.45	2.90	
Uric Acid (Urate)	mg/dl	8.97	7.80	10.1	0.565	1.13	Agappe - URICASE - PAP
	mmol/l	0.534	0.465	0.603	0.035	0.069	
	mg/dl	8.94	7.78	10.1	0.580	1.16	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.532	0.463	0.601	0.035	0.069	

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AMS Instruments SAT Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
ALT (GPT)	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.34	6.39	8.29	0.475	0.950	
Glucose	mg/dl	270	230	310	20.0	40.0	Glucose Oxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Triglycerides	mg/dl	273	229	317	22.0	44.0	Lipase/GPO-PAP No Correction
	mmol/l	3.08	2.59	3.57	0.245	0.490	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.6	48.1	65.1	4.25	8.50	
	mmol/l	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase Perox. with ascorb. ox
	mmol/l	0.546	0.475	0.617	0.036	0.071	

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Arkray OM-6050/OM-6060

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	387	310	464	38.5	77.0	Freezing Point Depression

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Arkray OsmoStation OM-6060

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	384	307	461	38.5	77.0	Freezing Point Depression

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RANDOX

Audicom AC9000 ISE Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Potassium	mmol/l	5.73	5.27	6.19	0.230	0.460	ISE method - direct
Sodium	mmol/l	152	144	160	4.00	8.00	ISE method - direct

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RANDOX

Autolumo A1000/2000/1820/1860/6200/6600

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Free T4	ng/dl	6.93	5.20	8.66	0.865	1.73	Autobio CLIA
	pg/ml	69.3	52.0	86.6	8.65	17.3	
	pmol/l	88.8	66.6	111	11.1	22.2	
PSA Total	ng/ml = µg/l	19.5	14.6	24.4	2.45	4.90	Autobio CLIA
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.46	1.17	1.75	0.145	0.290	Autobio CLIA

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RANDOX

Beckman Coulter Access Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	4.66	3.50	5.82	0.580	1.16	Beckman Access/LXi725
	pg/ml	46.6	35.0	58.2	5.80	11.6	
	pmol/l	59.8	44.9	74.7	7.45	14.9	
PSA Total	ng/ml = µg/l	24.0	19.2	28.8	2.40	4.80	Beckman Access standardised to Hybritech
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.13	0.904	1.36	0.115	0.230	Access/LXi725 hyper TSH 3rd gen.
	µU/ml = mlU/l	1.11	0.888	1.33	0.110	0.220	Beckman DXI600/800/ Access 2 (3rd IS)
Total T3	ng/dl	207	155	259	26.0	52.0	Beckman Access/LXi725
	ng/ml	2.08	1.56	2.60	0.260	0.520	
	nmol/l	3.19	2.39	3.99	0.400	0.800	
Total T4	ng/ml	215	161	269	27.0	54.0	Beckman Access/LXi725
	nmol/l	276	207	345	34.5	69.0	
	µg/dl	21.5	16.1	26.9	2.70	5.40	

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	High	1SD	2SD	Method
Albumin	g/dl	2.95	2.51	3.39	0.220	0.440	Bromocresol Green
	g/l	29.5	25.1	33.9	2.20	4.40	
	g/dl	2.94	2.50	3.38	0.220	0.440	Bromocresol Purple
	g/l	29.4	25.0	33.8	2.20	4.40	
	g/dl	2.99	2.54	3.44	0.225	0.450	Nephelometric Assays
	g/l	29.9	25.4	34.4	2.25	4.50	
Alkaline Phosphatase	U/l	361	307	415	27.0	54.0	AMP non-optimised
	U/l	369	314	424	27.5	55.0	AMP optimised to IFCC
	U/l	373	317	429	28.0	56.0	Beckman AMP (Calibrator)
	U/l	333	283	383	25.0	50.0	Beckman AMP (Extinction Coeff)
ALT (GPT)	U/l	148	118	178	15.0	30.0	Agappe - IFCC
	U/l	127	102	152	12.5	25.0	Beckman (Extinction Coefficient)
	U/l	153	122	184	15.5	31.0	Beckman IFCC Ref. with P5P
	U/l	152	122	182	15.0	30.0	Beckman Mod. IFCC Ref. without P5P
	U/l	143	114	172	14.5	29.0	Colorimetric
	U/l	151	121	181	15.0	30.0	Phosphate buffer, DGKC
	U/l	155	124	186	15.5	31.0	Tris Buffer With P5P
	U/l	159	127	191	16.0	32.0	Tris buffer with P5P, NVKC
	U/l	155	124	186	15.5	31.0	Tris Buffer Without P5P
	U/l	150	120	180	15.0	30.0	Tris buffer, SCE
Amylase Pancreatic	U/l	222	189	255	16.5	33.0	Beckman Synchron CX/LXi/DxC
	U/l	210	179	241	15.5	31.0	Immunoinhibition, EPS substrate
Amylase Total	U/l	249	212	286	18.5	37.0	Agappe - CNPG3
	U/l	248	211	285	18.5	37.0	Amyloclastic Methods
	U/l	260	221	299	19.5	39.0	Beckman blocked pNPG7
	U/l	257	218	296	19.5	39.0	Beckman CNPG3 (Extinction Coeff)
	U/l	255	217	293	19.0	38.0	Beckman CNPG3 (Master Cal)
	U/l	254	216	292	19.0	38.0	Beckman maltotetraose
	U/l	263	224	302	19.5	39.0	Beckman Synchron AMY7
	U/l	258	219	297	19.5	39.0	Human CNPG3 (IFCC)
	U/l	267	227	307	20.0	40.0	pNP Maltotrioside substrates
	U/l	257	218	296	19.5	39.0	Randox Liquid Ethylidene pNPG7
	U/l	249	212	286	18.5	37.0	Siemens/Dade Behring 2-chloro-pNPG3
AST (GOT)	U/l	128	102	154	13.0	26.0	Agappe - IFCC
	U/l	104	83	125	10.5	21.0	Beckman (Extinction Coefficient)
	U/l	138	110	166	14.0	28.0	Beckman IFCC Ref. with P5P
	U/l	136	109	163	13.5	27.0	Beckman Mod. IFCC Ref. without P5P
	U/l	130	104	156	13.0	26.0	Colorimetric
	U/l	129	103	155	13.0	26.0	Phosphate buffer, DGKC

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
AST (GOT)	U/l	133	106	160	13.5	27.0	Tris Buffer With P5P
	U/l	134	107	161	13.5	27.0	Tris buffer with P5P, NVKC
	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
	U/l	135	108	162	13.5	27.0	Tris buffer, SCE
Bicarbonate	mmol/l	12.7	10.1	15.3	1.30	2.60	Colorimetric
	mmol/l	14.2	11.3	17.1	1.45	2.90	Enzymatic
	mmol/l	14.4	11.4	17.4	1.50	3.00	PEP Carboxylase
Bile Acids	µmol/l	47.3	37.8	56.8	4.75	9.50	Enzymatic Colorimetric
	µmol/l	47.5	38.0	57.0	4.75	9.50	Enzymatic Colorimetric - Sentinel
Bilirubin Direct	mg/dl	1.30	1.03	1.57	0.135	0.270	Diazo/Sulphanilic Beckman DxC
	µmol/l	22.3	17.6	27.0	2.35	4.70	
	mg/dl	1.32	1.04	1.60	0.140	0.280	Dichlorophenyl Diazonium
	µmol/l	22.5	17.8	27.2	2.35	4.70	
	mg/dl	1.70	1.34	2.06	0.180	0.360	Oxidation to Biliverdin/Vanadate
	µmol/l	29.1	23.0	35.2	3.05	6.10	
Bilirubin Total	mg/dl	5.18	4.09	6.27	0.545	1.09	Diazo With Dichloroaniline
	µmol/l	88.5	69.9	107	9.25	18.5	
	mg/dl	5.16	4.08	6.24	0.540	1.08	Diazo With Sulphanilic Acid
	µmol/l	88.2	69.7	107	9.40	18.8	
	mg/dl	5.15	4.07	6.23	0.540	1.08	Diazonium Ion
	µmol/l	88.1	69.6	107	9.45	18.9	
	mg/dl	5.16	4.08	6.24	0.540	1.08	Dichlorophenyl Diazonium
	µmol/l	88.2	69.7	107	9.40	18.8	
	mg/dl	5.08	4.01	6.15	0.535	1.07	DPD (Beckman AU)
	µmol/l	86.8	68.6	105	9.10	18.2	
	mg/dl	5.61	4.43	6.79	0.590	1.18	Oxidation to Biliverdin/Vanadate
	µmol/l	95.9	75.8	116	10.1	20.1	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.01	2.71	3.31	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Ion Selective Electrode
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.02	2.72	3.32	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
	mmol/l	111	102	120	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	269	234	304	17.5	35.0	Agappe - CHOD-PAP
	mmol/l	6.96	6.06	7.86	0.450	0.900	

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	High	1SD	2SD	Method
Cholesterol	mg/dl	286	249	323	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.40	6.44	8.36	0.480	0.960	
	mg/dl	289	251	327	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.48	6.51	8.45	0.485	0.970	
	mg/dl	288	251	325	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.45	6.48	8.42	0.485	0.970	
Cholinesterase	U/l	5027	4022	6032	503	1005	Colorimetric - Butyrylthiocholine
CK Total	U/l	581	476	686	52.5	105	Abbott CK-NAC (IFCC)
	U/l	496	407	585	44.5	89.0	Beckman CK-NAC (Extinction Coeff)
	U/l	573	470	676	51.5	103	Beckman CK-NAC (IFCC)
	U/l	567	465	669	51.0	102	CK-NAC (IFCC)
	U/l	558	458	658	50.0	100	CK-NAC serum start (DGKC)
	U/l	537	440	634	48.5	97.0	CK-NAC substrate start (DGKC)
	U/l	547	449	645	49.0	98.0	Creatine Phosphate Substrate Start
	U/l	582	477	687	52.5	105	Monothioglycerol
Copper	µg/dl	149	119	179	15.0	30.0	Colorimetric
	µmol/l	23.5	18.8	28.2	2.35	4.70	
Creatinine	mg/dl	4.03	3.22	4.84	0.405	0.810	Alkaline picrate no deproteinisation
	µmol/l	357	286	428	35.5	71.0	
	mg/dl	3.99	3.19	4.79	0.400	0.800	Alkaline Picrate With Deproteinisation
	µmol/l	353	282	424	35.5	71.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	Enzymatic
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.19	3.35	5.03	0.420	0.840	IDMS Traceable
	µmol/l	371	297	445	37.0	74.0	
	mg/dl	3.94	3.15	4.73	0.395	0.790	Jaffe Rate Blanked
	µmol/l	349	279	419	35.0	70.0	
	mg/dl	3.94	3.15	4.73	0.395	0.790	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	349	279	419	35.0	70.0	
	mg/dl	3.93	3.14	4.72	0.395	0.790	Jaffe rate blanked comp. (-33umol/l)
	µmol/l	348	278	418	35.0	70.0	
	mg/dl	4.10	3.28	4.92	0.410	0.820	Jaffe rate comp. (-18umol/l)
	µmol/l	363	290	436	36.5	73.0	
D-3-Hydroxybutyrate	mmol/l	1.18	1.00	1.36	0.090	0.180	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	147	125	169	11.0	22.0	Beckman Szasz (Extinction Coeff.)
	U/l	163	139	187	12.0	24.0	DCL, gamma glut.-3-carb.-4-nitro.
	U/l	155	132	178	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	163	139	187	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	166	141	191	12.5	25.0	Gamma Glutamyl-4-Nitroanilide

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
GLDH	U/l	24	19	29	2.50	5.00	Triethanolamine buffer
Glucose	mg/dl	272	231	313	20.5	41.0	Glucose Dehydrogenase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
	mg/dl	276	235	317	20.5	41.0	GOD/02-Beckman method
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	274	233	315	20.5	41.0	Hexokinase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	92.3	78.5	106	6.85	13.7	Direct HDL, Clearance method
	mmol/l	2.39	2.03	2.75	0.180	0.360	
	mg/dl	94.2	80.1	108	6.90	13.8	Direct HDL, Immunoseparation
	mmol/l	2.44	2.07	2.81	0.185	0.370	
	mg/dl	94.2	80.1	108	6.90	13.8	Direct HDL, PPD
	mmol/l	2.44	2.07	2.81	0.185	0.370	
	mg/dl	93.8	79.7	108	7.10	14.2	HDL Ultra/Accel Selective Detergent
	mmol/l	2.43	2.07	2.79	0.180	0.360	
Iron	µg/dl	225	185	265	20.0	40.0	Colorimetric with ppt.
	µmol/l	40.3	33.0	47.6	3.65	7.30	
	µg/dl	225	185	265	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.3	33.0	47.6	3.65	7.30	
	µg/dl	223	183	263	20.0	40.0	Optical Emission Spectroscopy
	µmol/l	39.9	32.7	47.1	3.60	7.20	
Lactate	mg/dl	48.3	39.6	57.0	4.35	8.70	Colorimetric - Lactate oxidase
	mmol/l	5.36	4.40	6.32	0.480	0.960	
	mg/dl	48.7	39.9	57.5	4.40	8.80	Enzymatic Electrode
	mmol/l	5.41	4.44	6.38	0.485	0.970	
LD (LDH)	U/l	306	260	352	23.0	46.0	L to P Beckman (Extinction Coeff)
	U/l	334	284	384	25.0	50.0	L to P, IFCC
	U/l	336	286	386	25.0	50.0	Lactate to Pyruvate methods
	U/l	724	615	833	54.5	109	P to L Scandinavian & Dutch
	U/l	725	616	834	54.5	109	P to L, German methods
	U/l	331	281	381	25.0	50.0	Pyruvate 1.4 mM - Beckman LD-P
Lipase	U/l	78	63	93	7.50	15.0	Other Colorimetric
Lithium	mg/dl	1.38	1.21	1.55	0.085	0.170	Spectrophotometric
	mmol/l	1.99	1.75	2.23	0.120	0.240	
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Arsenazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Magnesium	mg/dl	4.23	3.72	4.74	0.255	0.510	Calmagite
	mmol/l	1.74	1.53	1.95	0.105	0.210	
	mg/dl	4.23	3.72	4.74	0.255	0.510	Methylthymol Blue
	mmol/l	1.74	1.53	1.95	0.105	0.210	
	mg/dl	4.25	3.74	4.76	0.255	0.510	Xylidyl Blue
	mmol/l	1.75	1.54	1.96	0.105	0.210	
Osmolality	mOsm/Kg	350	280	420	35.0	70.0	Calculated
Phosphate Inorganic	mg/dl	7.04	5.98	8.10	0.530	1.06	Beckman PHOSm kit (365nm)
	mmol/l	2.27	1.93	2.61	0.170	0.340	
	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate Enzymatic
	mmol/l	2.24	1.90	2.58	0.170	0.340	
	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Potassium	mmol/l	6.05	5.57	6.53	0.240	0.480	ISE method - direct
	mmol/l	6.06	5.58	6.54	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.56	3.65	5.47	0.455	0.910	Biuret reaction, CX4/5/7
	g/l	45.6	36.5	54.7	4.55	9.10	
	g/dl	4.58	3.66	5.50	0.460	0.920	Biuret reaction, end point
	g/l	45.8	36.6	55.0	4.60	9.20	
	g/dl	4.62	3.70	5.54	0.460	0.920	Biuret reaction, kinetic
	g/l	46.2	37.0	55.4	4.60	9.20	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µg/dl	226	179	273	23.5	47.0	Calculated from Transferrin
	µmol/l	40.4	31.9	48.9	4.25	8.50	
	µg/dl	241	190	292	25.5	51.0	Direct Colorimetric
	µmol/l	43.2	34.1	52.3	4.55	9.10	
	µg/dl	244	193	295	25.5	51.0	FE+UIBC(saturation with iron)
	µmol/l	43.7	34.5	52.9	4.60	9.20	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
	mg/dl	256	215	297	20.5	41.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	2.89	2.43	3.35	0.230	0.460	
	mg/dl	259	218	300	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	

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Beckman Coulter AU Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Triglycerides	mg/dl	254	213	295	20.5	41.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.87	2.41	3.33	0.230	0.460	
Urea	mg/dl	126	107	145	9.50	19.0	Beckman - Conductivity
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
	mg/dl	126	107	145	9.50	19.0	Urease - hypochlorite
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
	mg/dl	126	107	145	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.21	8.01	10.4	0.595	1.19	Beckman AU Non US calibrator (66300)
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	9.03	7.86	10.2	0.585	1.17	Beckman AU US calibrator (DR0070)
	mmol/l	0.537	0.467	0.607	0.035	0.070	
	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase @ 293 nm
	mmol/l	0.546	0.475	0.617	0.036	0.071	
	mg/dl	9.16	7.97	10.4	0.620	1.24	Uricase perox. no ascorb. ox.
	mmol/l	0.545	0.474	0.616	0.036	0.071	
	mg/dl	9.21	8.01	10.4	0.595	1.19	Uricase Perox. with ascorb. ox
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	9.21	8.01	10.4	0.595	1.19	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase, catalase 340nm.
	mmol/l	0.533	0.464	0.602	0.035	0.069	
Zinc	µg/dl	201	161	241	20.0	40.0	Colorimetric with deprot.
	µmol/l	30.8	24.6	37.0	3.10	6.20	
	µg/dl	206	165	247	20.5	41.0	Colorimetric without deprot.
	µmol/l	31.5	25.2	37.8	3.15	6.30	

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Beckman Coulter DxC600/DxC800

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	2.92	2.48	3.36	0.220	0.440	Bromocresol Purple
	g/l	29.2	24.8	33.6	2.20	4.40	
Alkaline Phosphatase	U/l	365	310	420	27.5	55.0	AMP non-optimised
ALT (GPT)	U/l	158	126	190	16.0	32.0	Beckman Mod. IFCC Ref. without P5P
Amylase Total	U/l	260	221	299	19.5	39.0	Beckman Synchron AMY7
AST (GOT)	U/l	141	113	169	14.0	28.0	Beckman Mod. IFCC Ref. without P5P
Bilirubin Direct	mg/dl	1.33	1.05	1.61	0.140	0.280	Diazo/Sulphanilic Beckman DxC
	µmol/l	22.7	17.9	27.5	2.40	4.80	
Bilirubin Total	mg/dl	5.39	4.26	6.52	0.565	1.13	Diazo With Sulphanilic Acid
	µmol/l	92.2	72.8	112	9.90	19.8	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Ion Selective Electrode
	mmol/l	2.97	2.67	3.27	0.150	0.300	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.29	6.34	8.24	0.475	0.950	
Cholinesterase	U/l	5293	4234	6352	530	1059	Colorimetric - Butyrylthiocholine
CK Total	U/l	573	470	676	51.5	103	Monothioglycerol
Creatinine	mg/dl	4.19	3.35	5.03	0.420	0.840	Alkaline picrate no deproteinisation
	µmol/l	371	297	445	37.0	74.0	
gamma-GT	U/l	163	139	187	12.0	24.0	Gamma Glutamyl-4-Nitroanilide
Glucose	mg/dl	270	230	310	20.0	40.0	Hexokinase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
HDL - Cholesterol	mg/dl	93.4	79.4	107	6.80	13.6	Direct HDL, PPD
	mmol/l	2.42	2.06	2.78	0.180	0.360	
Iron	µg/dl	221	181	261	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.5	32.4	46.6	3.55	7.10	
LD (LDH)	U/l	329	280	378	24.5	49.0	Lactate to Pyruvate methods
Lipase	U/l	79	63	95	8.00	16.0	Other Colorimetric
Magnesium	mg/dl	4.25	3.74	4.76	0.255	0.510	Calmagite
	mmol/l	1.75	1.54	1.96	0.105	0.210	
Phosphate Inorganic	mg/dl	6.66	5.66	7.66	0.500	1.00	Phosphomolybdate UV
	mmol/l	2.15	1.83	2.47	0.160	0.320	
Potassium	mmol/l	5.99	5.51	6.47	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.52	3.62	5.42	0.450	0.900	Biuret reaction, CX4/5/7
	g/l	45.2	36.2	54.2	4.50	9.00	
	g/dl	4.35	3.48	5.22	0.435	0.870	Biuret reaction, end point
	g/l	43.5	34.8	52.2	4.35	8.70	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect

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RANDOX

Beckman Coulter DxC600/DxC800

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Triglycerides	mg/dl	244	205	283	19.5	39.0	Lipase/GPO-PAP No Correction
	mmol/l	2.76	2.32	3.20	0.220	0.440	
Urea	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.5	49.7	67.3	4.40	8.80	
	mmol/l	20.9	17.8	24.0	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.13	7.94	10.3	0.585	1.17	Uricase perox. no ascorb. ox.
	mmol/l	0.543	0.472	0.614	0.036	0.071	

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.69	5.12	6.26	0.285	0.570	Ion Selective Electrode
	mmol/l	1.42	1.28	1.56	0.070	0.140	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
Potassium	mmol/l	5.99	5.51	6.47	0.240	0.480	ISE method - direct
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct

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RANDOX

BioCare Biocare Biolyte/Statlyte

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	5.88	5.41	6.35	0.235	0.470	ISE method - direct
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - direct

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RANDOX

Biolabo Diagnostics Kenza 240 TX

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
ALT (GPT)	U/l	146	117	175	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	129	103	155	13.0	26.0	Tris Buffer Without P5P
Cholesterol	mg/dl	288	251	325	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.45	6.48	8.42	0.485	0.970	
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Triglycerides	mg/dl	244	205	283	19.5	39.0	Lipase/GPO-PAP No Correction
	mmol/l	2.76	2.32	3.20	0.220	0.440	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.6	48.1	65.1	4.25	8.50	
	mmol/l	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.78	8.51	11.1	0.660	1.32	Uricase perox. no ascorb. ox.
	mmol/l	0.582	0.506	0.658	0.038	0.076	

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Biolabo Diagnostics Kenza Biolabo Kenza 450 TX

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
ALT (GPT)	U/l	154	123	185	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	135	108	162	13.5	27.0	Tris Buffer Without P5P
Creatinine	mg/dl	4.08	3.26	4.90	0.410	0.820	Jaffe Rate Blanked
	µmol/l	361	289	433	36.0	72.0	
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Triglycerides	mg/dl	257	216	298	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.90	2.44	3.36	0.230	0.460	
Urea	mg/dl	120	102	138	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.0	47.6	64.4	4.20	8.40	
	mmol/l	20.0	17.0	23.0	1.50	3.00	

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Biomerieux Vidas / Mini Vidas / Vidas 3

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Free T4	ng/dl	5.42	4.07	6.77	0.675	1.35	bioMerieux, VIDAS-FT4N Kit
	pg/ml	54.2	40.7	67.7	6.75	13.5	
	pmol/l	69.5	52.1	86.9	8.70	17.4	
PSA Total	ng/ml = µg/l	18.6	14.0	23.2	2.30	4.60	bioMerieux VIDAS TPSA
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.25	1.00	1.50	0.125	0.250	Biomerieux VIDAS TSH
Total T3	ng/dl	197	148	246	24.5	49.0	bioMerieux, VIDAS
	ng/ml	1.97	1.48	2.46	0.245	0.490	
	nmol/l	3.03	2.27	3.79	0.380	0.760	
Total T4	ng/ml	177	133	221	22.0	44.0	bioMerieux, VIDAS
	nmol/l	227	170	284	28.5	57.0	
	µg/dl	17.7	13.3	22.1	2.20	4.40	

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BioSystems A 15

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.12	2.65	3.59	0.235	0.470	Bromocresol Green
	g/l	31.2	26.5	35.9	2.35	4.70	
Alkaline Phosphatase	U/l	439	373	505	33.0	66.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	131	105	157	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.15	4.07	6.23	0.540	1.08	Diazo With Sulphanilic Acid
	µmol/l	88.1	69.6	107	9.45	18.9	
Calcium	mg/dl	11.6	10.4	12.8	0.600	1.20	Arsenazo III
	mmol/l	2.89	2.60	3.18	0.145	0.290	
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.29	6.34	8.24	0.475	0.950	
	mg/dl	272	237	307	17.5	35.0	Cholesterol Oxidase - IDMS
	mmol/l	7.05	6.13	7.97	0.460	0.920	
CK Total	U/l	492	403	581	44.5	89.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.02	3.22	4.82	0.400	0.800	Alkaline picrate no deproteinisation
	µmol/l	356	285	427	35.5	71.0	
	mg/dl	4.01	3.21	4.81	0.400	0.800	Jaffe Rate Blanked
	µmol/l	355	284	426	35.5	71.0	
gamma-GT	U/l	162	138	186	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	270	230	310	20.0	40.0	Glucose Oxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Iron	µg/dl	204	167	241	18.5	37.0	Colorimetric without ppt.
	µmol/l	36.5	29.9	43.1	3.30	6.60	
Magnesium	mg/dl	4.25	3.74	4.76	0.255	0.510	Xylidyl Blue
	mmol/l	1.75	1.54	1.96	0.105	0.210	
Phosphate Inorganic	mg/dl	7.25	6.16	8.34	0.545	1.09	Phosphomolybdate UV
	mmol/l	2.34	1.99	2.69	0.175	0.350	
Protein Total	g/dl	4.75	3.80	5.70	0.475	0.950	Biuret reaction, end point
	g/l	47.5	38.0	57.0	4.75	9.50	
Triglycerides	mg/dl	251	211	291	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.84	2.39	3.29	0.225	0.450	
Urea	mg/dl	117	99.5	135	9.00	18.0	Urease, end point
	mg/dl (BUN)	54.3	46.2	62.4	4.05	8.10	
	mmol/l	19.4	16.5	22.3	1.45	2.90	

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BioSystems A 15

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	122	104	140	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.8	48.3	65.3	4.25	8.50	
	mmol/l	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mg/dl	8.91	7.75	10.1	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.530	0.461	0.599	0.035	0.069	
	mg/dl	9.29	8.08	10.5	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.553	0.481	0.625	0.036	0.072	
	mg/dl	8.92	7.76	10.1	0.590	1.18	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.531	0.462	0.600	0.035	0.069	

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BioSystems A 200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.15	2.68	3.62	0.235	0.470	Bromocresol Green
	g/l	31.5	26.8	36.2	2.35	4.70	
Alkaline Phosphatase	U/l	366	311	421	27.5	55.0	AMP optimised to IFCC
	U/l	452	384	520	34.0	68.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	160	128	192	16.0	32.0	Tris Buffer With P5P
	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	207	176	238	15.5	31.0	Immunoinhibition, EPS substrate
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.80	1.42	2.18	0.190	0.380	Diazo With Sulphanilic Acid
	µmol/l	30.8	24.3	37.3	3.25	6.50	
	mg/dl	1.89	1.49	2.29	0.200	0.400	Dichlorophenyl Diazonium
	µmol/l	32.3	25.5	39.1	3.40	6.80	
Bilirubin Total	mg/dl	4.87	3.85	5.89	0.510	1.02	Diazo With Sulphanilic Acid
	µmol/l	83.2	65.7	101	8.90	17.8	
	mg/dl	4.75	3.75	5.75	0.500	1.00	Dichlorophenyl Diazonium
	µmol/l	81.2	64.1	98.3	8.55	17.1	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.97	2.67	3.27	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
	mmol/l	112	103	121	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	300	261	339	19.5	39.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.77	6.76	8.78	0.505	1.01	
	mg/dl	299	260	338	19.5	39.0	Cholesterol Oxidase - IDMS
	mmol/l	7.75	6.74	8.76	0.505	1.01	
Cholinesterase	U/l	5217	4174	6260	522	1043	Colorimetric - Butyrylthiocholine
CK Total	U/l	527	432	622	47.5	95.0	CK-NAC (IFCC)
Creatinine	mg/dl	3.71	2.97	4.45	0.370	0.740	Alkaline picrate no deproteinisation
	µmol/l	328	262	394	33.0	66.0	
	mg/dl	4.34	3.47	5.21	0.435	0.870	Enzymatic
	µmol/l	384	307	461	38.5	77.0	
	mg/dl	3.66	2.93	4.39	0.365	0.730	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	324	259	389	32.5	65.0	
	mg/dl	3.83	3.06	4.60	0.385	0.770	Jaffe rate blanked comp. (-33umol/l)
	µmol/l	339	271	407	34.0	68.0	
gamma-GT	U/l	159	135	183	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	160	136	184	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	

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BioSystems A 200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Glucose	mg/dl	277	235	319	21.0	42.0	Hexokinase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
HDL - Cholesterol	mg/dl	88.4	75.1	102	6.80	13.6	Direct HDL, Immunoseparation
	mmol/l	2.29	1.95	2.63	0.170	0.340	
Iron	µg/dl	193	158	228	17.5	35.0	Colorimetric without ppt.
	µmol/l	34.6	28.4	40.8	3.10	6.20	
LD (LDH)	U/l	330	281	379	24.5	49.0	L to P, IFCC
	U/l	715	608	822	53.5	107	Lactate to Pyruvate methods
	U/l	703	598	808	52.5	105	P to L, German methods
Phosphate Inorganic	mg/dl	7.41	6.30	8.52	0.555	1.11	Phosphomolybdate UV
	mmol/l	2.39	2.03	2.75	0.180	0.360	
Potassium	mmol/l	5.84	5.37	6.31	0.235	0.470	ISE method - direct
	mmol/l	5.90	5.43	6.37	0.235	0.470	ISE method - indirect
Protein Total	g/dl	4.74	3.79	5.69	0.475	0.950	Biuret reaction, end point
	g/l	47.4	37.9	56.9	4.75	9.50	
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct
	mmol/l	156	148	164	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	3.00	2.52	3.48	0.240	0.480	
	mg/dl	259	218	300	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	260	218	302	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
Urea	mg/dl	115	97.8	132	8.50	17.0	Urease, end point
	mg/dl (BUN)	53.8	45.7	61.9	4.05	8.10	
	mmol/l	19.2	16.3	22.1	1.45	2.90	
	mg/dl	116	98.6	133	8.50	17.0	Urease, kinetic
	mg/dl (BUN)	54.0	45.9	62.1	4.05	8.10	
	mmol/l	19.3	16.4	22.2	1.45	2.90	
Uric Acid (Urate)	mg/dl	9.53	8.29	10.8	0.635	1.27	Uricase perox. no ascorb. ox.
	mmol/l	0.567	0.493	0.641	0.037	0.074	
	mg/dl	9.45	8.22	10.7	0.625	1.25	Uricase Perox. with ascorb. ox
	mmol/l	0.562	0.489	0.635	0.037	0.073	
	mg/dl	9.45	8.22	10.7	0.625	1.25	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.562	0.489	0.635	0.037	0.073	

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BioSystems A 25

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.07	2.61	3.53	0.230	0.460	Bromocresol Green
	g/l	30.7	26.1	35.3	2.30	4.60	
Alkaline Phosphatase	U/l	359	305	413	27.0	54.0	AMP optimised to IFCC
ALT (GPT)	U/l	154	123	185	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	134	107	161	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.01	3.96	6.06	0.525	1.05	Diazo With Sulphanilic Acid
	µmol/l	85.7	67.7	104	9.15	18.3	
Calcium	mg/dl	11.7	10.5	12.9	0.600	1.20	Arsenazo III
	mmol/l	2.93	2.64	3.22	0.145	0.290	
Cholesterol	mg/dl	290	252	328	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.51	6.53	8.49	0.490	0.980	
	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.39	6.43	8.35	0.480	0.960	
Creatinine	mg/dl	3.99	3.19	4.79	0.400	0.800	Alkaline picrate no deproteinisation
	µmol/l	353	282	424	35.5	71.0	
	mg/dl	4.05	3.24	4.86	0.405	0.810	Jaffe Rate Blanked
	µmol/l	358	286	430	36.0	72.0	
gamma-GT	U/l	158	134	182	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	91.9	78.1	106	7.05	14.1	Direct HDL, Clearance method
	mmol/l	2.38	2.02	2.74	0.180	0.360	
	mg/dl	96.1	81.7	111	7.45	14.9	Direct HDL, PPD
	mmol/l	2.49	2.12	2.86	0.185	0.370	
Protein Total	g/dl	4.92	3.94	5.90	0.490	0.980	Biuret reaction, end point
	g/l	49.2	39.4	59.0	4.90	9.80	
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.91	2.44	3.38	0.235	0.470	
Urea	mg/dl	119	101	137	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.4	47.1	63.7	4.15	8.30	
	mmol/l	19.8	16.8	22.8	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.45	8.22	10.7	0.625	1.25	Uricase perox. no ascorb. ox.
	mmol/l	0.562	0.489	0.635	0.037	0.073	
	mg/dl	9.34	8.13	10.6	0.630	1.26	Uricase Perox. with ascorb. ox
	mmol/l	0.556	0.484	0.628	0.036	0.072	

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BioSystems BTS Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	147	118	176	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Cholesterol	mg/dl	276	240	312	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.16	6.23	8.09	0.465	0.930	
Creatinine	mg/dl	3.88	3.10	4.66	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	343	274	412	34.5	69.0	
	mg/dl	3.77	3.02	4.52	0.375	0.750	Jaffe Rate Blanked
	µmol/l	334	267	401	33.5	67.0	
Glucose	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
LD (LDH)	U/l	661	562	760	49.5	99.0	P to L Scandinavian & Dutch
Protein Total	g/dl	5.17	4.14	6.20	0.515	1.03	Biuret reaction, end point
	g/l	51.7	41.4	62.0	5.15	10.3	
Triglycerides	mg/dl	279	234	324	22.5	45.0	Lipase/GPO-PAP No Correction
	mmol/l	3.15	2.65	3.65	0.250	0.500	
Urea	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase Perox. with ascorb. ox
	mmol/l	0.538	0.468	0.608	0.035	0.070	

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Biotecnica Instruments Wiener BT and CB Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.06	2.60	3.52	0.230	0.460	Bromocresol Green
	g/l	30.6	26.0	35.2	2.30	4.60	
ALT (GPT)	U/l	144	115	173	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	139	111	167	14.0	28.0	Tris Buffer With P5P
	U/l	127	102	152	12.5	25.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.56	1.23	1.89	0.165	0.330	Diazo with Dichloroanaline
	µmol/l	26.7	21.1	32.3	2.80	5.60	
Bilirubin Total	mg/dl	4.81	3.80	5.82	0.505	1.01	Diazo With Dichloroaniline
	µmol/l	82.3	65.0	99.6	8.65	17.3	
	mg/dl	4.49	3.55	5.43	0.470	0.940	Diazo With Sulphanilic Acid
	µmol/l	76.8	60.7	92.9	8.05	16.1	
	mg/dl	4.69	3.71	5.67	0.490	0.980	Dichlorophenyl Diazonium
	µmol/l	80.2	63.4	97.0	8.40	16.8	
Calcium	mg/dl	11.7	10.5	12.9	0.600	1.20	Arsenazo III
	mmol/l	2.93	2.64	3.22	0.145	0.290	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.02	2.72	3.32	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	Colorimetric
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.39	6.43	8.35	0.480	0.960	
	mg/dl	293	255	331	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.60	6.61	8.59	0.495	0.990	
Cholinesterase	U/l	5051	4041	6061	505	1010	Colorimetric - Butyrylthiocholine
CK Total	U/l	544	446	642	49.0	98.0	CK-NAC (IFCC)
	U/l	571	468	674	51.5	103	CK-NAC substrate start (DGKC)
Creatinine	mg/dl	3.92	3.14	4.70	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	347	278	416	34.5	69.0	
	mg/dl	4.15	3.32	4.98	0.415	0.830	Enzymatic
	µmol/l	367	294	440	36.5	73.0	
	mg/dl	3.92	3.14	4.70	0.390	0.780	Jaffe Rate Blanked
	µmol/l	347	278	416	34.5	69.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	378	302	454	38.0	76.0	
gamma-GT	U/l	153	130	176	11.5	23.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	99.2	84.3	114	7.40	14.8	Direct HDL, Immunoseparation
	mmol/l	2.57	2.18	2.96	0.195	0.390	

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RANDOX

Biotecnica Instruments Wiener BT and CB Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Iron	µg/dl	207	170	244	18.5	37.0	Colorimetric without ppt.
	µmol/l	37.1	30.4	43.8	3.35	6.70	
LD (LDH)	U/l	615	523	707	46.0	92.0	P to L, German methods
	U/l	685	582	788	51.5	103	P to L, SFBC
Magnesium	mg/dl	4.18	3.68	4.68	0.250	0.500	Calmagite
	mmol/l	1.72	1.51	1.93	0.105	0.210	
	mg/dl	4.03	3.55	4.51	0.240	0.480	Enzymatic
	mmol/l	1.66	1.46	1.86	0.100	0.200	
Phosphate Inorganic	mg/dl	7.16	6.09	8.23	0.535	1.07	Phosphomolybdate UV
	mmol/l	2.31	1.96	2.66	0.175	0.350	
Potassium	mmol/l	6.09	5.60	6.58	0.245	0.490	ISE method - direct
	mmol/l	5.84	5.37	6.31	0.235	0.470	ISE method - indirect
Protein Total	g/dl	4.87	3.90	5.84	0.485	0.970	Biuret reaction, end point
	g/l	48.7	39.0	58.4	4.85	9.70	
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct
	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
Urea	mg/dl	122	104	140	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.8	48.3	65.3	4.25	8.50	
	mmol/l	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase perox. no ascorb. ox.
	mmol/l	0.534	0.465	0.603	0.035	0.069	
	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase Perox. with ascorb. ox
	mmol/l	0.546	0.475	0.617	0.036	0.071	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.533	0.464	0.602	0.035	0.069	

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RANDOX

BSI 2000/3000 Evolution

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.38	6.42	8.34	0.480	0.960	
	mg/dl	277	241	313	18.0	36.0	Cholesterol Oxidase - IDMS
	mmol/l	7.17	6.24	8.10	0.465	0.930	
Glucose	mg/dl	261	222	300	19.5	39.0	Glucose Oxidase
	mmol/l	14.5	12.3	16.7	1.10	2.20	

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RANDOX

Caretium XI-921 / XI-931

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	6.05	5.45	6.65	0.300	0.600	Ion Selective Electrode
	mmol/l	1.51	1.36	1.66	0.075	0.150	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE Direct
Potassium	mmol/l	5.98	5.50	6.46	0.240	0.480	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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RANDOX

Convergent Technologies ISE series
Convergys ISE Auto

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.77	5.19	6.35	0.290	0.580	Ion Selective Electrode
	mmol/l	1.44	1.30	1.58	0.070	0.140	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE Direct
Potassium	mmol/l	5.91	5.44	6.38	0.235	0.470	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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RANDOX

Cormay Accent Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	2.97	2.52	3.42	0.225	0.450	Bromocresol Green
	g/l	29.7	25.2	34.2	2.25	4.50	
Alkaline Phosphatase	U/l	365	310	420	27.5	55.0	AMP optimised to IFCC
ALT (GPT)	U/l	151	121	181	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	133	106	160	13.5	27.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.93	1.52	2.34	0.205	0.410	Oxidation to Biliverdin/Vanadate
	µmol/l	33.0	26.1	39.9	3.45	6.90	
Bilirubin Total	mg/dl	5.59	4.42	6.76	0.585	1.17	Oxidation to Biliverdin/Vanadate
	µmol/l	95.6	75.5	116	10.2	20.4	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.03	2.73	3.33	0.150	0.300	
Cholesterol	mg/dl	282	245	319	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.31	6.36	8.26	0.475	0.950	
CK Total	U/l	534	438	630	48.0	96.0	CK-NAC (IFCC)
Creatinine	mg/dl	3.89	3.11	4.67	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	344	275	413	34.5	69.0	
	mg/dl	4.28	3.42	5.14	0.430	0.860	Enzymatic
	µmol/l	379	303	455	38.0	76.0	
gamma-GT	U/l	167	142	192	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Iron	µg/dl	210	172	248	19.0	38.0	Colorimetric without ppt.
	µmol/l	37.6	30.8	44.4	3.40	6.80	
Phosphate Inorganic	mg/dl	7.07	6.01	8.13	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.28	1.94	2.62	0.170	0.340	
Protein Total	g/dl	4.91	3.93	5.89	0.490	0.980	Biuret reaction, end point
	g/l	49.1	39.3	58.9	4.90	9.80	
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	
Uric Acid (Urate)	mg/dl	8.74	7.60	9.88	0.570	1.14	Uricase Perox. with ascorb. ox
	mmol/l	0.520	0.452	0.588	0.034	0.068	

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RANDOX

Cornley AFT 300/500

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	116	107	125	4.50	9.00	ISE Direct
Potassium	mmol/l	6.00	5.52	6.48	0.240	0.480	ISE method - direct
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct

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RANDOX

Cornley K-Lite 8 Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
Potassium	mmol/l	6.05	5.57	6.53	0.240	0.480	ISE method - direct
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct

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RANDOX

DIALAB Autolyser Autolyser

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
Creatinine	mg/dl	3.91	3.13	4.69	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	346	277	415	34.5	69.0	
	mg/dl	4.18	3.34	5.02	0.420	0.840	Jaffe Rate Blanked
	µmol/l	370	296	444	37.0	74.0	
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Triglycerides	mg/dl	255	214	296	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.88	2.42	3.34	0.230	0.460	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	

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RANDOX

Diamond Diagnostics ISE Lyte series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Potassium	mmol/l	6.12	5.63	6.61	0.245	0.490	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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RANDOX

DiaSys BioMajesty JCA-BM6010/C

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	130	104	156	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.78	3.78	5.78	0.500	1.00	Diazo With Dichloroaniline
	µmol/l	81.7	64.5	98.9	8.60	17.2	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Phosphonazo
	mmol/l	2.98	2.68	3.28	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	291	253	329	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.54	6.56	8.52	0.490	0.980	
CK Total	U/l	536	440	632	48.0	96.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.03	3.22	4.84	0.405	0.810	Alkaline picrate no deproteinisation
	µmol/l	357	286	428	35.5	71.0	
	mg/dl	4.40	3.52	5.28	0.440	0.880	Enzymatic
	µmol/l	389	311	467	39.0	78.0	
	mg/dl	3.92	3.14	4.70	0.390	0.780	Jaffe Rate Blanked
	µmol/l	347	278	416	34.5	69.0	
gamma-GT	U/l	159	135	183	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	270	230	310	20.0	40.0	Hexokinase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
HDL - Cholesterol	mg/dl	108	91.8	124	8.00	16.0	Direct HDL, Immunoseparation
	mmol/l	2.81	2.39	3.23	0.210	0.420	
LD (LDH)	U/l	360	306	414	27.0	54.0	L to P, IFCC
Potassium	mmol/l	6.08	5.59	6.57	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.74	3.79	5.69	0.475	0.950	Biuret reaction, end point
	g/l	47.4	37.9	56.9	4.75	9.50	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	252	212	292	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.85	2.39	3.31	0.230	0.460	
Urea	mg/dl	128	109	147	9.50	19.0	Urease, end point
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	
	mg/dl	131	111	151	10.0	20.0	Urease, kinetic
	mg/dl (BUN)	61.0	51.9	70.1	4.55	9.10	
	mmol/l	21.8	18.5	25.1	1.65	3.30	

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DiaSys BioMajesty JCA-BM6010/C

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.11	7.93	10.3	0.595	1.19	Uricase Perox. with ascorb. ox
	mmol/l	0.542	0.472	0.612	0.035	0.070	

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RANDOX

DiaSys Respons

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.14	2.67	3.61	0.235	0.470	Bromocresol Green
	g/l	31.4	26.7	36.1	2.35	4.70	
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer With P5P
	U/l	147	118	176	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	130	104	156	13.0	26.0	Tris Buffer With P5P
	U/l	129	103	155	13.0	26.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.61	1.27	1.95	0.170	0.340	Diazo with Dichloroanaline
	µmol/l	27.5	21.7	33.3	2.90	5.80	
	mg/dl	1.59	1.26	1.92	0.165	0.330	Dichlorophenyl Diazonium
	µmol/l	27.2	21.5	32.9	2.85	5.70	
Bilirubin Total	mg/dl	5.15	4.07	6.23	0.540	1.08	Diazo With Dichloroaniline
	µmol/l	88.1	69.6	107	9.45	18.9	
Calcium	mg/dl	11.7	10.5	12.9	0.600	1.20	Phosphonazo
	mmol/l	2.91	2.62	3.20	0.145	0.290	
Cholesterol	mg/dl	287	250	324	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.43	6.46	8.40	0.485	0.970	
Creatinine	mg/dl	3.79	3.03	4.55	0.380	0.760	Alkaline picrate no deproteinisation
	µmol/l	335	268	402	33.5	67.0	
	mg/dl	4.33	3.46	5.20	0.435	0.870	Enzymatic
	µmol/l	383	306	460	38.5	77.0	
gamma-GT	U/l	162	138	186	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Dehydrogenase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
	mg/dl	268	228	308	20.0	40.0	Glucose Oxidase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
Iron	µg/dl	234	192	276	21.0	42.0	Colorimetric without ppt.
	µmol/l	41.8	34.3	49.3	3.75	7.50	
Phosphate Inorganic	mg/dl	7.10	6.04	8.16	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.29	1.95	2.63	0.170	0.340	
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.91	2.44	3.38	0.235	0.470	
Urea	mg/dl	132	112	152	10.0	20.0	Urease, end point
	mg/dl (BUN)	61.6	52.4	70.8	4.60	9.20	
	mmol/l	22.0	18.7	25.3	1.65	3.30	
	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	

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RANDOX

DiaSys Respons

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.31	8.10	10.5	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.554	0.482	0.626	0.036	0.072	
	mg/dl	8.94	7.78	10.1	0.580	1.16	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.532	0.463	0.601	0.035	0.069	

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Diatron Pictus 400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	139	111	167	14.0	28.0	Tris Buffer Without P5P
Cholesterol	mg/dl	273	238	308	17.5	35.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.08	6.16	8.00	0.460	0.920	
Glucose	mg/dl	286	243	329	21.5	43.0	Glucose Oxidase
	mmol/l	15.9	13.5	18.3	1.20	2.40	
Triglycerides	mg/dl	271	228	314	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
Urea	mg/dl	123	105	141	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	57.4	48.8	66.0	4.30	8.60	
	mmol/l	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.39	8.17	10.6	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.559	0.486	0.632	0.037	0.073	

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Diatron Pictus 500

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.07	2.61	3.53	0.230	0.460	Bromocresol Green
	g/l	30.7	26.1	35.3	2.30	4.60	
ALT (GPT)	U/l	160	128	192	16.0	32.0	Tris Buffer Without P5P
AST (GOT)	U/l	135	108	162	13.5	27.0	Tris Buffer Without P5P
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.03	2.73	3.33	0.150	0.300	
Cholesterol	mg/dl	267	232	302	17.5	35.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	6.91	6.01	7.81	0.450	0.900	
Creatinine	mg/dl	4.01	3.21	4.81	0.400	0.800	Jaffe Rate Blanked
	µmol/l	355	284	426	35.5	71.0	
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Phosphate Inorganic	mg/dl	6.54	5.56	7.52	0.490	0.980	Phosphomolybdate UV
	mmol/l	2.11	1.79	2.43	0.160	0.320	
Protein Total	g/dl	4.54	3.63	5.45	0.455	0.910	Biuret reaction, end point
	g/l	45.4	36.3	54.5	4.55	9.10	
Triglycerides	mg/dl	263	221	305	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	

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Diatron Pictus 700

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.02	2.57	3.47	0.225	0.450	Bromocresol Green
	g/l	30.2	25.7	34.7	2.25	4.50	
ALT (GPT)	U/l	153	122	184	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Cholesterol	mg/dl	293	255	331	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.58	6.59	8.57	0.495	0.990	
Creatinine	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe rate comp. (-18umol/l)
	µmol/l	350	280	420	35.0	70.0	
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Protein Total	g/dl	4.69	3.75	5.63	0.470	0.940	Biuret reaction, end point
	g/l	46.9	37.5	56.3	4.70	9.40	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
Urea	mg/dl	125	106	144	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.89	7.73	10.1	0.605	1.21	Uricase perox. no ascorb. ox.
	mmol/l	0.529	0.460	0.598	0.035	0.069	

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Diestro 103 Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.05	4.55	5.55	0.250	0.500	Ion Selective Electrode
	mmol/l	1.26	1.13	1.39	0.065	0.130	
Chloride	mmol/l	108	99.4	117	4.50	9.00	ISE Direct
Potassium	mmol/l	5.68	5.23	6.13	0.225	0.450	ISE method - direct
Sodium	mmol/l	149	142	156	3.50	7.00	ISE method - direct

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RANDOX

DIRUI CS Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.08	2.62	3.54	0.230	0.460	Bromocresol Green
	g/l	30.8	26.2	35.4	2.30	4.60	
Alkaline Phosphatase	U/l	336	286	386	25.0	50.0	AMP optimised to IFCC
ALT (GPT)	U/l	151	121	181	15.0	30.0	Colorimetric
	U/l	154	123	185	15.5	31.0	Tris Buffer With P5P
	U/l	154	123	185	15.5	31.0	Tris Buffer Without P5P
Amylase Total	U/l	267	227	307	20.0	40.0	Human CNPG3 (IFCC)
AST (GOT)	U/l	131	105	157	13.0	26.0	Colorimetric
	U/l	133	106	160	13.5	27.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	15.6	12.4	18.8	1.60	3.20	Enzymatic
Bilirubin Total	mg/dl	5.02	3.97	6.07	0.525	1.05	Diazo With Dichloroaniline
	µmol/l	85.8	67.8	104	9.10	18.2	
	mg/dl	5.17	4.08	6.26	0.545	1.09	Diazo With Sulphanilic Acid
	µmol/l	88.3	69.8	107	9.35	18.7	
	mg/dl	5.55	4.38	6.72	0.585	1.17	Oxidation to Biliverdin/Vanadate
	µmol/l	94.8	74.9	115	10.1	20.2	
Calcium	mg/dl	12.2	11.0	13.4	0.600	1.20	Arsenazo III
	mmol/l	3.04	2.74	3.34	0.150	0.300	
	mg/dl	11.9	10.7	13.1	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.96	2.66	3.26	0.150	0.300	
Chloride	mmol/l	106	97.5	115	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	294	256	332	19.0	38.0	Cholesterol Dehydrogenase
	mmol/l	7.61	6.62	8.60	0.495	0.990	
	mg/dl	282	245	319	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.31	6.36	8.26	0.475	0.950	
	mg/dl	282	245	319	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.31	6.36	8.26	0.475	0.950	
CK Total	U/l	554	454	654	50.0	100	CK-NAC (IFCC)
Creatinine	mg/dl	3.95	3.16	4.74	0.395	0.790	Alkaline picrate no deproteinisation
	µmol/l	350	280	420	35.0	70.0	
	mg/dl	4.06	3.25	4.87	0.405	0.810	Alkaline Picrate With Deproteinisation
	µmol/l	359	287	431	36.0	72.0	
	mg/dl	4.26	3.41	5.11	0.425	0.850	Enzymatic
	µmol/l	377	302	452	37.5	75.0	
	mg/dl	3.86	3.09	4.63	0.385	0.770	Jaffe Rate Blanked
	µmol/l	342	274	410	34.0	68.0	
	mg/dl	4.26	3.41	5.11	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	377	302	452	37.5	75.0	

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DIRUI CS Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
gamma-GT	U/l	164	139	189	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	163	139	187	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
	mg/dl	281	239	323	21.0	42.0	Hexokinase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
Iron	µg/dl	230	189	271	20.5	41.0	Colorimetric with ppt.
	µmol/l	41.2	33.8	48.6	3.70	7.40	
	µg/dl	224	184	264	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.1	32.9	47.3	3.60	7.20	
Lactate	mg/dl	46.8	38.4	55.2	4.20	8.40	Colorimetric - Lactate oxidase
	mmol/l	5.20	4.26	6.14	0.470	0.940	
LD (LDH)	U/l	340	289	391	25.5	51.0	L to P, IFCC
	U/l	344	292	396	26.0	52.0	Lactate to Pyruvate methods
	U/l	692	588	796	52.0	104	P to L, German methods
Potassium	mmol/l	6.06	5.58	6.54	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.72	3.78	5.66	0.470	0.940	Biuret reaction, end point
	g/l	47.2	37.8	56.6	4.70	9.40	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	264	222	306	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
	mg/dl	269	226	312	21.5	43.0	Lipase/Glycerol Dehydrogenase
	mmol/l	3.04	2.55	3.53	0.245	0.490	
	mg/dl	264	222	306	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
	mg/dl	260	218	302	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.03	7.86	10.2	0.585	1.17	Uricase Perox. with ascorb. ox
	mmol/l	0.537	0.467	0.607	0.035	0.070	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.533	0.464	0.602	0.035	0.069	

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EBA 200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Glucose	mg/dl	290	247	333	21.5	43.0	Glucose Oxidase
	mmol/l	16.1	13.7	18.5	1.20	2.40	
Triglycerides	mg/dl	271	228	314	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
Uric Acid (Urate)	mg/dl	9.16	7.97	10.4	0.620	1.24	Uricase perox. no ascorb. ox.
	mmol/l	0.545	0.474	0.616	0.036	0.071	

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Edif Instruments Sphera

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	2.94	2.50	3.38	0.220	0.440	Bromocresol Green
	g/l	29.4	25.0	33.8	2.20	4.40	
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	140	112	168	14.0	28.0	Tris Buffer Without P5P
Glucose	mg/dl	268	228	308	20.0	40.0	Glucose Oxidase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
Protein Total	g/dl	4.64	3.71	5.57	0.465	0.930	Biuret reaction, end point
	g/l	46.4	37.1	55.7	4.65	9.30	
Triglycerides	mg/dl	262	220	304	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
Urea	mg/dl	112	95.2	129	8.50	17.0	Urease, kinetic
	mg/dl (BUN)	52.4	44.5	60.3	3.95	7.90	
	mmol/l	18.7	15.9	21.5	1.40	2.80	
Uric Acid (Urate)	mg/dl	9.29	8.08	10.5	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.553	0.481	0.625	0.036	0.072	

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EGY Chem Bioelab Automated Chemistry Analysers

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.12	2.65	3.59	0.235	0.470	Bromocresol Green
	g/l	31.2	26.5	35.9	2.35	4.70	
Alkaline Phosphatase	U/l	332	282	382	25.0	50.0	AMP non-optimised
ALT (GPT)	U/l	151	121	181	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	131	105	157	13.0	26.0	Tris Buffer With P5P
	U/l	130	104	156	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.42	4.28	6.56	0.570	1.14	Diazo With Dichloroaniline
	µmol/l	92.7	73.2	112	9.65	19.3	
	mg/dl	5.46	4.31	6.61	0.575	1.15	Oxidation to Biliverdin/Vanadate
	µmol/l	93.3	73.7	113	9.85	19.7	
Calcium	mg/dl	11.6	10.4	12.8	0.600	1.20	Arsenazo III
	mmol/l	2.89	2.60	3.18	0.145	0.290	
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.33	6.38	8.28	0.475	0.950	
	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.28	6.33	8.23	0.475	0.950	
CK Total	U/l	561	460	662	50.5	101	CK-NAC (IFCC)
Creatinine	mg/dl	3.88	3.10	4.66	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	343	274	412	34.5	69.0	
	mg/dl	3.99	3.19	4.79	0.400	0.800	Alkaline Picrate With Deproteinisation
	µmol/l	353	282	424	35.5	71.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	Enzymatic
	µmol/l	378	302	454	38.0	76.0	
gamma-GT	U/l	156	133	179	11.5	23.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Phosphate Inorganic	mg/dl	7.22	6.14	8.30	0.540	1.08	Phosphomolybdate UV
	mmol/l	2.33	1.98	2.68	0.175	0.350	
Protein Total	g/dl	4.91	3.93	5.89	0.490	0.980	Biuret reaction, end point
	g/l	49.1	39.3	58.9	4.90	9.80	
Triglycerides	mg/dl	264	222	306	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
	mg/dl	261	219	303	21.0	42.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	264	222	306	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	

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EGY Chem Bioelab Automated Chemistry Analysers

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
Urea	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.85	8.57	11.1	0.625	1.25	Uricase perox. no ascorb. ox.
	mmol/l	0.586	0.510	0.662	0.038	0.076	
	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.535	0.465	0.605	0.035	0.070	

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RANDOX

ELITech Selectra Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.06	2.60	3.52	0.230	0.460	Bromocresol Green
	g/l	30.6	26.0	35.2	2.30	4.60	
Alkaline Phosphatase	U/l	452	384	520	34.0	68.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
Amylase Total	U/l	309	263	355	23.0	46.0	Human CNPG3 (IFCC)
AST (GOT)	U/l	134	107	161	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.73	3.74	5.72	0.495	0.990	Diazo With Sulphanilic Acid
	µmol/l	80.8	63.8	97.8	8.50	17.0	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.97	2.67	3.27	0.150	0.300	
Cholesterol	mg/dl	289	251	327	19.0	38.0	Cholesterol Dehydrogenase
	mmol/l	7.49	6.52	8.46	0.485	0.970	
	mg/dl	279	243	315	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.22	6.28	8.16	0.470	0.940	
	mg/dl	289	251	327	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.48	6.51	8.45	0.485	0.970	
CK Total	U/l	548	449	647	49.5	99.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.38	3.50	5.26	0.440	0.880	Enzymatic
	µmol/l	388	310	466	39.0	78.0	
gamma-GT	U/l	165	140	190	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	270	230	310	20.0	40.0	Glucose Oxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
	mg/dl	274	233	315	20.5	41.0	Hexokinase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
Iron	µg/dl	228	187	269	20.5	41.0	Colorimetric with ppt.
	µmol/l	40.7	33.4	48.0	3.65	7.30	
	µg/dl	213	175	251	19.0	38.0	Colorimetric without ppt.
	µmol/l	38.1	31.2	45.0	3.45	6.90	
LD (LDH)	U/l	343	292	394	25.5	51.0	L to P, IFCC
Magnesium	mg/dl	4.01	3.53	4.49	0.240	0.480	Xylidyl Blue
	mmol/l	1.65	1.45	1.85	0.100	0.200	
Phosphate Inorganic	mg/dl	7.41	6.30	8.52	0.555	1.11	Phosphomolybdate Enzymatic
	mmol/l	2.39	2.03	2.75	0.180	0.360	
	mg/dl	7.07	6.01	8.13	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.28	1.94	2.62	0.170	0.340	
Protein Total	g/dl	4.85	3.88	5.82	0.485	0.970	Biuret reaction, end point
	g/l	48.5	38.8	58.2	4.85	9.70	

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RANDOX

ELITech Selectra Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Triglycerides	mg/dl	255	214	296	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.88	2.42	3.34	0.230	0.460	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.65	8.40	10.9	0.625	1.25	Uricase perox. no ascorb. ox.
	mmol/l	0.574	0.499	0.649	0.038	0.075	
	mg/dl	9.31	8.10	10.5	0.595	1.19	Uricase Perox. with ascorb. ox
	mmol/l	0.554	0.482	0.626	0.036	0.072	
	mg/dl	9.53	8.29	10.8	0.635	1.27	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.567	0.493	0.641	0.037	0.074	

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RANDOX

Erba Chem EC-5/EC-7

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	2.98	2.53	3.43	0.225	0.450	Bromocresol Green
	g/l	29.8	25.3	34.3	2.25	4.50	
ALT (GPT)	U/l	140	112	168	14.0	28.0	Tris Buffer Without P5P
AST (GOT)	U/l	127	102	152	12.5	25.0	Tris Buffer Without P5P
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Arsenazo III
	mmol/l	2.95	2.66	3.24	0.145	0.290	
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.27	6.32	8.22	0.475	0.950	
Creatinine	mg/dl	3.75	3.00	4.50	0.375	0.750	Alkaline picrate no deproteinisation
	µmol/l	332	266	398	33.0	66.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
Glucose	mg/dl	283	241	325	21.0	42.0	Glucose Oxidase
	mmol/l	15.7	13.3	18.1	1.20	2.40	
Phosphate Inorganic	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate UV
	mmol/l	2.26	1.92	2.60	0.170	0.340	
Protein Total	g/dl	4.90	3.92	5.88	0.490	0.980	Biuret reaction, end point
	g/l	49.0	39.2	58.8	4.90	9.80	
Triglycerides	mg/dl	243	204	282	19.5	39.0	Lipase/GPO-PAP No Correction
	mmol/l	2.75	2.31	3.19	0.220	0.440	
Urea	mg/dl	125	106	144	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.08	7.90	10.3	0.610	1.22	Uricase Perox. with ascorb. ox
	mmol/l	0.540	0.470	0.610	0.035	0.070	

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RANDOX

Erba EM Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.22	2.74	3.70	0.240	0.480	Bromocresol Green
	g/l	32.2	27.4	37.0	2.40	4.80	
Alkaline Phosphatase	U/l	347	295	399	26.0	52.0	AMP non-optimised
ALT (GPT)	U/l	147	118	176	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	131	105	157	13.0	26.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.91	1.51	2.31	0.200	0.400	Diazo With Sulphanilic Acid
	µmol/l	32.7	25.8	39.6	3.45	6.90	
Bilirubin Total	mg/dl	5.21	4.12	6.30	0.545	1.09	Diazo With Sulphanilic Acid
	µmol/l	89.1	70.4	108	9.45	18.9	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	2.99	2.69	3.29	0.150	0.300	
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.33	6.38	8.28	0.475	0.950	
	mg/dl	278	242	314	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.21	6.27	8.15	0.470	0.940	
	mg/dl	280	244	316	18.0	36.0	Cholesterol Oxidase - IDMS
	mmol/l	7.24	6.30	8.18	0.470	0.940	
Creatinine	mg/dl	4.07	3.26	4.88	0.405	0.810	Alkaline picrate no deproteinisation
	µmol/l	360	288	432	36.0	72.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	Enzymatic
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.17	3.34	5.00	0.415	0.830	Jaffe Rate Blanked
	µmol/l	369	295	443	37.0	74.0	
gamma-GT	U/l	158	134	182	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	169	144	194	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	303	258	348	22.5	45.0	Glucose Dehydrogenase
	mmol/l	16.8	14.3	19.3	1.25	2.50	
	mg/dl	288	245	331	21.5	43.0	Glucose Oxidase
	mmol/l	16.0	13.6	18.4	1.20	2.40	
LD (LDH)	U/l	728	619	837	54.5	109	P to L, German methods
Lipase	U/l	74	59	89	7.50	15.0	Other Colorimetric
Phosphate Inorganic	mg/dl	7.19	6.11	8.27	0.540	1.08	Phosphomolybdate Enzymatic
	mmol/l	2.32	1.97	2.67	0.175	0.350	
	mg/dl	7.07	6.01	8.13	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.28	1.94	2.62	0.170	0.340	
Protein Total	g/dl	4.97	3.98	5.96	0.495	0.990	Biuret reaction, end point
	g/l	49.7	39.8	59.6	4.95	9.90	

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Erba EM Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Triglycerides	mg/dl	251	211	291	20.0	40.0	Lipase/GK UV. no correction
	mmol/l	2.84	2.39	3.29	0.225	0.450	
	mg/dl	256	215	297	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.89	2.43	3.35	0.230	0.460	
	mg/dl	260	218	302	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
Urea	mg/dl	132	112	152	10.0	20.0	Urease, end point
	mg/dl (BUN)	61.6	52.4	70.8	4.60	9.20	
	mmol/l	22.0	18.7	25.3	1.65	3.30	
	mg/dl	130	111	149	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.5	51.4	69.6	4.55	9.10	
	mmol/l	21.6	18.4	24.8	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.45	8.22	10.7	0.625	1.25	Uricase perox. no ascorb. ox.
	mmol/l	0.562	0.489	0.635	0.037	0.073	
	mg/dl	9.13	7.94	10.3	0.585	1.17	Uricase Perox. with ascorb. ox
	mmol/l	0.543	0.472	0.614	0.036	0.071	
	mg/dl	9.46	8.23	10.7	0.620	1.24	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.563	0.490	0.636	0.037	0.073	

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Erba Lyte ISE Electrolyte series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Bicarbonate	mmol/l	14.3	11.3	17.3	1.50	3.00	Manometric
Calcium Ionised	mg/dl	6.33	5.70	6.96	0.315	0.630	Ion Selective Electrode
	mmol/l	1.58	1.42	1.74	0.080	0.160	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
	mmol/l	114	105	123	4.50	9.00	ISE Indirect
Potassium	mmol/l	5.92	5.45	6.39	0.235	0.470	ISE method - direct
	mmol/l	6.01	5.53	6.49	0.240	0.480	ISE method - indirect
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct
	mmol/l	155	147	163	4.00	8.00	ISE method - indirect

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RANDOX

Erba XL Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
Alkaline Phosphatase	U/l	348	296	400	26.0	52.0	AMP non-optimised
	U/l	362	308	416	27.0	54.0	AMP optimised to IFCC
ALT (GPT)	U/l	147	118	176	14.5	29.0	Beckman Mod. IFCC Ref. without P5P
	U/l	150	120	180	15.0	30.0	Tris Buffer With P5P
	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	131	105	157	13.0	26.0	Beckman Mod. IFCC Ref. without P5P
	U/l	138	110	166	14.0	28.0	Tris Buffer With P5P
	U/l	133	106	160	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.27	4.16	6.38	0.555	1.11	Diazo With Dichloroaniline
	µmol/l	90.1	71.2	109	9.45	18.9	
	mg/dl	5.42	4.28	6.56	0.570	1.14	Diazo With Sulphanilic Acid
	µmol/l	92.7	73.2	112	9.65	19.3	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.01	2.71	3.31	0.150	0.300	
	mg/dl	11.9	10.7	13.1	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.96	2.66	3.26	0.150	0.300	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE Direct
Cholesterol	mg/dl	286	249	323	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.42	6.46	8.38	0.480	0.960	
	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.28	6.33	8.23	0.475	0.950	
	mg/dl	290	252	328	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.50	6.53	8.47	0.485	0.970	
CK Total	U/l	548	449	647	49.5	99.0	CK-NAC (IFCC)
	U/l	549	450	648	49.5	99.0	CK-NAC serum start (DGKC)
	U/l	516	423	609	46.5	93.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	3.85	3.08	4.62	0.385	0.770	Alkaline picrate no deproteinisation
	µmol/l	341	273	409	34.0	68.0	
	mg/dl	3.94	3.15	4.73	0.395	0.790	Alkaline Picrate With Deproteinisation
	µmol/l	349	279	419	35.0	70.0	
	mg/dl	4.16	3.33	4.99	0.415	0.830	Enzymatic
	µmol/l	368	294	442	37.0	74.0	
	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe Rate Blanked
	µmol/l	350	280	420	35.0	70.0	
	mg/dl	3.88	3.10	4.66	0.390	0.780	Jaffe rate comp. (-18umol/l)
	µmol/l	343	274	412	34.5	69.0	
gamma-GT	U/l	169	144	194	12.5	25.0	DCL, gamma glut.-3-carb.-4-nitro.

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Erba XL Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
gamma-GT	U/l	167	142	192	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	167	142	192	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	164	139	189	12.5	25.0	Gamma Glutamyl-4-Nitroanilide
Glucose	mg/dl	303	258	348	22.5	45.0	Glucose Dehydrogenase
	mmol/l	16.8	14.3	19.3	1.25	2.50	
	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
	mg/dl	286	243	329	21.5	43.0	Hexokinase
	mmol/l	15.9	13.5	18.3	1.20	2.40	
Iron	µg/dl	218	179	257	19.5	39.0	Colorimetric without ppt.
	µmol/l	39.0	32.0	46.0	3.50	7.00	
LD (LDH)	U/l	345	293	397	26.0	52.0	L to P, IFCC
	U/l	709	603	815	53.0	106	P to L, German methods
Phosphate Inorganic	mg/dl	6.91	5.87	7.95	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.23	1.90	2.56	0.165	0.330	
Potassium	mmol/l	5.89	5.42	6.36	0.235	0.470	ISE method - direct
Protein Total	g/dl	4.90	3.92	5.88	0.490	0.980	Biuret reaction, end point
	g/l	49.0	39.2	58.8	4.90	9.80	
	g/dl	5.01	4.01	6.01	0.500	1.00	Biuret reaction, kinetic
	g/l	50.1	40.1	60.1	5.00	10.0	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct
TIBC	µg/dl	238	188	288	25.0	50.0	FE+UIBC(saturation with iron)
	µmol/l	42.6	33.7	51.5	4.45	8.90	
Triglycerides	mg/dl	267	224	310	21.5	43.0	Lipase/GK UV. no correction
	mmol/l	3.02	2.54	3.50	0.240	0.480	
	mg/dl	259	218	300	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	262	220	304	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
Urea	mg/dl	128	109	147	9.50	19.0	Urease, end point
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	
	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	

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Erba XL Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.34	8.13	10.6	0.630	1.26	Uricase perox. no ascorb. ox.
	mmol/l	0.556	0.484	0.628	0.036	0.072	
	mg/dl	9.68	8.42	10.9	0.610	1.22	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.576	0.501	0.651	0.038	0.075	

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Escweiler Combi Line

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Chloride	mmol/l	107	98.4	116	4.50	9.00	ISE Direct
Potassium	mmol/l	5.87	5.40	6.34	0.235	0.470	ISE method - direct
Sodium	mmol/l	151	143	159	4.00	8.00	ISE method - direct

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.25	4.73	5.77	0.260	0.520	Ion Selective Electrode
	mmol/l	1.31	1.18	1.44	0.065	0.130	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Potassium	mmol/l	6.01	5.53	6.49	0.240	0.480	ISE method - direct
Sodium	mmol/l	153	145	161	4.00	8.00	ISE method - direct

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Fiske Micro Osmometer 210

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	393	314	472	39.5	79.0	Freezing Point Depression

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Fortress Diagnostics Electalyte-500

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium	mg/dl	10.9	9.81	12.0	0.550	1.10	Ion Selective Electrode
	mmol/l	2.72	2.45	2.99	0.135	0.270	
Calcium Ionised	mg/dl	5.77	5.19	6.35	0.290	0.580	Ion Selective Electrode
	mmol/l	1.44	1.30	1.58	0.070	0.140	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Potassium	mmol/l	6.02	5.54	6.50	0.240	0.480	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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Fortress Diagnostics Monarch

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
ALT (GPT)	U/l	155	124	186	15.5	31.0	Tris Buffer With P5P
	U/l	154	123	185	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.09	4.02	6.16	0.535	1.07	Diazo With Sulphanilic Acid
	µmol/l	87.0	68.7	105	9.00	18.0	
	mg/dl	5.71	4.51	6.91	0.600	1.20	Oxidation to Biliverdin/Vanadate
	µmol/l	97.6	77.1	118	10.2	20.4	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	2.99	2.69	3.29	0.150	0.300	
Cholesterol	mg/dl	278	242	314	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.19	6.26	8.12	0.465	0.930	
	mg/dl	290	252	328	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.51	6.53	8.49	0.490	0.980	
CK Total	U/l	538	441	635	48.5	97.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.37	3.50	5.24	0.435	0.870	Enzymatic
	µmol/l	387	310	464	38.5	77.0	
gamma-GT	U/l	157	133	181	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	164	139	189	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	270	230	310	20.0	40.0	Hexokinase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Iron	µg/dl	221	181	261	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.5	32.4	46.6	3.55	7.10	
LD (LDH)	U/l	327	278	376	24.5	49.0	L to P, IFCC
Protein Total	g/dl	4.57	3.66	5.48	0.455	0.910	Biuret reaction, end point
	g/l	45.7	36.6	54.8	4.55	9.10	
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GK UV. no correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.3	47.9	64.7	4.20	8.40	
	mmol/l	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.538	0.468	0.608	0.035	0.070	

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Fortress Diagnostics Monarch

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	8.45	7.35	9.55	0.550	1.10	Uricase Perox. with ascorb. ox
	mmol/l	0.503	0.438	0.568	0.033	0.065	
	mg/dl	8.81	7.66	9.96	0.575	1.15	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.524	0.456	0.592	0.034	0.068	

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Fuji DRI-CHEM Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.60	3.06	4.14	0.270	0.540	Bromocresol Green
	g/l	36.0	30.6	41.4	2.70	5.40	
Alkaline Phosphatase	U/l	306	260	352	23.0	46.0	Fuji Dri-Chem JSCC
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
	mmol/l	113	104	122	4.50	9.00	ISE Indirect
Glucose	mg/dl	259	220	298	19.5	39.0	Glucose Oxidase
	mmol/l	14.4	12.2	16.6	1.10	2.20	
LD (LDH)	U/l	354	301	407	26.5	53.0	Lactate to Pyruvate methods
Potassium	mmol/l	6.00	5.52	6.48	0.240	0.480	ISE method - direct
	mmol/l	6.09	5.60	6.58	0.245	0.490	ISE method - indirect
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
	mmol/l	159	151	167	4.00	8.00	ISE method - indirect

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.13	2.66	3.60	0.235	0.470	Bromocresol Green
	g/l	31.3	26.6	36.0	2.35	4.70	
Alkaline Phosphatase	U/l	466	396	536	35.0	70.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	151	121	181	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	131	105	157	13.0	26.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.75	1.38	2.12	0.185	0.370	Oxidation to Biliverdin/Vanadate
	µmol/l	29.9	23.6	36.2	3.15	6.30	
Bilirubin Total	mg/dl	5.11	4.04	6.18	0.535	1.07	Diazo With Dichloroaniline
	µmol/l	87.3	69.0	106	9.35	18.7	
	mg/dl	5.18	4.09	6.27	0.545	1.09	Oxidation to Biliverdin/Vanadate
	µmol/l	88.5	69.9	107	9.25	18.5	
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Arsenazo III
	mmol/l	2.95	2.66	3.24	0.145	0.290	
Cholesterol	mg/dl	291	253	329	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.53	6.55	8.51	0.490	0.980	
Creatinine	mg/dl	4.60	3.68	5.52	0.460	0.920	Enzymatic
	µmol/l	407	326	488	40.5	81.0	
gamma-GT	U/l	158	134	182	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	152	129	175	11.5	23.0	Gamma glut'3-carb'4-nitro(IFCC)
GLDH	U/l	30	24	36	3.00	6.00	Triethanolamine buffer
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	268	228	308	20.0	40.0	Hexokinase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
HDL - Cholesterol	mg/dl	100	85.0	115	7.50	15.0	Direct HDL, Immunoseparation
	mmol/l	2.59	2.20	2.98	0.195	0.390	
Phosphate Inorganic	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Protein Total	g/dl	4.84	3.87	5.81	0.485	0.970	Biuret reaction, end point
	g/l	48.4	38.7	58.1	4.85	9.70	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.82	7.67	9.97	0.575	1.15	Uricase perox. no ascorb. ox.
	mmol/l	0.525	0.457	0.593	0.034	0.068	

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Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.33	8.12	10.5	0.585	1.17	Uricase Perox. with ascorb. ox
	mmol/l	0.555	0.483	0.627	0.036	0.072	
	mg/dl	9.43	8.20	10.7	0.635	1.27	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.561	0.488	0.634	0.037	0.073	

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Genius /Genrui GE Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	5.82	5.35	6.29	0.235	0.470	ISE method - direct
Sodium	mmol/l	152	144	160	4.00	8.00	ISE method - direct

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Gesan Chem 200/300/400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.38	2.87	3.89	0.255	0.510	Bromocresol Green
	g/l	33.8	28.7	38.9	2.55	5.10	
ALT (GPT)	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
AST (GOT)	U/l	128	102	154	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.00	3.95	6.05	0.525	1.05	Diazo With Sulphanilic Acid
	µmol/l	85.4	67.5	103	8.80	17.6	
Cholesterol	mg/dl	299	260	338	19.5	39.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.75	6.74	8.76	0.505	1.01	
Glucose	mg/dl	288	245	331	21.5	43.0	Glucose Oxidase
	mmol/l	16.0	13.6	18.4	1.20	2.40	
Protein Total	g/dl	5.22	4.18	6.26	0.520	1.04	Biuret reaction, end point
	g/l	52.2	41.8	62.6	5.20	10.4	

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GeTein Biotech Getein CM400 Clinical Chemistry Analyser

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.12	2.65	3.59	0.235	0.470	Bromocresol Green
	g/l	31.2	26.5	35.9	2.35	4.70	
AST (GOT)	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.96	2.66	3.26	0.150	0.300	
Creatinine	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe Rate Blanked
	µmol/l	350	280	420	35.0	70.0	
Glucose	mg/dl	285	242	328	21.5	43.0	Glucose Oxidase
	mmol/l	15.8	13.4	18.2	1.20	2.40	
Iron	µg/dl	209	171	247	19.0	38.0	Colorimetric without ppt.
	µmol/l	37.4	30.7	44.1	3.35	6.70	
Protein Total	g/dl	4.72	3.78	5.66	0.470	0.940	Biuret reaction, end point
	g/l	47.2	37.8	56.6	4.70	9.40	

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RANDOX

Gonotec Osmomat 3000 Basic

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	389	311	467	39.0	78.0	Freezing Point Depression

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Hitachi High-Tech Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.08	2.62	3.54	0.230	0.460	Bromocresol Green
	g/l	30.8	26.2	35.4	2.30	4.60	
Alkaline Phosphatase	U/l	537	456	618	40.5	81.0	Colorimetric
ALT (GPT)	U/l	162	130	194	16.0	32.0	Colorimetric
	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	137	110	164	13.5	27.0	Colorimetric
	U/l	134	107	161	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.98	3.93	6.03	0.525	1.05	Diazo With Dichloroaniline
	µmol/l	85.1	67.2	103	8.95	17.9	
Calcium	mg/dl	12.2	11.0	13.4	0.600	1.20	Arsenazo III
	mmol/l	3.04	2.74	3.34	0.150	0.300	
Chloride	mmol/l	108	99.4	117	4.50	9.00	ISE Direct
	mmol/l	109	100	118	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	290	252	328	19.0	38.0	Cholesterol Dehydrogenase
	mmol/l	7.51	6.53	8.49	0.490	0.980	
	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.28	6.33	8.23	0.475	0.950	
CK Total	U/l	577	473	681	52.0	104	CK-NAC (IFCC)
Creatinine	mg/dl	3.94	3.15	4.73	0.395	0.790	Alkaline picrate no deproteinisation
	µmol/l	349	279	419	35.0	70.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	163	139	187	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
HDL - Cholesterol	mg/dl	107	91.0	123	8.00	16.0	Direct HDL, Immunoseparation
	mmol/l	2.77	2.35	3.19	0.210	0.420	
Iron	µg/dl	225	185	265	20.0	40.0	Colorimetric with ppt.
	µmol/l	40.3	33.0	47.6	3.65	7.30	
LD (LDH)	U/l	694	590	798	52.0	104	P to L, German methods
Phosphate Inorganic	mg/dl	7.25	6.16	8.34	0.545	1.09	Phosphomolybdate UV
	mmol/l	2.34	1.99	2.69	0.175	0.350	
Potassium	mmol/l	6.14	5.65	6.63	0.245	0.490	ISE method - direct
	mmol/l	6.19	5.69	6.69	0.250	0.500	ISE method - indirect
Protein Total	g/dl	4.72	3.78	5.66	0.470	0.940	Biuret reaction, end point
	g/l	47.2	37.8	56.6	4.70	9.40	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	159	151	167	4.00	8.00	ISE method - indirect

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RANDOX

Hitachi High-Tech Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
TIBC	µg/dl	244	193	295	25.5	51.0	Direct Colorimetric
	µmol/l	43.7	34.5	52.9	4.60	9.20	
Triglycerides	mg/dl	256	215	297	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.89	2.43	3.35	0.230	0.460	
Urea	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.08	7.90	10.3	0.610	1.22	Uricase perox. no ascorb. ox.
	mmol/l	0.540	0.470	0.610	0.035	0.070	
	mg/dl	9.14	7.95	10.3	0.580	1.16	Uricase Perox. with ascorb. ox
	mmol/l	0.544	0.473	0.615	0.036	0.071	
	mg/dl	9.08	7.90	10.3	0.610	1.22	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.540	0.470	0.610	0.035	0.070	

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RANDOX

Horiba ABX Pentra C200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Cholesterol	mg/dl	289	251	327	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.49	6.52	8.46	0.485	0.970	
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
Uric Acid (Urate)	mg/dl	9.21	8.01	10.4	0.595	1.19	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.548	0.477	0.619	0.036	0.071	

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Horiba ABX Pentra c400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	2.94	2.50	3.38	0.220	0.440	Bromocresol Green
	g/l	29.4	25.0	33.8	2.20	4.40	
Alkaline Phosphatase	U/l	334	284	384	25.0	50.0	AMP optimised to IFCC
ALT (GPT)	U/l	150	120	180	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Enzymatic
Bilirubin Direct	mg/dl	1.60	1.26	1.94	0.170	0.340	Diazo with Dichloroanaline
	µmol/l	27.3	21.6	33.0	2.85	5.70	
Bilirubin Total	mg/dl	5.49	4.34	6.64	0.575	1.15	Diazo With Dichloroaniline
	µmol/l	93.9	74.2	114	10.1	20.1	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Arsenazo III
	mmol/l	3.07	2.76	3.38	0.155	0.310	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Cholesterol	mg/dl	294	256	332	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.61	6.62	8.60	0.495	0.990	
CK Total	U/l	527	432	622	47.5	95.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.00	3.20	4.80	0.400	0.800	Alkaline picrate no deproteinisation
	µmol/l	354	283	425	35.5	71.0	
	mg/dl	4.20	3.36	5.04	0.420	0.840	Enzymatic
	µmol/l	372	298	446	37.0	74.0	
gamma-GT	U/l	157	133	181	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	158	134	182	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	292	248	336	22.0	44.0	Glucose Oxidase
	mmol/l	16.2	13.8	18.6	1.20	2.40	
	mg/dl	283	241	325	21.0	42.0	Hexokinase
	mmol/l	15.7	13.3	18.1	1.20	2.40	
HDL - Cholesterol	mg/dl	93.4	79.4	107	6.80	13.6	HDL Ultra/Accel Selective Detergent
	mmol/l	2.42	2.06	2.78	0.180	0.360	
Iron	µg/dl	226	185	267	20.5	41.0	Colorimetric without ppt.
	µmol/l	40.4	33.1	47.7	3.65	7.30	
LD (LDH)	U/l	341	290	392	25.5	51.0	L to P, IFCC
Lipase	U/l	76	61	91	7.50	15.0	Other Colorimetric
Magnesium	mg/dl	4.16	3.66	4.66	0.250	0.500	Xylidyl Blue
	mmol/l	1.71	1.50	1.92	0.105	0.210	
Phosphate Inorganic	mg/dl	7.41	6.30	8.52	0.555	1.11	Phosphomolybdate UV
	mmol/l	2.39	2.03	2.75	0.180	0.360	
Potassium	mmol/l	5.85	5.38	6.32	0.235	0.470	ISE method - direct

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RANDOX

Horiba ABX Pentra c400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Protein Total	g/dl	4.74	3.79	5.69	0.475	0.950	Biuret reaction, end point
	g/l	47.4	37.9	56.9	4.75	9.50	
Sodium	mmol/l	153	145	161	4.00	8.00	ISE method - direct
Triglycerides	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.6	48.1	65.1	4.25	8.50	
	mmol/l	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.535	0.465	0.605	0.035	0.070	
	mg/dl	8.92	7.76	10.1	0.590	1.18	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.531	0.462	0.600	0.035	0.069	

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Horron Electrolyte Analyser

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	5.87	5.40	6.34	0.235	0.470	ISE method - direct
Sodium	mmol/l	152	144	160	4.00	8.00	ISE method - direct

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HTI BioChem FC Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Cholesterol	mg/dl	295	257	333	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.65	6.66	8.64	0.495	0.990	
Creatinine	mg/dl	3.55	2.84	4.26	0.355	0.710	Alkaline picrate no deproteinisation
	µmol/l	314	251	377	31.5	63.0	
Glucose	mg/dl	268	228	308	20.0	40.0	Glucose Oxidase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
Protein Total	g/dl	5.41	4.33	6.49	0.540	1.08	Biuret reaction, end point
	g/l	54.1	43.3	64.9	5.40	10.8	

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Human Diagnostics Humalyte

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
Potassium	mmol/l	5.92	5.45	6.39	0.235	0.470	ISE method - direct
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct

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Human Diagnostics Humalyzer Primus 2000/3000/3500

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Glucose	mg/dl	270	230	310	20.0	40.0	Glucose Oxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Uric Acid (Urate)	mg/dl	9.01	7.84	10.2	0.595	1.19	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.536	0.466	0.606	0.035	0.070	

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RANDOX

Human Diagnostics HumaStar 100/200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.11	2.64	3.58	0.235	0.470	Bromocresol Green
	g/l	31.1	26.4	35.8	2.35	4.70	
Alkaline Phosphatase	U/l	367	312	422	27.5	55.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	155	124	186	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	127	102	152	12.5	25.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.37	4.24	6.50	0.565	1.13	Dichlorophenyl Diazonium
	µmol/l	91.8	72.5	111	9.60	19.2	
Calcium	mg/dl	11.7	10.5	12.9	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.91	2.62	3.20	0.145	0.290	
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.28	6.33	8.23	0.475	0.950	
	mg/dl	284	247	321	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.35	6.39	8.31	0.480	0.960	
Creatinine	mg/dl	4.29	3.43	5.15	0.430	0.860	Enzymatic
	µmol/l	380	304	456	38.0	76.0	
gamma-GT	U/l	166	141	191	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	285	242	328	21.5	43.0	Glucose Oxidase
	mmol/l	15.8	13.4	18.2	1.20	2.40	
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.539	0.469	0.609	0.035	0.070	
	mg/dl	9.38	8.16	10.6	0.610	1.22	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.558	0.485	0.631	0.037	0.073	

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Human Diagnostics HumaStar 600

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.08	2.62	3.54	0.230	0.460	Bromocresol Green
	g/l	30.8	26.2	35.4	2.30	4.60	
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	127	102	152	12.5	25.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.94	1.53	2.35	0.205	0.410	Dichlorophenyl Diazonium
	µmol/l	33.1	26.1	40.1	3.50	7.00	
Bilirubin Total	mg/dl	5.00	3.95	6.05	0.525	1.05	Dichlorophenyl Diazonium
	µmol/l	85.5	67.5	104	9.25	18.5	
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.38	6.42	8.34	0.480	0.960	
Creatinine	mg/dl	4.18	3.34	5.02	0.420	0.840	Enzymatic
	µmol/l	370	296	444	37.0	74.0	
	mg/dl	4.44	3.55	5.33	0.445	0.890	Jaffe Rate Blanked
	µmol/l	393	314	472	39.5	79.0	
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
Protein Total	g/dl	4.88	3.90	5.86	0.490	0.980	Biuret reaction, end point
	g/l	48.8	39.0	58.6	4.90	9.80	
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	123	105	141	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	57.4	48.8	66.0	4.30	8.60	
	mmol/l	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase Perox. with ascorb. ox
	mmol/l	0.534	0.465	0.603	0.035	0.069	

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RANDOX

Humastar 300

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
AST (GOT)	U/l	127	102	152	12.5	25.0	Tris Buffer Without P5P

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RANDOX

i-SENS i-Smart 30

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.21	4.69	5.73	0.260	0.520	Ion Selective Electrode
	mmol/l	1.30	1.17	1.43	0.065	0.130	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE Direct
	mmol/l	109	100	118	4.50	9.00	ISE Indirect
Potassium	mmol/l	6.06	5.58	6.54	0.240	0.480	Agappe - ISE DIRECT
	mmol/l	5.98	5.50	6.46	0.240	0.480	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	Agappe - ISE DIRECT
	mmol/l	157	149	165	4.00	8.00	ISE method - direct

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RANDOX

IL ab 600 / 650 / Aries / Taurus

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.04	2.58	3.50	0.230	0.460	Bromocresol Green
	g/l	30.4	25.8	35.0	2.30	4.60	
Alkaline Phosphatase	U/l	351	298	404	26.5	53.0	AMP optimised to IFCC
	U/l	355	302	408	26.5	53.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Amylase Total	U/l	257	218	296	19.5	39.0	I.L. 2-chloro-pNPG3
AST (GOT)	U/l	119	95	143	12.0	24.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.06	4.00	6.12	0.530	1.06	Diazo With Sulphanilic Acid
	µmol/l	86.5	68.3	105	9.25	18.5	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.0	10.8	13.2	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.00	2.70	3.30	0.150	0.300	
Chloride	mmol/l	108	99.4	117	4.50	9.00	ISE Direct
	mmol/l	108	99.4	117	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.28	6.33	8.23	0.475	0.950	
Cholinesterase	U/l	5201	4161	6241	520	1040	Colorimetric - Butyrylthiocholine
CK Total	U/l	538	441	635	48.5	97.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.24	3.39	5.09	0.425	0.850	Alkaline picrate no deproteinisation
	µmol/l	375	300	450	37.5	75.0	
	mg/dl	4.44	3.55	5.33	0.445	0.890	Enzymatic
	µmol/l	393	314	472	39.5	79.0	
gamma-GT	U/l	155	132	178	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	152	129	175	11.5	23.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
HDL - Cholesterol	mg/dl	70.7	60.1	81.3	5.30	10.6	Direct HDL, Clearance method
	mmol/l	1.83	1.56	2.10	0.135	0.270	
	mg/dl	73.0	62.1	83.9	5.45	10.9	Direct HDL, Immunoseparation
	mmol/l	1.89	1.61	2.17	0.140	0.280	
Iron	µg/dl	220	180	260	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.3	32.2	46.4	3.55	7.10	
LD (LDH)	U/l	660	561	759	49.5	99.0	P to L, German methods
	U/l	725	616	834	54.5	109	P to L, SFBC
Magnesium	mg/dl	4.37	3.85	4.89	0.260	0.520	Enzymatic
	mmol/l	1.80	1.58	2.02	0.110	0.220	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Xylidyl Blue
	mmol/l	1.77	1.56	1.98	0.105	0.210	

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RANDOX

IL ab 600 / 650 / Aries / Taurus

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Phosphate Inorganic	mg/dl	6.82	5.80	7.84	0.510	1.02	Phosphomolybdate UV
	mmol/l	2.20	1.87	2.53	0.165	0.330	
Potassium	mmol/l	5.93	5.46	6.40	0.235	0.470	ISE method - direct
	mmol/l	6.14	5.65	6.63	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.56	3.65	5.47	0.455	0.910	Biuret reaction, end point
	g/l	45.6	36.5	54.7	4.55	9.10	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	264	222	306	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
	mg/dl	262	220	304	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
Urea	mg/dl	131	111	151	10.0	20.0	Urease, end point
	mg/dl (BUN)	61.0	51.9	70.1	4.55	9.10	
	mmol/l	21.8	18.5	25.1	1.65	3.30	
	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mg/dl	8.74	7.60	9.88	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.520	0.452	0.588	0.034	0.068	
	mg/dl	8.50	7.40	9.60	0.550	1.10	Uricase Perox. with ascorb. ox
	mmol/l	0.506	0.440	0.572	0.033	0.066	

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RANDOX

IL Gem Premier 3000 / 3500

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.57	5.01	6.13	0.280	0.560	Ion Selective Electrode
	mmol/l	1.39	1.25	1.53	0.070	0.140	
Potassium	mmol/l	5.84	5.37	6.31	0.235	0.470	ISE method - direct
Sodium	mmol/l	152	144	160	4.00	8.00	ISE method - direct

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RANDOX

IL yte

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium Ionised	mg/dl	5.77	5.19	6.35	0.290	0.580	Ion Selective Electrode
	mmol/l	1.44	1.30	1.58	0.070	0.140	
Potassium	mmol/l	5.84	5.37	6.31	0.235	0.470	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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RANDOX

Instrumentation Laboratory GEM Premier 4000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.13	4.62	5.64	0.255	0.510	Ion Selective Electrode
	mmol/l	1.28	1.15	1.41	0.065	0.130	

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RANDOX

Instrumentation Laboratory GEM Premier 5000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.41	4.87	5.95	0.270	0.540	Ion Selective Electrode
	mmol/l	1.35	1.22	1.48	0.065	0.130	

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ISE srl Miura I.S.E. srl Miura

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	2.99	2.54	3.44	0.225	0.450	Bromocresol Green
	g/l	29.9	25.4	34.4	2.25	4.50	
ALT (GPT)	U/l	152	122	182	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	137	110	164	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.25	4.15	6.35	0.550	1.10	Diazo With Sulphanilic Acid
	µmol/l	89.8	70.9	109	9.60	19.2	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.96	2.66	3.26	0.150	0.300	
Cholesterol	mg/dl	298	259	337	19.5	39.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.72	6.72	8.72	0.500	1.00	
Creatinine	mg/dl	4.11	3.29	4.93	0.410	0.820	Jaffe Rate Blanked
	µmol/l	364	291	437	36.5	73.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Protein Total	g/dl	4.78	3.82	5.74	0.480	0.960	Biuret reaction, end point
	g/l	47.8	38.2	57.4	4.80	9.60	
Triglycerides	mg/dl	263	221	305	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
Urea	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.9	50.9	68.9	4.50	9.00	
	mmol/l	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.39	8.17	10.6	0.605	1.21	Uricase perox. no ascorb. ox.
	mmol/l	0.559	0.486	0.632	0.037	0.073	

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RANDOX

Jokoh EX-Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
Potassium	mmol/l	5.70	5.24	6.16	0.230	0.460	ISE method - direct
Sodium	mmol/l	150	143	157	3.50	7.00	ISE method - direct

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Labomed Inc. FACA

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	142	114	170	14.0	28.0	Tris Buffer Without P5P
Cholesterol	mg/dl	276	240	312	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.14	6.21	8.07	0.465	0.930	
Creatinine	mg/dl	4.20	3.36	5.04	0.420	0.840	Alkaline picrate no deproteinisation
	µmol/l	372	298	446	37.0	74.0	
Glucose	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.3	47.9	64.7	4.20	8.40	
	mmol/l	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.08	7.90	10.3	0.610	1.22	Uricase perox. no ascorb. ox.
	mmol/l	0.540	0.470	0.610	0.035	0.070	

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RANDOX

Linear Chemicals Linear KROMA

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Cholesterol	mg/dl	288	251	325	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.45	6.48	8.42	0.485	0.970	
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	

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RANDOX

Maccura i1000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.21	0.968	1.45	0.120	0.240	Maccura I Series

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RANDOX

Medica Easy Mediquip ML-200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium Ionised	mg/dl	4.61	4.15	5.07	0.230	0.460	Ion Selective Electrode
	mmol/l	1.15	1.04	1.26	0.055	0.110	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
Potassium	mmol/l	6.00	5.52	6.48	0.240	0.480	ISE method - direct
Sodium	mmol/l	151	143	159	4.00	8.00	ISE method - direct

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Medica Easy Stat

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	5.99	5.51	6.47	0.240	0.480	ISE method - direct
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct

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Medica Easylyte Instruments

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium	mg/dl	11.4	10.3	12.5	0.550	1.10	Ion Selective Electrode
	mmol/l	2.84	2.56	3.12	0.140	0.280	
Calcium Ionised	mg/dl	5.49	4.94	6.04	0.275	0.550	Ion Selective Electrode
	mmol/l	1.37	1.23	1.51	0.070	0.140	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE Direct
	mmol/l	113	104	122	4.50	9.00	ISE Indirect
Lithium	mg/dl	1.42	1.25	1.59	0.085	0.170	Ion Selective Electrode
	mmol/l	2.05	1.80	2.30	0.125	0.250	
Potassium	mmol/l	5.91	5.44	6.38	0.235	0.470	ISE method - direct
	mmol/l	5.84	5.37	6.31	0.235	0.470	ISE method - indirect
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct
	mmol/l	153	145	161	4.00	8.00	ISE method - indirect

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Medsource Ozone Csense 100/200CD

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Glucose	mg/dl	295	251	339	22.0	44.0	Glucose Oxidase
	mmol/l	16.4	13.9	18.9	1.25	2.50	
Urea	mg/dl	119	101	137	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.4	47.1	63.7	4.15	8.30	
	mmol/l	19.8	16.8	22.8	1.50	3.00	

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RANDOX

Meril AutoQuant 200i

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	139	111	167	14.0	28.0	Tris Buffer Without P5P
AST (GOT)	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	2.15	1.70	2.60	0.225	0.450	Diazo With Sulphanilic Acid
	µmol/l	36.8	29.1	44.5	3.85	7.70	
Bilirubin Total	mg/dl	5.38	4.25	6.51	0.565	1.13	Diazo With Sulphanilic Acid
	µmol/l	91.9	72.6	111	9.55	19.1	
Cholesterol	mg/dl	292	254	330	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.57	6.59	8.55	0.490	0.980	
Creatinine	mg/dl	4.17	3.34	5.00	0.415	0.830	Alkaline picrate no deproteinisation
	µmol/l	369	295	443	37.0	74.0	
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	118	100	136	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	54.9	46.7	63.1	4.10	8.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	
Uric Acid (Urate)	mg/dl	9.01	7.84	10.2	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.536	0.466	0.606	0.035	0.070	

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Meril AutoQuant 400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
Alkaline Phosphatase	U/l	360	306	414	27.0	54.0	AMP optimised to IFCC
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	2.05	1.62	2.48	0.215	0.430	Diazo With Sulphanilic Acid
	µmol/l	35.1	27.7	42.5	3.70	7.40	
Bilirubin Total	mg/dl	5.25	4.15	6.35	0.550	1.10	Diazo With Sulphanilic Acid
	µmol/l	89.7	70.9	109	9.65	19.3	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Arsenazo III
	mmol/l	3.06	2.75	3.37	0.155	0.310	
Cholesterol	mg/dl	293	255	331	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.58	6.59	8.57	0.495	0.990	
CK Total	U/l	506	415	597	45.5	91.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.05	3.24	4.86	0.405	0.810	Alkaline picrate no deproteinisation
	µmol/l	358	286	430	36.0	72.0	
gamma-GT	U/l	168	143	193	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	96.9	82.4	111	7.05	14.1	Direct HDL, PEGME
	mmol/l	2.51	2.13	2.89	0.190	0.380	
LD (LDH)	U/l	733	623	843	55.0	110	P to L, German methods
Lipase	U/l	66	53	79	6.50	13.0	Other Colorimetric
Magnesium	mg/dl	4.67	4.11	5.23	0.280	0.560	Xylidyl Blue
	mmol/l	1.92	1.69	2.15	0.115	0.230	
Phosphate Inorganic	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Protein Total	g/dl	4.62	3.70	5.54	0.460	0.920	Biuret reaction, end point
	g/l	46.2	37.0	55.4	4.60	9.20	
Triglycerides	mg/dl	253	213	293	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.86	2.40	3.32	0.230	0.460	
Urea	mg/dl	119	101	137	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.4	47.1	63.7	4.15	8.30	
	mmol/l	19.8	16.8	22.8	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.01	7.84	10.2	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.536	0.466	0.606	0.035	0.070	

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Meril CliniQuant

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.02	2.57	3.47	0.225	0.450	Bromocresol Green
	g/l	30.2	25.7	34.7	2.25	4.50	
Alkaline Phosphatase	U/l	281	239	323	21.0	42.0	AMP optimised to IFCC
ALT (GPT)	U/l	150	120	180	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	144	115	173	14.5	29.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.77	1.40	2.14	0.185	0.370	Diazo With Sulphanilic Acid
	µmol/l	30.3	23.9	36.7	3.20	6.40	
Bilirubin Total	mg/dl	4.98	3.93	6.03	0.525	1.05	Diazo With Sulphanilic Acid
	µmol/l	85.1	67.2	103	8.95	17.9	
Cholesterol	mg/dl	284	247	321	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.35	6.39	8.31	0.480	0.960	
Glucose	mg/dl	286	243	329	21.5	43.0	Glucose Oxidase
	mmol/l	15.9	13.5	18.3	1.20	2.40	
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate UV
	mmol/l	2.25	1.91	2.59	0.170	0.340	
Protein Total	g/dl	4.54	3.63	5.45	0.455	0.910	Biuret reaction, end point
	g/l	45.4	36.3	54.5	4.55	9.10	
Triglycerides	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
Urea	mg/dl	128	109	147	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	

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Meril Quantilyte Plus

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	116	107	125	4.50	9.00	ISE Direct
Potassium	mmol/l	5.99	5.51	6.47	0.240	0.480	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	2.91	2.47	3.35	0.220	0.440	Abbott Alinity Albumin BCG 2
	g/l	29.1	24.7	33.5	2.20	4.40	
	g/dl	2.75	2.34	3.16	0.205	0.410	Abbott Alinity Albumin BCP 2
	g/l	27.5	23.4	31.6	2.05	4.10	
	g/dl	2.93	2.49	3.37	0.220	0.440	Abbott Architect Albumin BCG 2
	g/l	29.3	24.9	33.7	2.20	4.40	
	g/dl	2.77	2.35	3.19	0.210	0.420	Abbott Architect Albumin BCP 2
	g/l	27.7	23.5	31.9	2.10	4.20	
	g/dl	3.30	2.81	3.79	0.245	0.490	Agappe - Bromocresol Green
	g/l	33.0	28.1	37.9	2.45	4.90	
	g/dl	3.14	2.67	3.61	0.235	0.470	Bromocresol Green
	g/l	31.4	26.7	36.1	2.35	4.70	
	g/dl	2.90	2.47	3.33	0.215	0.430	Bromocresol Purple
	g/l	29.0	24.7	33.3	2.15	4.30	
	g/dl	3.07	2.61	3.53	0.230	0.460	Nephelometric Assays
	g/l	30.7	26.1	35.3	2.30	4.60	
	g/dl	3.09	2.63	3.55	0.230	0.460	Ortho Vitros Microslide Systems
	g/l	30.9	26.3	35.5	2.30	4.60	
	g/dl	3.04	2.58	3.50	0.230	0.460	Turbidimetric Assays
	g/l	30.4	25.8	35.0	2.30	4.60	
Alkaline Phosphatase	U/l	346	294	398	26.0	52.0	Abbott Alinity Alkaline Phosphatase 2
	U/l	347	295	399	26.0	52.0	Abbott Architect Alkaline Phosphatase 2
	U/l	349	297	401	26.0	52.0	AMP non-optimised
	U/l	370	315	425	27.5	55.0	AMP optimised to IFCC
	U/l	373	317	429	28.0	56.0	Beckman AMP (Calibrator)
	U/l	333	283	383	25.0	50.0	Beckman AMP (Extinction Coeff)
	U/l	544	462	626	41.0	82.0	Diethanolamine buffer, DEA
	U/l	306	260	352	23.0	46.0	Fuji Dri-Chem JSCC
	U/l	281	239	323	21.0	42.0	Ortho Vitros Microslide Systems
	U/l	342	291	393	25.5	51.0	Other AMP kits
	U/l	310	264	356	23.0	46.0	Roche AMP buffer IFCC
	U/l	320	272	368	24.0	48.0	Siemens/Dade Dimension AMP buffer
alpha - HBDH	U/l	372	294	450	39.0	78.0	Oxobutyrate < 10 mmol/l
ALT (GPT)	U/l	134	107	161	13.5	27.0	Abbott Alinity ALT 2
	U/l	139	111	167	14.0	28.0	Abbott Architect ALT 2
	U/l	146	117	175	14.5	29.0	Agappe - IFCC
	U/l	127	102	152	12.5	25.0	Beckman (Extinction Coefficient)
	U/l	153	122	184	15.5	31.0	Beckman IFCC Ref. with P5P
	U/l	152	122	182	15.0	30.0	Beckman Mod. IFCC Ref. without P5P

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	High	1SD	2SD	Method
ALT (GPT)	U/l	149	119	179	15.0	30.0	Colorimetric
	U/l	159	127	191	16.0	32.0	Ortho Vitros Microslide Systems
	U/l	159	127	191	16.0	32.0	Ortho Vitros MicroSlide visible
	U/l	146	117	175	14.5	29.0	Phosphate buffer, DGKC
	U/l	159	127	191	16.0	32.0	Siemens/Dade standard nonIFCC correlated
	U/l	151	121	181	15.0	30.0	Tris Buffer With P5P
	U/l	146	117	175	14.5	29.0	Tris buffer with P5P, NVKC
	U/l	157	126	188	15.5	31.0	Tris Buffer Without P5P
	U/l	149	119	179	15.0	30.0	Tris buffer, SCE
Amylase Pancreatic	U/l	222	189	255	16.5	33.0	Beckman Synchron CX/LXi/DxC
	U/l	224	190	258	17.0	34.0	Immunoinhibition, EPS substrate
	U/l	262	223	301	19.5	39.0	Randox Liquid Ethylidene pNPG7
	U/l	230	196	264	17.0	34.0	Randox Liquid Stable pNPG7
	U/l	219	186	252	16.5	33.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	266	226	306	20.0	40.0	Abbott Alinity Amylase 2
	U/l	267	227	307	20.0	40.0	Abbott Architect Amylase 2
	U/l	267	227	307	20.0	40.0	Abbott Architect/Alinity cal factor 3431
	U/l	273	232	314	20.5	41.0	Abbott Architect/Alinity cal factor 3806
	U/l	270	230	310	20.0	40.0	Abbott blocked pNPG7
	U/l	279	237	321	21.0	42.0	Agappe - CNPG3
	U/l	253	215	291	19.0	38.0	Amyloclastic Methods
	U/l	260	221	299	19.5	39.0	Beckman blocked pNPG7
	U/l	257	218	296	19.5	39.0	Beckman CNPG3 (Extinction Coeff)
	U/l	255	217	293	19.0	38.0	Beckman CNPG3 (Master Cal)
	U/l	255	217	293	19.0	38.0	Beckman maltotetraose
	U/l	262	223	301	19.5	39.0	Beckman Synchron AMY7
	U/l	246	209	283	18.5	37.0	BM/Roche, Colorimetric pNPG7
	U/l	268	228	308	20.0	40.0	Human CNPG3
	U/l	265	225	305	20.0	40.0	Human CNPG3 (IFCC)
	U/l	259	220	298	19.5	39.0	I.L. 2-chloro-pNPG3
	U/l	153	130	176	11.5	23.0	Ortho Vitros Microslide Systems
	U/l	244	207	281	18.5	37.0	Other Roche 2-chloro-pNPG7
	U/l	266	226	306	20.0	40.0	pNP Maltotrioside substrates
	U/l	273	232	314	20.5	41.0	Randox Liquid Ethylidene pNPG7
	U/l	247	210	284	18.5	37.0	Roche Integra 2-chloro-pNPG7
	U/l	245	208	282	18.5	37.0	Roche Liquid Stable pNPG7
	U/l	279	237	321	21.0	42.0	Siemens - blocked pNPG7
	U/l	289	246	332	21.5	43.0	Siemens/Dade Behring 2-chloro-pNPG3

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Apolipoprotein A1	g/l	0.987	0.809	1.17	0.092	0.183	Immunoturbidimetric
	mg/dl	98.7	80.9	117	9.15	18.3	
Apolipoprotein B	g/l	0.578	0.474	0.682	0.052	0.104	Immunoturbidimetric
	mg/dl	57.8	47.4	68.2	5.20	10.4	
AST (GOT)	U/l	141	113	169	14.0	28.0	Abbott Alinity AST 2
	U/l	142	114	170	14.0	28.0	Abbott Architect AST 2
	U/l	127	102	152	12.5	25.0	Agappe - IFCC
	U/l	104	83	125	10.5	21.0	Beckman (Extinction Coefficient)
	U/l	137	110	164	13.5	27.0	Beckman IFCC Ref. with P5P
	U/l	136	109	163	13.5	27.0	Beckman Mod. IFCC Ref. without P5P
	U/l	132	106	158	13.0	26.0	Colorimetric
	U/l	130	104	156	13.0	26.0	MDH - JSCC
	U/l	162	130	194	16.0	32.0	Ortho Vitros MicroSlide visible
	U/l	133	106	160	13.5	27.0	Phosphate buffer, DGKC
	U/l	144	115	173	14.5	29.0	Siemens/Dade standard non IFCC corr.
	U/l	147	118	176	14.5	29.0	Tris Buffer With P5P
	U/l	136	109	163	13.5	27.0	Tris buffer with P5P, NVKC
	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
	U/l	133	106	160	13.5	27.0	Tris buffer, SCE
Bicarbonate	mmol/l	13.1	10.4	15.8	1.35	2.70	Colorimetric
	mmol/l	14.0	11.1	16.9	1.45	2.90	Enzymatic
	mmol/l	14.1	11.2	17.0	1.45	2.90	Manometric
Bile Acids	µmol/l	45.9	36.7	55.1	4.60	9.20	5th Generation Colorimetric
	µmol/l	46.0	36.8	55.2	4.60	9.20	Enzymatic Colorimetric
	µmol/l	47.3	37.8	56.8	4.75	9.50	Enzymatic Colorimetric - Sentinel
Bilirubin Direct	mg/dl	1.88	1.49	2.27	0.195	0.390	Modified Jendrassik
	µmol/l	32.1	25.4	38.8	3.35	6.70	
	mg/dl	1.81	1.43	2.19	0.190	0.380	Diazo With Sulphanilic Acid
	µmol/l	30.9	24.4	37.4	3.25	6.50	
	mg/dl	1.12	0.885	1.36	0.120	0.240	Diazo/ Sulphanilic Siemens Dimension
	µmol/l	19.2	15.2	23.2	2.00	4.00	
	mg/dl	1.30	1.03	1.57	0.135	0.270	Diazo/Sulphanilic Beckman DxC
	µmol/l	22.3	17.6	27.0	2.35	4.70	
	mg/dl	1.74	1.37	2.11	0.185	0.370	Oxidation to Biliverdin/Vanadate
	µmol/l	29.8	23.5	36.1	3.15	6.30	
	mg/dl	1.81	1.43	2.19	0.190	0.380	Roche DPD JG standardised
	µmol/l	30.9	24.4	37.4	3.25	6.50	
Bilirubin Total	mg/dl	5.59	4.42	6.76	0.585	1.17	Modified Jendrassik
	µmol/l	95.5	75.4	116	10.3	20.5	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Bilirubin Total	mg/dl	4.77	3.77	5.77	0.500	1.00	Abbott Alin/Arch cal batch no >97447/8/9
	µmol/l	81.5	64.4	98.6	8.55	17.1	
	mg/dl	4.83	3.82	5.84	0.505	1.01	Abbott Alinity Total Bilirubin 2
	µmol/l	82.6	65.3	99.9	8.65	17.3	
	mg/dl	4.96	3.92	6.00	0.520	1.04	Abbott Architect Total Bilirubin 2
	µmol/l	84.8	67.0	103	9.10	18.2	
	mg/dl	5.02	3.97	6.07	0.525	1.05	Agappe - DMSO
	µmol/l	85.8	67.8	104	9.10	18.2	
	mg/dl	4.75	3.75	5.75	0.500	1.00	Agappe - TAB
	µmol/l	81.2	64.1	98.3	8.55	17.1	
	mg/dl	4.93	3.89	5.97	0.520	1.04	Diazo With Dichloroaniline
	µmol/l	84.2	66.5	102	8.90	17.8	
	mg/dl	5.05	3.99	6.11	0.530	1.06	Diazo With Sulphanilic Acid
	µmol/l	86.4	68.3	105	9.30	18.6	
	mg/dl	4.60	3.63	5.57	0.485	0.970	Diazonium Ion
	µmol/l	78.6	62.1	95.1	8.25	16.5	
	mg/dl	4.70	3.71	5.69	0.495	0.990	Dichlorophenyl Diazonium
	µmol/l	80.3	63.4	97.2	8.45	16.9	
	mg/dl	5.08	4.01	6.15	0.535	1.07	DPD (Beckman AU)
	µmol/l	86.8	68.6	105	9.10	18.2	
	mg/dl	4.88	3.86	5.90	0.510	1.02	Nitrobenzenediazonium Salt
	µmol/l	83.5	66.0	101	8.75	17.5	
	mg/dl	4.84	3.82	5.86	0.510	1.02	Ortho Vitros MicroSlide Total Bil
	µmol/l	82.7	65.3	100	8.65	17.3	
	mg/dl	5.34	4.22	6.46	0.560	1.12	Oxidation to Biliverdin/Vanadate
	µmol/l	91.2	72.0	110	9.40	18.8	
Bilirubin unconjugated BU	mg/dl	4.42	3.49	5.35	0.465	0.930	BuBc Vitros slide
	µmol/l	75.6	59.7	91.5	7.95	15.9	
	mg/dl	4.34	3.43	5.25	0.455	0.910	Direct Bilirubin Vitros slide
	µmol/l	74.2	58.6	89.8	7.80	15.6	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.06	2.75	3.37	0.155	0.310	
	mg/dl	12.2	11.0	13.4	0.600	1.20	Arsenazo III
	mmol/l	3.04	2.74	3.34	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.01	2.71	3.31	0.150	0.300	
	mg/dl	11.9	10.7	13.1	0.600	1.20	Ion Selective Electrode
	mmol/l	2.97	2.67	3.27	0.150	0.300	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Methylthymol Blue
	mmol/l	2.95	2.66	3.24	0.145	0.290	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.01	2.71	3.31	0.150	0.300	
	mg/dl	12.0	10.8	13.2	0.600	1.20	Ortho Vitros Microslide Systems
	mmol/l	2.99	2.69	3.29	0.150	0.300	
	mg/dl	11.9	10.7	13.1	0.600	1.20	Phosphonazo
	mmol/l	2.98	2.68	3.28	0.150	0.300	
Calcium Ionised	mg/dl	5.45	4.91	5.99	0.270	0.540	Ion Selective Electrode
	mmol/l	1.36	1.22	1.50	0.070	0.140	
	mg/dl	6.61	5.95	7.27	0.330	0.660	Spectrophotometric
	mmol/l	1.65	1.49	1.81	0.080	0.160	
Chloride	mmol/l	114	105	123	4.50	9.00	Agappe - THIOCYANATE
	mmol/l	112	103	121	4.50	9.00	Colorimetric
	mmol/l	109	100	118	4.50	9.00	ISE Direct
	mmol/l	111	102	120	4.50	9.00	ISE Indirect
	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems
Cholesterol	mg/dl	283	246	320	18.5	37.0	Abbott Alinity Cholesterol 2
	mmol/l	7.34	6.39	8.29	0.475	0.950	
	mg/dl	285	248	322	18.5	37.0	Abbott Architect Cholesterol 2
	mmol/l	7.38	6.42	8.34	0.480	0.960	
	mg/dl	275	239	311	18.0	36.0	Agappe - CHOD-PAP
	mmol/l	7.12	6.19	8.05	0.465	0.930	
	mg/dl	284	247	321	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.36	6.40	8.32	0.480	0.960	
	mg/dl	314	273	355	20.5	41.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	8.12	7.06	9.18	0.530	1.06	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.42	6.46	8.38	0.480	0.960	
	mg/dl	291	253	329	19.0	38.0	Dimension - non Siemens reagents
	mmol/l	7.53	6.55	8.51	0.490	0.980	
	mg/dl	280	244	316	18.0	36.0	Ortho Vitros Microslide Systems
	mmol/l	7.25	6.31	8.19	0.470	0.940	
	mg/dl	276	240	312	18.0	36.0	Siemens Dimension
	mmol/l	7.14	6.21	8.07	0.465	0.930	
Cholinesterase	U/l	5350	4280	6420	535	1070	Colorimetric - Benzoylcholine
	U/l	5408	4326	6490	541	1082	Colorimetric - Butyrylthiocholine
	U/l	5186	4149	6223	519	1037	Ortho Vitros Microslide Systems
	U/l	8128	6502	9754	813	1626	Siemens Atellica Cholinesterase_2

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
CK Total	U/l	555	455	655	50.0	100	Abbott CK-NAC (IFCC)
	U/l	496	407	585	44.5	89.0	Beckman CK-NAC (Extinction Coeff)
	U/l	573	470	676	51.5	103	Beckman CK-NAC (IFCC)
	U/l	542	444	640	49.0	98.0	CK-NAC (IFCC)
	U/l	542	444	640	49.0	98.0	CK-NAC serum start (DGKC)
	U/l	562	461	663	50.5	101	CK-NAC substrate start (DGKC)
	U/l	521	427	615	47.0	94.0	Creatine Phosphate Substrate Start
	U/l	524	430	618	47.0	94.0	Dithioerythritol (DTE), IFCC correlated
	U/l	526	431	621	47.5	95.0	Gel Agglutination
	U/l	579	475	683	52.0	104	Monothioglycerol
	U/l	440	361	519	39.5	79.0	Ortho Vitros Microslide Systems
Copper	µg/dl	156	125	187	15.5	31.0	Atomic Absorption
	µmol/l	24.6	19.7	29.5	2.45	4.90	
	µg/dl	158	126	190	16.0	32.0	Colorimetric
	µmol/l	24.9	19.9	29.9	2.50	5.00	
Cortisol	nmol/l	857	643	1071	107	214	Roche Cobas e402/e801
	µg/dl	30.9	23.2	38.6	3.85	7.70	
Creatinine	mg/dl	4.31	3.45	5.17	0.430	0.860	Abbott Alinity Creatinine 2
	µmol/l	381	305	457	38.0	76.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	Abbott Architect Creatinine 2
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.00	3.20	4.80	0.400	0.800	Agappe - ENZYMATIC
	µmol/l	354	283	425	35.5	71.0	
	mg/dl	3.83	3.06	4.60	0.385	0.770	Agappe - JAFFE'S KINETIC
	µmol/l	339	271	407	34.0	68.0	
	mg/dl	3.73	2.98	4.48	0.375	0.750	Alkaline picrate no deproteinisation
	µmol/l	330	264	396	33.0	66.0	
	mg/dl	4.02	3.22	4.82	0.400	0.800	Alkaline Picrate With Deproteinisation
	µmol/l	356	285	427	35.5	71.0	
	mg/dl	4.36	3.49	5.23	0.435	0.870	Enzymatic
	µmol/l	386	309	463	38.5	77.0	
	mg/dl	4.21	3.37	5.05	0.420	0.840	IDMS Traceable
	µmol/l	373	298	448	37.5	75.0	
	mg/dl	0.000	0.000	0.000	0.000	0.000	Jaffe Rate Blanked
	µmol/l	0.000	0.000	0.000	0.000	0.000	
	mg/dl	4.23	3.38	5.08	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	374	299	449	37.5	75.0	
	mg/dl	3.83	3.06	4.60	0.385	0.770	Jaffe rate blanked comp. (-33umol/l)
	µmol/l	339	271	407	34.0	68.0	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Creatinine	mg/dl	4.14	3.31	4.97	0.415	0.830	Jaffe rate comp. (-18umol/l)
	µmol/l	366	293	439	36.5	73.0	
	mg/dl	4.40	3.52	5.28	0.440	0.880	Roche Creatinine Plus
	µmol/l	389	311	467	39.0	78.0	
	mg/dl	4.29	3.43	5.15	0.430	0.860	Vitros, DT60/DT60 II/DTSC II
	µmol/l	380	304	456	38.0	76.0	
	mg/dl	4.29	3.43	5.15	0.430	0.860	Vitros, IDMS traceable
	µmol/l	380	304	456	38.0	76.0	
D-3-Hydroxybutyrate	mmol/l	1.19	1.01	1.37	0.090	0.180	Tris buffer 100mmol pH 8.5
Digoxin	ng/ml	0.000	0.000	0.000	0.000	0.000	Immunoturbidimetric
	nmol/l	0.000	0.000	0.000	0.000	0.000	
Folate	ng/ml	0.000	0.000	0.000	0.000	0.000	Roche Cobas e402/e801
	nmol/l	0.000	0.000	0.000	0.000	0.000	
Free T4	ng/dl	6.93	5.20	8.66	0.865	1.73	Autobio CLIA
	pg/ml	69.3	52.0	86.6	8.65	17.3	
	pmol/l	88.8	66.6	111	11.1	22.2	
	ng/dl	4.66	3.50	5.82	0.580	1.16	Beckman Access/LXi725
	pg/ml	46.6	35.0	58.2	5.80	11.6	
	pmol/l	59.8	44.9	74.7	7.45	14.9	
	ng/dl	4.94	3.71	6.17	0.615	1.23	Beckman DxI 600/800
	pg/ml	49.4	37.1	61.7	6.15	12.3	
	pmol/l	63.3	47.5	79.1	7.90	15.8	
	ng/dl	5.42	4.07	6.77	0.675	1.35	bioMerieux, VIDAS-FT4N Kit
	pg/ml	54.2	40.7	67.7	6.75	13.5	
	pmol/l	69.5	52.1	86.9	8.70	17.4	
	ng/dl	7.16	5.37	8.95	0.895	1.79	Ortho Vitros 3600/5600/ECi/XT/7600
	pg/ml	71.6	53.7	89.5	8.95	17.9	
	pmol/l	91.8	68.9	115	11.6	23.2	
	ng/dl	5.50	4.13	6.87	0.685	1.37	Roche Cobas 4000/e411
	pg/ml	55.0	41.3	68.7	6.85	13.7	
	pmol/l	70.5	52.9	88.1	8.80	17.6	
	ng/dl	5.76	4.32	7.20	0.720	1.44	Roche Cobas e402/e801
	pg/ml	57.6	43.2	72.0	7.20	14.4	
	pmol/l	73.8	55.4	92.2	9.20	18.4	
	ng/dl	5.55	4.16	6.94	0.695	1.39	Roche Cobas e601/ 602
	pg/ml	55.5	41.6	69.4	6.95	13.9	
	pmol/l	71.2	53.4	89.0	8.90	17.8	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Free T4	ng/dl	5.93	4.45	7.41	0.740	1.48	Siemens Dimension Exl LOCI
	pg/ml	59.3	44.5	74.1	7.40	14.8	
	pmol/l	76.0	57.0	95.0	9.50	19.0	
	ng/dl	5.62	4.22	7.02	0.700	1.40	Siemens/DPC Immulite 2000/2500
	pg/ml	56.2	42.2	70.2	7.00	14.0	
	pmol/l	72.1	54.1	90.1	9.00	18.0	
	ng/dl	5.70	4.28	7.12	0.710	1.42	TOSOH AIA Series
	pg/ml	57.0	42.8	71.2	7.10	14.2	
	pmol/l	73.1	54.8	91.4	9.15	18.3	
gamma-GT	U/l	166	141	191	12.5	25.0	Abbott Alinity GGT 2
	U/l	167	142	192	12.5	25.0	Abbott Architect GGT 2
	U/l	164	139	189	12.5	25.0	Agappe - SZASZ KINETIC
	U/l	149	127	171	11.0	22.0	Beckman Szasz (Extinction Coeff.)
	U/l	162	138	186	12.0	24.0	DCL, gamma glut.-3-carb.-4-nitro.
	U/l	176	150	202	13.0	26.0	Gamma glut.-3-carb.-4-nitro.
	U/l	163	139	187	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	162	138	186	12.0	24.0	Gamma Glutamyl-4-Nitroanilide
	U/l	181	154	208	13.5	27.0	Ortho Vitros Microslide Systems
	U/l	165	140	190	12.5	25.0	Randox Colorimetric
	U/l	190	162	218	14.0	28.0	Siemens Dimension
Gentamicin	µg/ml	9.08	7.26	10.9	0.910	1.82	Gravimetric
	µmol/l	19.0	15.2	22.8	1.90	3.80	
GLDH	U/l	25	20	30	2.50	5.00	Triethanolamine buffer
Glucose	mg/dl	279	237	321	21.0	42.0	Agappe - GOD-PAP
	mmol/l	15.5	13.2	17.8	1.15	2.30	
	mg/dl	279	237	321	21.0	42.0	Glucose Dehydrogenase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
	mg/dl	288	245	331	21.5	43.0	Glucose Oxidase
	mmol/l	16.0	13.6	18.4	1.20	2.40	
	mg/dl	274	233	315	20.5	41.0	GOD/02-Beckman method
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	281	239	323	21.0	42.0	Hexokinase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
	mg/dl	259	220	298	19.5	39.0	Ortho Vitros Microslide Systems
	mmol/l	14.4	12.2	16.6	1.10	2.20	
	mg/dl	276	235	317	20.5	41.0	Oxygen Electrode
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	270	230	310	20.0	40.0	Pyranose oxidase / Peroxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	High	1SD	2SD	Method
HDL - Cholesterol	mg/dl	99.2	84.3	114	7.40	14.8	Agappe - SELECTIVE INHIBITION
	mmol/l	2.57	2.18	2.96	0.195	0.390	
	mg/dl	82.6	70.2	95.0	6.20	12.4	Direct HDL, Clearance method
	mmol/l	2.14	1.82	2.46	0.160	0.320	
	mg/dl	94.2	80.1	108	6.90	13.8	Direct HDL, Immunoseparation
	mmol/l	2.44	2.07	2.81	0.185	0.370	
	mg/dl	111	94.4	128	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.88	2.45	3.31	0.215	0.430	
	mg/dl	91.5	77.8	105	6.75	13.5	HDL Ultra/Accel Selective Detergent
	mmol/l	2.37	2.01	2.73	0.180	0.360	
	mg/dl	80.3	68.3	92.3	6.00	12.0	Vitros 5.1 FS Microtip assay
	mmol/l	2.08	1.77	2.39	0.155	0.310	
	mg/dl	84.2	71.6	96.8	6.30	12.6	Vitros dHDL, PTA/MgCl2 direct precip.
	mmol/l	2.18	1.85	2.51	0.165	0.330	
	mg/dl	83.8	71.2	96.4	6.30	12.6	Vitros, Magnetic HDL
	mmol/l	2.17	1.84	2.50	0.165	0.330	
Immunoglobulin A	g/l	1.88	1.41	2.35	0.235	0.470	Turbidimetric (IFCC Cal.)
	mg/dl	188	141	235	23.5	47.0	
Immunoglobulin G	g/l	6.05	4.96	7.14	0.545	1.09	Turbidimetric (IFCC Cal.)
	mg/dl	605	496	714	54.5	109	
Immunoglobulin M	g/l	0.878	0.702	1.05	0.086	0.172	Turbidimetric (IFCC Cal.)
	mg/dl	87.8	70.2	105	8.60	17.2	
Iron	µg/dl	232	190	274	21.0	42.0	Abbott Alinity Iron 2
	µmol/l	41.5	34.0	49.0	3.75	7.50	
	µg/dl	236	194	278	21.0	42.0	Abbott Architect Chemilum
	µmol/l	42.2	34.6	49.8	3.80	7.60	
	µg/dl	274	225	323	24.5	49.0	Agappe - CHROMAZUROL
	µmol/l	49.0	40.2	57.8	4.40	8.80	
	µg/dl	221	181	261	20.0	40.0	Colorimetric with ppt.
	µmol/l	39.6	32.5	46.7	3.55	7.10	
	µg/dl	229	188	270	20.5	41.0	Colorimetric without ppt.
	µmol/l	41.0	33.6	48.4	3.70	7.40	
	µg/dl	225	185	265	20.0	40.0	Optical Emission Spectroscopy
	µmol/l	40.3	33.0	47.6	3.65	7.30	
	µg/dl	214	175	253	19.5	39.0	Ortho Vitros Microslide Systems
	µmol/l	38.3	31.4	45.2	3.45	6.90	
Lactate	mg/dl	49.5	40.6	58.4	4.45	8.90	Colorimetric - Lactate oxidase
	mmol/l	5.50	4.51	6.49	0.495	0.990	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Lactate	mg/dl	48.6	39.9	57.3	4.35	8.70	Enzymatic Electrode
	mmol/l	5.40	4.43	6.37	0.485	0.970	
	mg/dl	48.6	39.9	57.3	4.35	8.70	Ion Selective Electrode
	mmol/l	5.40	4.43	6.37	0.485	0.970	
	mg/dl	45.8	37.6	54.0	4.10	8.20	Ortho Vitros Microslide Systems
	mmol/l	5.08	4.17	5.99	0.455	0.910	
	mg/dl	48.6	39.9	57.3	4.35	8.70	UV-LDH
	mmol/l	5.39	4.42	6.36	0.485	0.970	
LD (LDH)	U/l	334	284	384	25.0	50.0	Abbott Alinity LD 2
	U/l	330	281	379	24.5	49.0	Abbott Architect LD 2
	U/l	699	594	804	52.5	105	Agappe - SCE
	U/l	306	260	352	23.0	46.0	L to P Beckman (Extinction Coeff)
	U/l	337	286	388	25.5	51.0	L to P Siemens/Dade, non-IFCC
	U/l	340	289	391	25.5	51.0	L to P, IFCC
	U/l	340	289	391	25.5	51.0	Lactate to Pyruvate methods
	U/l	396	337	455	29.5	59.0	Ortho Vitros IFCC Traceable
	U/l	393	334	452	29.5	59.0	Ortho Vitros Microslide Systems
	U/l	703	598	808	52.5	105	P to L Scandinavian & Dutch
	U/l	684	581	787	51.5	103	P to L, German methods
	U/l	690	587	793	51.5	103	P to L, SFBC
	U/l	334	284	384	25.0	50.0	Pyruvate 1.4 mM - Beckman LD-P
Lipase	U/l	82	66	98	8.00	16.0	Colorimetric Dimension (LIP Kit)
	U/l	83	67	99	8.00	16.0	Colorimetric Dimension (LIPL Kit)
	U/l	96	77	115	9.50	19.0	Colorimetric Randox
	U/l	79	63	95	8.00	16.0	Colorimetric Roche
	U/l	800	642	958	79.0	158	Ortho Vitros Microslide Systems
	U/l	78	63	93	7.50	15.0	Other Colorimetric
	U/l	79	63	95	8.00	16.0	Roche Turbidimetric with colipase
Lithium	mg/dl	1.40	1.23	1.57	0.085	0.170	Ion Selective Electrode
	mmol/l	2.02	1.78	2.26	0.120	0.240	
	mg/dl	1.64	1.44	1.84	0.100	0.200	Ortho Vitros Microslide Systems
	mmol/l	2.36	2.08	2.64	0.140	0.280	
	mg/dl	0.000	0.000	0.000	0.000	0.000	Spectrophotometric
	mmol/l	0.000	0.000	0.000	0.000	0.000	
Magnesium	mg/dl	4.23	3.72	4.74	0.255	0.510	Agappe - XYLIDYL BLUE
	mmol/l	1.74	1.53	1.95	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Arsenazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Atomic Absorption
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Calmagite
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Chlorphosphonazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.35	3.83	4.87	0.260	0.520	Enzymatic
	mmol/l	1.79	1.58	2.00	0.105	0.210	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Methylthymol Blue
	mmol/l	1.77	1.56	1.98	0.105	0.210	
	mg/dl	4.42	3.89	4.95	0.265	0.530	Ortho Vitros Microslide Systems
	mmol/l	1.82	1.60	2.04	0.110	0.220	
	mg/dl	4.42	3.89	4.95	0.265	0.530	Xylidyl Blue
	mmol/l	1.82	1.60	2.04	0.110	0.220	
NEFA	mmol/l	0.425	0.340	0.510	0.043	0.085	Colorimetric
Osmolality	mOsm/Kg	343	274	412	34.5	69.0	Calculated
	mOsm/Kg	390	312	468	39.0	78.0	Freezing Point Depression
Paracetamol (Acetamin)	mg/l	90.9	72.7	109	9.05	18.1	Gravimetric
	mmol/l	0.600	0.480	0.720	0.060	0.120	
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	7.01	5.96	8.06	0.525	1.05	Beckman PHOSm kit (365nm)
	mmol/l	2.26	1.92	2.60	0.170	0.340	
	mg/dl	6.94	5.90	7.98	0.520	1.04	Ortho Vitros Microslide Systems
	mmol/l	2.24	1.90	2.58	0.170	0.340	
	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	7.44	6.32	8.56	0.560	1.12	Phosphomolybdate UV
	mmol/l	2.40	2.04	2.76	0.180	0.360	
Potassium	mmol/l	6.08	5.59	6.57	0.245	0.490	Agappe - ISE DIRECT
	mmol/l	6.01	5.53	6.49	0.240	0.480	Colorimetric
	mmol/l	6.12	5.63	6.61	0.245	0.490	Enzymatic
	mmol/l	5.98	5.50	6.46	0.240	0.480	ISE Direct
	mmol/l	5.96	5.48	6.44	0.240	0.480	ISE method - direct
	mmol/l	6.11	5.62	6.60	0.245	0.490	ISE method - indirect
	mmol/l	6.02	5.54	6.50	0.240	0.480	Ortho Vitros Microslide Systems

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Protein Total	g/dl	4.74	3.79	5.69	0.475	0.950	Abbott Alinity Total Protein 2
	g/l	47.4	37.9	56.9	4.75	9.50	
	g/dl	4.87	3.90	5.84	0.485	0.970	Abbott Architect total Protein 2
	g/l	48.7	39.0	58.4	4.85	9.70	
	g/dl	4.83	3.86	5.80	0.485	0.970	Agappe Ultra Stik
	g/l	48.3	38.6	58.0	4.85	9.70	
	g/dl	4.55	3.64	5.46	0.455	0.910	Biuret reaction, CX4/5/7
	g/l	45.5	36.4	54.6	4.55	9.10	
	g/dl	4.92	3.94	5.90	0.490	0.980	Biuret reaction, end point
	g/l	49.2	39.4	59.0	4.90	9.80	
	g/dl	4.61	3.69	5.53	0.460	0.920	Biuret reaction, kinetic
	g/l	46.1	36.9	55.3	4.60	9.20	
	g/dl	4.80	3.84	5.76	0.480	0.960	Ortho Vitros Microslide Systems
	g/l	48.0	38.4	57.6	4.80	9.60	
PSA Total	ng/ml = µg/l	17.3	13.0	21.6	2.15	4.30	Abbott Architect/ Alinity
	ng/ml = µg/l	19.5	14.6	24.4	2.45	4.90	Autobio CLIA
	ng/ml = µg/l	23.9	17.9	29.9	3.00	6.00	Beckman Access standardised to Hybritech
	ng/ml = µg/l	25.4	19.1	31.7	3.15	6.30	Beckman DXI standardised to Hybritech
	ng/ml = µg/l	18.5	13.9	23.1	2.30	4.60	bioMerieux VIDAS TPSA
	ng/ml = µg/l	20.0	15.0	25.0	2.50	5.00	Ortho Vitros 3600/5600/ECi
	ng/ml = µg/l	19.6	14.7	24.5	2.45	4.90	Ortho Vitros 3600/5600/ECi PSA II/XT7600
	ng/ml = µg/l	21.1	15.8	26.4	2.65	5.30	Roche Cobas 4000/e411
	ng/ml = µg/l	0.000	0.000	0.000	0.000	0.000	Roche Cobas e402/e801
	ng/ml = µg/l	20.7	15.5	25.9	2.60	5.20	Roche Cobas e601/602
	ng/ml = µg/l	19.1	14.3	23.9	2.40	4.80	Siemens Atellica IM
	ng/ml = µg/l	18.7	14.0	23.4	2.35	4.70	Siemens Centaur

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
PSA Total	ng/ml = µg/l	17.6	13.2	22.0	2.20	4.40	Siemens Dimension
	ng/ml = µg/l	18.3	13.7	22.9	2.30	4.60	Siemens Immulite 2000/2500, Total PSA
	ng/ml = µg/l	14.2	10.7	17.7	1.75	3.50	TOSOH AIA Series
Salicylate	mg/dl	12.0	9.60	14.4	1.20	2.40	Gravimetric
	mmol/l	0.870	0.696	1.04	0.085	0.170	
Sodium	mmol/l	157	149	165	4.00	8.00	Agappe - ISE DIRECT
	mmol/l	156	148	164	4.00	8.00	Colorimetric
	mmol/l	158	150	166	4.00	8.00	Enzymatic
	mmol/l	157	149	165	4.00	8.00	ISE Direct
	mmol/l	155	147	163	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
	mmol/l	155	147	163	4.00	8.00	Ortho Vitros Microslide Systems
Theophylline	µg/ml	25.0	20.0	30.0	2.50	5.00	Gravimetric
	µmol/l	139	111	167	14.0	28.0	
Thyroid Stimulating Hormone	µU/ml = mIU/l	0.952	0.762	1.14	0.094	0.188	Abbott Architect
	µU/ml = mIU/l	1.13	0.904	1.36	0.115	0.230	Access/LXi725 hyper TSH 3rd gen.
	µU/ml = mIU/l	1.46	1.17	1.75	0.145	0.290	Autobio CLIA
	µU/ml = mIU/l	1.12	0.896	1.34	0.110	0.220	Beckman DXI600/800/ Access 2 (3rd IS)
	µU/ml = mIU/l	1.25	1.00	1.50	0.125	0.250	Biomerieux VIDAS TSH
	µU/ml = mIU/l	1.10	0.880	1.32	0.110	0.220	Ortho Vitros TSH
	µU/ml = mIU/l	1.17	0.936	1.40	0.115	0.230	Ortho Vitros TSH3

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Thyroid Stimulating Hormone	µU/ml = mIU/l	1.40	1.12	1.68	0.140	0.280	Roche Cobas 4000/e411
	µU/ml = mIU/l	1.40	1.12	1.68	0.140	0.280	Roche Cobas e402/e801
	µU/ml = mIU/l	1.36	1.09	1.63	0.135	0.270	Roche Cobas e601/ 602
	µU/ml = mIU/l	1.36	1.09	1.63	0.135	0.270	Roche Elecsys
	µU/ml = mIU/l	1.10	0.880	1.32	0.110	0.220	Siemens Atellica IM
	µU/ml = mIU/l	1.12	0.896	1.34	0.110	0.220	Siemens Centaur
	µU/ml = mIU/l	1.09	0.872	1.31	0.110	0.220	Siemens Dimension Exl LOCI
TIBC	µg/dl	231	182	280	24.5	49.0	Calculated from Transferrin
	µmol/l	41.3	32.6	50.0	4.35	8.70	
	µg/dl	274	216	332	29.0	58.0	Direct Colorimetric
	µmol/l	49.1	38.8	59.4	5.15	10.3	
	µg/dl	238	188	288	25.0	50.0	FE+UIBC(saturation with iron)
	µmol/l	42.5	33.6	51.4	4.45	8.90	
	µg/dl	192	152	232	20.0	40.0	Ortho Vitros Microslide Systems
	µmol/l	34.4	27.2	41.6	3.60	7.20	
	µg/dl	195	154	236	20.5	41.0	Ortho Vitros Microtip
	µmol/l	34.8	27.5	42.1	3.65	7.30	
	µg/dl	265	209	321	28.0	56.0	Randox Colorimetric
	µmol/l	47.4	37.4	57.4	5.00	10.0	
Tobramycin	µg/ml	7.30	5.84	8.76	0.730	1.46	Gravimetric
	µmol/l	15.6	12.5	18.7	1.55	3.10	
Total T3	ng/dl	166	125	207	20.5	41.0	Abbott Architect
	ng/ml	1.66	1.25	2.07	0.205	0.410	
	nmol/l	2.55	1.91	3.19	0.320	0.640	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Total T3	ng/dl	207	155	259	26.0	52.0	Beckman Access/LXi725
	ng/ml	2.08	1.56	2.60	0.260	0.520	
	nmol/l	3.19	2.39	3.99	0.400	0.800	
	ng/dl	196	147	245	24.5	49.0	bioMerieux, VIDAS
	ng/ml	1.97	1.48	2.46	0.245	0.490	
	nmol/l	3.02	2.27	3.77	0.375	0.750	
	ng/dl	301	226	376	37.5	75.0	Ortho Vitros 3600/5600/ECi/XT/7600
	ng/ml	3.01	2.26	3.76	0.375	0.750	
	nmol/l	4.63	3.47	5.79	0.580	1.16	
	ng/dl	235	176	294	29.5	59.0	Roche Cobas 4000/e411
	ng/ml	2.36	1.77	2.95	0.295	0.590	
	nmol/l	3.62	2.72	4.52	0.450	0.900	
	ng/dl	228	171	285	28.5	57.0	Roche Cobas e402/e801
	ng/ml	2.29	1.72	2.86	0.285	0.570	
	nmol/l	3.51	2.63	4.39	0.440	0.880	
	ng/dl	228	171	285	28.5	57.0	Roche Cobas e601/ 602
	ng/ml	2.29	1.72	2.86	0.285	0.570	
	nmol/l	3.51	2.63	4.39	0.440	0.880	
	ng/dl	225	169	281	28.0	56.0	Siemens Centaur
	ng/ml	2.26	1.70	2.82	0.280	0.560	
	nmol/l	3.47	2.60	4.34	0.435	0.870	
Total T4	ng/ml	186	140	232	23.0	46.0	Abbott Architect
	nmol/l	239	179	299	30.0	60.0	
	µg/dl	18.6	14.0	23.2	2.30	4.60	
	ng/ml	215	161	269	27.0	54.0	Beckman Access/LXi725
	nmol/l	276	207	345	34.5	69.0	
	µg/dl	21.5	16.1	26.9	2.70	5.40	
	ng/ml	176	132	220	22.0	44.0	bioMerieux, VIDAS
	nmol/l	226	170	282	28.0	56.0	
	µg/dl	17.6	13.2	22.0	2.20	4.40	
	ng/ml	178	134	222	22.0	44.0	Ortho Vitros 3600/5600/ECi/XT 7600
	nmol/l	228	171	285	28.5	57.0	
	µg/dl	17.8	13.4	22.2	2.20	4.40	
	ng/ml	165	124	206	20.5	41.0	Roche Cobas 4000/e411
	nmol/l	211	158	264	26.5	53.0	
	µg/dl	16.5	12.4	20.6	2.05	4.10	
	ng/ml	169	127	211	21.0	42.0	Roche Cobas e402/e801
	nmol/l	217	163	271	27.0	54.0	
	µg/dl	16.9	12.7	21.1	2.10	4.20	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Total T4	ng/ml	165	124	206	20.5	41.0	Roche Cobas e601/ 602
	nmol/l	211	158	264	26.5	53.0	
	µg/dl	16.5	12.4	20.6	2.05	4.10	
	ng/ml	201	151	251	25.0	50.0	Siemens Centaur
	nmol/l	258	194	322	32.0	64.0	
	µg/dl	20.1	15.1	25.1	2.50	5.00	
	ng/ml	206	155	257	25.5	51.0	Siemens/DPC Immulite 2000/2500
	nmol/l	264	198	330	33.0	66.0	
	µg/dl	20.6	15.5	25.7	2.55	5.10	
	ng/ml	139	104	174	17.5	35.0	Thermo Scientific / Microgenics DRI
	nmol/l	178	134	222	22.0	44.0	
	µg/dl	13.9	10.4	17.4	1.75	3.50	
	ng/ml	158	119	197	19.5	39.0	TOSOH AIA Series
	nmol/l	202	152	252	25.0	50.0	
	µg/dl	15.8	11.9	19.7	1.95	3.90	
Transferrin	g/l	1.62	1.30	1.94	0.160	0.320	Immunoturbidimetric
	mg/dl	162	130	194	16.0	32.0	
Triglycerides	mg/dl	251	211	291	20.0	40.0	Abbott Alinity i
	mmol/l	2.84	2.39	3.29	0.225	0.450	
	mg/dl	251	211	291	20.0	40.0	Abbott Architect Triglyceride 2
	mmol/l	2.84	2.39	3.29	0.225	0.450	
	mg/dl	262	220	304	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
	mg/dl	259	218	300	20.5	41.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	260	218	302	21.0	42.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.94	2.47	3.41	0.235	0.470	
	mg/dl	271	228	314	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	306	257	355	24.5	49.0	Ortho Vitros Microslide Systems
	mmol/l	3.46	2.91	4.01	0.275	0.550	
	mg/dl	250	210	290	20.0	40.0	Quidel Triage Meter Plus
	mmol/l	2.82	2.37	3.27	0.225	0.450	
	mg/dl	272	228	316	22.0	44.0	Siemens Atellica TRIG_ 2
	mmol/l	3.07	2.58	3.56	0.245	0.490	
	mg/dl	259	218	300	20.5	41.0	Siemens Dimension
	mmol/l	2.93	2.46	3.40	0.235	0.470	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	129	110	148	9.50	19.0	Abbott Architect Urea Nitrogen 2
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	
	mg/dl	118	100	136	9.00	18.0	Agappe - BERTHELOT
	mg/dl (BUN)	54.9	46.7	63.1	4.10	8.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	
	mg/dl	123	105	141	9.00	18.0	Agappe Ultra Stik
	mg/dl (BUN)	57.4	48.8	66.0	4.30	8.60	
	mmol/l	20.5	17.4	23.6	1.55	3.10	
	mg/dl	126	107	145	9.50	19.0	Beckman - Conductivity
	mg/dl (BUN)	58.5	49.7	67.3	4.40	8.80	
	mmol/l	20.9	17.8	24.0	1.55	3.10	
	mg/dl	115	97.8	132	8.50	17.0	Ortho Vitros Microslide Systems
	mg/dl (BUN)	53.5	45.5	61.5	4.00	8.00	
	mmol/l	19.1	16.2	22.0	1.45	2.90	
	mg/dl	125	106	144	9.50	19.0	Urease - hypochlorite
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	125	106	144	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	0.000	0.000	0.000	0.000	0.000	Urease, kinetic
	mg/dl (BUN)	0.000	0.000	0.000	0.000	0.000	
	mmol/l	0.000	0.000	0.000	0.000	0.000	
	mg/dl	130	111	149	9.50	19.0	
	mg/dl (BUN)	60.8	51.7	69.9	4.55	9.10	
	mmol/l	21.7	18.4	25.0	1.65	3.30	
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Abbott Alinity Uric Acid 2
	mmol/l	0.539	0.469	0.609	0.035	0.070	

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Method

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Abbott Architect Uric Acid 2
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	9.16	7.97	10.4	0.620	1.24	Agappe - URICASE - PAP
	mmol/l	0.545	0.474	0.616	0.036	0.071	
	mg/dl	9.71	8.45	11.0	0.645	1.29	Agappe - URICASE - TOPS
	mmol/l	0.578	0.503	0.653	0.038	0.075	
	mg/dl	9.21	8.01	10.4	0.595	1.19	Beckman AU Non US calibrator (66300)
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	9.03	7.86	10.2	0.585	1.17	Beckman AU US calibrator (DR0070)
	mmol/l	0.537	0.467	0.607	0.035	0.070	
	mg/dl	8.71	7.58	9.84	0.565	1.13	Ortho Vitros Microslide Systems
	mmol/l	0.518	0.451	0.585	0.034	0.067	
	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase @ 293 nm
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	9.68	8.42	10.9	0.610	1.22	Uricase perox. no ascorb. ox.
	mmol/l	0.576	0.501	0.651	0.038	0.075	
	mg/dl	9.11	7.93	10.3	0.595	1.19	Uricase Perox. with ascorb. ox
	mmol/l	0.542	0.472	0.612	0.035	0.070	
	mg/dl	9.14	7.95	10.3	0.580	1.16	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.544	0.473	0.615	0.036	0.071	
	mg/dl	9.03	7.86	10.2	0.585	1.17	Uricase, catalase 340nm.
	mmol/l	0.537	0.467	0.607	0.035	0.070	
Vitamin B12	pg/ml	335	268	402	33.5	67.0	Roche Cobas e402/e801
	pmol/l	247	198	296	24.5	49.0	
Zinc	µg/dl	195	156	234	19.5	39.0	Colorimetric with deprot.
	µmol/l	29.8	23.8	35.8	3.00	6.00	

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MicroPoint Micro Lab Microlyte

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct

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Mindray CL Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
PSA Total	ng/ml = µg/l	22.8	17.1	28.5	2.85	5.70	Mindray CL-Series

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MTI Diagnostics Auto ISE

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.93	5.34	6.52	0.295	0.590	Ion Selective Electrode
	mmol/l	1.48	1.33	1.63	0.075	0.150	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE Direct
	mmol/l	115	106	124	4.50	9.00	ISE Indirect
Potassium	mmol/l	5.86	5.39	6.33	0.235	0.470	ISE method - direct
	mmol/l	5.95	5.47	6.43	0.240	0.480	ISE method - indirect
Sodium	mmol/l	152	144	160	4.00	8.00	ISE method - direct

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MTI Diagnostics M Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.07	2.61	3.53	0.230	0.460	Bromocresol Green
	g/l	30.7	26.1	35.3	2.30	4.60	
ALT (GPT)	U/l	159	127	191	16.0	32.0	Tris Buffer Without P5P
AST (GOT)	U/l	143	114	172	14.5	29.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.35	4.23	6.47	0.560	1.12	Diazo With Dichloroaniline
	µmol/l	91.4	72.2	111	9.80	19.6	
Cholesterol	mg/dl	300	261	339	19.5	39.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.78	6.77	8.79	0.505	1.01	
	mg/dl	282	245	319	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.30	6.35	8.25	0.475	0.950	
CK Total	U/l	565	463	667	51.0	102	CK-NAC (IFCC)
Creatinine	mg/dl	3.98	3.18	4.78	0.400	0.800	Jaffe Rate Blanked
	µmol/l	352	282	422	35.0	70.0	
gamma-GT	U/l	159	135	183	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Protein Total	g/dl	4.57	3.66	5.48	0.455	0.910	Biuret reaction, end point
	g/l	45.7	36.6	54.8	4.55	9.10	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
Urea	mg/dl	123	105	141	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	57.1	48.5	65.7	4.30	8.60	
	mmol/l	20.4	17.3	23.5	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.74	7.60	9.88	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.520	0.452	0.588	0.034	0.068	

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Nova Biomedical Nova Stat Profile Prime Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	6.29	5.79	6.79	0.250	0.500	ISE method - direct
Sodium	mmol/l	154	146	162	4.00	8.00	ISE method - direct

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Nulife Electrolyte Analyzer NU-LYTE Electrolyte Analyzer

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
Potassium	mmol/l	5.73	5.27	6.19	0.230	0.460	ISE method - direct
Sodium	mmol/l	148	141	155	3.50	7.00	ISE method - direct

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RANDOX

Ortho Clinical Diagnostics 46/56/XT 7600 (Microtip/well)

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.09	2.63	3.55	0.230	0.460	Ortho Vitros Microslide Systems
	g/l	30.9	26.3	35.5	2.30	4.60	
Alkaline Phosphatase	U/l	283	241	325	21.0	42.0	Ortho Vitros Microslide Systems
ALT (GPT)	U/l	162	130	194	16.0	32.0	Ortho Vitros Microslide Systems
	U/l	164	131	197	16.5	33.0	Ortho Vitros MicroSlide visible
Amylase Total	U/l	153	130	176	11.5	23.0	Ortho Vitros Microslide Systems
AST (GOT)	U/l	162	130	194	16.0	32.0	Ortho Vitros MicroSlide visible
Bilirubin Total	mg/dl	4.84	3.82	5.86	0.510	1.02	Ortho Vitros MicroSlide Total Bil
	µmol/l	82.7	65.3	100	8.65	17.3	
Bilirubin unconjugated BU	mg/dl	4.50	3.56	5.44	0.470	0.940	BuBc Vitros slide
	µmol/l	77.0	60.8	93.2	8.10	16.2	
	mg/dl	4.29	3.39	5.19	0.450	0.900	Direct Bilirubin Vitros slide
	µmol/l	73.3	57.9	88.7	7.70	15.4	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Ortho Vitros Microslide Systems
	mmol/l	2.98	2.68	3.28	0.150	0.300	
Chloride	mmol/l	115	106	124	4.50	9.00	Ortho Vitros Microslide Systems
Cholesterol	mg/dl	280	244	316	18.0	36.0	Ortho Vitros Microslide Systems
	mmol/l	7.24	6.30	8.18	0.470	0.940	
CK Total	U/l	442	362	522	40.0	80.0	Ortho Vitros Microslide Systems
Creatinine	mg/dl	4.35	3.48	5.22	0.435	0.870	Vitros, DT60/DT60 II/DTSC II
	µmol/l	385	308	462	38.5	77.0	
	mg/dl	4.33	3.46	5.20	0.435	0.870	Vitros, IDMS traceable
	µmol/l	383	306	460	38.5	77.0	
D-3-Hydroxybutyrate	mmol/l	1.19	1.01	1.37	0.090	0.180	Tris buffer 100mmol pH 8.5
Free T4	ng/dl	6.98	5.24	8.72	0.870	1.74	Ortho Vitros 3600/5600/ECi/XT/7600
	pg/ml	69.8	52.4	87.2	8.70	17.4	
	pmol/l	89.5	67.1	112	11.3	22.5	
gamma-GT	U/l	181	154	208	13.5	27.0	Ortho Vitros Microslide Systems
Glucose	mg/dl	263	224	302	19.5	39.0	Ortho Vitros Microslide Systems
	mmol/l	14.6	12.4	16.8	1.10	2.20	
HDL - Cholesterol	mg/dl	86.9	73.9	99.9	6.50	13.0	Vitros dHDL, PTA/MgCl2 direct precip.
	mmol/l	2.25	1.91	2.59	0.170	0.340	
Iron	µg/dl	213	175	251	19.0	38.0	Ortho Vitros Microslide Systems
	µmol/l	38.1	31.2	45.0	3.45	6.90	
LD (LDH)	U/l	387	329	445	29.0	58.0	Ortho Vitros IFCC Traceable
	U/l	394	335	453	29.5	59.0	Ortho Vitros Microslide Systems
Lipase	U/l	786	630	942	78.0	156	Ortho Vitros Microslide Systems

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RANDOX

Ortho Clinical Diagnostics 46/56/XT 7600 (Microtip/well)

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Magnesium	mg/dl	4.37	3.85	4.89	0.260	0.520	Ortho Vitros Microslide Systems
	mmol/l	1.80	1.58	2.02	0.110	0.220	
Phosphate Inorganic	mg/dl	6.94	5.90	7.98	0.520	1.04	Ortho Vitros Microslide Systems
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Potassium	mmol/l	6.04	5.56	6.52	0.240	0.480	Ortho Vitros Microslide Systems
Protein Total	g/dl	4.80	3.84	5.76	0.480	0.960	Ortho Vitros Microslide Systems
	g/l	48.0	38.4	57.6	4.80	9.60	
PSA Total	ng/ml = µg/l	20.3	15.2	25.4	2.55	5.10	Ortho Vitros 3600/5600/ECi
	ng/ml = µg/l	19.7	14.8	24.6	2.45	4.90	Ortho Vitros 3600/5600/ECi PSA II/XT7600
Sodium	mmol/l	155	147	163	4.00	8.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.09	0.872	1.31	0.110	0.220	Ortho Vitros TSH
	µU/ml = mlU/l	1.16	0.928	1.39	0.115	0.230	Ortho Vitros TSH3
TIBC	µg/dl	184	145	223	19.5	39.0	Ortho Vitros Microslide Systems
	µmol/l	32.9	26.0	39.8	3.45	6.90	
	µg/dl	196	155	237	20.5	41.0	Ortho Vitros Microtip
	µmol/l	35.0	27.7	42.3	3.65	7.30	
Total T3	ng/dl	303	227	379	38.0	76.0	Ortho Vitros 3600/5600/ECi/XT/7600
	ng/ml	3.04	2.28	3.80	0.380	0.760	
	nmol/l	4.67	3.50	5.84	0.585	1.17	
Total T4	ng/ml	176	132	220	22.0	44.0	Ortho Vitros 3600/5600/ECi/XT 7600
	nmol/l	226	170	282	28.0	56.0	
	µg/dl	17.6	13.2	22.0	2.20	4.40	
Triglycerides	mg/dl	304	255	353	24.5	49.0	Ortho Vitros Microslide Systems
	mmol/l	3.43	2.88	3.98	0.275	0.550	
Urea	mg/dl	115	97.8	132	8.50	17.0	Ortho Vitros Microslide Systems
	mg/dl (BUN)	53.5	45.5	61.5	4.00	8.00	
	mmol/l	19.1	16.2	22.0	1.45	2.90	
Uric Acid (Urate)	mg/dl	8.76	7.62	9.90	0.570	1.14	Ortho Vitros Microslide Systems
	mmol/l	0.521	0.453	0.589	0.034	0.068	

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RANDOX

Ortho Clinical Diagnostics Vitros 3600 / ECi

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Free T4	ng/dl	7.24	5.43	9.05	0.905	1.81	Ortho Vitros 3600/5600/ECi/XT/7600
	pg/ml	72.4	54.3	90.5	9.05	18.1	
	pmol/l	92.8	69.6	116	11.6	23.2	
PSA Total	ng/ml = µg/l	19.8	15.8	23.8	2.00	4.00	Ortho Vitros 3600/5600/ECi
	ng/ml = µg/l	19.0	15.2	22.8	1.90	3.80	Ortho Vitros 3600/5600/ECi PSA II/XT7600
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.13	0.904	1.36	0.115	0.230	Ortho Vitros TSH

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RANDOX

Osmometer Freezing Point Dep.

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Osmolality	mOsm/Kg	391	313	469	39.0	78.0	Freezing Point Depression

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RANDOX

Paramedical PKL PPC Automatic Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.11	2.64	3.58	0.235	0.470	Bromocresol Green
	g/l	31.1	26.4	35.8	2.35	4.70	
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer With P5P
	U/l	150	120	180	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	133	106	160	13.5	27.0	Tris Buffer With P5P
Bilirubin Total	mg/dl	5.32	4.20	6.44	0.560	1.12	Diazo With Sulphanilic Acid
	µmol/l	91.0	71.9	110	9.50	19.0	
Cholesterol	mg/dl	275	239	311	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.13	6.20	8.06	0.465	0.930	
	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.32	6.37	8.27	0.475	0.950	
Creatinine	mg/dl	3.92	3.14	4.70	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	347	278	416	34.5	69.0	
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Protein Total	g/dl	4.71	3.77	5.65	0.470	0.940	Biuret reaction, end point
	g/l	47.1	37.7	56.5	4.70	9.40	
Triglycerides	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
Uric Acid (Urate)	mg/dl	8.24	7.17	9.31	0.535	1.07	Uricase perox. no ascorb. ox.
	mmol/l	0.490	0.426	0.554	0.032	0.064	
	mg/dl	8.92	7.76	10.1	0.590	1.18	Uricase Perox. with ascorb. ox
	mmol/l	0.531	0.462	0.600	0.035	0.069	

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RANDOX

Radiometer ABL 800 Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium Ionised	mg/dl	5.53	4.98	6.08	0.275	0.550	Ion Selective Electrode
	mmol/l	1.38	1.24	1.52	0.070	0.140	
Chloride	mmol/l	118	109	127	4.50	9.00	ISE Direct
Potassium	mmol/l	5.90	5.43	6.37	0.235	0.470	ISE method - direct
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct

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RANDOX

Randox RX series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.05	2.59	3.51	0.230	0.460	Bromocresol Green
	g/l	30.5	25.9	35.1	2.30	4.60	
Alkaline Phosphatase	U/l	353	300	406	26.5	53.0	AMP optimised to IFCC
	U/l	522	444	600	39.0	78.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	157	126	188	15.5	31.0	Tris Buffer With P5P
	U/l	164	131	197	16.5	33.0	Tris Buffer Without P5P
Amylase Total	U/l	276	235	317	20.5	41.0	Randox Liquid Ethylidene pNPG7
AST (GOT)	U/l	140	112	168	14.0	28.0	Tris Buffer With P5P
	U/l	141	113	169	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	16.1	12.8	19.4	1.65	3.30	Enzymatic
Bile Acids	µmol/l	42.3	33.8	50.8	4.25	8.50	Enzymatic Colorimetric
Bilirubin Direct	mg/dl	1.75	1.38	2.12	0.185	0.370	Diazo With Sulphanilic Acid
	µmol/l	29.9	23.6	36.2	3.15	6.30	
	mg/dl	1.71	1.35	2.07	0.180	0.360	Oxidation to Biliverdin/Vanadate
	µmol/l	29.3	23.1	35.5	3.10	6.20	
Bilirubin Total	mg/dl	5.15	4.07	6.23	0.540	1.08	Diazo With Sulphanilic Acid
	µmol/l	88.1	69.6	107	9.45	18.9	
	mg/dl	5.50	4.35	6.65	0.575	1.15	Oxidation to Biliverdin/Vanadate
	µmol/l	94.0	74.3	114	10.0	20.0	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Arsenazo III
	mmol/l	2.96	2.66	3.26	0.150	0.300	
Chloride	mmol/l	109	100	118	4.50	9.00	ISE Direct
	mmol/l	108	99.4	117	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	305	265	345	20.0	40.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.90	6.87	8.93	0.515	1.03	
	mg/dl	312	271	353	20.5	41.0	Cholesterol Oxidase - IDMS
	mmol/l	8.07	7.02	9.12	0.525	1.05	
CK Total	U/l	556	456	656	50.0	100	CK-NAC (IFCC)
	U/l	560	459	661	50.5	101	CK-NAC serum start (DGKC)
Creatinine	mg/dl	3.56	2.85	4.27	0.355	0.710	Alkaline picrate no deproteinisation
	µmol/l	315	252	378	31.5	63.0	
	mg/dl	4.33	3.46	5.20	0.435	0.870	Enzymatic
	µmol/l	383	306	460	38.5	77.0	
	mg/dl	3.66	2.93	4.39	0.365	0.730	Jaffe Rate Blanked
	µmol/l	324	259	389	32.5	65.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	167	142	192	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	165	140	190	12.5	25.0	Randox Colorimetric

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RANDOX

Randox RX series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Glucose	mg/dl	283	241	325	21.0	42.0	Glucose Oxidase
	mmol/l	15.7	13.3	18.1	1.20	2.40	
	mg/dl	270	230	310	20.0	40.0	Hexokinase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Iron	µg/dl	222	182	262	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.8	32.6	47.0	3.60	7.20	
LD (LDH)	U/l	342	291	393	25.5	51.0	L to P, IFCC
	U/l	706	600	812	53.0	106	P to L, German methods
Lipase	U/l	96	77	115	9.50	19.0	Colorimetric Randox
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Xylidyl Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
Phosphate Inorganic	mg/dl	6.57	5.58	7.56	0.495	0.990	Phosphomolybdate Enzymatic
	mmol/l	2.12	1.80	2.44	0.160	0.320	
	mg/dl	6.88	5.85	7.91	0.515	1.03	Phosphomolybdate UV
	mmol/l	2.22	1.89	2.55	0.165	0.330	
Potassium	mmol/l	5.93	5.46	6.40	0.235	0.470	ISE method - direct
	mmol/l	6.03	5.55	6.51	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.68	3.74	5.62	0.470	0.940	Biuret reaction, end point
	g/l	46.8	37.4	56.2	4.70	9.40	
	g/dl	4.50	3.60	5.40	0.450	0.900	Biuret reaction, kinetic
	g/l	45.0	36.0	54.0	4.50	9.00	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
TIBC	µg/dl	267	211	323	28.0	56.0	Direct Colorimetric
	µmol/l	47.7	37.7	57.7	5.00	10.0	
Triglycerides	mg/dl	263	221	305	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
	mg/dl	260	218	302	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
Urea	mg/dl	119	101	137	9.00	18.0	Urease, end point
	mg/dl (BUN)	55.4	47.1	63.7	4.15	8.30	
	mmol/l	19.8	16.8	22.8	1.50	3.00	
	mg/dl	121	103	139	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.3	47.9	64.7	4.20	8.40	
	mmol/l	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mg/dl	9.24	8.04	10.4	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.550	0.479	0.621	0.036	0.071	

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RANDOX

Randox RX series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.24	8.04	10.4	0.580	1.16	Uricase Perox. with ascorb. ox
	mmol/l	0.550	0.479	0.621	0.036	0.071	
	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.535	0.465	0.605	0.035	0.070	

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RANDOX

Rayto Chemray Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.14	2.67	3.61	0.235	0.470	Bromocresol Green
	g/l	31.4	26.7	36.1	2.35	4.70	
Alkaline Phosphatase	U/l	541	460	622	40.5	81.0	Diethanolamine buffer, DEA
AST (GOT)	U/l	129	103	155	13.0	26.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.83	1.45	2.21	0.190	0.380	Dichlorophenyl Diazonium
	µmol/l	31.3	24.7	37.9	3.30	6.60	
Bilirubin Total	mg/dl	5.55	4.38	6.72	0.585	1.17	Dichlorophenyl Diazonium
	µmol/l	94.9	75.0	115	10.1	20.1	
Cholesterol	mg/dl	292	254	330	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.55	6.57	8.53	0.490	0.980	
	mg/dl	267	232	302	17.5	35.0	Cholesterol Oxidase - IDMS
	mmol/l	6.91	6.01	7.81	0.450	0.900	
CK Total	U/l	542	444	640	49.0	98.0	CK-NAC (IFCC)
Creatinine	mg/dl	3.79	3.03	4.55	0.380	0.760	Jaffe Rate Blanked
	µmol/l	335	268	402	33.5	67.0	
Glucose	mg/dl	283	241	325	21.0	42.0	Glucose Oxidase
	mmol/l	15.7	13.3	18.1	1.20	2.40	
Iron	µg/dl	220	180	260	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.4	32.3	46.5	3.55	7.10	
LD (LDH)	U/l	710	604	816	53.0	106	P to L, German methods
Phosphate Inorganic	mg/dl	7.35	6.25	8.45	0.550	1.10	Phosphomolybdate UV
	mmol/l	2.37	2.01	2.73	0.180	0.360	
Triglycerides	mg/dl	271	228	314	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
Uric Acid (Urate)	mg/dl	8.91	7.75	10.1	0.595	1.19	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.530	0.461	0.599	0.035	0.069	

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RANDOX

Rayto RT Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Glucose	mg/dl	265	225	305	20.0	40.0	Glucose Oxidase
	mmol/l	14.7	12.5	16.9	1.10	2.20	
Urea	mg/dl	114	96.9	131	8.50	17.0	Urease, kinetic
	mg/dl (BUN)	53.2	45.2	61.2	4.00	8.00	
	mmol/l	19.0	16.2	21.8	1.40	2.80	

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RANDOX

Robonik Prietest

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
ALT (GPT)	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
Urea	mg/dl	120	102	138	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.0	47.6	64.4	4.20	8.40	
	mmol/l	20.0	17.0	23.0	1.50	3.00	

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RANDOX

Roche AVL 9100 series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.73	5.16	6.30	0.285	0.570	Ion Selective Electrode
	mmol/l	1.43	1.29	1.57	0.070	0.140	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Direct
Potassium	mmol/l	6.19	5.69	6.69	0.250	0.500	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct
	mmol/l	155	147	163	4.00	8.00	ISE method - indirect

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RANDOX

Roche AVL OMNI S / b221

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium Ionised	mg/dl	5.45	4.91	5.99	0.270	0.540	Ion Selective Electrode
	mmol/l	1.36	1.22	1.50	0.070	0.140	
Chloride	mmol/l	109	100	118	4.50	9.00	ISE Direct
Potassium	mmol/l	6.06	5.58	6.54	0.240	0.480	ISE method - direct
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct

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Roche Cobas c111

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.16	2.69	3.63	0.235	0.470	Bromocresol Green
	g/l	31.6	26.9	36.3	2.35	4.70	
Alkaline Phosphatase	U/l	324	275	373	24.5	49.0	AMP optimised to IFCC
	U/l	312	265	359	23.5	47.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	134	107	161	13.5	27.0	Tris Buffer With P5P
	U/l	135	108	162	13.5	27.0	Tris Buffer Without P5P
Amylase Total	U/l	246	209	283	18.5	37.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	118	94	142	12.0	24.0	Tris Buffer With P5P
	U/l	123	98	148	12.5	25.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.76	1.39	2.13	0.185	0.370	Diazo with Dichloroanaline
	µmol/l	30.1	23.8	36.4	3.15	6.30	
	mg/dl	1.99	1.57	2.41	0.210	0.420	Diazo With Sulphanilic Acid
	µmol/l	34.1	26.9	41.3	3.60	7.20	
	mg/dl	1.99	1.57	2.41	0.210	0.420	Dichlorophenyl Diazonium
	µmol/l	34.1	26.9	41.3	3.60	7.20	
	mg/dl	1.91	1.51	2.31	0.200	0.400	Roche DPD JG standardised
	µmol/l	32.6	25.8	39.4	3.40	6.80	
Bilirubin Total	mg/dl	4.39	3.47	5.31	0.460	0.920	Diazo With Sulphanilic Acid
	µmol/l	75.0	59.3	90.7	7.85	15.7	
	mg/dl	4.67	3.69	5.65	0.490	0.980	Diazonium Ion
	µmol/l	79.9	63.1	96.7	8.40	16.8	
	mg/dl	4.61	3.64	5.58	0.485	0.970	Dichlorophenyl Diazonium
	µmol/l	78.8	62.3	95.3	8.25	16.5	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.03	2.73	3.33	0.150	0.300	
	mg/dl	12.0	10.8	13.2	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.99	2.69	3.29	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.03	2.73	3.33	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.34	6.39	8.29	0.475	0.950	
	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.29	6.34	8.24	0.475	0.950	
	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.39	6.43	8.35	0.480	0.960	
CK Total	U/l	523	429	617	47.0	94.0	CK-NAC (IFCC)
Creatinine	mg/dl	3.94	3.15	4.73	0.395	0.790	Alkaline picrate no deproteinisation
	µmol/l	349	279	419	35.0	70.0	

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Roche Cobas c111

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Creatinine	mg/dl	3.98	3.18	4.78	0.400	0.800	Jaffe Rate Blanked
	µmol/l	352	282	422	35.0	70.0	
	mg/dl	4.07	3.26	4.88	0.405	0.810	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	360	288	432	36.0	72.0	
	mg/dl	4.10	3.28	4.92	0.410	0.820	Jaffe rate comp. (-18umol/l)
	µmol/l	363	290	436	36.5	73.0	
	mg/dl	4.16	3.33	4.99	0.415	0.830	Roche Creatinine Plus
	µmol/l	368	294	442	37.0	74.0	
gamma-GT	U/l	157	133	181	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	149	127	171	11.0	22.0	Gamma Glutamyl-4-Nitroanilide
Glucose	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
	mg/dl	281	239	323	21.0	42.0	Hexokinase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
HDL - Cholesterol	mg/dl	112	95.2	129	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.90	2.47	3.33	0.215	0.430	
Iron	µg/dl	224	184	264	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.1	32.9	47.3	3.60	7.20	
LD (LDH)	U/l	347	295	399	26.0	52.0	L to P, IFCC
Lipase	U/l	75	60	90	7.50	15.0	Colorimetric Roche
Magnesium	mg/dl	4.20	3.70	4.70	0.250	0.500	Chlorphosphonazo III
	mmol/l	1.73	1.52	1.94	0.105	0.210	
	mg/dl	4.13	3.63	4.63	0.250	0.500	Xylidyl Blue
	mmol/l	1.70	1.50	1.90	0.100	0.200	
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	7.13	6.06	8.20	0.535	1.07	Phosphomolybdate UV
	mmol/l	2.30	1.96	2.64	0.170	0.340	
Potassium	mmol/l	5.94	5.46	6.42	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.63	3.70	5.56	0.465	0.930	Biuret reaction, end point
	g/l	46.3	37.0	55.6	4.65	9.30	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	266	223	309	21.5	43.0	Lipase/GK UV. no correction
	mmol/l	3.01	2.53	3.49	0.240	0.480	
	mg/dl	258	217	299	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.91	2.44	3.38	0.235	0.470	
	mg/dl	264	222	306	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	

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Roche Cobas c111

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Triglycerides	mg/dl	273	229	317	22.0	44.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	3.09	2.60	3.58	0.245	0.490	
Urea	mg/dl	122	104	140	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	56.8	48.3	65.3	4.25	8.50	
	mmol/l	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase perox. no ascorb. ox.
	mmol/l	0.535	0.465	0.605	0.035	0.070	
	mg/dl	8.94	7.78	10.1	0.580	1.16	Uricase Perox. with ascorb. ox
	mmol/l	0.532	0.463	0.601	0.035	0.069	
	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.534	0.465	0.603	0.035	0.069	

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Roche Cobas c303/c503

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.20	2.72	3.68	0.240	0.480	Bromocresol Green
	g/l	32.0	27.2	36.8	2.40	4.80	
	g/dl	2.94	2.50	3.38	0.220	0.440	Bromocresol Purple
	g/l	29.4	25.0	33.8	2.20	4.40	
	g/dl	3.02	2.57	3.47	0.225	0.450	Turbidimetric Assays
	g/l	30.2	25.7	34.7	2.25	4.50	
Alkaline Phosphatase	U/l	294	250	338	22.0	44.0	AMP optimised to IFCC
	U/l	290	247	333	21.5	43.0	Colorimetric
	U/l	292	248	336	22.0	44.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	144	115	173	14.5	29.0	Colorimetric
	U/l	147	118	176	14.5	29.0	Tris Buffer With P5P
	U/l	148	118	178	15.0	30.0	Tris buffer with P5P, NVKC
	U/l	148	118	178	15.0	30.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	211	179	243	16.0	32.0	Immunoinhibition, EPS substrate
	U/l	220	187	253	16.5	33.0	Randox Liquid Stable pNPG7
	U/l	220	187	253	16.5	33.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	244	207	281	18.5	37.0	BM/Roche, Colorimetric pNPG7
	U/l	246	209	283	18.5	37.0	Other Roche 2-chloro-pNPG7
	U/l	246	209	283	18.5	37.0	Roche Integra 2-chloro-pNPG7
	U/l	245	208	282	18.5	37.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	150	120	180	15.0	30.0	Tris Buffer With P5P
	U/l	149	119	179	15.0	30.0	Tris buffer with P5P, NVKC
	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	12.9	10.2	15.6	1.35	2.70	Colorimetric
	mmol/l	12.7	10.1	15.3	1.30	2.60	Enzymatic
	mmol/l	13.1	10.4	15.8	1.35	2.70	PEP Carboxylase
Bile Acids	µmol/l	46.3	37.0	55.6	4.65	9.30	Enzymatic Colorimetric
	µmol/l	47.7	38.2	57.2	4.75	9.50	Enzymatic Colorimetric - Sentinel
Bilirubin Direct	mg/dl	1.83	1.45	2.21	0.190	0.380	Diazo With Sulphanilic Acid
	µmol/l	31.2	24.6	37.8	3.30	6.60	
	mg/dl	1.92	1.52	2.32	0.200	0.400	Dichlorophenyl Diazonium
	µmol/l	32.8	25.9	39.7	3.45	6.90	
	mg/dl	1.71	1.35	2.07	0.180	0.360	Roche DPD Doumas standardised
	µmol/l	29.3	23.1	35.5	3.10	6.20	
	mg/dl	2.01	1.59	2.43	0.210	0.420	Roche DPD JG standardised
	µmol/l	34.4	27.2	41.6	3.60	7.20	
Bilirubin Total	mg/dl	4.46	3.52	5.40	0.470	0.940	Diazo With Sulphanilic Acid
	µmol/l	76.2	60.2	92.2	8.00	16.0	

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Roche Cobas c303/c503

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Bilirubin Total	mg/dl	4.38	3.46	5.30	0.460	0.920	Diazonium Ion
	µmol/l	74.8	59.1	90.5	7.85	15.7	
	mg/dl	4.40	3.48	5.32	0.460	0.920	Dichlorophenyl Diazonium
	µmol/l	75.2	59.4	91.0	7.90	15.8	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	3.00	2.70	3.30	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.01	2.71	3.31	0.150	0.300	
Chloride	mmol/l	108	99.4	117	4.50	9.00	ISE Direct
	mmol/l	109	100	118	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	273	238	308	17.5	35.0	Cholesterol Dehydrogenase
	mmol/l	7.06	6.14	7.98	0.460	0.920	
	mg/dl	287	250	324	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.43	6.46	8.40	0.485	0.970	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.42	6.46	8.38	0.480	0.960	
Cholinesterase	U/l	5230	4184	6276	523	1046	Colorimetric - Butyrylthiocholine
CK Total	U/l	517	424	610	46.5	93.0	CK-NAC (IFCC)
	U/l	525	431	619	47.0	94.0	CK-NAC substrate start (DGKC)
	U/l	518	425	611	46.5	93.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	4.35	3.48	5.22	0.435	0.870	Alkaline picrate no deproteinisation
	µmol/l	385	308	462	38.5	77.0	
	mg/dl	4.34	3.47	5.21	0.435	0.870	Alkaline Picrate With Deproteinisation
	µmol/l	384	307	461	38.5	77.0	
	mg/dl	4.45	3.56	5.34	0.445	0.890	Enzymatic
	µmol/l	394	315	473	39.5	79.0	
	mg/dl	4.53	3.62	5.44	0.455	0.910	IDMS Traceable
	µmol/l	401	321	481	40.0	80.0	
	mg/dl	4.25	3.40	5.10	0.425	0.850	Jaffe Rate Blanked
	µmol/l	376	301	451	37.5	75.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.26	3.41	5.11	0.425	0.850	Jaffe rate comp. (-18umol/l)
	µmol/l	377	302	452	37.5	75.0	
	mg/dl	4.46	3.57	5.35	0.445	0.890	Roche Creatinine Plus
	µmol/l	395	316	474	39.5	79.0	
gamma-GT	U/l	164	139	189	12.5	25.0	Gamma glut.-3-carb.-4-nitro.

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RANDOX

Roche Cobas c303/c503

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
gamma-GT	U/l	167	142	192	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	263	224	302	19.5	39.0	Glucose Dehydrogenase
	mmol/l	14.6	12.4	16.8	1.10	2.20	
	mg/dl	272	231	313	20.5	41.0	Glucose Oxidase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, Clearance method
	mmol/l	2.85	2.42	3.28	0.215	0.430	
	mg/dl	114	96.9	131	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.94	2.50	3.38	0.220	0.440	
Iron	µg/dl	221	181	261	20.0	40.0	Colorimetric with ppt.
	µmol/l	39.5	32.4	46.6	3.55	7.10	
	µg/dl	220	180	260	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.4	32.3	46.5	3.55	7.10	
Lactate	mg/dl	49.0	40.2	57.8	4.40	8.80	Colorimetric - Lactate oxidase
	mmol/l	5.44	4.46	6.42	0.490	0.980	
LD (LDH)	U/l	346	294	398	26.0	52.0	L to P, IFCC
	U/l	347	295	399	26.0	52.0	Lactate to Pyruvate methods
Lipase	U/l	78	63	93	7.50	15.0	Colorimetric Roche
	U/l	76	61	91	7.50	15.0	Other Colorimetric
	U/l	78	63	93	7.50	15.0	Roche Turbidimetric with colipase
Lithium	mg/dl	1.42	1.25	1.59	0.085	0.170	Spectrophotometric
	mmol/l	2.05	1.80	2.30	0.125	0.250	
Magnesium	mg/dl	4.25	3.74	4.76	0.255	0.510	Atomic Absorption
	mmol/l	1.75	1.54	1.96	0.105	0.210	
	mg/dl	4.33	3.81	4.85	0.260	0.520	Chlorphosphonazo III
	mmol/l	1.78	1.57	1.99	0.105	0.210	
	mg/dl	4.33	3.81	4.85	0.260	0.520	Methylthymol Blue
	mmol/l	1.78	1.57	1.99	0.105	0.210	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Xylidyl Blue
	mmol/l	1.77	1.56	1.98	0.105	0.210	
Osmolality	mOsm/Kg	348	278	418	35.0	70.0	Calculated
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Potassium	mmol/l	6.15	5.66	6.64	0.245	0.490	ISE method - direct

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Roche Cobas c303/c503

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Potassium	mmol/l	6.19	5.69	6.69	0.250	0.500	ISE method - indirect
Protein Total	g/dl	4.51	3.61	5.41	0.450	0.900	Biuret reaction, CX4/5/7
	g/l	45.1	36.1	54.1	4.50	9.00	
	g/dl	4.54	3.63	5.45	0.455	0.910	Biuret reaction, end point
	g/l	45.4	36.3	54.5	4.55	9.10	
	g/dl	4.52	3.62	5.42	0.450	0.900	Biuret reaction, kinetic
	g/l	45.2	36.2	54.2	4.50	9.00	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µg/dl	232	183	281	24.5	49.0	FE+UIBC(saturation with iron)
	µmol/l	41.5	32.8	50.2	4.35	8.70	
Triglycerides	mg/dl	263	221	305	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
	mg/dl	262	220	304	21.0	42.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
	mg/dl	261	219	303	21.0	42.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	263	221	305	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
	mg/dl	267	224	310	21.5	43.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	3.02	2.54	3.50	0.240	0.480	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.86	7.71	10.0	0.570	1.14	Uricase @ 293 nm
	mmol/l	0.527	0.458	0.596	0.035	0.069	
	mg/dl	8.87	7.72	10.0	0.565	1.13	Uricase perox. no ascorb. ox.
	mmol/l	0.528	0.459	0.597	0.035	0.069	
	mg/dl	8.89	7.73	10.1	0.605	1.21	Uricase Perox. with ascorb. ox
	mmol/l	0.529	0.460	0.598	0.035	0.069	
	mg/dl	8.89	7.73	10.1	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.529	0.460	0.598	0.035	0.069	
	mg/dl	8.77	7.63	9.91	0.570	1.14	Uricase, catalase 340nm.
	mmol/l	0.522	0.454	0.590	0.034	0.068	

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RANDOX

Roche Cobas c311

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.18	2.70	3.66	0.240	0.480	Bromocresol Green
	g/l	31.8	27.0	36.6	2.40	4.80	
	g/dl	3.18	2.70	3.66	0.240	0.480	Bromocresol Purple
	g/l	31.8	27.0	36.6	2.40	4.80	
	g/dl	3.13	2.66	3.60	0.235	0.470	Turbidimetric Assays
	g/l	31.3	26.6	36.0	2.35	4.70	
Alkaline Phosphatase	U/l	316	269	363	23.5	47.0	AMP optimised to IFCC
	U/l	314	267	361	23.5	47.0	Colorimetric
	U/l	316	269	363	23.5	47.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	141	113	169	14.0	28.0	Colorimetric
	U/l	143	114	172	14.5	29.0	Tris Buffer With P5P
	U/l	141	113	169	14.0	28.0	Tris buffer with P5P, NVKC
	U/l	141	113	169	14.0	28.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	240	204	276	18.0	36.0	Immunoinhibition, EPS substrate
	U/l	219	186	252	16.5	33.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	248	211	285	18.5	37.0	BM/Roche, Colorimetric pNPG7
	U/l	243	207	279	18.0	36.0	Other Roche 2-chloro-pNPG7
	U/l	248	211	285	18.5	37.0	Roche Integra 2-chloro-pNPG7
	U/l	246	209	283	18.5	37.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	126	101	151	12.5	25.0	Colorimetric
	U/l	125	100	150	12.5	25.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.70	1.34	2.06	0.180	0.360	Dichlorophenyl Diazonium
	µmol/l	29.0	22.9	35.1	3.05	6.10	
	mg/dl	1.74	1.37	2.11	0.185	0.370	Roche DPD JG standardised
	µmol/l	29.7	23.5	35.9	3.10	6.20	
Bilirubin Total	mg/dl	4.64	3.67	5.61	0.485	0.970	Diazo With Dichloroaniline
	µmol/l	79.4	62.7	96.1	8.35	16.7	
	mg/dl	4.48	3.54	5.42	0.470	0.940	Diazo With Sulphanilic Acid
	µmol/l	76.6	60.5	92.7	8.05	16.1	
	mg/dl	4.48	3.54	5.42	0.470	0.940	Diazonium Ion
	µmol/l	76.5	60.4	92.6	8.05	16.1	
	mg/dl	4.52	3.57	5.47	0.475	0.950	Dichlorophenyl Diazonium
	µmol/l	77.2	61.0	93.4	8.10	16.2	
Calcium	mg/dl	12.2	11.0	13.4	0.600	1.20	Arsenazo III
	mmol/l	3.04	2.74	3.34	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.02	2.72	3.32	0.150	0.300	

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RANDOX

Roche Cobas c311

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Chloride	mmol/l	108	99.4	117	4.50	9.00	ISE Direct
	mmol/l	108	99.4	117	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.32	6.37	8.27	0.475	0.950	
	mg/dl	287	250	324	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.43	6.46	8.40	0.485	0.970	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.42	6.46	8.38	0.480	0.960	
Cholinesterase	U/l	5346	4277	6415	535	1069	Colorimetric - Butyrylthiocholine
CK Total	U/l	524	430	618	47.0	94.0	CK-NAC (IFCC)
	U/l	518	425	611	46.5	93.0	CK-NAC substrate start (DGKC)
	U/l	519	426	612	46.5	93.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	4.27	3.42	5.12	0.425	0.850	Alkaline picrate no deproteinisation
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.50	3.60	5.40	0.450	0.900	Enzymatic
	µmol/l	398	318	478	40.0	80.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	IDMS Traceable
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.23	3.38	5.08	0.425	0.850	Jaffe Rate Blanked
	µmol/l	374	299	449	37.5	75.0	
	mg/dl	4.26	3.41	5.11	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	377	302	452	37.5	75.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	Jaffe rate comp. (-18umol/l)
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.37	3.50	5.24	0.435	0.870	Roche Creatinine Plus
	µmol/l	387	310	464	38.5	77.0	
gamma-GT	U/l	162	138	186	12.0	24.0	DCL, gamma glut.-3-carb.-4-nitro.
	U/l	157	133	181	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
	U/l	167	142	192	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Dehydrogenase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	
	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	106	90.1	122	8.00	16.0	Direct HDL, Clearance method
	mmol/l	2.74	2.33	3.15	0.205	0.410	
	mg/dl	108	91.8	124	8.00	16.0	Direct HDL, PEGME
	mmol/l	2.80	2.38	3.22	0.210	0.420	

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Roche Cobas c311

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
HDL - Cholesterol	mg/dl	106	90.1	122	8.00	16.0	Direct HDL, PPD
	mmol/l	2.74	2.33	3.15	0.205	0.410	
	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.84	2.41	3.27	0.215	0.430	
Iron	µg/dl	224	184	264	20.0	40.0	Colorimetric with ppt.
	µmol/l	40.0	32.8	47.2	3.60	7.20	
	µg/dl	223	183	263	20.0	40.0	Colorimetric without ppt.
	µmol/l	39.9	32.7	47.1	3.60	7.20	
Lactate	mg/dl	49.5	40.6	58.4	4.45	8.90	Colorimetric - Lactate oxidase
	mmol/l	5.49	4.50	6.48	0.495	0.990	
LD (LDH)	U/l	344	292	396	26.0	52.0	L to P, IFCC
	U/l	345	293	397	26.0	52.0	Lactate to Pyruvate methods
Lipase	U/l	81	65	97	8.00	16.0	Colorimetric Roche
	U/l	80	64	96	8.00	16.0	Roche Turbidimetric with colipase
Lithium	mg/dl	1.44	1.27	1.61	0.085	0.170	Spectrophotometric
	mmol/l	2.07	1.82	2.32	0.125	0.250	
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Atomic Absorption
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Chlorphosphonazo III
	mmol/l	1.77	1.56	1.98	0.105	0.210	
	mg/dl	4.20	3.70	4.70	0.250	0.500	Enzymatic
	mmol/l	1.73	1.52	1.94	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Xylidyl Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
Phosphate Inorganic	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.26	1.92	2.60	0.170	0.340	
	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate UV
	mmol/l	2.26	1.92	2.60	0.170	0.340	
Potassium	mmol/l	6.13	5.64	6.62	0.245	0.490	ISE method - direct
	mmol/l	6.13	5.64	6.62	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.56	3.65	5.47	0.455	0.910	Biuret reaction, end point
	g/l	45.6	36.5	54.7	4.55	9.10	
	g/dl	4.61	3.69	5.53	0.460	0.920	Biuret reaction, kinetic
	g/l	46.1	36.9	55.3	4.60	9.20	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µg/dl	237	187	287	25.0	50.0	FE+UIBC(saturation with iron)
	µmol/l	42.4	33.5	51.3	4.45	8.90	

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Roche Cobas c311

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GK UV. no correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	267	224	310	21.5	43.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	3.02	2.54	3.50	0.240	0.480	
	mg/dl	265	223	307	21.0	42.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.99	2.51	3.47	0.240	0.480	
	mg/dl	264	222	306	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
	mg/dl	264	222	306	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.98	2.50	3.46	0.240	0.480	
Urea	mg/dl	127	108	146	9.50	19.0	Urease, end point
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
	mg/dl	127	108	146	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.1	50.2	68.0	4.45	8.90	
	mmol/l	21.1	17.9	24.3	1.60	3.20	
Uric Acid (Urate)	mg/dl	8.94	7.78	10.1	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.532	0.463	0.601	0.035	0.069	
	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase Perox. with ascorb. ox
	mmol/l	0.534	0.465	0.603	0.035	0.069	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.533	0.464	0.602	0.035	0.069	
	mg/dl	9.13	7.94	10.3	0.585	1.17	Uricase, catalase 340nm.
	mmol/l	0.543	0.472	0.614	0.036	0.071	
Zinc	µg/dl	219	175	263	22.0	44.0	Colorimetric without deprot.
	µmol/l	33.5	26.8	40.2	3.35	6.70	

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Roche Cobas c501/c502

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.19	2.71	3.67	0.240	0.480	Bromocresol Green
	g/l	31.9	27.1	36.7	2.40	4.80	
	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Purple
	g/l	31.0	26.4	35.6	2.30	4.60	
	g/dl	2.97	2.52	3.42	0.225	0.450	Turbidimetric Assays
	g/l	29.7	25.2	34.2	2.25	4.50	
Alkaline Phosphatase	U/l	315	268	362	23.5	47.0	AMP optimised to IFCC
	U/l	321	273	369	24.0	48.0	Colorimetric
	U/l	320	272	368	24.0	48.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	144	115	173	14.5	29.0	Tris Buffer With P5P
	U/l	141	113	169	14.0	28.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	217	184	250	16.5	33.0	Immunoinhibition, EPS substrate
	U/l	218	185	251	16.5	33.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	244	207	281	18.5	37.0	BM/Roche, Colorimetric pNPG7
	U/l	244	207	281	18.5	37.0	Other Roche 2-chloro-pNPG7
	U/l	246	209	283	18.5	37.0	Randox Liquid Ethylidene pNPG7
	U/l	243	207	279	18.0	36.0	Roche Integra 2-chloro-pNPG7
	U/l	244	207	281	18.5	37.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	154	123	185	15.5	31.0	Tris Buffer With P5P
	U/l	125	100	150	12.5	25.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	13.1	10.4	15.8	1.35	2.70	Colorimetric
	mmol/l	12.9	10.2	15.6	1.35	2.70	Enzymatic
	mmol/l	12.9	10.2	15.6	1.35	2.70	PEP Carboxylase
Bile Acids	µmol/l	47.6	38.1	57.1	4.75	9.50	Enzymatic Colorimetric - Sentinel
Bilirubin Direct	mg/dl	1.75	1.38	2.12	0.185	0.370	Diazo with Dichloroanaline
	µmol/l	29.9	23.6	36.2	3.15	6.30	
	mg/dl	1.74	1.37	2.11	0.185	0.370	Diazo With Sulphanilic Acid
	µmol/l	29.8	23.5	36.1	3.15	6.30	
	mg/dl	1.75	1.38	2.12	0.185	0.370	Dichlorophenyl Diazonium
	µmol/l	29.9	23.6	36.2	3.15	6.30	
	mg/dl	1.74	1.37	2.11	0.185	0.370	Roche DPD JG standardised
	µmol/l	29.7	23.5	35.9	3.10	6.20	
Bilirubin Total	mg/dl	4.49	3.55	5.43	0.470	0.940	Diazo With Dichloroaniline
	µmol/l	76.7	60.6	92.8	8.05	16.1	
	mg/dl	4.48	3.54	5.42	0.470	0.940	Diazo With Sulphanilic Acid
	µmol/l	76.6	60.5	92.7	8.05	16.1	
	mg/dl	4.51	3.56	5.46	0.475	0.950	Diazonium Ion
	µmol/l	77.1	60.9	93.3	8.10	16.2	

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Roche Cobas c501/c502

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Bilirubin Total	mg/dl	4.49	3.55	5.43	0.470	0.940	Dichlorophenyl Diazonium
	µmol/l	76.7	60.6	92.8	8.05	16.1	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	2.99	2.69	3.29	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.01	2.71	3.31	0.150	0.300	
Chloride	mmol/l	107	98.4	116	4.50	9.00	ISE Direct
	mmol/l	108	99.4	117	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.38	6.42	8.34	0.480	0.960	
	mg/dl	284	247	321	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.36	6.40	8.32	0.480	0.960	
Cholinesterase	U/l	5285	4228	6342	529	1057	Colorimetric - Benzoylcholine
	U/l	5351	4281	6421	535	1070	Colorimetric - Butyrylthiocholine
CK Total	U/l	519	426	612	46.5	93.0	CK-NAC (IFCC)
	U/l	518	425	611	46.5	93.0	CK-NAC serum start (DGKC)
	U/l	519	426	612	46.5	93.0	CK-NAC substrate start (DGKC)
	U/l	521	427	615	47.0	94.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	4.24	3.39	5.09	0.425	0.850	Alkaline picrate no deproteinisation
	µmol/l	375	300	450	37.5	75.0	
	mg/dl	4.44	3.55	5.33	0.445	0.890	Enzymatic
	µmol/l	393	314	472	39.5	79.0	
	mg/dl	4.20	3.36	5.04	0.420	0.840	Jaffe Rate Blanked
	µmol/l	372	298	446	37.0	74.0	
	mg/dl	4.20	3.36	5.04	0.420	0.840	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	372	298	446	37.0	74.0	
	mg/dl	4.25	3.40	5.10	0.425	0.850	Jaffe rate comp. (-18umol/l)
	µmol/l	376	301	451	37.5	75.0	
	mg/dl	4.37	3.50	5.24	0.435	0.870	Roche Creatinine Plus
	µmol/l	387	310	464	38.5	77.0	
Free T4	ng/dl	5.44	4.08	6.80	0.680	1.36	Roche Cobas e601/ 602
	pg/ml	54.4	40.8	68.0	6.80	13.6	
	pmol/l	69.8	52.4	87.2	8.70	17.4	
gamma-GT	U/l	152	129	175	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	166	141	191	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	165	140	190	12.5	25.0	Gamma Glutamyl-4-Nitroanilide

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Roche Cobas c501/c502

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Dehydrogenase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	274	233	315	20.5	41.0	Hexokinase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	105	89.3	121	8.00	16.0	Direct HDL, Immunoseparation
	mmol/l	2.72	2.31	3.13	0.205	0.410	
	mg/dl	113	96.1	130	8.50	17.0	Direct HDL, PEGME
	mmol/l	2.93	2.49	3.37	0.220	0.440	
	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, PPD
	mmol/l	2.86	2.43	3.29	0.215	0.430	
	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.86	2.43	3.29	0.215	0.430	
Iron	µg/dl	225	185	265	20.0	40.0	Colorimetric with ppt.
	µmol/l	40.3	33.0	47.6	3.65	7.30	
	µg/dl	225	185	265	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.3	33.0	47.6	3.65	7.30	
Lactate	mg/dl	49.1	40.3	57.9	4.40	8.80	Colorimetric - Lactate oxidase
	mmol/l	5.45	4.47	6.43	0.490	0.980	
LD (LDH)	U/l	344	292	396	26.0	52.0	L to P, IFCC
	U/l	343	292	394	25.5	51.0	Lactate to Pyruvate methods
Lipase	U/l	79	63	95	8.00	16.0	Colorimetric Roche
	U/l	79	63	95	8.00	16.0	Other Colorimetric
	U/l	77	62	92	7.50	15.0	Roche Turbidimetric with colipase
Lithium	mg/dl	1.41	1.24	1.58	0.085	0.170	Spectrophotometric
	mmol/l	2.03	1.79	2.27	0.120	0.240	
Magnesium	mg/dl	4.30	3.78	4.82	0.260	0.520	Arsenazo III
	mmol/l	1.77	1.56	1.98	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Atomic Absorption
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Chlorphosphonazo III
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.16	3.66	4.66	0.250	0.500	Enzymatic
	mmol/l	1.71	1.50	1.92	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Xylidyl Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
Osmolality	mOsm/Kg	345	276	414	34.5	69.0	Calculated

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Roche Cobas c501/c502

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.25	1.91	2.59	0.170	0.340	
	mg/dl	6.91	5.87	7.95	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.23	1.90	2.56	0.165	0.330	
Potassium	mmol/l	6.15	5.66	6.64	0.245	0.490	ISE method - direct
	mmol/l	6.15	5.66	6.64	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.54	3.63	5.45	0.455	0.910	Biuret reaction, end point
	g/l	45.4	36.3	54.5	4.55	9.10	
	g/dl	4.53	3.62	5.44	0.455	0.910	Biuret reaction, kinetic
	g/l	45.3	36.2	54.4	4.55	9.10	
PSA Total	ng/ml = µg/l	20.5	15.4	25.6	2.55	5.10	Roche Cobas e601/602
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.36	1.09	1.63	0.135	0.270	Roche Cobas e601/ 602
TIBC	µg/dl	231	182	280	24.5	49.0	FE+UIBC(saturation with iron)
	µmol/l	41.4	32.7	50.1	4.35	8.70	
Triglycerides	mg/dl	261	219	303	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	258	217	299	20.5	41.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
	mg/dl	261	219	303	21.0	42.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
	mg/dl	263	221	305	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
Urea	mg/dl	126	107	145	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.5	49.7	67.3	4.40	8.80	
	mmol/l	20.9	17.8	24.0	1.55	3.10	
	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.81	7.66	9.96	0.575	1.15	Uricase perox. no ascorb. ox.
	mmol/l	0.524	0.456	0.592	0.034	0.068	

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Roche Cobas c501/c502

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Uric Acid (Urate)	mg/dl	8.86	7.71	10.0	0.570	1.14	Uricase Perox. with ascorb. ox
	mmol/l	0.527	0.458	0.596	0.035	0.069	
	mg/dl	8.87	7.72	10.0	0.565	1.13	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.528	0.459	0.597	0.035	0.069	
	mg/dl	8.89	7.73	10.1	0.605	1.21	Uricase, catalase 340nm.
	mmol/l	0.529	0.460	0.598	0.035	0.069	
Zinc	µg/dl	198	158	238	20.0	40.0	Colorimetric with deprot.
	µmol/l	30.3	24.2	36.4	3.05	6.10	
	µg/dl	212	170	254	21.0	42.0	Colorimetric without deprot.
	µmol/l	32.5	26.0	39.0	3.25	6.50	

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Roche Cobas c701 / c702 / c711

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.18	2.70	3.66	0.240	0.480	Bromocresol Green
	g/l	31.8	27.0	36.6	2.40	4.80	
	g/dl	3.08	2.62	3.54	0.230	0.460	Turbidimetric Assays
	g/l	30.8	26.2	35.4	2.30	4.60	
Alkaline Phosphatase	U/l	308	262	354	23.0	46.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	145	116	174	14.5	29.0	Colorimetric
	U/l	145	116	174	14.5	29.0	Tris Buffer With P5P
	U/l	141	113	169	14.0	28.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	228	194	262	17.0	34.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	248	211	285	18.5	37.0	BM/Roche, Colorimetric pNPG7
	U/l	246	209	283	18.5	37.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	152	122	182	15.0	30.0	Tris Buffer With P5P
	U/l	125	100	150	12.5	25.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	13.5	10.7	16.3	1.40	2.80	Enzymatic
Bile Acids	µmol/l	46.0	36.8	55.2	4.60	9.20	Enzymatic Colorimetric
Bilirubin Direct	mg/dl	1.81	1.43	2.19	0.190	0.380	Dichlorophenyl Diazonium
	µmol/l	30.9	24.4	37.4	3.25	6.50	
	mg/dl	1.43	1.13	1.73	0.150	0.300	Roche DPD Doumas standardised
	µmol/l	24.4	19.3	29.5	2.55	5.10	
	mg/dl	1.80	1.42	2.18	0.190	0.380	Roche DPD JG standardised
	µmol/l	30.7	24.3	37.1	3.20	6.40	
Bilirubin Total	mg/dl	4.50	3.56	5.44	0.470	0.940	Diazo With Sulphanilic Acid
	µmol/l	76.9	60.8	93.0	8.05	16.1	
	mg/dl	4.52	3.57	5.47	0.475	0.950	Diazonium Ion
	µmol/l	77.2	61.0	93.4	8.10	16.2	
	mg/dl	4.52	3.57	5.47	0.475	0.950	Dichlorophenyl Diazonium
	µmol/l	77.2	61.0	93.4	8.10	16.2	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.03	2.73	3.33	0.150	0.300	
	mg/dl	12.0	10.8	13.2	0.600	1.20	NM-BAPTA
	mmol/l	2.99	2.69	3.29	0.150	0.300	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.38	6.42	8.34	0.480	0.960	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.40	6.44	8.36	0.480	0.960	
Cholinesterase	U/l	5280	4224	6336	528	1056	Colorimetric - Butyrylthiocholine
CK Total	U/l	516	423	609	46.5	93.0	CK-NAC (IFCC)

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Roche Cobas c701 / c702 / c711

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
CK Total	U/l	502	412	592	45.0	90.0	CK-NAC substrate start (DGKC)
Copper	µg/dl	143	114	172	14.5	29.0	Colorimetric
	µmol/l	22.5	18.0	27.0	2.25	4.50	
Creatinine	mg/dl	4.51	3.61	5.41	0.450	0.900	Enzymatic
	µmol/l	399	319	479	40.0	80.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	IDMS Traceable
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.26	3.41	5.11	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	377	302	452	37.5	75.0	
	mg/dl	4.27	3.42	5.12	0.425	0.850	Jaffe rate comp. (-18umol/l)
	µmol/l	378	302	454	38.0	76.0	
	mg/dl	4.46	3.57	5.35	0.445	0.890	Roche Creatinine Plus
	µmol/l	395	316	474	39.5	79.0	
gamma-GT	U/l	156	133	179	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	164	139	189	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	107	91.0	123	8.00	16.0	Direct HDL, Roche 4th gen.
	mmol/l	2.77	2.35	3.19	0.210	0.420	
Iron	µg/dl	219	180	258	19.5	39.0	Colorimetric without ppt.
	µmol/l	39.1	32.1	46.1	3.50	7.00	
Lactate	mg/dl	48.1	39.4	56.8	4.35	8.70	Colorimetric - Lactate oxidase
	mmol/l	5.34	4.38	6.30	0.480	0.960	
LD (LDH)	U/l	343	292	394	25.5	51.0	L to P, IFCC
Lipase	U/l	82	66	98	8.00	16.0	Colorimetric Roche
Lithium	mg/dl	1.42	1.25	1.59	0.085	0.170	Spectrophotometric
	mmol/l	2.04	1.80	2.28	0.120	0.240	
Magnesium	mg/dl	4.33	3.81	4.85	0.260	0.520	Chlorphosphonazo III
	mmol/l	1.78	1.57	1.99	0.105	0.210	
	mg/dl	4.28	3.77	4.79	0.255	0.510	Xylidyl Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
Phosphate Inorganic	mg/dl	6.91	5.87	7.95	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.23	1.90	2.56	0.165	0.330	
Potassium	mmol/l	6.17	5.68	6.66	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.58	3.66	5.50	0.460	0.920	Biuret reaction, end point
	g/l	45.8	36.6	55.0	4.60	9.20	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µg/dl	227	179	275	24.0	48.0	FE+UIBC(saturation with iron)
	µmol/l	40.6	32.1	49.1	4.25	8.50	

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Roche Cobas c701 / c702 / c711

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
	mg/dl	263	221	305	21.0	42.0	Lipase/GK UV., 0.11 mmol/l correction
	mmol/l	2.97	2.49	3.45	0.240	0.480	
	mg/dl	262	220	304	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	
	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP, 0.11mmol/l correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
Urea	mg/dl	120	102	138	9.00	18.0	Urease, end point
	mg/dl (BUN)	55.7	47.3	64.1	4.20	8.40	
	mmol/l	19.9	16.9	22.9	1.50	3.00	
	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.79	7.65	9.93	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.523	0.455	0.591	0.034	0.068	
	mg/dl	8.84	7.69	9.99	0.575	1.15	Uricase Perox. with ascorb. ox
	mmol/l	0.526	0.458	0.594	0.034	0.068	
	mg/dl	8.81	7.66	9.96	0.575	1.15	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.524	0.456	0.592	0.034	0.068	

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Roche Cobas e402/e801

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	5.76	4.32	7.20	0.720	1.44	Roche Cobas e402/e801
	pg/ml	57.6	43.2	72.0	7.20	14.4	
	pmol/l	73.8	55.4	92.2	9.20	18.4	
PSA Total	ng/ml = µg/l	20.5	15.4	25.6	2.55	5.10	Roche Cobas e402/e801
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.32	1.06	1.58	0.130	0.260	Roche Cobas e402/e801
Total T3	ng/dl	242	182	302	30.0	60.0	Roche Cobas e402/e801
	ng/ml	2.43	1.82	3.04	0.305	0.610	
	nmol/l	3.73	2.80	4.66	0.465	0.930	
Total T4	ng/ml	178	134	222	22.0	44.0	Roche Cobas e402/e801
	nmol/l	228	171	285	28.5	57.0	
	µg/dl	17.8	13.4	22.2	2.20	4.40	

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Roche Cobas e411

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Free T4	ng/dl	5.50	4.13	6.87	0.685	1.37	Roche Cobas 4000/e411
	pg/ml	55.0	41.3	68.7	6.85	13.7	
	pmol/l	70.5	52.9	88.1	8.80	17.6	
PSA Total	ng/ml = µg/l	21.1	15.8	26.4	2.65	5.30	Roche Cobas 4000/e411
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.40	1.12	1.68	0.140	0.280	Roche Cobas 4000/e411
	µU/ml = mlU/l	1.40	1.12	1.68	0.140	0.280	Roche Elecsys
Total T3	ng/dl	234	176	292	29.0	58.0	Roche Cobas 4000/e411
	ng/ml	2.35	1.76	2.94	0.295	0.590	
	nmol/l	3.61	2.71	4.51	0.450	0.900	
	ng/dl	232	174	290	29.0	58.0	Roche Elecsys
	ng/ml	2.32	1.74	2.90	0.290	0.580	
	nmol/l	3.57	2.68	4.46	0.445	0.890	
Total T4	ng/ml	165	124	206	20.5	41.0	Roche Cobas 4000/e411
	nmol/l	211	158	264	26.5	53.0	
	µg/dl	16.5	12.4	20.6	2.05	4.10	

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Roche Cobas e601/602

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.17	2.69	3.65	0.240	0.480	Bromocresol Green
	g/l	31.7	26.9	36.5	2.40	4.80	
Free T4	ng/dl	5.56	4.17	6.95	0.695	1.39	Roche Cobas e601/ 602
	pg/ml	55.6	41.7	69.5	6.95	13.9	
	pmol/l	71.3	53.5	89.1	8.90	17.8	
PSA Total	ng/ml = µg/l	20.6	15.5	25.7	2.55	5.10	Roche Cobas e601/602
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.35	1.08	1.62	0.135	0.270	Roche Cobas e601/ 602
Total T3	ng/dl	232	174	290	29.0	58.0	Roche Cobas e601/ 602
	ng/ml	2.32	1.74	2.90	0.290	0.580	
	nmol/l	3.57	2.68	4.46	0.445	0.890	
Total T4	ng/ml	163	122	204	20.5	41.0	Roche Cobas e601/ 602
	nmol/l	209	157	261	26.0	52.0	
	µg/dl	16.3	12.2	20.4	2.05	4.10	

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Roche Integra

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.21	2.73	3.69	0.240	0.480	Bromocresol Green
	g/l	32.1	27.3	36.9	2.40	4.80	
Alkaline Phosphatase	U/l	322	274	370	24.0	48.0	AMP optimised to IFCC
	U/l	320	272	368	24.0	48.0	Roche AMP buffer IFCC
ALT (GPT)	U/l	138	110	166	14.0	28.0	Tris Buffer With P5P
	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Amylase Total	U/l	250	213	287	18.5	37.0	Roche Integra 2-chloro-pNPG7
	U/l	251	213	289	19.0	38.0	Roche Liquid Stable pNPG7
AST (GOT)	U/l	123	98	148	12.5	25.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.85	1.46	2.24	0.195	0.390	Diazo With Sulphanilic Acid
	µmol/l	31.6	25.0	38.2	3.30	6.60	
	mg/dl	1.80	1.42	2.18	0.190	0.380	Dichlorophenyl Diazonium
	µmol/l	30.7	24.3	37.1	3.20	6.40	
	mg/dl	1.83	1.45	2.21	0.190	0.380	Roche DPD JG standardised
	µmol/l	31.2	24.6	37.8	3.30	6.60	
Bilirubin Total	mg/dl	4.57	3.61	5.53	0.480	0.960	Diazo With Sulphanilic Acid
	µmol/l	78.2	61.8	94.6	8.20	16.4	
	mg/dl	4.56	3.60	5.52	0.480	0.960	Diazonium Ion
	µmol/l	78.0	61.6	94.4	8.20	16.4	
	mg/dl	4.56	3.60	5.52	0.480	0.960	Dichlorophenyl Diazonium
	µmol/l	78.0	61.6	94.4	8.20	16.4	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.01	2.71	3.31	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	NM-BAPTA
	mmol/l	3.01	2.71	3.31	0.150	0.300	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	284	247	321	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.35	6.39	8.31	0.480	0.960	
	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.37	6.41	8.33	0.480	0.960	
CK Total	U/l	522	428	616	47.0	94.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.15	3.32	4.98	0.415	0.830	Alkaline picrate no deproteinisation
	µmol/l	367	294	440	36.5	73.0	
	mg/dl	4.10	3.28	4.92	0.410	0.820	Jaffe Rate Blanked
	µmol/l	363	290	436	36.5	73.0	
	mg/dl	4.23	3.38	5.08	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	374	299	449	37.5	75.0	
	mg/dl	4.14	3.31	4.97	0.415	0.830	Jaffe rate comp. (-18umol/l)
	µmol/l	366	293	439	36.5	73.0	

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Roche Integra

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Creatinine	mg/dl	4.26	3.41	5.11	0.425	0.850	Roche Creatinine Plus
	µmol/l	377	302	452	37.5	75.0	
gamma-GT	U/l	154	131	177	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	166	141	191	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	281	239	323	21.0	42.0	Hexokinase
	mmol/l	15.6	13.3	17.9	1.15	2.30	
HDL - Cholesterol	mg/dl	113	96.1	130	8.50	17.0	Direct HDL, Roche 4th gen.
	mmol/l	2.93	2.49	3.37	0.220	0.440	
Iron	µg/dl	227	186	268	20.5	41.0	Colorimetric with ppt.
	µmol/l	40.6	33.3	47.9	3.65	7.30	
	µg/dl	224	184	264	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.0	32.8	47.2	3.60	7.20	
Lactate	mg/dl	49.9	40.9	58.9	4.50	9.00	Colorimetric - Lactate oxidase
	mmol/l	5.54	4.54	6.54	0.500	1.00	
LD (LDH)	U/l	350	298	402	26.0	52.0	L to P, IFCC
Lipase	U/l	73	59	87	7.00	14.0	Colorimetric Roche
Magnesium	mg/dl	4.20	3.70	4.70	0.250	0.500	Chlorphosphonazo III
	mmol/l	1.73	1.52	1.94	0.105	0.210	
	mg/dl	4.13	3.63	4.63	0.250	0.500	Xylidyl Blue
	mmol/l	1.70	1.50	1.90	0.100	0.200	
Phosphate Inorganic	mg/dl	7.10	6.04	8.16	0.530	1.06	Phosphomolybdate Enzymatic
	mmol/l	2.29	1.95	2.63	0.170	0.340	
	mg/dl	7.13	6.06	8.20	0.535	1.07	Phosphomolybdate UV
	mmol/l	2.30	1.96	2.64	0.170	0.340	
Potassium	mmol/l	6.16	5.67	6.65	0.245	0.490	ISE method - direct
	mmol/l	6.13	5.64	6.62	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.44	3.55	5.33	0.445	0.890	Biuret reaction, end point
	g/l	44.4	35.5	53.3	4.45	8.90	
	g/dl	4.47	3.58	5.36	0.445	0.890	Biuret reaction, kinetic
	g/l	44.7	35.8	53.6	4.45	8.90	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	µg/dl	231	182	280	24.5	49.0	FE+UIBC(saturation with iron)
	µmol/l	41.4	32.7	50.1	4.35	8.70	
Triglycerides	mg/dl	266	223	309	21.5	43.0	Lipase/Glycerol Dehydrogenase
	mmol/l	3.01	2.53	3.49	0.240	0.480	
	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	3.00	2.52	3.48	0.240	0.480	

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Roche Integra

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	123	105	141	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	57.1	48.5	65.7	4.30	8.60	
	mmol/l	20.4	17.3	23.5	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.21	8.01	10.4	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	9.24	8.04	10.4	0.580	1.16	Uricase Perox. with ascorb. ox
	mmol/l	0.550	0.479	0.621	0.036	0.071	
	mg/dl	9.19	8.00	10.4	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.547	0.476	0.618	0.036	0.071	

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Seamaty SD1

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.18	2.70	3.66	0.240	0.480	Bromocresol Green
	g/l	31.8	27.0	36.6	2.40	4.80	
Alkaline Phosphatase	U/l	336	286	386	25.0	50.0	AMP optimised to IFCC
ALT (GPT)	U/l	175	140	210	17.5	35.0	Tris Buffer Without P5P
Amylase Total	U/l	248	211	285	18.5	37.0	pNP Maltotrioside substrates
AST (GOT)	U/l	139	111	167	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	19.6	15.5	23.7	2.05	4.10	Ortho Vitros Microslide Systems
Bilirubin Direct	mg/dl	1.83	1.45	2.21	0.190	0.380	Oxidation to Biliverdin/Vanadate
	µmol/l	31.2	24.6	37.8	3.30	6.60	
Bilirubin Total	mg/dl	5.31	4.19	6.43	0.560	1.12	Oxidation to Biliverdin/Vanadate
	µmol/l	90.8	71.7	110	9.60	19.2	
Calcium	mg/dl	12.7	11.4	14.0	0.650	1.30	Arsenazo III
	mmol/l	3.18	2.86	3.50	0.160	0.320	
Chloride	mmol/l	117	108	126	4.50	9.00	Colorimetric
Creatinine	mg/dl	4.12	3.30	4.94	0.410	0.820	Enzymatic
	µmol/l	365	292	438	36.5	73.0	
gamma-GT	U/l	157	133	181	12.0	24.0	Gamma glut.-3-carb.-4-nitro.
Lipase	U/l	104	83	125	10.5	21.0	Colorimetric Randox
Magnesium	mg/dl	4.54	4.00	5.08	0.270	0.540	Enzymatic
	mmol/l	1.87	1.65	2.09	0.110	0.220	
Phosphate Inorganic	mg/dl	7.07	6.01	8.13	0.530	1.06	Phosphomolybdate Enzymatic
	mmol/l	2.28	1.94	2.62	0.170	0.340	
Potassium	mmol/l	6.25	5.75	6.75	0.250	0.500	Enzymatic
Protein Total	g/dl	4.91	3.93	5.89	0.490	0.980	Biuret reaction, end point
	g/l	49.1	39.3	58.9	4.90	9.80	
Sodium	mmol/l	151	143	159	4.00	8.00	Ortho Vitros Microslide Systems
Urea	mg/dl	117	99.5	135	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	54.6	46.4	62.8	4.10	8.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	
Uric Acid (Urate)	mg/dl	9.43	8.20	10.7	0.635	1.27	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.561	0.488	0.634	0.037	0.073	

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SensaCore Sensa Core ST Series Electrolyte Analysers

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium Ionised	mg/dl	4.97	4.47	5.47	0.250	0.500	Ion Selective Electrode
	mmol/l	1.24	1.12	1.36	0.060	0.120	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
	mmol/l	109	100	118	4.50	9.00	ISE Indirect
Lithium	mg/dl	1.36	1.20	1.52	0.080	0.160	Ion Selective Electrode
	mmol/l	1.96	1.72	2.20	0.120	0.240	
Potassium	mmol/l	5.63	5.18	6.08	0.225	0.450	ISE method - direct
	mmol/l	5.73	5.27	6.19	0.230	0.460	ISE method - indirect
Sodium	mmol/l	150	143	157	3.50	7.00	ISE method - direct
	mmol/l	152	144	160	4.00	8.00	ISE method - indirect

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SFRI Medical Diagnostics SFRI BSA 3000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Cholesterol	mg/dl	289	251	327	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.48	6.51	8.45	0.485	0.970	

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SFRI Medical Diagnostics SFRI ISE electrolyte series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Ion Selective Electrode
	mmol/l	3.00	2.70	3.30	0.150	0.300	
Calcium Ionised	mg/dl	6.01	5.41	6.61	0.300	0.600	Ion Selective Electrode
	mmol/l	1.50	1.35	1.65	0.075	0.150	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
	mmol/l	109	100	118	4.50	9.00	ISE Indirect
Potassium	mmol/l	5.88	5.41	6.35	0.235	0.470	ISE method - direct
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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Shenzhen Dymind Biotechnology Heto Medical AU240

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
ALT (GPT)	U/l	143	114	172	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	126	101	151	12.5	25.0	Tris Buffer Without P5P
Cholesterol	mg/dl	280	244	316	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.26	6.32	8.20	0.470	0.940	
Creatinine	mg/dl	3.86	3.09	4.63	0.385	0.770	Alkaline picrate no deproteinisation
	µmol/l	342	274	410	34.0	68.0	
	mg/dl	3.82	3.06	4.58	0.380	0.760	Enzymatic
	µmol/l	338	270	406	34.0	68.0	
Glucose	mg/dl	285	242	328	21.5	43.0	Glucose Oxidase
	mmol/l	15.8	13.4	18.2	1.20	2.40	
Urea	mg/dl	118	100	136	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.2	46.9	63.5	4.15	8.30	
	mmol/l	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mg/dl	8.79	7.65	9.93	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.523	0.455	0.591	0.034	0.068	

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Siemens / Bayer

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Calcium Ionised	mg/dl	5.33	4.80	5.86	0.265	0.530	Ion Selective Electrode
	mmol/l	1.33	1.20	1.46	0.065	0.130	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE Direct
Potassium	mmol/l	6.01	5.53	6.49	0.240	0.480	ISE method - direct
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct

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Siemens ADVIA Centaur CP

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Total T3	ng/dl	227	170	284	28.5	57.0	Siemens Centaur
	ng/ml	2.27	1.70	2.84	0.285	0.570	
	nmol/l	3.49	2.62	4.36	0.435	0.870	
Total T4	ng/ml	201	151	251	25.0	50.0	Siemens Centaur
	nmol/l	258	194	322	32.0	64.0	
	µg/dl	20.1	15.1	25.1	2.50	5.00	

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Siemens ADVIA Centaur XP/XPT/ Classic

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	5.07	3.80	6.34	0.635	1.27	Siemens Centaur
	pg/ml	50.7	38.0	63.4	6.35	12.7	
	pmol/l	65.0	48.8	81.2	8.10	16.2	
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.16	0.928	1.39	0.115	0.230	Siemens Centaur
	µU/ml = mlU/l	1.12	0.896	1.34	0.110	0.220	Siemens Centaur TSH3-Ultra
Total T4	ng/ml	200	150	250	25.0	50.0	Siemens Centaur
	nmol/l	257	193	321	32.0	64.0	
	µg/dl	20.0	15.0	25.0	2.50	5.00	

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Siemens ADVIA Chemistry Instruments

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	2.97	2.52	3.42	0.225	0.450	Bromocresol Green
	g/l	29.7	25.2	34.2	2.25	4.50	
Alkaline Phosphatase	U/l	302	257	347	22.5	45.0	AMP non-optimised
	U/l	295	251	339	22.0	44.0	AMP optimised to IFCC
	U/l	293	249	337	22.0	44.0	Siemens/Dade Dimension AMP buffer
ALT (GPT)	U/l	163	130	196	16.5	33.0	Siemens/Dade standard nonIFCC correlated
	U/l	161	129	193	16.0	32.0	Tris Buffer With P5P
	U/l	161	129	193	16.0	32.0	Tris Buffer Without P5P
Amylase Total	U/l	250	213	287	18.5	37.0	Siemens - blocked pNPG7
AST (GOT)	U/l	159	127	191	16.0	32.0	Tris Buffer With P5P
	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Bile Acids	µmol/l	44.5	35.6	53.4	4.45	8.90	Enzymatic Colorimetric
Bilirubin Direct	mg/dl	1.73	1.37	2.09	0.180	0.360	Oxidation to Biliverdin/Vanadate
	µmol/l	29.5	23.3	35.7	3.10	6.20	
Bilirubin Total	mg/dl	5.62	4.44	6.80	0.590	1.18	Oxidation to Biliverdin/Vanadate
	µmol/l	96.1	75.9	116	9.95	19.9	
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Arsenazo III
	mmol/l	2.94	2.65	3.23	0.145	0.290	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	294	256	332	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.61	6.62	8.60	0.495	0.990	
Cholinesterase	U/l	6302	5042	7562	630	1260	Colorimetric - Butyrylthiocholine
CK Total	U/l	530	435	625	47.5	95.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.14	3.31	4.97	0.415	0.830	Alkaline Picrate With Deproteinisation
	µmol/l	366	293	439	36.5	73.0	
	mg/dl	4.34	3.47	5.21	0.435	0.870	Enzymatic
	µmol/l	384	307	461	38.5	77.0	
	mg/dl	4.19	3.35	5.03	0.420	0.840	Jaffe Rate Blanked
	µmol/l	371	297	445	37.0	74.0	
	mg/dl	4.12	3.30	4.94	0.410	0.820	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	365	292	438	36.5	73.0	
	mg/dl	4.14	3.31	4.97	0.415	0.830	Jaffe rate comp. (-18umol/l)
	µmol/l	366	293	439	36.5	73.0	
gamma-GT	U/l	155	132	178	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	158	134	182	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	268	228	308	20.0	40.0	Glucose Oxidase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
	mg/dl	270	230	310	20.0	40.0	Hexokinase
	mmol/l	15.0	12.8	17.2	1.10	2.20	

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Siemens ADVIA Chemistry Instruments

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
HDL - Cholesterol	mg/dl	76.4	64.9	87.9	5.75	11.5	Direct HDL, Clearance method
	mmol/l	1.98	1.68	2.28	0.150	0.300	
Iron	µg/dl	219	180	258	19.5	39.0	Colorimetric without ppt.
	µmol/l	39.2	32.1	46.3	3.55	7.10	
Lactate	mg/dl	48.2	39.5	56.9	4.35	8.70	Colorimetric - Lactate oxidase
	mmol/l	5.35	4.39	6.31	0.480	0.960	
LD (LDH)	U/l	346	294	398	26.0	52.0	L to P Siemens/Dade, non-IFCC
	U/l	343	292	394	25.5	51.0	L to P, IFCC
	U/l	327	278	376	24.5	49.0	Lactate to Pyruvate methods
	U/l	673	572	774	50.5	101	P to L, German methods
Lipase	U/l	86	69	103	8.50	17.0	Other Colorimetric
Lithium	mg/dl	1.35	1.19	1.51	0.080	0.160	Spectrophotometric
	mmol/l	1.94	1.71	2.17	0.115	0.230	
Magnesium	mg/dl	4.08	3.59	4.57	0.245	0.490	Xylidyl Blue
	mmol/l	1.68	1.48	1.88	0.100	0.200	
Phosphate Inorganic	mg/dl	7.19	6.11	8.27	0.540	1.08	Phosphomolybdate UV
	mmol/l	2.32	1.97	2.67	0.175	0.350	
Potassium	mmol/l	6.18	5.69	6.67	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.60	3.68	5.52	0.460	0.920	Biuret reaction, end point
	g/l	46.0	36.8	55.2	4.60	9.20	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µg/dl	254	201	307	26.5	53.0	Direct Colorimetric
	µmol/l	45.5	35.9	55.1	4.80	9.60	
	µg/dl	244	193	295	25.5	51.0	FE+UIBC(saturation with iron)
	µmol/l	43.7	34.5	52.9	4.60	9.20	
Triglycerides	mg/dl	271	228	314	21.5	43.0	Lipase/GK UV. no correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
	mg/dl	270	227	313	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.05	2.56	3.54	0.245	0.490	
Urea	mg/dl	128	109	147	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.13	7.94	10.3	0.585	1.17	Uricase perox. no ascorb. ox.
	mmol/l	0.543	0.472	0.614	0.036	0.071	
	mg/dl	9.11	7.93	10.3	0.595	1.19	Uricase Perox. with ascorb. ox
	mmol/l	0.542	0.472	0.612	0.035	0.070	
	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.546	0.475	0.617	0.036	0.071	

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Siemens Atellica Solution

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.02	2.57	3.47	0.225	0.450	Bromocresol Green
	g/l	30.2	25.7	34.7	2.25	4.50	
	g/dl	2.88	2.45	3.31	0.215	0.430	Bromocresol Purple
	g/l	28.8	24.5	33.1	2.15	4.30	
Alkaline Phosphatase	U/l	310	264	356	23.0	46.0	AMP optimised to IFCC
	U/l	309	263	355	23.0	46.0	Siemens/Dade Dimension AMP buffer
ALT (GPT)	U/l	163	130	196	16.5	33.0	LDH - JSCC
	U/l	164	131	197	16.5	33.0	Siemens/Dade standard nonIFCC correlated
	U/l	159	127	191	16.0	32.0	Tris Buffer With P5P
	U/l	163	130	196	16.5	33.0	Tris Buffer Without P5P
Amylase Pancreatic	U/l	258	219	297	19.5	39.0	Immunoinhibition, EPS substrate
	U/l	256	218	294	19.0	38.0	Roche Liquid Stable pNPG7
Amylase Total	U/l	283	241	325	21.0	42.0	Siemens - blocked pNPG7
	U/l	282	240	324	21.0	42.0	Siemens/Dade Behring 2-chloro-pNPG3
AST (GOT)	U/l	138	110	166	14.0	28.0	Siemens/Dade standard non IFCC corr.
	U/l	153	122	184	15.5	31.0	Tris Buffer With P5P
	U/l	138	110	166	14.0	28.0	Tris Buffer Without P5P
Bicarbonate	mmol/l	14.2	11.3	17.1	1.45	2.90	Enzymatic
	mmol/l	15.4	12.2	18.6	1.60	3.20	PEP Carboxylase
Bile Acids	µmol/l	43.1	34.5	51.7	4.30	8.60	Enzymatic Colorimetric
	µmol/l	44.4	35.5	53.3	4.45	8.90	Enzymatic Colorimetric - Sentinel
Bilirubin Direct	mg/dl	1.78	1.41	2.15	0.185	0.370	Oxidation to Biliverdin/Vanadate
	µmol/l	30.4	24.0	36.8	3.20	6.40	
Bilirubin Total	mg/dl	4.71	3.72	5.70	0.495	0.990	Diazo With Dichloroaniline
	µmol/l	80.5	63.6	97.4	8.45	16.9	
	mg/dl	5.52	4.36	6.68	0.580	1.16	Diazo With Sulphanilic Acid
	µmol/l	94.3	74.5	114	9.85	19.7	
	mg/dl	5.53	4.37	6.69	0.580	1.16	Oxidation to Biliverdin/Vanadate
	µmol/l	94.5	74.7	114	9.75	19.5	
Calcium	mg/dl	12.2	11.0	13.4	0.600	1.20	Arsenazo III
	mmol/l	3.04	2.74	3.34	0.150	0.300	
	mg/dl	12.3	11.1	13.5	0.600	1.20	Cresolphthalein Complexone
	mmol/l	3.07	2.76	3.38	0.155	0.310	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE Direct
	mmol/l	114	105	123	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	293	255	331	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.59	6.60	8.58	0.495	0.990	
	mg/dl	292	254	330	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.55	6.57	8.53	0.490	0.980	

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Siemens Atellica Solution

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Cholesterol	mg/dl	290	252	328	19.0	38.0	Siemens Dimension
	mmol/l	7.52	6.54	8.50	0.490	0.980	
Cholinesterase	U/l	7969	6375	9563	797	1594	Colorimetric - Butyrylthiocholine
	U/l	8128	6502	9754	813	1626	Siemens Atellica Cholinesterase_2
CK Total	U/l	520	426	614	47.0	94.0	CK-NAC (IFCC)
	U/l	522	428	616	47.0	94.0	Creatine Phosphate Substrate Start
Creatinine	mg/dl	4.16	3.33	4.99	0.415	0.830	Alkaline picrate no deproteinisation
	µmol/l	368	294	442	37.0	74.0	
	mg/dl	4.23	3.38	5.08	0.425	0.850	Alkaline Picrate With Deproteinisation
	µmol/l	374	299	449	37.5	75.0	
	mg/dl	4.38	3.50	5.26	0.440	0.880	Enzymatic
	µmol/l	388	310	466	39.0	78.0	
	mg/dl	4.24	3.39	5.09	0.425	0.850	IDMS Traceable
	µmol/l	375	300	450	37.5	75.0	
	mg/dl	4.19	3.35	5.03	0.420	0.840	Jaffe Rate Blanked
	µmol/l	371	297	445	37.0	74.0	
	mg/dl	4.24	3.39	5.09	0.425	0.850	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	375	300	450	37.5	75.0	
Free T4	ng/dl	5.63	4.22	7.04	0.705	1.41	Siemens Atellica IM
	pg/ml	56.3	42.2	70.4	7.05	14.1	
	pmol/l	72.2	54.2	90.2	9.00	18.0	
gamma-GT	U/l	169	144	194	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	166	141	191	12.5	25.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	160	136	184	12.0	24.0	Siemens Dimension
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
	mg/dl	272	231	313	20.5	41.0	Hexokinase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
HDL - Cholesterol	mg/dl	98.1	83.4	113	7.45	14.9	Direct HDL, Clearance method
	mmol/l	2.54	2.16	2.92	0.190	0.380	
	mg/dl	99.2	84.3	114	7.40	14.8	HDL Ultra/Accel Selective Detergent
	mmol/l	2.57	2.18	2.96	0.195	0.390	
Iron	µg/dl	224	184	264	20.0	40.0	Colorimetric with ppt.
	µmol/l	40.1	32.9	47.3	3.60	7.20	
	µg/dl	224	184	264	20.0	40.0	Colorimetric without ppt.
	µmol/l	40.0	32.8	47.2	3.60	7.20	
Lactate	mg/dl	48.5	39.8	57.2	4.35	8.70	Colorimetric - Lactate oxidase
	mmol/l	5.38	4.41	6.35	0.485	0.970	
LD (LDH)	U/l	338	287	389	25.5	51.0	L to P Siemens/Dade, non-IFCC

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Siemens Atellica Solution

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
LD (LDH)	U/l	337	286	388	25.5	51.0	L to P, IFCC
	U/l	336	286	386	25.0	50.0	Lactate to Pyruvate methods
Lipase	U/l	87	70	104	8.50	17.0	Colorimetric Dimension (LIP Kit)
	U/l	84	67	101	8.50	17.0	Other Colorimetric
Lithium	mg/dl	1.41	1.24	1.58	0.085	0.170	Spectrophotometric
	mmol/l	2.03	1.79	2.27	0.120	0.240	
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Methylthymol Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.30	3.78	4.82	0.260	0.520	Xylidyl Blue
	mmol/l	1.77	1.56	1.98	0.105	0.210	
Osmolality	mOsm/Kg	346	277	415	34.5	69.0	Calculated
Phosphate Inorganic	mg/dl	7.13	6.06	8.20	0.535	1.07	Phosphomolybdate Enzymatic
	mmol/l	2.30	1.96	2.64	0.170	0.340	
	mg/dl	7.19	6.11	8.27	0.540	1.08	Phosphomolybdate UV
	mmol/l	2.32	1.97	2.67	0.175	0.350	
Potassium	mmol/l	6.06	5.58	6.54	0.240	0.480	ISE method - direct
	mmol/l	6.05	5.57	6.53	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.61	3.69	5.53	0.460	0.920	Biuret reaction, end point
	g/l	46.1	36.9	55.3	4.60	9.20	
	g/dl	4.69	3.75	5.63	0.470	0.940	Biuret reaction, kinetic
	g/l	46.9	37.5	56.3	4.70	9.40	
PSA Total	ng/ml = µg/l	19.1	14.3	23.9	2.40	4.80	Siemens Atellica IM
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.10	0.880	1.32	0.110	0.220	Siemens Atellica IM
TIBC	µg/dl	259	205	313	27.0	54.0	Calculated from Transferrin
	µmol/l	46.4	36.7	56.1	4.85	9.70	
	µg/dl	266	210	322	28.0	56.0	Direct Colorimetric
	µmol/l	47.5	37.5	57.5	5.00	10.0	
	µg/dl	262	207	317	27.5	55.0	FE+UIBC(saturation with iron)
	µmol/l	46.9	37.1	56.7	4.90	9.80	
Total T3	ng/dl	233	175	291	29.0	58.0	Siemens Atellica IM
	ng/ml	2.34	1.76	2.92	0.290	0.580	
	nmol/l	3.59	2.69	4.49	0.450	0.900	

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Siemens Atellica Solution

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Total T4	ng/ml	179	134	224	22.5	45.0	Siemens Atellica IM
	nmol/l	229	172	286	28.5	57.0	
	µg/dl	17.9	13.4	22.4	2.25	4.50	
Triglycerides	mg/dl	273	229	317	22.0	44.0	Lipase/GK UV. no correction
	mmol/l	3.08	2.59	3.57	0.245	0.490	
	mg/dl	268	225	311	21.5	43.0	Lipase/Glycerol Dehydrogenase
	mmol/l	3.03	2.55	3.51	0.240	0.480	
	mg/dl	271	228	314	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.06	2.57	3.55	0.245	0.490	
	mg/dl	272	228	316	22.0	44.0	Siemens Atellica TRIG_ 2
	mmol/l	3.07	2.58	3.56	0.245	0.490	
Urea	mg/dl	127	108	146	9.50	19.0	Urease - hypochlorite
	mg/dl (BUN)	59.4	50.5	68.3	4.45	8.90	
	mmol/l	21.2	18.0	24.4	1.60	3.20	
	mg/dl	129	110	148	9.50	19.0	Urease, end point
	mg/dl (BUN)	59.9	50.9	68.9	4.50	9.00	
	mmol/l	21.4	18.2	24.6	1.60	3.20	
	mg/dl	128	109	147	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase @ 293 nm
	mmol/l	0.546	0.475	0.617	0.036	0.071	
	mg/dl	9.28	8.07	10.5	0.610	1.22	Uricase perox. no ascorb. ox.
	mmol/l	0.552	0.480	0.624	0.036	0.072	
	mg/dl	9.33	8.12	10.5	0.585	1.17	Uricase Perox. with ascorb. ox
	mmol/l	0.555	0.483	0.627	0.036	0.072	
	mg/dl	9.28	8.07	10.5	0.610	1.22	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.552	0.480	0.624	0.036	0.072	
	mg/dl	9.24	8.04	10.4	0.580	1.16	Uricase, catalase 340nm.
	mmol/l	0.550	0.479	0.621	0.036	0.071	

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RANDOX

Siemens AUTOPAK 300/300i analysers

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.04	2.58	3.50	0.230	0.460	Bromocresol Green
	g/l	30.4	25.8	35.0	2.30	4.60	
Alkaline Phosphatase	U/l	376	320	432	28.0	56.0	AMP optimised to IFCC
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.02	2.72	3.32	0.150	0.300	
Cholesterol	mg/dl	289	251	327	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.49	6.52	8.46	0.485	0.970	
Protein Total	g/dl	4.79	3.83	5.75	0.480	0.960	Biuret reaction, end point
	g/l	47.9	38.3	57.5	4.80	9.60	
Triglycerides	mg/dl	247	207	287	20.0	40.0	Lipase/GPO-PAP No Correction
	mmol/l	2.79	2.34	3.24	0.225	0.450	
Urea	mg/dl	120	102	138	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.7	47.3	64.1	4.20	8.40	
	mmol/l	19.9	16.9	22.9	1.50	3.00	

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Siemens Dimension EXL/200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	2.99	2.54	3.44	0.225	0.450	Bromocresol Green
	g/l	29.9	25.4	34.4	2.25	4.50	
	g/dl	2.83	2.41	3.25	0.210	0.420	Bromocresol Purple
	g/l	28.3	24.1	32.5	2.10	4.20	
Alkaline Phosphatase	U/l	322	274	370	24.0	48.0	AMP optimised to IFCC
	U/l	321	273	369	24.0	48.0	Siemens/Dade Dimension AMP buffer
ALT (GPT)	U/l	157	126	188	15.5	31.0	Siemens/Dade standard nonIFCC correlated
	U/l	157	126	188	15.5	31.0	Tris Buffer With P5P
Amylase Total	U/l	279	237	321	21.0	42.0	Siemens/Dade - maltopenta/hexaoside
	U/l	293	249	337	22.0	44.0	Siemens/Dade Behring 2-chloro-pNPG3
AST (GOT)	U/l	147	118	176	14.5	29.0	Siemens/Dade standard non IFCC corr.
	U/l	145	116	174	14.5	29.0	Tris Buffer With P5P
Bicarbonate	mmol/l	14.9	11.8	18.0	1.55	3.10	Enzymatic
	mmol/l	14.4	11.4	17.4	1.50	3.00	PEP Carboxylase
Bilirubin Direct	mg/dl	1.16	0.916	1.40	0.120	0.240	Diazo With Sulphanilic Acid
	µmol/l	19.8	15.6	24.0	2.10	4.20	
	mg/dl	1.13	0.893	1.37	0.120	0.240	Diazo/ Sulphanilic Siemens Dimension
	µmol/l	19.3	15.2	23.4	2.05	4.10	
Bilirubin Total	mg/dl	5.12	4.04	6.20	0.540	1.08	Diazo With Sulphanilic Acid
	µmol/l	87.5	69.1	106	9.25	18.5	
	mg/dl	4.97	3.93	6.01	0.520	1.04	Diazonium Ion
	µmol/l	84.9	67.1	103	9.05	18.1	
Calcium	mg/dl	11.9	10.7	13.1	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.97	2.67	3.27	0.150	0.300	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE Direct
	mmol/l	110	101	119	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	274	238	310	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.09	6.17	8.01	0.460	0.920	
	mg/dl	274	238	310	18.0	36.0	Siemens Dimension
	mmol/l	7.09	6.17	8.01	0.460	0.920	
Cholinesterase	U/l	9837	7870	11804	984	1967	Colorimetric - Butyrythiochol. Dimension
CK Total	U/l	513	421	605	46.0	92.0	CK-NAC (IFCC)
	U/l	520	426	614	47.0	94.0	Dithioerythritol (DTE), IFCC correlated
Creatinine	mg/dl	4.32	3.46	5.18	0.430	0.860	Alkaline picrate no deproteinisation
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.32	3.46	5.18	0.430	0.860	Enzymatic
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.31	3.45	5.17	0.430	0.860	IDMS Traceable
	µmol/l	381	305	457	38.0	76.0	

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RANDOX

Siemens Dimension EXL/200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Creatinine	mg/dl	4.35	3.48	5.22	0.435	0.870	Jaffe Rate Blanked
	µmol/l	385	308	462	38.5	77.0	
	mg/dl	4.20	3.36	5.04	0.420	0.840	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	372	298	446	37.0	74.0	
Free T4	ng/dl	5.93	4.45	7.41	0.740	1.48	Siemens Dimension Exl LOCI
	pg/ml	59.3	44.5	74.1	7.40	14.8	
	pmol/l	76.0	57.0	95.0	9.50	19.0	
gamma-GT	U/l	175	149	201	13.0	26.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	193	164	222	14.5	29.0	Siemens Dimension
Glucose	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	106	90.1	122	8.00	16.0	Direct HDL, Clearance method
	mmol/l	2.74	2.33	3.15	0.205	0.410	
	mg/dl	107	91.0	123	8.00	16.0	Direct HDL, PEGME
	mmol/l	2.78	2.36	3.20	0.210	0.420	
	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, PPD
	mmol/l	2.86	2.43	3.29	0.215	0.430	
Iron	µg/dl	208	171	245	18.5	37.0	Colorimetric with ppt.
	µmol/l	37.2	30.5	43.9	3.35	6.70	
	µg/dl	208	171	245	18.5	37.0	Colorimetric without ppt.
	µmol/l	37.3	30.6	44.0	3.35	6.70	
Lactate	mg/dl	48.3	39.6	57.0	4.35	8.70	UV-LDH
	mmol/l	5.36	4.40	6.32	0.480	0.960	
LD (LDH)	U/l	329	280	378	24.5	49.0	L to P Siemens/Dade, non-IFCC
	U/l	332	282	382	25.0	50.0	L to P, IFCC
	U/l	329	280	378	24.5	49.0	Lactate to Pyruvate methods
Lipase	U/l	82	66	98	8.00	16.0	Colorimetric Dimension (LIP Kit)
	U/l	85	68	102	8.50	17.0	Colorimetric Dimension (LIPL Kit)
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Methylthymol Blue
	mmol/l	1.76	1.55	1.97	0.105	0.210	
	mg/dl	4.23	3.72	4.74	0.255	0.510	Xylidyl Blue
	mmol/l	1.74	1.53	1.95	0.105	0.210	
Osmolality	mOsm/Kg	337	270	404	33.5	67.0	Calculated
Phosphate Inorganic	mg/dl	7.01	5.96	8.06	0.525	1.05	Phosphomolybdate Enzymatic
	mmol/l	2.26	1.92	2.60	0.170	0.340	
	mg/dl	7.10	6.04	8.16	0.530	1.06	Phosphomolybdate UV
	mmol/l	2.29	1.95	2.63	0.170	0.340	
Potassium	mmol/l	6.16	5.67	6.65	0.245	0.490	ISE method - direct

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Siemens Dimension EXL/200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Potassium	mmol/l	6.14	5.65	6.63	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.69	3.75	5.63	0.470	0.940	Biuret reaction, end point
	g/l	46.9	37.5	56.3	4.70	9.40	
PSA Total	ng/ml = µg/l	17.7	13.3	22.1	2.20	4.40	Siemens Dimension
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - direct
	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.09	0.872	1.31	0.110	0.220	Siemens Dimension Exl LOCI
TIBC	µg/dl	208	164	252	22.0	44.0	Direct Colorimetric
	µmol/l	37.2	29.4	45.0	3.90	7.80	
	µg/dl	209	165	253	22.0	44.0	FE+UIBC(saturation with iron)
	µmol/l	37.4	29.5	45.3	3.95	7.90	
	µg/dl	201	159	243	21.0	42.0	Removal Of Excess Free Iron
	µmol/l	36.0	28.4	43.6	3.80	7.60	
Triglycerides	mg/dl	260	218	302	21.0	42.0	Lipase/GK UV. no correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
	mg/dl	259	218	300	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.93	2.46	3.40	0.235	0.470	
	mg/dl	260	218	302	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.94	2.47	3.41	0.235	0.470	
	mg/dl	259	218	300	20.5	41.0	Siemens Dimension
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	138	117	159	10.5	21.0	Urease - hypochlorite
	mg/dl (BUN)	64.1	54.5	73.7	4.80	9.60	
	mmol/l	22.9	19.5	26.3	1.70	3.40	
	mg/dl	125	106	144	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.2	49.5	66.9	4.35	8.70	
	mmol/l	20.8	17.7	23.9	1.55	3.10	
	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase @ 293 nm
	mmol/l	0.538	0.468	0.608	0.035	0.070	

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Siemens Dimension EXL/200

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase perox. no ascorb. ox.
	mmol/l	0.534	0.465	0.603	0.035	0.069	
	mg/dl	8.97	7.80	10.1	0.565	1.13	Uricase Perox. with ascorb. ox
	mmol/l	0.534	0.465	0.603	0.035	0.069	
	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase, catalase 340nm.
	mmol/l	0.538	0.468	0.608	0.035	0.070	

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Siemens Dimension RxL/Max/Xpand

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	2.84	2.41	3.27	0.215	0.430	Bromocresol Green
	g/l	28.4	24.1	32.7	2.15	4.30	
	g/dl	2.86	2.43	3.29	0.215	0.430	Bromocresol Purple
	g/l	28.6	24.3	32.9	2.15	4.30	
Alkaline Phosphatase	U/l	320	272	368	24.0	48.0	AMP optimised to IFCC
	U/l	325	276	374	24.5	49.0	Siemens/Dade Dimension AMP buffer
ALT (GPT)	U/l	157	126	188	15.5	31.0	Siemens/Dade standard nonIFCC correlated
	U/l	156	125	187	15.5	31.0	Tris Buffer With P5P
Amylase Pancreatic	U/l	227	193	261	17.0	34.0	Immunoinhibition, EPS substrate
Amylase Total	U/l	297	252	342	22.5	45.0	Siemens/Dade Behring 2-chloro-pNPG3
AST (GOT)	U/l	146	117	175	14.5	29.0	Siemens/Dade standard non IFCC corr.
	U/l	150	120	180	15.0	30.0	Tris Buffer With P5P
Bilirubin Direct	mg/dl	1.12	0.885	1.36	0.120	0.240	Diazo/ Sulphanilic Siemens Dimension
	µmol/l	19.1	15.1	23.1	2.00	4.00	
Bilirubin Total	mg/dl	5.08	4.01	6.15	0.535	1.07	Diazo With Sulphanilic Acid
	µmol/l	86.8	68.6	105	9.10	18.2	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Cresolphthalein Complexone
	mmol/l	2.99	2.69	3.29	0.150	0.300	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	273	238	308	17.5	35.0	Siemens Dimension
	mmol/l	7.07	6.15	7.99	0.460	0.920	
Cholinesterase	U/l	8911	7129	10693	891	1782	Colorimetric - Butyrythiochol. Dimension
CK Total	U/l	520	426	614	47.0	94.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.33	3.46	5.20	0.435	0.870	Alkaline picrate no deproteinisation
	µmol/l	383	306	460	38.5	77.0	
	mg/dl	4.37	3.50	5.24	0.435	0.870	Enzymatic
	µmol/l	387	310	464	38.5	77.0	
	mg/dl	4.21	3.37	5.05	0.420	0.840	IDMS Traceable
	µmol/l	373	298	448	37.5	75.0	
	mg/dl	4.25	3.40	5.10	0.425	0.850	Jaffe Rate Blanked
	µmol/l	376	301	451	37.5	75.0	
gamma-GT	U/l	175	149	201	13.0	26.0	Gamma glut'3-carb'4-nitro(IFCC)
	U/l	192	163	221	14.5	29.0	Siemens Dimension
Glucose	mg/dl	276	235	317	20.5	41.0	Hexokinase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	108	91.8	124	8.00	16.0	Direct HDL, PEGME
	mmol/l	2.79	2.37	3.21	0.210	0.420	
	mg/dl	110	93.5	127	8.50	17.0	Direct HDL, PPD
	mmol/l	2.84	2.41	3.27	0.215	0.430	

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Siemens Dimension RxL/Max/Xpand

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
HDL - Cholesterol	mg/dl	112	95.2	129	8.50	17.0	HDL Ultra/Accel Selective Detergent
	mmol/l	2.89	2.46	3.32	0.215	0.430	
Iron	µg/dl	207	170	244	18.5	37.0	Colorimetric with ppt.
	µmol/l	37.0	30.3	43.7	3.35	6.70	
	µg/dl	208	171	245	18.5	37.0	Colorimetric without ppt.
	µmol/l	37.3	30.6	44.0	3.35	6.70	
Lactate	mg/dl	49.7	40.8	58.6	4.45	8.90	UV-LDH
	mmol/l	5.52	4.53	6.51	0.495	0.990	
LD (LDH)	U/l	336	286	386	25.0	50.0	L to P, IFCC
Lipase	U/l	83	67	99	8.00	16.0	Colorimetric Dimension (LIP Kit)
	U/l	74	59	89	7.50	15.0	Colorimetric Dimension (LIPL Kit)
Magnesium	mg/dl	4.33	3.81	4.85	0.260	0.520	Methylthymol Blue
	mmol/l	1.78	1.57	1.99	0.105	0.210	
Phosphate Inorganic	mg/dl	7.25	6.16	8.34	0.545	1.09	Phosphomolybdate Enzymatic
	mmol/l	2.34	1.99	2.69	0.175	0.350	
	mg/dl	7.13	6.06	8.20	0.535	1.07	Phosphomolybdate UV
	mmol/l	2.30	1.96	2.64	0.170	0.340	
Potassium	mmol/l	6.10	5.61	6.59	0.245	0.490	ISE method - indirect
Protein Total	g/dl	4.67	3.74	5.60	0.465	0.930	Biuret reaction, end point
	g/l	46.7	37.4	56.0	4.65	9.30	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µg/dl	210	166	254	22.0	44.0	Direct Colorimetric
	µmol/l	37.5	29.6	45.4	3.95	7.90	
	µg/dl	202	160	244	21.0	42.0	FE+UIBC(saturation with iron)
	µmol/l	36.2	28.6	43.8	3.80	7.60	
	µg/dl	210	166	254	22.0	44.0	Removal Of Excess Free Iron
	µmol/l	37.5	29.6	45.4	3.95	7.90	
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GK UV. no correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
	mg/dl	258	217	299	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.91	2.44	3.38	0.235	0.470	
	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.92	2.45	3.39	0.235	0.470	
	mg/dl	260	218	302	21.0	42.0	Siemens Dimension
	mmol/l	2.94	2.47	3.41	0.235	0.470	
Urea	mg/dl	126	107	145	9.50	19.0	Urease, end point
	mg/dl (BUN)	58.5	49.7	67.3	4.40	8.80	
	mmol/l	20.9	17.8	24.0	1.55	3.10	

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Siemens Dimension RxL/Max/Xpand

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.9	50.9	68.9	4.50	9.00	
	mmol/l	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mg/dl	9.04	7.86	10.2	0.580	1.16	Uricase @ 293 nm
	mmol/l	0.538	0.468	0.608	0.035	0.070	
	mg/dl	9.24	8.04	10.4	0.580	1.16	Uricase perox. no ascorb. ox.
	mmol/l	0.550	0.479	0.621	0.036	0.071	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase, catalase 340nm.
	mmol/l	0.533	0.464	0.602	0.035	0.069	

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RANDOX

Siemens Immulite 1000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	5.88	4.41	7.35	0.735	1.47	Siemens/DPC Immulite 1000
	pg/ml	58.8	44.1	73.5	7.35	14.7	
	pmol/l	75.4	56.6	94.2	9.40	18.8	
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.26	1.01	1.51	0.125	0.250	Siemens/DPC Immulite 1000

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Siemens Immulite 2000/Xpi

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	5.62	4.22	7.02	0.700	1.40	Siemens/DPC Immulite 2000/2500
	pg/ml	56.2	42.2	70.2	7.00	14.0	
	pmol/l	72.1	54.1	90.1	9.00	18.0	
PSA Total	ng/ml = µg/l	18.3	13.7	22.9	2.30	4.60	Siemens Immulite 2000/2500, Total PSA
Total T3	ng/dl	174	131	217	21.5	43.0	Siemens/DPC Immulite 2000/2500
	ng/ml	1.74	1.31	2.17	0.215	0.430	
	nmol/l	2.68	2.01	3.35	0.335	0.670	
Total T4	ng/ml	206	155	257	25.5	51.0	Siemens/DPC Immulite 2000/2500
	nmol/l	264	198	330	33.0	66.0	
	µg/dl	20.6	15.5	25.7	2.55	5.10	

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Span Autochem AutoChem Xpert

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.07	2.61	3.53	0.230	0.460	Bromocresol Green
	g/l	30.7	26.1	35.3	2.30	4.60	
Alkaline Phosphatase	U/l	356	303	409	26.5	53.0	AMP optimised to IFCC
ALT (GPT)	U/l	145	116	174	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	136	109	163	13.5	27.0	Tris Buffer Without P5P
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.39	6.43	8.35	0.480	0.960	
Creatinine	mg/dl	4.50	3.60	5.40	0.450	0.900	Enzymatic
	µmol/l	398	318	478	40.0	80.0	
Glucose	mg/dl	285	242	328	21.5	43.0	Glucose Oxidase
	mmol/l	15.8	13.4	18.2	1.20	2.40	
Protein Total	g/dl	5.09	4.07	6.11	0.510	1.02	Biuret reaction, end point
	g/l	50.9	40.7	61.1	5.10	10.2	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.99	7.82	10.2	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.535	0.465	0.605	0.035	0.070	

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Spectrophotometer

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Creatinine	mg/dl	4.00	3.20	4.80	0.400	0.800	Jaffe Rate Blanked
	µmol/l	354	283	425	35.5	71.0	
Glucose	mg/dl	272	231	313	20.5	41.0	Glucose Oxidase
	mmol/l	15.1	12.8	17.4	1.15	2.30	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.99	2.51	3.47	0.240	0.480	
Urea	mg/dl	130	111	149	9.50	19.0	Urease, end point
	mg/dl (BUN)	60.8	51.7	69.9	4.55	9.10	
	mmol/l	21.7	18.4	25.0	1.65	3.30	
Uric Acid (Urate)	mg/dl	8.79	7.65	9.93	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.523	0.455	0.591	0.034	0.068	

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RANDOX

SPINREACT Spin 120/200E/640/ Tech240

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.18	2.70	3.66	0.240	0.480	Bromocresol Green
	g/l	31.8	27.0	36.6	2.40	4.80	
AST (GOT)	U/l	131	105	157	13.0	26.0	Tris Buffer Without P5P
Cholesterol	mg/dl	280	244	316	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.25	6.31	8.19	0.470	0.940	
Glucose	mg/dl	285	242	328	21.5	43.0	Glucose Oxidase
	mmol/l	15.8	13.4	18.2	1.20	2.40	
HDL - Cholesterol	mg/dl	78.4	66.6	90.2	5.90	11.8	Direct HDL, Clearance method
	mmol/l	2.03	1.73	2.33	0.150	0.300	
Phosphate Inorganic	mg/dl	7.13	6.06	8.20	0.535	1.07	Phosphomolybdate UV
	mmol/l	2.30	1.96	2.64	0.170	0.340	
Triglycerides	mg/dl	266	223	309	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.01	2.53	3.49	0.240	0.480	
Urea	mg/dl	128	109	147	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	59.6	50.7	68.5	4.45	8.90	
	mmol/l	21.3	18.1	24.5	1.60	3.20	

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SYNCHRON CX4/5/7/9/LX20/DXC

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Free T4	ng/dl	4.92	3.69	6.15	0.615	1.23	Beckman DxI 600/800
	pg/ml	49.2	36.9	61.5	6.15	12.3	
	pmol/l	63.1	47.3	78.9	7.90	15.8	
PSA Total	ng/ml = µg/l	25.4	19.1	31.7	3.15	6.30	Beckman DXI standardised to Hybritech
Thyroid Stimulating Hormone	µU/ml = mlU/l	1.13	0.904	1.36	0.115	0.230	Beckman DXI600/800/ Access 2 (3rd IS)

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RANDOX

Sysmex BX-3010/4000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.00	2.55	3.45	0.225	0.450	Bromocresol Green
	g/l	30.0	25.5	34.5	2.25	4.50	
Alkaline Phosphatase	U/l	325	276	374	24.5	49.0	AMP optimised to IFCC
ALT (GPT)	U/l	156	125	187	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.97	3.93	6.01	0.520	1.04	Diazo With Dichloroaniline
	µmol/l	84.9	67.1	103	9.05	18.1	
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.02	2.72	3.32	0.150	0.300	
	mg/dl	12.1	10.9	13.3	0.600	1.20	Phosphonazo
	mmol/l	3.02	2.72	3.32	0.150	0.300	
Cholesterol	mg/dl	284	247	321	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.36	6.40	8.32	0.480	0.960	
	mg/dl	273	238	308	17.5	35.0	Cholesterol Oxidase - IDMS
	mmol/l	7.08	6.16	8.00	0.460	0.920	
Creatinine	mg/dl	3.81	3.05	4.57	0.380	0.760	Alkaline picrate no deproteinisation
	µmol/l	337	270	404	33.5	67.0	
	mg/dl	4.47	3.58	5.36	0.445	0.890	Enzymatic
	µmol/l	396	317	475	39.5	79.0	
	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe Rate Blanked
	µmol/l	350	280	420	35.0	70.0	
gamma-GT	U/l	162	138	186	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	274	233	315	20.5	41.0	Hexokinase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	105	89.3	121	8.00	16.0	Direct HDL, Immunoseparation
	mmol/l	2.72	2.31	3.13	0.205	0.410	
Phosphate Inorganic	mg/dl	6.88	5.85	7.91	0.515	1.03	Phosphomolybdate UV
	mmol/l	2.22	1.89	2.55	0.165	0.330	
Protein Total	g/dl	4.57	3.66	5.48	0.455	0.910	Biuret reaction, end point
	g/l	45.7	36.6	54.8	4.55	9.10	
Triglycerides	mg/dl	259	218	300	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.93	2.46	3.40	0.235	0.470	
Urea	mg/dl	126	107	145	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.8	50.0	67.6	4.40	8.80	
	mmol/l	21.0	17.9	24.1	1.55	3.10	

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Sysmex BX-3010/4000

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	8.81	7.66	9.96	0.575	1.15	Uricase perox. no ascorb. ox.
	mmol/l	0.524	0.456	0.592	0.034	0.068	
	mg/dl	9.03	7.86	10.2	0.585	1.17	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.537	0.467	0.607	0.035	0.070	

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RANDOX

Techno Medica Gastat

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Potassium	mmol/l	5.87	5.40	6.34	0.235	0.470	ISE method - direct
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct

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Teco Coatron Matrix

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.03	2.58	3.48	0.225	0.450	Bromocresol Green
	g/l	30.3	25.8	34.8	2.25	4.50	
ALT (GPT)	U/l	149	119	179	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	135	108	162	13.5	27.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	5.26	4.16	6.36	0.550	1.10	Diazo With Sulphanilic Acid
	µmol/l	89.9	71.0	109	9.55	19.1	
Cholesterol	mg/dl	281	244	318	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.28	6.33	8.23	0.475	0.950	
Creatinine	mg/dl	3.92	3.14	4.70	0.390	0.780	Alkaline picrate no deproteinisation
	µmol/l	347	278	416	34.5	69.0	
gamma-GT	U/l	166	141	191	12.5	25.0	Gamma glut.-3-carb.-4-nitro.
	U/l	159	135	183	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	279	237	321	21.0	42.0	Glucose Oxidase
	mmol/l	15.5	13.2	17.8	1.15	2.30	
HDL - Cholesterol	mg/dl	90.0	76.5	104	7.00	14.0	Direct HDL, PEGME
	mmol/l	2.33	1.98	2.68	0.175	0.350	
Protein Total	g/dl	4.88	3.90	5.86	0.490	0.980	Biuret reaction, end point
	g/l	48.8	39.0	58.6	4.90	9.80	
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.91	2.44	3.38	0.235	0.470	
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	8.84	7.69	9.99	0.575	1.15	Uricase perox. no ascorb. ox.
	mmol/l	0.526	0.458	0.594	0.034	0.068	
	mg/dl	8.72	7.59	9.85	0.565	1.13	Uricase Perox. with ascorb. ox
	mmol/l	0.519	0.452	0.586	0.034	0.067	

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Teco TC-84/-3300

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Cholesterol	mg/dl	285	248	322	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.38	6.42	8.34	0.480	0.960	

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Thermo Fisher Scientific Konelab 20/30/60/Indiko

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml Range

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	2.99	2.54	3.44	0.225	0.450	Bromocresol Green
	g/l	29.9	25.4	34.4	2.25	4.50	
Alkaline Phosphatase	U/l	332	282	382	25.0	50.0	AMP optimised to IFCC
	U/l	312	265	359	23.5	47.0	Colorimetric
ALT (GPT)	U/l	155	124	186	15.5	31.0	Tris Buffer With P5P
	U/l	156	125	187	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	141	113	169	14.0	28.0	Tris Buffer With P5P
	U/l	137	110	164	13.5	27.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.46	1.15	1.77	0.155	0.310	Diazo with Dichloroanaline
	µmol/l	24.9	19.7	30.1	2.60	5.20	
	mg/dl	1.42	1.12	1.72	0.150	0.300	Dichlorophenyl Diazonium
	µmol/l	24.2	19.1	29.3	2.55	5.10	
Bilirubin Total	mg/dl	4.80	3.79	5.81	0.505	1.01	Diazo With Dichloroaniline
	µmol/l	82.1	64.9	99.3	8.60	17.2	
	mg/dl	4.76	3.76	5.76	0.500	1.00	Diazo With Sulphanilic Acid
	µmol/l	81.3	64.2	98.4	8.55	17.1	
	mg/dl	4.66	3.68	5.64	0.490	0.980	Dichlorophenyl Diazonium
	µmol/l	79.7	63.0	96.4	8.35	16.7	
	mg/dl	4.90	3.87	5.93	0.515	1.03	Nitrobenzenediazonium Salt
	µmol/l	83.7	66.1	101	8.65	17.3	
Calcium	mg/dl	12.0	10.8	13.2	0.600	1.20	Arsenazo III
	mmol/l	3.00	2.70	3.30	0.150	0.300	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE Direct
	mmol/l	114	105	123	4.50	9.00	ISE Indirect
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Dehydrogenase
	mmol/l	7.32	6.37	8.27	0.475	0.950	
	mg/dl	296	258	334	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.67	6.67	8.67	0.500	1.00	
	mg/dl	291	253	329	19.0	38.0	Cholesterol Oxidase - IDMS
	mmol/l	7.54	6.56	8.52	0.490	0.980	
CK Total	U/l	542	444	640	49.0	98.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.32	3.46	5.18	0.430	0.860	Enzymatic
	µmol/l	382	306	458	38.0	76.0	
	mg/dl	4.09	3.27	4.91	0.410	0.820	Jaffe Rate Blanked
	µmol/l	362	290	434	36.0	72.0	
	mg/dl	4.00	3.20	4.80	0.400	0.800	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	354	283	425	35.5	71.0	
gamma-GT	U/l	155	132	178	11.5	23.0	Gamma glut.-3-carb.-4-nitro.
	U/l	156	133	179	11.5	23.0	Gamma glut'3-carb'4-nitro(IFCC)

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Thermo Fisher Scientific Konelab 20/30/60/Indiko

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml | **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
	mg/dl	283	241	325	21.0	42.0	Hexokinase
	mmol/l	15.7	13.3	18.1	1.20	2.40	
Iron	µg/dl	228	187	269	20.5	41.0	Colorimetric with ppt.
	µmol/l	40.8	33.5	48.1	3.65	7.30	
	µg/dl	228	187	269	20.5	41.0	Colorimetric without ppt.
	µmol/l	40.7	33.4	48.0	3.65	7.30	
LD (LDH)	U/l	342	291	393	25.5	51.0	L to P, IFCC
Magnesium	mg/dl	4.11	3.62	4.60	0.245	0.490	Xylidyl Blue
	mmol/l	1.69	1.49	1.89	0.100	0.200	
Phosphate Inorganic	mg/dl	7.16	6.09	8.23	0.535	1.07	Phosphomolybdate Enzymatic
	mmol/l	2.31	1.96	2.66	0.175	0.350	
	mg/dl	6.94	5.90	7.98	0.520	1.04	Phosphomolybdate UV
	mmol/l	2.24	1.90	2.58	0.170	0.340	
Potassium	mmol/l	5.94	5.46	6.42	0.240	0.480	ISE method - direct
	mmol/l	6.01	5.53	6.49	0.240	0.480	ISE method - indirect
Protein Total	g/dl	4.73	3.78	5.68	0.475	0.950	Biuret reaction, end point
	g/l	47.3	37.8	56.8	4.75	9.50	
	g/dl	4.78	3.82	5.74	0.480	0.960	Biuret reaction, kinetic
	g/l	47.8	38.2	57.4	4.80	9.60	
Sodium	mmol/l	153	145	161	4.00	8.00	ISE method - direct
	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Triglycerides	mg/dl	258	217	299	20.5	41.0	Lipase/Glycerol Dehydrogenase
	mmol/l	2.92	2.45	3.39	0.235	0.470	
	mg/dl	269	226	312	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.04	2.55	3.53	0.245	0.490	
Urea	mg/dl	121	103	139	9.00	18.0	Urease, end point
	mg/dl (BUN)	56.6	48.1	65.1	4.25	8.50	
	mmol/l	20.2	17.2	23.2	1.50	3.00	
	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.539	0.469	0.609	0.035	0.070	
	mg/dl	9.18	7.99	10.4	0.610	1.22	Uricase Perox. with ascorb. ox
	mmol/l	0.546	0.475	0.617	0.036	0.071	

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Thermo Fisher Scientific Konelab 20/30/60/Indiko

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Uric Acid (Urate)	mg/dl	8.61	7.49	9.73	0.560	1.12	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.512	0.445	0.579	0.034	0.067	

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Tokyo-Boeki Biolis 50i

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.09	2.63	3.55	0.230	0.460	Bromocresol Green
	g/l	30.9	26.3	35.5	2.30	4.60	
ALT (GPT)	U/l	153	122	184	15.5	31.0	Tris Buffer Without P5P
AST (GOT)	U/l	135	108	162	13.5	27.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.75	1.38	2.12	0.185	0.370	Oxidation to Biliverdin/Vanadate
	µmol/l	29.9	23.6	36.2	3.15	6.30	
Bilirubin Total	mg/dl	5.32	4.20	6.44	0.560	1.12	Diazo With Dichloroaniline
	µmol/l	91.0	71.9	110	9.50	19.0	
	mg/dl	5.24	4.14	6.34	0.550	1.10	Dichlorophenyl Diazonium
	µmol/l	89.6	70.8	108	9.20	18.4	
	mg/dl	5.58	4.41	6.75	0.585	1.17	Oxidation to Biliverdin/Vanadate
	µmol/l	95.3	75.3	115	9.85	19.7	
Calcium	mg/dl	11.6	10.4	12.8	0.600	1.20	Arsenazo III
	mmol/l	2.90	2.61	3.19	0.145	0.290	
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.32	6.37	8.27	0.475	0.950	
	mg/dl	282	245	319	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.31	6.36	8.26	0.475	0.950	
Creatinine	mg/dl	3.86	3.09	4.63	0.385	0.770	Alkaline picrate no deproteinisation
	µmol/l	342	274	410	34.0	68.0	
	mg/dl	3.75	3.00	4.50	0.375	0.750	Jaffe Rate Blanked
	µmol/l	332	266	398	33.0	66.0	
	mg/dl	3.91	3.13	4.69	0.390	0.780	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	346	277	415	34.5	69.0	
gamma-GT	U/l	174	148	200	13.0	26.0	Gamma glut.-3-carb.-4-nitro.
	U/l	161	137	185	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	90.0	76.5	104	7.00	14.0	Direct HDL, Clearance method
	mmol/l	2.33	1.98	2.68	0.175	0.350	
	mg/dl	91.1	77.4	105	6.95	13.9	Direct HDL, Immunoseparation
	mmol/l	2.36	2.01	2.71	0.175	0.350	
Protein Total	g/dl	4.73	3.78	5.68	0.475	0.950	Biuret reaction, end point
	g/l	47.3	37.8	56.8	4.75	9.50	
Triglycerides	mg/dl	262	220	304	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.96	2.49	3.43	0.235	0.470	

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Tokyo-Boeki Biolis 50i

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Urea	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.21	8.01	10.4	0.595	1.19	Uricase perox. no ascorb. ox.
	mmol/l	0.548	0.477	0.619	0.036	0.071	
	mg/dl	9.08	7.90	10.3	0.610	1.22	Uricase Perox. with ascorb. ox
	mmol/l	0.540	0.470	0.610	0.035	0.070	
	mg/dl	9.29	8.08	10.5	0.605	1.21	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.553	0.481	0.625	0.036	0.072	

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Tokyo-Boeki Biolis i30

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.41	2.90	3.92	0.255	0.510	Agappe - Bromocresol Green
	g/l	34.1	29.0	39.2	2.55	5.10	
	g/dl	3.21	2.73	3.69	0.240	0.480	Bromocresol Green
	g/l	32.1	27.3	36.9	2.40	4.80	
Alkaline Phosphatase	U/l	412	350	474	31.0	62.0	Agappe- Kinetic method IFCC
ALT (GPT)	U/l	145	116	174	14.5	29.0	Agappe - IFCC
	U/l	145	116	174	14.5	29.0	Tris Buffer Without P5P
Amylase Total	U/l	288	245	331	21.5	43.0	Agappe - CNPG3
AST (GOT)	U/l	126	101	151	12.5	25.0	Agappe - IFCC
	U/l	133	106	160	13.5	27.0	Tris Buffer Without P5P
Bilirubin Direct	mg/dl	1.11	0.877	1.34	0.115	0.230	Agappe - DIAZO
	µmol/l	18.9	14.9	22.9	2.00	4.00	
Bilirubin Total	mg/dl	4.67	3.69	5.65	0.490	0.980	Agappe - TAB
	µmol/l	79.8	63.0	96.6	8.40	16.8	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.08	2.77	3.39	0.155	0.310	
	mg/dl	12.5	11.3	13.7	0.600	1.20	Arsenazo III
	mmol/l	3.12	2.81	3.43	0.155	0.310	
Chloride	mmol/l	115	106	124	4.50	9.00	Agappe - THIOCYANATE
Cholesterol	mg/dl	276	240	312	18.0	36.0	Agappe - CHOD-PAP
	mmol/l	7.16	6.23	8.09	0.465	0.930	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.41	6.45	8.37	0.480	0.960	
CK Total	U/l	539	442	636	48.5	97.0	Gel Agglutination
Creatinine	mg/dl	4.00	3.20	4.80	0.400	0.800	Agappe - JAFFE'S KINETIC
	µmol/l	354	283	425	35.5	71.0	
	mg/dl	4.17	3.34	5.00	0.415	0.830	Alkaline picrate no deproteinisation
	µmol/l	369	295	443	37.0	74.0	
	mg/dl	3.95	3.16	4.74	0.395	0.790	Jaffe Rate Blanked
	µmol/l	350	280	420	35.0	70.0	
	mg/dl	3.81	3.05	4.57	0.380	0.760	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	337	270	404	33.5	67.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Agappe - SZASZ KINETIC
Glucose	mg/dl	281	239	323	21.0	42.0	Agappe - GOD-PAP
	mmol/l	15.6	13.3	17.9	1.15	2.30	
	mg/dl	281	239	323	21.0	42.0	Glucose Oxidase
	mmol/l	15.6	13.3	17.9	1.15	2.30	

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Tokyo-Boeki Biolis i30

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Glucose	mg/dl	268	228	308	20.0	40.0	Hexokinase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
HDL - Cholesterol	mg/dl	98.8	84.0	114	7.60	15.2	Agappe - SELECTIVE INHIBITION
	mmol/l	2.56	2.18	2.94	0.190	0.380	
	mg/dl	76.4	64.9	87.9	5.75	11.5	Direct HDL, Clearance method
	mmol/l	1.98	1.68	2.28	0.150	0.300	
Iron	µg/dl	284	233	335	25.5	51.0	Agappe - CHROMAZUROL
	µmol/l	50.8	41.7	59.9	4.55	9.10	
	µg/dl	233	191	275	21.0	42.0	Colorimetric without ppt.
	µmol/l	41.6	34.1	49.1	3.75	7.50	
LD (LDH)	U/l	715	608	822	53.5	107	Agappe - SCE
Lipase	U/l	85	68	102	8.50	17.0	Agappe - METHYL RESORUFIN
Magnesium	mg/dl	4.28	3.77	4.79	0.255	0.510	Agappe - XYLIDYL BLUE
	mmol/l	1.76	1.55	1.97	0.105	0.210	
Phosphate Inorganic	mg/dl	7.01	5.96	8.06	0.525	1.05	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.26	1.92	2.60	0.170	0.340	
Potassium	mmol/l	6.07	5.58	6.56	0.245	0.490	Agappe - ISE DIRECT
Protein Total	g/dl	4.89	3.91	5.87	0.490	0.980	Agappe Ultra Stik
	g/l	48.9	39.1	58.7	4.90	9.80	
	g/dl	4.79	3.83	5.75	0.480	0.960	Biuret reaction, end point
	g/l	47.9	38.3	57.5	4.80	9.60	
Sodium	mmol/l	158	150	166	4.00	8.00	Agappe - ISE DIRECT
Triglycerides	mg/dl	268	225	311	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.03	2.55	3.51	0.240	0.480	
	mg/dl	252	212	292	20.0	40.0	Quidel Triage Meter Plus
	mmol/l	2.85	2.39	3.31	0.230	0.460	
Urea	mg/dl	124	105	143	9.50	19.0	Agappe Ultra Stik
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
	mg/dl	124	105	143	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	58.0	49.3	66.7	4.35	8.70	
	mmol/l	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.16	7.97	10.4	0.620	1.24	Agappe - URICASE - PAP
	mmol/l	0.545	0.474	0.616	0.036	0.071	
	mg/dl	8.79	7.65	9.93	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.523	0.455	0.591	0.034	0.068	

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Tokyo-Boeki Biolis i30

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Uric Acid (Urate)	mg/dl	9.06	7.88	10.2	0.570	1.14	Uricase Perox. with ascorb. ox @ 546nm
	mmol/l	0.539	0.469	0.609	0.035	0.070	

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Tokyo-Boeki Sapphire Tokyo Boeki/ Hirose Sapphire 400

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Calcium	mg/dl	11.8	10.6	13.0	0.600	1.20	Arsenazo III
	mmol/l	2.94	2.65	3.23	0.145	0.290	
Iron	µg/dl	238	195	281	21.5	43.0	Colorimetric without ppt.
	µmol/l	42.6	34.9	50.3	3.85	7.70	
Protein Total	g/dl	4.82	3.86	5.78	0.480	0.960	Biuret reaction, end point
	g/l	48.2	38.6	57.8	4.80	9.60	

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Toshiba FR Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.38	2.87	3.89	0.255	0.510	Agappe - Bromocresol Green
	g/l	33.8	28.7	38.9	2.55	5.10	
ALT (GPT)	U/l	147	118	176	14.5	29.0	Agappe - IFCC
Amylase Total	U/l	284	241	327	21.5	43.0	Agappe - CNPG3
AST (GOT)	U/l	124	99	149	12.5	25.0	Agappe - IFCC
Bilirubin Direct	mg/dl	1.06	0.837	1.28	0.110	0.220	Agappe - DIAZO
	µmol/l	18.1	14.3	21.9	1.90	3.80	
Bilirubin Total	mg/dl	4.86	3.84	5.88	0.510	1.02	Agappe - TAB
	µmol/l	83.1	65.6	101	8.95	17.9	
Calcium	mg/dl	12.3	11.1	13.5	0.600	1.20	Agappe - ARSENAZO
	mmol/l	3.07	2.76	3.38	0.155	0.310	
Chloride	mmol/l	114	105	123	4.50	9.00	Agappe - THIOCYANATE
Cholesterol	mg/dl	268	233	303	17.5	35.0	Agappe - CHOD-PAP
	mmol/l	6.93	6.03	7.83	0.450	0.900	
CK Total	U/l	532	436	628	48.0	96.0	Gel Agglutination
Creatinine	mg/dl	4.28	3.42	5.14	0.430	0.860	Agappe - ENZYMATIC
	µmol/l	379	303	455	38.0	76.0	
	mg/dl	3.95	3.16	4.74	0.395	0.790	Agappe - JAFFE'S KINETIC
	µmol/l	350	280	420	35.0	70.0	
gamma-GT	U/l	161	137	185	12.0	24.0	Agappe - SZASZ KINETIC
Glucose	mg/dl	285	242	328	21.5	43.0	Agappe - GOD-PAP
	mmol/l	15.8	13.4	18.2	1.20	2.40	
HDL - Cholesterol	mg/dl	98.1	83.4	113	7.45	14.9	Agappe - SELECTIVE INHIBITION
	mmol/l	2.54	2.16	2.92	0.190	0.380	
Iron	µg/dl	290	238	342	26.0	52.0	Agappe - CHROMAZUROL
	µmol/l	51.8	42.5	61.1	4.65	9.30	
LD (LDH)	U/l	698	593	803	52.5	105	Agappe - SCE
Lipase	U/l	80	64	96	8.00	16.0	Agappe - METHYL RESORUFIN
Magnesium	mg/dl	4.23	3.72	4.74	0.255	0.510	Agappe - XYLIDYL BLUE
	mmol/l	1.74	1.53	1.95	0.105	0.210	
Phosphate Inorganic	mg/dl	6.97	5.92	8.02	0.525	1.05	Agappe - PHOSPOHMOLYBDATE
	mmol/l	2.25	1.91	2.59	0.170	0.340	
Protein Total	g/dl	4.76	3.81	5.71	0.475	0.950	Agappe Ultra Stik
	g/l	47.6	38.1	57.1	4.75	9.50	
Triglycerides	mg/dl	245	206	284	19.5	39.0	Quidel Triage Meter Plus
	mmol/l	2.77	2.33	3.21	0.220	0.440	

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Toshiba FR Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml **Range**

Analyte	Unit	Target	Low	High	1SD	2SD	Method
Urea	mg/dl	124	105	143	9.50	19.0	Agappe Ultra Stik
	mg/dl (BUN)	57.7	49.0	66.4	4.35	8.70	
	mmol/l	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mg/dl	9.34	8.13	10.6	0.630	1.26	Agappe - URICASE - PAP
	mmol/l	0.556	0.484	0.628	0.036	0.072	

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Tosoh AIA Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Free T4	ng/dl	5.73	4.30	7.16	0.715	1.43	TOSOH AIA Series
	pg/ml	57.2	42.9	71.5	7.15	14.3	
	pmol/l	73.4	55.1	91.7	9.15	18.3	
PSA Total	ng/ml = µg/l	14.2	10.7	17.7	1.75	3.50	TOSOH AIA Series
Total T4	ng/ml	158	119	197	19.5	39.0	TOSOH AIA Series
	nmol/l	202	152	252	25.0	50.0	
	µg/dl	15.8	11.9	19.7	1.95	3.90	

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RANDOX

UDI CHEM 240 Plus

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

Analyte	Unit	Target	Range Low	Range High	1SD	2SD	Method
Albumin	g/dl	3.01	2.56	3.46	0.225	0.450	Bromocresol Green
	g/l	30.1	25.6	34.6	2.25	4.50	
Alkaline Phosphatase	U/l	350	298	402	26.0	52.0	AMP optimised to IFCC
ALT (GPT)	U/l	157	126	188	15.5	31.0	Beckman IFCC Ref. with P5P
AST (GOT)	U/l	129	103	155	13.0	26.0	Beckman IFCC Ref. with P5P
	U/l	132	106	158	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.29	3.39	5.19	0.450	0.900	DPD (Beckman AU)
	µmol/l	73.4	58.0	88.8	7.70	15.4	
Calcium	mg/dl	11.6	10.4	12.8	0.600	1.20	Arsenazo III
	mmol/l	2.90	2.61	3.19	0.145	0.290	
Cholesterol	mg/dl	295	257	333	19.0	38.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.65	6.66	8.64	0.495	0.990	
	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.41	6.45	8.37	0.480	0.960	
Creatinine	mg/dl	3.50	2.80	4.20	0.350	0.700	Jaffe Rate Blanked
	µmol/l	310	248	372	31.0	62.0	
Glucose	mg/dl	270	230	310	20.0	40.0	Glucose Oxidase
	mmol/l	15.0	12.8	17.2	1.10	2.20	
Iron	µg/dl	229	188	270	20.5	41.0	Colorimetric with ppt.
	µmol/l	40.9	33.5	48.3	3.70	7.40	
	µg/dl	213	175	251	19.0	38.0	Colorimetric without ppt.
	µmol/l	38.1	31.2	45.0	3.45	6.90	
Triglycerides	mg/dl	254	213	295	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.87	2.41	3.33	0.230	0.460	
Urea	mg/dl	116	98.6	133	8.50	17.0	Urease, kinetic
	mg/dl (BUN)	54.0	45.9	62.1	4.05	8.10	
	mmol/l	19.3	16.4	22.2	1.45	2.90	
Uric Acid (Urate)	mg/dl	8.94	7.78	10.1	0.580	1.16	Uricase @ 293 nm
	mmol/l	0.532	0.463	0.601	0.035	0.069	

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URIT Medical 800 Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Glucose	mg/dl	277	235	319	21.0	42.0	Glucose Oxidase
	mmol/l	15.4	13.1	17.7	1.15	2.30	

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URIT Medical 8000 Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	Unit	Target	Low	High	1SD	2SD	Method
Albumin	g/dl	3.02	2.57	3.47	0.225	0.450	Bromocresol Green
	g/l	30.2	25.7	34.7	2.25	4.50	
ALT (GPT)	U/l	144	115	173	14.5	29.0	Tris Buffer Without P5P
AST (GOT)	U/l	129	103	155	13.0	26.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.83	3.82	5.84	0.505	1.01	Diazo With Sulphanilic Acid
	µmol/l	82.5	65.2	99.8	8.65	17.3	
Calcium	mg/dl	11.5	10.4	12.6	0.550	1.10	Arsenazo III
	mmol/l	2.88	2.59	3.17	0.145	0.290	
Cholesterol	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.40	6.44	8.36	0.480	0.960	
	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.33	6.38	8.28	0.475	0.950	
Creatinine	mg/dl	3.66	2.93	4.39	0.365	0.730	Alkaline picrate no deproteinisation
	µmol/l	324	259	389	32.5	65.0	
gamma-GT	U/l	157	133	181	12.0	24.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	274	233	315	20.5	41.0	Glucose Oxidase
	mmol/l	15.2	12.9	17.5	1.15	2.30	
HDL - Cholesterol	mg/dl	74.1	63.0	85.2	5.55	11.1	Direct HDL, PEGME
	mmol/l	1.92	1.63	2.21	0.145	0.290	
Iron	µg/dl	203	166	240	18.5	37.0	Colorimetric without ppt.
	µmol/l	36.3	29.8	42.8	3.25	6.50	
Protein Total	g/dl	4.79	3.83	5.75	0.480	0.960	Biuret reaction, end point
	g/l	47.9	38.3	57.5	4.80	9.60	
Triglycerides	mg/dl	265	223	307	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	3.00	2.52	3.48	0.240	0.480	
Uric Acid (Urate)	mg/dl	8.89	7.73	10.1	0.605	1.21	Uricase perox. no ascorb. ox.
	mmol/l	0.529	0.460	0.598	0.035	0.069	
	mg/dl	8.96	7.80	10.1	0.570	1.14	Uricase Perox. with ascorb. ox
	mmol/l	0.533	0.464	0.602	0.035	0.069	

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Wiener Lab CM 200/250

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.07	2.61	3.53	0.230	0.460	Bromocresol Green
	g/l	30.7	26.1	35.3	2.30	4.60	
ALT (GPT)	U/l	155	124	186	15.5	31.0	Tris Buffer Without P5P
Bilirubin Total	mg/dl	4.22	3.33	5.11	0.445	0.890	Dichlorophenyl Diazonium
	µmol/l	72.2	57.0	87.4	7.60	15.2	
Cholesterol	mg/dl	275	239	311	18.0	36.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.13	6.20	8.06	0.465	0.930	
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
Protein Total	g/dl	4.82	3.86	5.78	0.480	0.960	Biuret reaction, end point
	g/l	48.2	38.6	57.8	4.80	9.60	
Triglycerides	mg/dl	261	219	303	21.0	42.0	Lipase/GPO-PAP No Correction
	mmol/l	2.95	2.48	3.42	0.235	0.470	
Urea	mg/dl	129	110	148	9.50	19.0	Urease, kinetic
	mg/dl (BUN)	60.2	51.2	69.2	4.50	9.00	
	mmol/l	21.5	18.3	24.7	1.60	3.20	
Uric Acid (Urate)	mg/dl	8.79	7.65	9.93	0.570	1.14	Uricase perox. no ascorb. ox.
	mmol/l	0.523	0.455	0.591	0.034	0.068	

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Wiener Lab CMD Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.08	2.62	3.54	0.230	0.460	Bromocresol Green
	g/l	30.8	26.2	35.4	2.30	4.60	
Alkaline Phosphatase	U/l	453	385	521	34.0	68.0	Diethanolamine buffer, DEA
ALT (GPT)	U/l	150	120	180	15.0	30.0	Tris Buffer Without P5P
AST (GOT)	U/l	126	101	151	12.5	25.0	Tris Buffer Without P5P
Calcium	mg/dl	12.1	10.9	13.3	0.600	1.20	Arsenazo III
	mmol/l	3.02	2.72	3.32	0.150	0.300	
Cholesterol	mg/dl	286	249	323	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.40	6.44	8.36	0.480	0.960	
CK Total	U/l	529	434	624	47.5	95.0	CK-NAC (IFCC)
Creatinine	mg/dl	4.34	3.47	5.21	0.435	0.870	Jaffe rate blanked comp. (-26umol/l)
	µmol/l	384	307	461	38.5	77.0	
gamma-GT	U/l	148	126	170	11.0	22.0	Gamma glut.-3-carb.-4-nitro.
	U/l	146	124	168	11.0	22.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	276	235	317	20.5	41.0	Glucose Oxidase
	mmol/l	15.3	13.0	17.6	1.15	2.30	
HDL - Cholesterol	mg/dl	92.3	78.5	106	6.85	13.7	Direct HDL, PPD
	mmol/l	2.39	2.03	2.75	0.180	0.360	
LD (LDH)	U/l	690	587	793	51.5	103	P to L, SFBC
Lipase	U/l	77	62	92	7.50	15.0	Other Colorimetric
Potassium	mmol/l	5.94	5.46	6.42	0.240	0.480	ISE method - direct
Protein Total	g/dl	5.18	4.14	6.22	0.520	1.04	Biuret reaction, end point
	g/l	51.8	41.4	62.2	5.20	10.4	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
Triglycerides	mg/dl	270	227	313	21.5	43.0	Lipase/GPO-PAP No Correction
	mmol/l	3.05	2.56	3.54	0.245	0.490	
Urea	mg/dl	132	112	152	10.0	20.0	Urease, kinetic
	mg/dl (BUN)	61.3	52.1	70.5	4.60	9.20	
	mmol/l	21.9	18.6	25.2	1.65	3.30	
Uric Acid (Urate)	mg/dl	8.82	7.67	9.97	0.575	1.15	Uricase perox. no ascorb. ox.
	mmol/l	0.525	0.457	0.593	0.034	0.068	

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Zybio Series Zybio EXC Series

Human Assayed Multi-Sera - Level 3

Lot. No: 1381UE Cat. No: HE1532 Expiry: 2028-09-28

Size: 20 x 5ml

			Range				
Analyte	**Unit**	**Target**	**Low**	**High**	**1SD**	**2SD**	**Method**
Albumin	g/dl	3.10	2.64	3.56	0.230	0.460	Bromocresol Green
	g/l	31.0	26.4	35.6	2.30	4.60	
Alkaline Phosphatase	U/l	350	298	402	26.0	52.0	AMP optimised to IFCC
Bilirubin Total	mg/dl	5.91	4.67	7.15	0.620	1.24	Oxidation to Biliverdin/Vanadate
	µmol/l	101	79.8	122	10.5	21.0	
Calcium	mg/dl	11.6	10.4	12.8	0.600	1.20	Arsenazo III
	mmol/l	2.90	2.61	3.19	0.145	0.290	
Cholesterol	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - Abell Kendall
	mmol/l	7.34	6.39	8.29	0.475	0.950	
	mg/dl	283	246	320	18.5	37.0	Cholesterol Oxidase - IDMS
	mmol/l	7.34	6.39	8.29	0.475	0.950	
Creatinine	mg/dl	4.31	3.45	5.17	0.430	0.860	Enzymatic
	µmol/l	381	305	457	38.0	76.0	
gamma-GT	U/l	150	128	172	11.0	22.0	Gamma glut'3-carb'4-nitro(IFCC)
Glucose	mg/dl	268	228	308	20.0	40.0	Glucose Oxidase
	mmol/l	14.9	12.7	17.1	1.10	2.20	
	mg/dl	286	243	329	21.5	43.0	Hexokinase
	mmol/l	15.9	13.5	18.3	1.20	2.40	
Magnesium	mg/dl	4.25	3.74	4.76	0.255	0.510	Xylidyl Blue
	mmol/l	1.75	1.54	1.96	0.105	0.210	
Phosphate Inorganic	mg/dl	6.66	5.66	7.66	0.500	1.00	Phosphomolybdate UV
	mmol/l	2.15	1.83	2.47	0.160	0.320	
Protein Total	g/dl	4.62	3.70	5.54	0.460	0.920	Biuret reaction, end point
	g/l	46.2	37.0	55.4	4.60	9.20	
Triglycerides	mg/dl	257	216	298	20.5	41.0	Lipase/GPO-PAP No Correction
	mmol/l	2.90	2.44	3.36	0.230	0.460	
Urea	mg/dl	118	100	136	9.00	18.0	Urease, kinetic
	mg/dl (BUN)	55.2	46.9	63.5	4.15	8.30	
	mmol/l	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mg/dl	8.57	7.46	9.68	0.555	1.11	Uricase Perox. with ascorb. ox
	mmol/l	0.510	0.444	0.576	0.033	0.066	

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