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

CAT. NO. HE1532 / HS2611 **LOT NO.** 772UE
SIZE: 20 x 5ml / 5 x 5ml **EXP:** 2019-01

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 (25 - 30µl) of 0.7M Acetic acid solution to 1ml of the serum exactly 30 minutes after reconstitution. After stabilisation Total and Prostatic Acid Phosphatase is stable for 2 hours at +15°C to +25°C, 2 days at +2°C to +8°C and 28 days when frozen once at –18°C to –24°C.
Alkaline Phosphatase levels in the reconstituted serum will rise over the stability period. It is recommended that the reconstituted serum is allowed to stand for 1 hour at +15°C to +25°C before measurement.
Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark. Stored in the dark, it is stable for 4 days at +2°C to +8°C. Do not store at +15°C to +25°C. Do not freeze.
NEFA is stable for 1 day at +2°C to +8°C.
Total PSA is stable for 4 days at +2°C to +8°C, or 28 days in aliquots frozen at –18°C to –24°C.
Bacterial contamination of the reconstituted serum will cause reductions in the stability of many components.
Different lot numbers of this control should not be interchanged, as the values assigned to the controls vary from lot to lot.
The control should not be used as a calibration material.

PREPARATION FOR USE
The Human Assayed Multi-sera is supplied lyophilised.

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

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

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

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

NOTES

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

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ABBOTT AEROSET®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.2	24.0	32.4	2.10	4.20	Bromocresol Green
	g/dl	2.82	2.40	3.24	0.21	0.42	
Alkaline Phosphatase	U/l	351	299	403	26.00	52.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	133	106	160	13.50	27.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	28.5	22.5	34.5	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
Bilirubin Total	µmol/l	85.3	67.4	103	8.95	17.90	Diazo with Dichloroaniline (DCA)
	mg/dl	4.99	3.94	6.04	0.53	1.05	
Calcium	mmol/l	3.16	2.85	3.47	0.16	0.31	Arsenazo III
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Cholesterol	mmol/l	6.82	5.93	7.71	0.45	0.89	Cholesterol Oxidase
	mg/dl	263	229	297	17.00	34.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE direct
CK Total	U/l	561	460	662	50.50	101.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	360	288	432	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.07	3.25	4.89	0.41	0.82	
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Hexokinase
	mg/dl	288	245	331	21.50	43.00	
HDL - Cholesterol	mmol/l	2.51	2.13	2.89	0.19	0.38	HDL - Ultra
	mg/dl	96.9	82.2	112	7.35	14.70	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	36.8	30.2	43.4	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	6.00	5.52	6.48	0.24	0.48	ISE method - direct
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Biuret reaction end point
	g/dl	4.55	3.64	5.46	0.46	0.91	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.97	2.50	3.44	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	263	221	305	21.00	42.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.39	8.16	10.6	0.62	1.23	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.61	8.37	10.9	0.62	1.24	
Urea	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease hypochlorite
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.1	24.8	33.4	2.15	4.30	Bromocresol Green
	g/dl	2.91	2.48	3.34	0.22	0.43	
	g/l	27.6	23.4	31.8	2.10	4.20	Bromocresol Purple
	g/dl	2.76	2.34	3.18	0.21	0.42	
Alkaline Phosphatase	U/l	330	281	379	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	332	283	381	24.50	49.00	AMP non-optimised 37°C
ALT (GPT)	U/l	133	107	159	13.00	26.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	279	237	321	21.00	42.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	326	277	375	24.50	49.00	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	50.8	40.6	61.0	5.10	10.20	Enzymatic Colorimetric
Bicarbonate	mmol/l	15.5	12.3	18.7	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	27.1	21.4	32.8	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	26.6	21.0	32.2	2.80	5.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Bilirubin Total	µmol/l	84.5	66.7	102	8.90	17.80	Diazo with Dichloroaniline (DCA)
	mg/dl	4.94	3.90	5.98	0.52	1.04	
	µmol/l	87.5	69.1	106	9.20	18.40	Diazo with Sulphanilic Acid
	mg/dl	5.12	4.04	6.20	0.54	1.08	
	µmol/l	87.6	69.2	106	9.20	18.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.12	4.05	6.19	0.54	1.07	

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Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Bilirubin Total	µmol/l	85.1	67.2	103	8.95	17.90	Diazonium ion
	mg/dl	4.98	3.93	6.03	0.53	1.05	
Calcium	mmol/l	3.21	2.89	3.53	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	6.54	5.69	7.39	0.43	0.85	Cholesterol Oxidase
	mg/dl	252	220	284	16.00	32.00	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
CK Total	U/l	540	443	637	48.50	97.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	383	306	460	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	394	315	473	39.50	79.00	Randox Enzymatic UV method
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	µmol/l	384	307	461	38.50	77.00	Jaffe rate blanked
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	µmol/l	379	303	455	38.00	76.00	IDMS traceable
	mg/dl	4.28	3.42	5.14	0.43	0.86	
Free T4	pmol/l	55.8	41.8	69.8	7.00	14.00	Abbott Architect
	ng/dl	4.35	3.26	5.44	0.55	1.09	
	pg/ml	43.5	32.6	54.4	5.45	10.90	Abbott Architect
gamma-GT	U/l	157	133	181	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	160	136	184	12.00	24.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37°C
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.77	2.35	3.19	0.21	0.42	Direct HDL PPD
	mg/dl	107	90.7	123	8.15	16.30	
	mmol/l	2.77	2.35	3.19	0.21	0.42	Direct Clearance Method
	mg/dl	107	90.7	123	8.15	16.30	
	mmol/l	2.72	2.31	3.13	0.21	0.41	HDL - Ultra
	mg/dl	105	89.2	121	7.90	15.80	
Iron	µmol/l	37.9	31.1	44.7	3.40	6.80	Colorimetric with ppt.
	µg/dl	212	174	250	19.00	38.00	
	µmol/l	38.1	31.3	44.9	3.40	6.80	Colorimetric without ppt.
	µg/dl	213	175	251	19.00	38.00	
Lactate	mmol/l	5.57	4.57	6.57	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.2	41.2	59.2	4.50	9.00	
LD (LDH)	U/l	384	327	441	28.50	57.00	L->P 37°C
	U/l	386	328	444	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	66	53	79	6.50	13.00	Other Colorimetric 37°C
Lithium	mmol/l	2.11	1.86	2.36	0.13	0.25	Spectrophotometric
	mg/dl	1.47	1.29	1.65	0.09	0.18	
Magnesium	mmol/l	1.83	1.61	2.05	0.11	0.22	Arsenazo III
	mg/dl	4.45	3.91	4.99	0.27	0.54	
	mmol/l	1.82	1.60	2.04	0.11	0.22	Enzymatic
	mg/dl	4.42	3.89	4.95	0.27	0.53	
Osmolality	mOsm/kg	358	287	429	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.13	6.08	8.18	0.53	1.05	
	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.13	6.08	8.18	0.53	1.05	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.19	5.70	6.68	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.7	36.6	54.8	4.55	9.10	Biuret reaction end point
	g/dl	4.57	3.66	5.48	0.46	0.91	
	g/l	45.5	36.4	54.6	4.55	9.10	Biuret reaction kinetic
	g/dl	4.55	3.64	5.46	0.46	0.91	
PSA Total	ng/ml =	27.0	20.2	33.8	3.40	6.80	Abbott Architect
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.01	0.81	1.21	0.10	0.20	Abbott Architect
TIBC	µmol/l	50.5	39.9	61.1	5.30	10.60	FE+UIBC(saturation with iron)
	µg/dl	282	223	341	29.50	59.00	
Triglycerides	mmol/l	3.05	2.56	3.54	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	270	227	313	21.50	43.00	
	mmol/l	3.08	2.59	3.57	0.25	0.49	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	273	229	317	22.00	44.00	
	mmol/l	3.04	2.55	3.53	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	269	226	312	21.50	43.00	
	mmol/l	3.05	2.56	3.54	0.25	0.49	Agappe - GPO - TOPS
	mg/dl	270	227	313	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	8.33	10.9	0.63	1.26	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.42	8.20	10.6	0.61	1.22	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	19.8	16.8	22.8	1.50	3.00	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	

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Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.0	25.5	34.5	2.25	4.50	Bromocresol Green
	g/dl	3.00	2.55	3.45	0.23	0.45	
ALT (GPT)	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37°C
	U/l	109	87	131	11.00	22.00	Tris buffer without P5P 30°C
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	148	119	177	14.50	29.00	Tris buffer without P5P 37°C
	U/l	100	80	120	10.00	20.00	Tris buffer without P5P 30°C
	U/l	70	57	83	6.50	13.00	Tris buffer without P5P 25°C
Cholesterol	mmol/l	6.82	5.93	7.71	0.45	0.89	Cholesterol Oxidase
	mg/dl	263	229	297	17.00	34.00	
Creatinine	µmol/l	363	290	436	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.10	3.28	4.92	0.41	0.82	
Glucose	mmol/l	16.6	14.1	19.1	1.25	2.50	Hexokinase
	mg/dl	299	254	344	22.50	45.00	
Protein Total	g/l	47.7	38.1	57.3	4.80	9.60	Biuret reaction end point
	g/dl	4.77	3.81	5.73	0.48	0.96	
Triglycerides	mmol/l	3.03	2.54	3.52	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	268	225	311	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.24	8.05	10.4	0.60	1.19	
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	Urease kinetic
	mg/dl	115	97.4	133	8.80	17.60	

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Alfa Wassermann Alfa 600/Analyticon Biolyzer 600 ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	BUN
	mg/dl	53.6	45.6	61.6	4.00	8.00	

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Beckman Coulter AU Series®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.1	23.9	32.3	2.10	4.20	Bromocresol Green
	g/dl	2.81	2.39	3.23	0.21	0.42	
Alkaline Phosphatase	U/l	436	371	501	32.50	65.00	p-Nitrophenylphosphate AMP 37°C
	U/l	561	477	645	42.00	84.00	Diethanolamine buffer DEA 37°C
	U/l	273	232	314	20.50	41.00	Roche Integra AMP buffer 37°C
	U/l	422	359	485	31.50	63.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	139	111	167	14.00	28.00	Tris buffer without P5P 37°C
Amylase Total	U/l	302	256	348	23.00	46.00	pNP Maltotrioside substrates 37°C
	U/l	304	258	350	23.00	46.00	Biotrol - blocked pNPG7 37°C
	U/l	297	252	342	22.50	45.00	Beckman maltotetraose 37°C
	U/l	286	243	329	21.50	43.00	Roche liquid stable pNPG7 37°C
	U/l	303	258	348	22.50	45.00	Beckman Coulter - blocked pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.9	13.4	20.4	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	23.1	18.3	27.9	2.40	4.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.35	1.07	1.63	0.14	0.28	
Bilirubin Total	µmol/l	85.0	67.2	103	8.90	17.80	Diazo with Sulphanilic Acid
	mg/dl	4.97	3.93	6.01	0.52	1.04	
	µmol/l	85.7	67.7	104	9.00	18.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.01	3.96	6.06	0.53	1.05	
	µmol/l	83.2	65.7	101	8.75	17.50	Oxidation to Biliverdin
	mg/dl	4.87	3.84	5.90	0.52	1.03	

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RANDOX

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.22	2.90	3.54	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	6.60	5.75	7.45	0.43	0.85	Cholesterol Oxidase
	mg/dl	255	222	288	16.50	33.00	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholinesterase	U/l	5026	4021	6031	502.50	1005.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	567	465	669	51.00	102.00	CK-NAC substrate start (DGKC) 37°C
	U/l	560	459	661	50.50	101.00	CK-NAC (IFCC) 37°C
Copper	µmol/l	26.4	21.1	31.7	2.65	5.30	Colorimetric
	µg/dl	168	134	202	17.00	34.00	
Creatinine	µmol/l	361	289	433	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.08	3.27	4.89	0.41	0.81	
	µmol/l	376	301	451	37.50	75.00	Randox Enzymatic UV method
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	383	306	460	38.50	77.00	Creatinine PAP method
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	377	302	452	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	368	295	441	36.50	73.00	Jaffe rate blanked
	mg/dl	4.16	3.33	4.99	0.42	0.83	
	µmol/l	363	290	436	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.10	3.28	4.92	0.41	0.82	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	368	294	442	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	371	297	445	37.00	74.00	IDMS traceable
	mg/dl	4.19	3.36	5.02	0.42	0.83	
D-3-Hydroxybutyrate	mmol/l	1.18	1.00	1.36	0.09	0.18	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	168	143	193	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	166	141	191	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
GLDH	U/l	29	23	35	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	
HDL - Cholesterol	mmol/l	2.63	2.24	3.02	0.20	0.39	Direct HDL Immunoseparation
	mg/dl	102	86.5	118	7.75	15.50	
	mmol/l	2.79	2.37	3.21	0.21	0.42	Direct Clearance Method
	mg/dl	108	91.5	125	8.25	16.50	
	mmol/l	2.98	2.53	3.43	0.23	0.45	Direct HDL Roche 3rd generation
	mg/dl	115	97.7	132	8.65	17.30	
Iron	µmol/l	37.4	30.7	44.1	3.35	6.70	Colorimetric with ppt.
	µg/dl	209	172	246	18.50	37.00	
	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.57	4.57	6.57	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.2	41.2	59.2	4.50	9.00	
LD (LDH)	U/l	378	321	435	28.50	57.00	L->P 37°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	874	743	1005	65.50	131.00	P->L Scandinavian & Dutch 37°C
	U/l	758	644	872	57.00	114.00	P->L German methods 37°C
	U/l	384	326	442	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	67	54	80	6.50	13.00	Other Colorimetric 37°C
	U/l	61	49	73	6.00	12.00	Roche Colorimetric 37°C
	U/l	82	66	98	8.00	16.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.10	1.85	2.35	0.13	0.25	Spectrophotometric
	mg/dl	1.46	1.28	1.64	0.09	0.18	
Magnesium	mmol/l	1.81	1.60	2.02	0.11	0.21	Xylidyl Blue
	mg/dl	4.40	3.89	4.91	0.26	0.51	
Osmolality	mOsm/kg	355	284	426	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.31	1.96	2.66	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.16	6.08	8.24	0.54	1.08	
	mmol/l	2.31	1.97	2.65	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.16	6.11	8.21	0.53	1.05	
Potassium	mmol/l	6.16	5.67	6.65	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.6	35.7	53.5	4.45	8.90	Biuret reaction end point
	g/dl	4.46	3.57	5.35	0.45	0.89	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	51.6	40.8	62.4	5.40	10.80	FE+UIBC(saturation with iron)
	µg/dl	288	228	348	30.00	60.00	
Triglycerides	mmol/l	3.08	2.59	3.57	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	273	229	317	22.00	44.00	
	mmol/l	3.12	2.62	3.62	0.25	0.50	L/G Kinase EP. no correction
	mg/dl	276	232	320	22.00	44.00	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.59	8.35	10.8	0.62	1.24	
	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.68	8.42	10.9	0.63	1.26	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.32	8.10	10.5	0.61	1.22	
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease kinetic
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.4	16.5	22.3	1.45	2.90	BUN
	mg/dl	54.4	46.2	62.6	4.10	8.20	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Purple
	g/dl	2.90	2.46	3.34	0.22	0.44	
Alkaline Phosphatase	U/l	388	330	446	29.00	58.00	p-Nitrophenylphosphate AMP 37°C
	U/l	391	332	450	29.50	59.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	130	104	156	13.00	26.00	Tris buffer without P5P 37°C
	U/l	124	99	149	12.50	25.00	Tris buffer SCE 37°C
Amylase Total	U/l	310	264	356	23.00	46.00	Beckman maltotetraose 37°C
	U/l	313	266	360	23.50	47.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	134	108	160	13.00	26.00	Tris buffer without P5P 37°C
	U/l	132	105	159	13.50	27.00	Tris buffer SCE 37°C
Bicarbonate	mmol/l	16.6	13.2	20.0	1.70	3.40	Differential rate pH change
	mmol/l	16.6	13.1	20.1	1.75	3.50	Ion selective electrode
Bilirubin Direct	µmol/l	16.2	12.8	19.6	1.70	3.40	Diazo with Sulphanilic Acid
	mg/dl	0.948	0.749	1.15	0.10	0.20	
Bilirubin Total	µmol/l	83.1	65.7	101	8.70	17.40	Diazo with Sulphanilic Acid
	mg/dl	4.86	3.84	5.88	0.51	1.02	
Calcium	mmol/l	3.11	2.80	3.42	0.16	0.31	Ion selective electrode
	mg/dl	12.5	11.2	13.8	0.65	1.30	
	mmol/l	3.18	2.87	3.49	0.16	0.31	Arsenazo III
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Cholesterol	mmol/l	6.55	5.70	7.40	0.43	0.85	Cholesterol Oxidase
	mg/dl	253	220	286	16.50	33.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
CK Total	U/l	554	454	654	50.00	100.00	CK-NAC (IFCC) 37°C
	U/l	553	454	652	49.50	99.00	Monothioglycerol 37°C
Creatinine	µmol/l	376	301	451	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	375	300	450	37.50	75.00	Randox Enzymatic UV method
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	377	302	452	37.50	75.00	Jaffe rate blanked
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	379	303	455	38.00	76.00	IDMS traceable
	mg/dl	4.28	3.42	5.14	0.43	0.86	
gamma-GT	U/l	139	118	160	10.50	21.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	133	113	153	10.00	20.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
HDL - Cholesterol	mmol/l	3.41	2.90	3.92	0.26	0.51	Direct HDL PPD
	mg/dl	132	112	152	10.00	20.00	
Iron	µmol/l	37.0	30.4	43.6	3.30	6.60	Colorimetric without ppt.
	µg/dl	207	170	244	18.50	37.00	
Lactate	mmol/l	5.35	4.39	6.31	0.48	0.96	Colorimetric Lactate Oxidase
	mg/dl	48.2	39.6	56.8	4.30	8.60	
LD (LDH)	U/l	322	274	370	24.00	48.00	L->P 37°C

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	997	847	1147	75.00	150.00	Pyruvate 1.4 mM - Beckman LD-P 37°C
	U/l	366	311	421	27.50	55.00	L->P IFCC 37°C
Lipase	U/l	60	48	72	6.00	12.00	Other Colorimetric 37°C
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Calmagite
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.35	2.00	2.70	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.29	6.20	8.38	0.55	1.09	
Potassium	mmol/l	6.18	5.69	6.67	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.3	36.2	54.4	4.55	9.10	Biuret reaction CX4/5/7
	g/dl	4.53	3.62	5.44	0.46	0.91	
	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
	g/l	44.1	35.2	53.0	4.45	8.90	Biuret reaction kinetic
	g/dl	4.41	3.52	5.30	0.45	0.89	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.10	2.61	3.59	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	274	231	317	21.50	43.00	
	mmol/l	3.21	2.69	3.73	0.26	0.52	L/G Kinase EP. no correction
	mg/dl	284	238	330	23.00	46.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	7.85	10.2	0.59	1.17	
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.5	24.2	32.8	2.15	4.30	Bromocresol Green
	g/dl	2.85	2.42	3.28	0.22	0.43	
Alkaline Phosphatase	U/l	341	290	392	25.50	51.00	AMP optimised to IFCC 37°C
	U/l	266	226	306	20.00	40.00	AMP optimised to IFCC 30°C
	U/l	218	185	251	16.50	33.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37°C
	U/l	105	84	126	10.50	21.00	Tris buffer without P5P 30°C
	U/l	80	64	96	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37°C
	U/l	108	87	129	10.50	21.00	Tris buffer without P5P 30°C
	U/l	76	61	91	7.50	15.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	32.7	25.8	39.6	3.45	6.90	Diazo with Sulphanilic Acid
	mg/dl	1.91	1.51	2.31	0.20	0.40	
Bilirubin Total	µmol/l	87.1	68.8	105	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.10	4.02	6.18	0.54	1.08	
Calcium	mmol/l	3.14	2.83	3.45	0.16	0.31	Arsenazo III
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.80	5.92	7.68	0.44	0.88	Cholesterol Oxidase
	mg/dl	262	229	295	16.50	33.00	
CK Total	U/l	569	467	671	51.00	102.00	CK-NAC (IFCC) 37°C
	U/l	356	292	420	32.00	64.00	CK-NAC (IFCC) 30°C
	U/l	242	198	286	22.00	44.00	CK-NAC (IFCC) 25°C

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	321	257	385	32.00	64.00	Alkaline picrate no deproteinization
	mg/dl	3.63	2.90	4.36	0.37	0.73	
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Biuret reaction end point
	g/dl	4.56	3.65	5.47	0.46	0.91	
Triglycerides	mmol/l	2.83	2.38	3.28	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	250	211	289	19.50	39.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.49	8.27	10.7	0.61	1.22	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
Urea	mmol/l	18.0	15.3	20.7	1.35	2.70	Urease kinetic
	mg/dl	108	92.0	124	8.00	16.00	
	mmol/l	18.0	15.3	20.7	1.35	2.70	BUN
	mg/dl	50.5	42.9	58.1	3.80	7.60	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.5	25.9	35.1	2.30	4.60	Bromocresol Green
	g/dl	3.05	2.59	3.51	0.23	0.46	
	g/l	27.7	23.6	31.8	2.05	4.10	Bromocresol Purple
	g/dl	2.77	2.36	3.18	0.21	0.41	
	g/l	27.0	22.9	31.1	2.05	4.10	Turbidimetric Assays
	g/dl	2.70	2.29	3.11	0.21	0.41	
Alkaline Phosphatase	U/l	258	220	296	19.00	38.00	Roche Integra AMP buffer 37°C
	U/l	201	171	231	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	165	141	189	12.00	24.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	128	103	153	12.50	25.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	271	230	312	20.50	41.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	297	252	342	22.50	45.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	295	251	339	22.00	44.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	295	251	339	22.00	44.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.0	12.7	19.3	1.65	3.30	Enzymatic
Bilirubin Direct	µmol/l	29.6	23.4	35.8	3.10	6.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.73	1.37	2.09	0.18	0.36	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	78.7	62.2	95.2	8.25	16.50	Diazo with Sulphanilic Acid
	mg/dl	4.60	3.64	5.56	0.48	0.96	
	µmol/l	78.6	62.1	95.1	8.25	16.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.60	3.63	5.57	0.49	0.97	
	µmol/l	78.8	62.2	95.4	8.30	16.60	Diazonium ion
	mg/dl	4.61	3.64	5.58	0.49	0.97	
Calcium	mmol/l	3.21	2.89	3.53	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.21	2.88	3.54	0.17	0.33	NM-BAPTA
	mg/dl	12.9	11.5	14.3	0.70	1.40	
Cholesterol	mmol/l	6.71	5.84	7.58	0.44	0.87	Cholesterol Oxidase
	mg/dl	259	225	293	17.00	34.00	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholinesterase	U/l	5263	4210	6316	526.50	1053.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	561	460	662	50.50	101.00	CK-NAC substrate start (DGKC) 37°C
	U/l	351	288	414	31.50	63.00	CK-NAC substrate start (DGKC) 30°C
	U/l	238	196	280	21.00	42.00	CK-NAC substrate start (DGKC) 25°C
	U/l	575	471	679	52.00	104.00	CK-NAC (IFCC) 37°C
	U/l	360	295	425	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	358	286	430	36.00	72.00	Alkaline picrate with deproteinization
	mg/dl	4.05	3.23	4.87	0.41	0.82	
	µmol/l	351	281	421	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.97	3.18	4.76	0.40	0.79	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	377	302	452	37.50	75.00	Randox Enzymatic UV method
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	366	293	439	36.50	73.00	Roche Creatinine Plus
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	343	274	412	34.50	69.00	Jaffe rate blanked
	mg/dl	3.88	3.10	4.66	0.39	0.78	
	µmol/l	350	280	420	35.00	70.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	3.96	3.16	4.76	0.40	0.80	
	µmol/l	358	287	429	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.05	3.24	4.86	0.41	0.81	
gamma-GT	U/l	148	125	171	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	99	135	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	77	105	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	170	144	196	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	134	113	155	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	105	89	121	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	15.5	13.1	17.9	1.20	2.40	Glucose oxidase
	mg/dl	279	236	322	21.50	43.00	
HDL - Cholesterol	mmol/l	3.11	2.64	3.58	0.24	0.47	Direct HDL PEGME
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	3.12	2.65	3.59	0.24	0.47	Direct HDL Roche 3rd generation
	mg/dl	120	102	138	9.00	18.00	
Iron	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric with ppt.
	µg/dl	211	173	249	19.00	38.00	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	37.6	30.9	44.3	3.35	6.70	Colorimetric without ppt.
	µg/dl	210	173	247	18.50	37.00	
Lactate	mmol/l	5.85	4.80	6.90	0.53	1.05	Colorimetric Lactate Oxidase
	mg/dl	52.7	43.2	62.2	4.75	9.50	
LD (LDH)	U/l	727	618	836	54.50	109.00	P->L German methods 37°C
	U/l	525	446	604	39.50	79.00	P->L German methods 30°C
	U/l	369	313	425	28.00	56.00	P->L German methods 25°C
	U/l	401	341	461	30.00	60.00	L->P IFCC 37°C
	U/l	290	246	334	22.00	44.00	L->P IFCC 30°C
	U/l	203	173	233	15.00	30.00	L->P IFCC 25°C
Lipase	U/l	68	55	81	6.50	13.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.16	1.90	2.42	0.13	0.26	Ion selective electrode
	mg/dl	1.50	1.32	1.68	0.09	0.18	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Methylthymol blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	mmol/l	1.77	1.55	1.99	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.30	3.77	4.83	0.27	0.53	
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.25	6.17	8.33	0.54	1.08	
	mmol/l	2.36	2.00	2.72	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.32	6.20	8.44	0.56	1.12	
Potassium	mmol/l	6.21	5.72	6.70	0.25	0.49	ISE method - indirect
Protein Total	g/l	43.6	34.9	52.3	4.35	8.70	Biuret reaction end point
	g/dl	4.36	3.49	5.23	0.44	0.87	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	43.7	34.9	52.5	4.40	8.80	Biuret reaction kinetic
	g/dl	4.37	3.49	5.25	0.44	0.88	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	52.9	41.8	64.0	5.55	11.10	FE+UIBC(saturation with iron)
	µg/dl	296	234	358	31.00	62.00	
Triglycerides	mmol/l	2.97	2.50	3.44	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	263	221	305	21.00	42.00	
	mmol/l	3.01	2.53	3.49	0.24	0.48	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	266	224	308	21.00	42.00	
	mmol/l	2.85	2.40	3.30	0.23	0.45	L/G Kinase EP. no correction
	mg/dl	252	212	292	20.00	40.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	259	218	300	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.42	8.20	10.6	0.61	1.22	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.37	8.15	10.6	0.61	1.22	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.41	8.20	10.6	0.61	1.21	
Urea	mmol/l	18.7	15.9	21.5	1.40	2.80	Urease kinetic
	mg/dl	112	95.6	128	8.20	16.40	
	mmol/l	18.7	15.9	21.5	1.40	2.80	BUN
	mg/dl	52.5	44.6	60.4	3.95	7.90	

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ELITech/Vitalab Selectra Pro/E/XL

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.5	34.3	2.20	4.40	Bromocresol Green
	g/dl	2.99	2.55	3.43	0.22	0.44	
Alkaline Phosphatase	U/l	534	454	614	40.00	80.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37°C
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.1	13.7	0.65	1.30	
	mmol/l	2.71	2.43	2.99	0.14	0.28	Methylthymol blue
	mg/dl	10.9	9.74	12.1	0.58	1.16	
	mmol/l	3.25	2.93	3.57	0.16	0.32	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	6.77	5.89	7.65	0.44	0.88	Cholesterol Oxidase
	mg/dl	261	227	295	17.00	34.00	
CK Total	U/l	543	445	641	49.00	98.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	353	282	424	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	3.99	3.19	4.79	0.40	0.80	
	µmol/l	357	286	428	35.50	71.00	Jaffe rate blanked
	mg/dl	4.03	3.23	4.83	0.40	0.80	
gamma-GT	U/l	155	132	178	11.50	23.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.8	13.5	18.1	1.15	2.30	Glucose oxidase
	mg/dl	285	243	327	21.00	42.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	359	305	413	27.00	54.00	L->P IFCC 37°C
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.07	6.01	8.13	0.53	1.06	
Protein Total	g/l	51.6	41.3	61.9	5.15	10.30	Biuret reaction end point
	g/dl	5.16	4.13	6.19	0.52	1.03	
Triglycerides	mmol/l	2.89	2.43	3.35	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	256	215	297	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.11	10.6	0.62	1.23	
Urea	mmol/l	18.5	15.8	21.2	1.35	2.70	Urease kinetic
	mg/dl	111	95.0	127	8.00	16.00	
	mmol/l	18.5	15.7	21.3	1.40	2.80	BUN
	mg/dl	51.9	44.1	59.7	3.90	7.80	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.3	25.8	34.8	2.25	4.50	Bromocresol Green
	g/dl	3.03	2.58	3.48	0.23	0.45	
	g/l	27.3	23.2	31.4	2.05	4.10	Bromocresol Purple
	g/dl	2.73	2.32	3.14	0.21	0.41	
Alkaline Phosphatase	U/l	241	205	277	18.00	36.00	Roche Integra AMP buffer 37°C
	U/l	188	160	216	14.00	28.00	Roche Integra AMP buffer 30°C
	U/l	154	131	177	11.50	23.00	Roche Integra AMP buffer 25°C
	U/l	374	318	430	28.00	56.00	Randox AMP 37°C
	U/l	291	248	334	21.50	43.00	Randox AMP 30°C
	U/l	239	203	275	18.00	36.00	Randox AMP 25°C
ALT (GPT)	U/l	132	106	158	13.00	26.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	74	60	88	7.00	14.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	267	227	307	20.00	40.00	Roche liquid stable pNPG7 37°C
	U/l	300	255	345	22.50	45.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	287	244	330	21.50	43.00	Roche liquid stable pNPG7 37°C
	U/l	333	283	383	25.00	50.00	Randox liquid stable pNPG7 37°C
Acid Phosphatase (non-prostatic)	U/l	10.5	7.04	14.0	1.73	3.46	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	14.9	9.98	19.8	2.46	4.92	1-Naphthyl Phosphate substrate Kinetic 37°C
Acid Phosphatase (Prostatic)	U/l	41.0	27.5	54.5	6.75	13.50	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	23.5	15.7	31.3	3.90	7.80	1-Naphthyl Phosphate substrate Kinetic 37°C

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Acid Phosphatase (Total)	U/l	51.5	34.5	68.5	8.50	17.00	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
	U/l	38.4	25.7	51.1	6.35	12.70	1-Naphthyl Phosphate substrate Kinetic 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
	U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	51.7	41.4	62.0	5.15	10.30	5th Generation Colorimetric
Bicarbonate	mmol/l	16.8	13.3	20.3	1.75	3.50	Colorimetric
	mmol/l	16.3	12.9	19.7	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	26.8	21.2	32.4	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	27.7	21.9	33.5	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.62	1.28	1.96	0.17	0.34	
Bilirubin Total	µmol/l	83.8	66.2	101	8.80	17.60	Diazo with Dichloroaniline (DCA)
	mg/dl	4.90	3.87	5.93	0.52	1.03	
	µmol/l	79.0	62.4	95.6	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	77.1	60.9	93.3	8.10	16.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.51	3.56	5.46	0.48	0.95	
	µmol/l	76.7	60.6	92.8	8.05	16.10	Diazonium ion
	mg/dl	4.49	3.55	5.43	0.47	0.94	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	3.24	2.92	3.56	0.16	0.32	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.17	2.85	3.49	0.16	0.32	NM-BAPTA
	mg/dl	12.7	11.4	14.0	0.65	1.30	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	6.58	5.73	7.43	0.43	0.85	Cholesterol Oxidase
	mg/dl	254	221	287	16.50	33.00	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
CK Total	U/l	524	429	619	47.50	95.00	CK-NAC substrate start (DGKC) 37°C
	U/l	328	269	387	29.50	59.00	CK-NAC substrate start (DGKC) 30°C
	U/l	223	182	264	20.50	41.00	CK-NAC substrate start (DGKC) 25°C
	U/l	535	439	631	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	335	275	395	30.00	60.00	CK-NAC (IFCC) 30°C
	U/l	227	187	267	20.00	40.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	363	290	436	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.10	3.28	4.92	0.41	0.82	
	µmol/l	383	306	460	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	376	301	451	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.25	3.40	5.10	0.43	0.85	
D-3-Hydroxybutyrate	mmol/l	1.13	0.96	1.30	0.09	0.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	145	123	167	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	114	97	131	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	76	102	6.50	13.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	159	135	183	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	125	106	144	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	98	83	113	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	170	145	195	12.50	25.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	134	114	154	10.00	20.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	105	89	121	8.00	16.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
GLDH	U/l	34	27	41	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
	U/l	26	21	31	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	21	17	25	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
alpha-HBDH	U/l	466	368	564	49.00	98.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	352	278	426	37.00	74.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	264	208	320	28.00	56.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	3.04	2.58	3.50	0.23	0.46	Direct HDL PEGME
	mg/dl	117	99.6	134	8.70	17.40	
	mmol/l	2.99	2.54	3.44	0.23	0.45	Direct HDL Roche 3rd generation
	mg/dl	115	98.0	132	8.50	17.00	
Iron	µmol/l	36.5	29.9	43.1	3.30	6.60	Colorimetric without ppt.
	µg/dl	204	167	241	18.50	37.00	
Lactate	mmol/l	5.61	4.60	6.62	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.5	41.4	59.6	4.55	9.10	
LD (LDH)	U/l	736	626	846	55.00	110.00	P->L German methods 37°C
	U/l	531	452	610	39.50	79.00	P->L German methods 30°C
	U/l	373	317	429	28.00	56.00	P->L German methods 25°C
	U/l	378	322	434	28.00	56.00	L->P IFCC 37°C
	U/l	273	232	314	20.50	41.00	L->P IFCC 30°C
	U/l	192	163	221	14.50	29.00	L->P IFCC 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	60	48	72	6.00	12.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.12	1.86	2.38	0.13	0.26	Spectrophotometric
	mg/dl	1.47	1.29	1.65	0.09	0.18	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Xylidyl Blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	mmol/l	1.81	1.59	2.03	0.11	0.22	Enzymatic
	mg/dl	4.40	3.86	4.94	0.27	0.54	
Phosphate Inorganic	mmol/l	2.30	1.95	2.65	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.13	6.05	8.21	0.54	1.08	
Potassium	mmol/l	6.27	5.77	6.77	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.8	35.8	53.8	4.50	9.00	Biuret reaction end point
	g/dl	4.48	3.58	5.38	0.45	0.90	
Sodium	mmol/l	163	155	171	4.00	8.00	ISE method - indirect
TIBC	µmol/l	48.9	38.6	59.2	5.15	10.30	FE+UIBC(saturation with iron)
	µg/dl	273	216	330	28.50	57.00	
Triglycerides	mmol/l	2.91	2.45	3.37	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	252	212	292	20.00	40.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.24	8.03	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.03	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.26	8.05	10.5	0.61	1.21	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease kinetic
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.4	16.5	22.3	1.45	2.90	BUN
	mg/dl	54.4	46.2	62.6	4.10	8.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.0	25.5	34.5	2.25	4.50	Bromocresol Green
	g/dl	3.00	2.55	3.45	0.23	0.45	
Alkaline Phosphatase	U/l	382	324	440	29.00	58.00	AMP optimised to IFCC 37°C
	U/l	298	252	344	23.00	46.00	AMP optimised to IFCC 30°C
	U/l	244	207	281	18.50	37.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	133	106	160	13.50	27.00	Tris buffer without P5P 37°C
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 30°C
	U/l	63	50	76	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	49.9	39.9	59.9	5.00	10.00	Enzymatic Colorimetric
Bilirubin Total	µmol/l	88.2	69.7	107	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.16	4.08	6.24	0.54	1.08	
Calcium	mmol/l	3.32	2.99	3.65	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.3	12.0	14.6	0.65	1.30	
Cholesterol	mmol/l	6.58	5.72	7.44	0.43	0.86	Cholesterol Oxidase
	mg/dl	254	221	287	16.50	33.00	
Chloride	mmol/l	114	104	124	5.00	10.00	ISE indirect
CK Total	U/l	496	407	585	44.50	89.00	CK-NAC (IFCC) 37°C
	U/l	310	255	365	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	211	173	249	19.00	38.00	CK-NAC (IFCC) 25°C

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	339	271	407	34.00	68.00	Alkaline picrate no deproteinization
	mg/dl	3.83	3.06	4.60	0.39	0.77	
D-3-Hydroxybutyrate	mmol/l	1.20	1.02	1.38	0.09	0.18	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	152	129	175	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	120	102	138	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	94	80	108	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	151	129	173	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	119	102	136	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	93	80	106	6.50	13.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
Lipase	U/l	86	69	103	8.50	17.00	Randox Colorimetric 37°C
Magnesium	mmol/l	1.98	1.74	2.22	0.12	0.24	Enzymatic
	mg/dl	4.81	4.23	5.39	0.29	0.58	
Phosphate Inorganic	mmol/l	2.33	1.98	2.68	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.22	6.14	8.30	0.54	1.08	
Potassium	mmol/l	6.32	5.81	6.83	0.26	0.51	ISE method - indirect
Protein Total	g/l	46.2	37.0	55.4	4.60	9.20	Biuret reaction end point
	g/dl	4.62	3.70	5.54	0.46	0.92	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.05	2.56	3.54	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	270	227	313	21.50	43.00	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	3.16	2.65	3.67	0.26	0.51	L/G Kinase EP. no correction
	mg/dl	280	235	325	22.50	45.00	
Uric Acid (Urate)	mmol/l	0.59	0.51	0.66	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.86	8.58	11.1	0.64	1.28	
Urea	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.5	23.4	31.6	2.05	4.10	Ortho Vitros Microslide Systems
	g/dl	2.75	2.34	3.16	0.21	0.41	
Alkaline Phosphatase	U/l	213	181	245	16.00	32.00	Ortho Vitros Microslide Systems 37°C
ALT (GPT)	U/l	143	115	171	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	142	113	171	14.50	29.00	Vitros DT60/DT60 II/DTSC II 37°C
Amylase Total	U/l	180	153	207	13.50	27.00	Ortho Vitros Microslide Systems 37°C
AST (GOT)	U/l	171	137	205	17.00	34.00	Ortho Vitros Microslide visible slide 37°C
Bicarbonate	mmol/l	19.4	15.4	23.4	2.00	4.00	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	74.3	58.7	89.9	7.80	15.60	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.35	3.43	5.27	0.46	0.92	
	µmol/l	73.6	58.1	89.1	7.75	15.50	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.31	3.40	5.22	0.46	0.91	
Calcium	mmol/l	3.14	2.83	3.45	0.16	0.31	Ortho Vitros Microslide Systems
	mg/dl	12.6	11.3	13.9	0.65	1.30	
	mmol/l	3.25	2.92	3.58	0.17	0.33	Vitros DT60/DT60 II/DTSC II
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	5.91	5.14	6.68	0.39	0.77	Ortho Vitros Microslide Systems
	mg/dl	228	198	258	15.00	30.00	
	mmol/l	6.05	5.26	6.84	0.40	0.79	Vitros DT60/DT60 II
	mg/dl	234	203	265	15.50	31.00	
Chloride	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	114	105	123	4.50	9.00	Vitros DT60/DT60 II/DTE II
Cholinesterase	U/l	5127	4102	6152	512.50	1025.00	Ortho Vitros Microslide Systems 37°C
CK Total	U/l	438	359	517	39.50	79.00	Ortho Vitros Microslide Systems 37°C
Creatinine	µmol/l	371	297	445	37.00	74.00	Vitros DT60/DT60 II/DTSC II
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	381	304	458	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.31	3.44	5.18	0.44	0.87	
gamma-GT	U/l	197	168	226	14.50	29.00	Ortho Vitros Microslide Systems 37°C
	U/l	199	169	229	15.00	30.00	Vitros DT60/DT60 II/DTSC II 37°C
Glucose	mmol/l	14.4	12.3	16.5	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	259	222	296	18.50	37.00	
	mmol/l	14.6	12.4	16.8	1.10	2.20	Vitros DT60/DT60 II
	mg/dl	263	223	303	20.00	40.00	
HDL - Cholesterol	mmol/l	2.40	2.04	2.76	0.18	0.36	Vitros Magnetic HDL
	mg/dl	92.6	78.7	107	6.95	13.90	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	
Iron	µmol/l	38.6	31.7	45.5	3.45	6.90	Ortho Vitros Microslide Systems
	µg/dl	216	177	255	19.50	39.00	
Lactate	mmol/l	5.15	4.22	6.08	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	46.4	38.0	54.8	4.20	8.40	
LD (LDH)	U/l	1135	965	1305	85.00	170.00	Ortho Vitros Microslide Systems 37°C
Lipase	U/l	751	602	900	74.50	149.00	Ortho Vitros Microslide Systems 37°C
Lithium	mmol/l	2.48	2.18	2.78	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.82	1.61	2.03	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.42	3.91	4.93	0.26	0.51	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Ortho Vitros Microslide Systems
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	Ortho Vitros Microslide Systems
	mmol/l	6.11	5.62	6.60	0.25	0.49	Vitros DT60/DT60 II/DTE II
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Ortho Vitros Microslide Systems
	g/dl	4.55	3.64	5.46	0.46	0.91	
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	156	148	164	4.00	8.00	Vitros DT60/DT60 II/DTE II
Thyroid Stimulating Hormone	µU/ml =	1.25	1.00	1.50	0.13	0.25	Vitros ECi
TIBC	µmol/l	62.4	49.3	75.5	6.55	13.10	Ortho Vitros Microslide Systems
	µg/dl	349	276	422	36.50	73.00	
Triglycerides	mmol/l	3.57	3.00	4.14	0.29	0.57	Ortho Vitros Microslide Systems
	mg/dl	316	266	366	25.00	50.00	
	mmol/l	3.45	2.90	4.00	0.28	0.55	Vitros DT60/DT60 II
	mg/dl	305	257	353	24.00	48.00	
Uric Acid (Urate)	mmol/l	0.52	0.46	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.79	7.64	9.94	0.58	1.15	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Vitros DT60/DT60 II
	mg/dl	9.00	7.83	10.2	0.59	1.17	
Urea	mmol/l	18.1	15.4	20.8	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	18.6	15.8	21.4	1.40	2.80	Vitros DT60/DT60 II
	mg/dl	112	95.0	129	8.50	17.00	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	18.1	15.4	20.8	1.35	2.70	BUN
	mg/dl	50.8	43.2	58.4	3.80	7.60	

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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.9	24.6	33.2	2.15	4.30	Bromocresol Green
	g/dl	2.89	2.46	3.32	0.22	0.43	
Alkaline Phosphatase	U/l	540	459	621	40.50	81.00	Diethanolamine buffer DEA 37°C
	U/l	421	358	484	31.50	63.00	Diethanolamine buffer DEA 30°C
	U/l	345	293	397	26.00	52.00	Diethanolamine buffer DEA 25°C
	U/l	344	292	396	26.00	52.00	AMP optimised to IFCC 37°C
	U/l	268	227	309	20.50	41.00	AMP optimised to IFCC 30°C
	U/l	220	187	253	16.50	33.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
	U/l	107	85	129	11.00	22.00	Tris buffer without P5P 30°C
	U/l	81	65	97	8.00	16.00	Tris buffer without P5P 25°C
Amylase Total	U/l	286	243	329	21.50	43.00	bioMerieux 2-chloro-pNPG3 37°C
AST (GOT)	U/l	153	122	184	15.50	31.00	Tris buffer without P5P 37°C
	U/l	103	82	124	10.50	21.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	49.5	39.6	59.4	4.95	9.90	Enzymatic Colorimetric
Bilirubin Total	µmol/l	81.5	64.4	98.6	8.55	17.10	Diazo with Sulphanilic Acid
	mg/dl	4.77	3.77	5.77	0.50	1.00	
	µmol/l	80.3	63.4	97.2	8.45	16.90	Nitrobenzenediazonium salt
	mg/dl	4.70	3.71	5.69	0.50	0.99	
Calcium	mmol/l	3.35	3.01	3.69	0.17	0.34	Arsenazo III
	mg/dl	13.4	12.1	14.7	0.65	1.30	

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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	6.50	5.65	7.35	0.43	0.85	Cholesterol Oxidase
	mg/dl	251	218	284	16.50	33.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE direct
CK Total	U/l	549	450	648	49.50	99.00	CK-NAC (IFCC) 37°C
	U/l	344	282	406	31.00	62.00	CK-NAC (IFCC) 30°C
	U/l	233	191	275	21.00	42.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	365	292	438	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	385	308	462	38.50	77.00	Randox Enzymatic UV method
	mg/dl	4.35	3.48	5.22	0.44	0.87	
	µmol/l	376	301	451	37.50	75.00	Creatinine PAP method
	mg/dl	4.25	3.40	5.10	0.43	0.85	
gamma-GT	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	107	145	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	84	114	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	3.01	2.56	3.46	0.23	0.45	Direct HDL PEGME
	mg/dl	116	98.8	133	8.60	17.20	
Iron	µmol/l	38.1	31.2	45.0	3.45	6.90	Colorimetric without ppt.
	µg/dl	213	174	252	19.50	39.00	
Magnesium	mmol/l	1.81	1.59	2.03	0.11	0.22	Calmagite
	mg/dl	4.40	3.86	4.94	0.27	0.54	

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Konelab 20/30/60®/Thermo Scientific Indiko Plus ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	1.63	1.43	1.83	0.10	0.20	Xylidyl Blue
	mg/dl	3.96	3.47	4.45	0.25	0.49	
Phosphate Inorganic	mmol/l	2.36	2.00	2.72	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.32	6.20	8.44	0.56	1.12	
Potassium	mmol/l	6.03	5.55	6.51	0.24	0.48	ISE method - direct
Protein Total	g/l	46.5	37.2	55.8	4.65	9.30	Biuret reaction end point
	g/dl	4.65	3.72	5.58	0.47	0.93	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	3.05	2.57	3.53	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	270	227	313	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.73	8.47	11.0	0.63	1.26	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	8.03	10.5	0.61	1.21	
	mmol/l	0.59	0.51	0.67	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.88	8.58	11.2	0.65	1.30	
Urea	mmol/l	18.5	15.7	21.3	1.40	2.80	Urease kinetic
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.5	15.7	21.3	1.40	2.80	BUN
	mg/dl	51.9	44.1	59.7	3.90	7.80	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.7	25.3	34.1	2.20	4.40	Bromocresol Green
	g/dl	2.97	2.53	3.41	0.22	0.44	
	g/l	28.2	24.0	32.4	2.10	4.20	Bromocresol Purple
	g/dl	2.82	2.40	3.24	0.21	0.42	
	g/l	27.5	23.4	31.6	2.05	4.10	Ortho Vitros Microslide Systems
	g/dl	2.75	2.34	3.16	0.21	0.41	
	g/l	26.9	22.8	31.0	2.05	4.10	Turbidimetric Assays
	g/dl	2.69	2.28	3.10	0.21	0.41	
Alkaline Phosphatase	U/l	389	330	448	29.50	59.00	p-Nitrophenylphosphate AMP 37°C
	U/l	303	257	349	23.00	46.00	p-Nitrophenylphosphate AMP 30°C
	U/l	249	211	287	19.00	38.00	p-Nitrophenylphosphate AMP 25°C
	U/l	213	181	245	16.00	32.00	Ortho Vitros Microslide Systems 37°C
	U/l	550	467	633	41.50	83.00	Diethanolamine buffer DEA 37°C
	U/l	428	364	492	32.00	64.00	Diethanolamine buffer DEA 30°C
	U/l	351	298	404	26.50	53.00	Diethanolamine buffer DEA 25°C
	U/l	375	319	431	28.00	56.00	AMP optimised to IFCC 37°C
	U/l	292	249	335	21.50	43.00	AMP optimised to IFCC 30°C
	U/l	240	204	276	18.00	36.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	143	115	171	14.00	28.00	Ortho Vitros Microslide Systems 37°C
	U/l	160	128	192	16.00	32.00	Tris buffer with P5P 37°C
	U/l	118	95	141	11.50	23.00	Tris buffer with P5P 30°C
	U/l	90	72	108	9.00	18.00	Tris buffer with P5P 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
ALT (GPT)	U/l	132	105	159	13.50	27.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
	U/l	124	100	148	12.00	24.00	Tris buffer SCE 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer SCE 30°C
	U/l	70	56	84	7.00	14.00	Tris buffer SCE 25°C
Amylase Pancreatic	U/l	276	235	317	20.50	41.00	Immunoinhibition EPS substrate 37°C
	U/l	267	227	307	20.00	40.00	Roche liquid stable pNPG7 37°C
	U/l	300	255	345	22.50	45.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	302	257	347	22.50	45.00	pNP Maltotrioside substrates 37°C
	U/l	301	256	346	22.50	45.00	Siemens - blocked pNPG7 37°C
	U/l	304	258	350	23.00	46.00	Biotrol - blocked pNPG7 37°C
	U/l	317	270	364	23.50	47.00	I.L. - blocked pNPG7 37°C
	U/l	251	213	289	19.00	38.00	Randox - Ethylidene pNPG7 37°C
	U/l	329	279	379	25.00	50.00	Randox liquid stable pNPG7 37°C
	U/l	288	244	332	22.00	44.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	308	261	355	23.50	47.00	Beckman maltotetraose 37°C
	U/l	347	295	399	26.00	52.00	Siemens - maltopenta/hexaoside 37°C
	U/l	365	311	419	27.00	54.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	292	248	336	22.00	44.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	180	153	207	13.50	27.00	Ortho Vitros Microslide Systems 37°C
	U/l	289	246	332	21.50	43.00	Roche liquid stable pNPG7 37°C
	U/l	361	307	415	27.00	54.00	Siemens 2-chloro-pNPG3 37°C
	U/l	281	239	323	21.00	42.00	bioMerieux 2-chloro-pNPG3 37°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	303	257	349	23.00	46.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	313	266	360	23.50	47.00	Beckman Synchron AMY7 37°C
Apolipoprotein A-1	g/l	0.90	0.74	1.07	0.08	0.16	Immunoturbidimetric
	mg/dl	90.4	74.1	107	8.15	16.30	
Apolipoprotein B	g/l	0.56	0.46	0.66	0.05	0.10	Immunoturbidimetric
	mg/dl	55.6	45.6	65.6	5.00	10.00	
Acid Phosphatase (non-prostatic)	U/l	14.9	9.98	19.8	2.46	4.92	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	10.5	7.04	14.0	1.73	3.46	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Prostatic)	U/l	23.5	15.7	31.3	3.90	7.80	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	41.0	27.5	54.5	6.75	13.50	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
Acid Phosphatase (Total)	U/l	38.4	25.7	51.1	6.35	12.70	1-Naphthyl Phosphate substrate Kinetic 37°C
	U/l	51.5	34.5	68.5	8.50	17.00	1-Naphthyl Phosphate, Kinetic with Pentane diol Activation 37°C
AST (GOT)	U/l	171	137	205	17.00	34.00	Ortho Vitros Microslide visible slide 37°C
	U/l	182	146	218	18.00	36.00	Tris buffer with P5P 37°C
	U/l	123	99	147	12.00	24.00	Tris buffer with P5P 30°C
	U/l	87	69	105	9.00	18.00	Tris buffer with P5P 25°C
	U/l	138	110	166	14.00	28.00	Tris buffer without P5P 37°C
	U/l	93	74	112	9.50	19.00	Tris buffer without P5P 30°C
	U/l	66	52	80	7.00	14.00	Tris buffer without P5P 25°C
	U/l	133	106	160	13.50	27.00	Tris buffer SCE 37°C
	U/l	90	72	108	9.00	18.00	Tris buffer SCE 30°C
	U/l	63	50	76	6.50	13.00	Tris buffer SCE 25°C
Bile Acids	µmol/l	50.1	40.1	60.1	5.00	10.00	4th Generation Colorimetric
	µmol/l	51.7	41.4	62.0	5.15	10.30	5th Generation Colorimetric
Bicarbonate	mmol/l	16.5	13.1	19.9	1.70	3.40	Colorimetric

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	19.4	15.4	23.4	2.00	4.00	Ortho Vitros Microslide Systems
	mmol/l	16.6	13.2	20.0	1.70	3.40	Differential rate pH change
	mmol/l	16.5	13.1	19.9	1.70	3.40	Enzymatic
	mmol/l	16.9	13.4	20.4	1.75	3.50	Ion selective electrode
Bilirubin Direct	µmol/l	28.0	22.1	33.9	2.95	5.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.64	1.29	1.99	0.18	0.35	
	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.72	1.36	2.08	0.18	0.36	
	µmol/l	26.9	21.2	32.6	2.85	5.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	30.5	24.1	36.9	3.20	6.40	Oxidation to Biliverdin
	mg/dl	1.78	1.41	2.15	0.19	0.37	
	µmol/l	32.0	25.3	38.7	3.35	6.70	Modified Jendrassik
	mg/dl	1.87	1.48	2.26	0.20	0.39	
Bilirubin Total	µmol/l	74.3	58.7	89.9	7.80	15.60	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.35	3.43	5.27	0.46	0.92	
	µmol/l	73.6	58.1	89.1	7.75	15.50	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.31	3.40	5.22	0.46	0.91	
	µmol/l	93.8	74.1	114	9.85	19.70	Diazo with Dichloroaniline (DCA)
	mg/dl	5.49	4.33	6.65	0.58	1.16	
	µmol/l	82.9	65.5	100	8.70	17.40	Diazo with Sulphanilic Acid
	mg/dl	4.85	3.83	5.87	0.51	1.02	
	µmol/l	92.5	73.1	112	9.70	19.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.41	4.28	6.54	0.57	1.13	
	µmol/l	81.9	64.7	99.1	8.60	17.20	Nitrobenzenediazonium salt
	mg/dl	4.79	3.78	5.80	0.51	1.01	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	78.1	61.7	94.5	8.20	16.40	Diazonium ion
	mg/dl	4.57	3.61	5.53	0.48	0.96	
	µmol/l	87.7	69.3	106	9.20	18.40	Oxidation to Biliverdin
	mg/dl	5.13	4.05	6.21	0.54	1.08	
	µmol/l	96.1	75.9	116	10.10	20.20	Modified Jendrassik
	mg/dl	5.62	4.44	6.80	0.59	1.18	
Calcium	mmol/l	3.17	2.85	3.49	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.14	2.83	3.45	0.16	0.31	Ortho Vitros Microslide Systems
	mg/dl	12.6	11.3	13.9	0.65	1.30	
	mmol/l	3.12	2.81	3.43	0.16	0.31	Ion selective electrode
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	2.75	2.48	3.02	0.14	0.27	Methylthymol blue
	mg/dl	11.0	9.94	12.1	0.53	1.06	
	mmol/l	3.21	2.89	3.53	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.22	2.89	3.55	0.17	0.33	NM-BAPTA
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	5.91	5.14	6.68	0.39	0.77	Ortho Vitros Microslide Systems
	mg/dl	228	198	258	15.00	30.00	
	mmol/l	6.65	5.78	7.52	0.44	0.87	Cholesterol Oxidase
	mg/dl	257	223	291	17.00	34.00	
Chloride	mmol/l	113	104	122	4.50	9.00	Colorimetric
	mmol/l	114	105	123	4.50	9.00	Ortho Vitros Microslide Systems

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
	mmol/l	114	105	123	4.50	9.00	ISE direct
Cholinesterase	U/l	5385	4308	6462	538.50	1077.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	438	359	517	39.50	79.00	Ortho Vitros Microslide Systems 37°C
	U/l	545	447	643	49.00	98.00	CK-NAC serum start (DGKC) 37°C
	U/l	341	280	402	30.50	61.00	CK-NAC serum start (DGKC) 30°C
	U/l	232	190	274	21.00	42.00	CK-NAC serum start (DGKC) 25°C
	U/l	559	458	660	50.50	101.00	CK-NAC substrate start (DGKC) 37°C
	U/l	350	287	413	31.50	63.00	CK-NAC substrate start (DGKC) 30°C
	U/l	238	195	281	21.50	43.00	CK-NAC substrate start (DGKC) 25°C
	U/l	558	457	659	50.50	101.00	CK-NAC (IFCC) 37°C
	U/l	349	286	412	31.50	63.00	CK-NAC (IFCC) 30°C
	U/l	237	194	280	21.50	43.00	CK-NAC (IFCC) 25°C
	U/l	553	454	652	49.50	99.00	Monothioglycerol 37°C
	U/l	346	284	408	31.00	62.00	Monothioglycerol 30°C
	U/l	235	193	277	21.00	42.00	Monothioglycerol 25°C
	U/l	511	419	603	46.00	92.00	Dithioerythritol 37°C
	U/l	320	262	378	29.00	58.00	Dithioerythritol 30°C
	U/l	217	178	256	19.50	39.00	Dithioerythritol 25°C
	U/l	510	418	602	46.00	92.00	Dithioerythritol (DTE) IFCC correlated 37°C
	U/l	319	262	376	28.50	57.00	Dithioerythritol (DTE) IFCC correlated 30°C
	U/l	217	178	256	19.50	39.00	Dithioerythritol (DTE) IFCC correlated 25°C
Copper	µmol/l	26.4	21.1	31.7	2.65	5.30	Atomic absorption
	µg/dl	168	134	202	17.00	34.00	
	µmol/l	25.8	20.6	31.0	2.60	5.20	Colorimetric
	µg/dl	164	131	197	16.50	33.00	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cortisol	nmol/l	1095	821	1369	137.00	274.00	Roche Cobas E411
	µg/dl	39.4	29.6	49.2	4.90	9.80	
Creatinine	µmol/l	342	274	410	34.00	68.00	Alkaline picrate with deproteinization
	mg/dl	3.86	3.10	4.62	0.38	0.76	
	µmol/l	357	285	429	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.03	3.22	4.84	0.41	0.81	
	µmol/l	379	304	454	37.50	75.00	Randox Enzymatic UV method
	mg/dl	4.28	3.44	5.12	0.42	0.84	
	µmol/l	378	303	453	37.50	75.00	Creatinine PAP method
	mg/dl	4.27	3.42	5.12	0.43	0.85	
	µmol/l	378	303	453	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.27	3.42	5.12	0.43	0.85	
	µmol/l	372	298	446	37.00	74.00	Jaffe rate blanked
	mg/dl	4.20	3.37	5.03	0.42	0.83	
	µmol/l	376	301	451	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	µmol/l	362	289	435	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.09	3.27	4.91	0.41	0.82	
	µmol/l	381	304	458	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.31	3.44	5.18	0.44	0.87	
	µmol/l	375	300	450	37.50	75.00	IDMS traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
D-3-Hydroxybutyrate	mmol/l	1.17	1.00	1.34	0.09	0.17	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	3.67	2.94	4.40	0.37	0.73	Immunoturbidimetric
	ng/ml	2.87	2.30	3.44	0.29	0.57	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Folate	nmol/l	26.1	19.8	32.4	3.15	6.30	Roche Cobas E411
	ng/ml	11.5	8.73	14.3	1.39	2.77	
Free T4	pmol/l	55.4	41.5	69.3	6.95	13.90	Abbott Architect
	ng/dl	4.32	3.24	5.40	0.54	1.08	
	pg/ml	43.2	32.4	54.0	5.40	10.80	Abbott Architect
	pmol/l	70.3	52.7	87.9	8.80	17.60	Siemens Centaur XP/Classic
	ng/dl	5.48	4.11	6.85	0.69	1.37	
	pg/ml	54.8	41.1	68.5	6.85	13.70	Siemens Centaur XP/Classic
	pmol/l	87.2	65.4	109	10.90	21.80	Diasorin Liaison
	ng/dl	6.80	5.10	8.50	0.85	1.70	
	pg/ml	68.0	51.0	85.0	8.50	17.00	Diasorin Liaison
	pmol/l	66.0	49.5	82.5	8.25	16.50	Siemens Immulite 1000
	ng/dl	5.15	3.86	6.44	0.65	1.29	
	pg/ml	51.5	38.6	64.4	6.45	12.90	Siemens Immulite 1000
	pmol/l	67.8	50.9	84.7	8.45	16.90	Siemens Immulite 2000/2500
	ng/dl	5.29	3.97	6.61	0.66	1.32	
	pg/ml	52.9	39.7	66.1	6.60	13.20	Siemens Immulite 2000/2500
	pmol/l	89.1	66.8	111	11.15	22.30	Roche Elecsys
	ng/dl	6.95	5.21	8.69	0.87	1.74	
	pg/ml	69.5	52.1	86.9	8.70	17.40	Roche Elecsys
	pmol/l	85.1	63.8	106	10.65	21.30	Roche Modular E170
	ng/dl	6.64	4.98	8.30	0.83	1.66	
	pg/ml	66.4	49.8	83.0	8.30	16.60	Roche Modular E170
	pmol/l	80.9	60.7	101	10.10	20.20	Roche Cobas E411
	ng/dl	6.31	4.73	7.89	0.79	1.58	
	pg/ml	63.1	47.3	78.9	7.90	15.80	Roche Cobas E411

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	82.3	61.7	103	10.30	20.60	Roche Cobas 6000/8000
	ng/dl	6.42	4.81	8.03	0.81	1.61	
	pg/ml	64.2	48.1	80.3	8.05	16.10	Roche Cobas 6000/8000
Gentamicin	µmol/l	18.4	14.7	22.1	1.85	3.70	Immunoturbidimetric
	µg/ml	8.80	7.03	10.6	0.89	1.77	
gamma-GT	U/l	153	130	176	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	121	102	140	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	94	80	108	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	197	168	226	14.50	29.00	Ortho Vitros Microslide Systems 37°C
	U/l	133	113	153	10.00	20.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	105	89	121	8.00	16.00	Gamma glutamyl-4-nitroanilide 30°C
	U/l	82	70	94	6.00	12.00	Gamma glutamyl-4-nitroanilide 25°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
	U/l	170	145	195	12.50	25.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	134	114	154	10.00	20.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	105	89	121	8.00	16.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	27	21	33	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	21	16	26	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	17	13	21	2.00	4.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	14.4	12.3	16.5	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	259	222	296	18.50	37.00	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	16.0	13.6	18.4	1.20	2.40	Glucose dehydrogenase
	mg/dl	288	245	331	21.50	43.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
alpha-HBDH	U/l	466	368	564	49.00	98.00	Oxobutyrate < 10 mmol/l 37°C
	U/l	352	278	426	37.00	74.00	Oxobutyrate < 10 mmol/l 30°C
	U/l	264	208	320	28.00	56.00	Oxobutyrate < 10 mmol/l 25°C
HDL - Cholesterol	mmol/l	3.03	2.57	3.49	0.23	0.46	Direct HDL PPD
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	2.61	2.21	3.01	0.20	0.40	Direct HDL Immunoseparation
	mg/dl	101	85.3	117	7.85	15.70	
	mmol/l	2.40	2.04	2.76	0.18	0.36	Vitros Magnetic HDL
	mg/dl	92.6	78.7	107	6.95	13.90	
	mmol/l	3.01	2.56	3.46	0.23	0.45	Direct HDL PEGME
	mg/dl	116	98.8	133	8.60	17.20	
	mmol/l	2.77	2.35	3.19	0.21	0.42	Direct Clearance Method
	mg/dl	107	90.7	123	8.15	16.30	
	mmol/l	2.43	2.07	2.79	0.18	0.36	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	93.8	79.9	108	6.95	13.90	
	mmol/l	3.00	2.55	3.45	0.23	0.45	Direct HDL Roche 3rd generation
	mg/dl	116	98.4	134	8.80	17.60	
	mmol/l	2.72	2.31	3.13	0.21	0.41	HDL - Ultra
	mg/dl	105	89.2	121	7.90	15.80	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Immunoglobulin A	g/l	1.75	1.31	2.19	0.22	0.44	Immunoturbidimetric
	mg/dl	175	131	219	22.00	44.00	
Immunoglobulin G	g/l	5.83	4.78	6.88	0.53	1.05	Immunoturbidimetric
	mg/dl	583	478	688	52.50	105.00	
Immunoglobulin M	g/l	0.76	0.61	0.91	0.08	0.15	Immunoturbidimetric
	mg/dl	76.2	61.0	91.4	7.60	15.20	
Iron	µmol/l	37.7	30.9	44.5	3.40	6.80	Colorimetric with ppt.
	µg/dl	211	173	249	19.00	38.00	
	µmol/l	37.2	30.5	43.9	3.35	6.70	Colorimetric without ppt.
	µg/dl	208	170	246	19.00	38.00	
	µmol/l	38.6	31.7	45.5	3.45	6.90	Ortho Vitros Microslide Systems
	µg/dl	216	177	255	19.50	39.00	
Lactate	mmol/l	5.22	4.28	6.16	0.47	0.94	Ion selective electrode
	mg/dl	47.0	38.6	55.4	4.20	8.40	
	mmol/l	5.61	4.60	6.62	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.5	41.4	59.6	4.55	9.10	
	mmol/l	5.15	4.22	6.08	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	46.4	38.0	54.8	4.20	8.40	
	mmol/l	5.72	4.69	6.75	0.52	1.03	Enzymatic Electrode
	mg/dl	51.5	42.3	60.7	4.60	9.20	
	mmol/l	5.06	4.15	5.97	0.46	0.91	UV LDH
	mg/dl	45.6	37.4	53.8	4.10	8.20	
LAP	U/l	14	12	16	1.00	2.00	NAGEL 37°C
LD (LDH)	U/l	1135	965	1305	85.00	170.00	Ortho Vitros Microslide Systems 37°C
	U/l	349	296	402	26.50	53.00	L->P 37°C
	U/l	252	214	290	19.00	38.00	L->P 30°C
	U/l	177	150	204	13.50	27.00	L->P 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	865	735	995	65.00	130.00	P->L Scandinavian & Dutch 37°C
	U/l	625	531	719	47.00	94.00	P->L Scandinavian & Dutch 30°C
	U/l	439	373	505	33.00	66.00	P->L Scandinavian & Dutch 25°C
	U/l	752	639	865	56.50	113.00	P->L German methods 37°C
	U/l	543	461	625	41.00	82.00	P->L German methods 30°C
	U/l	381	324	438	28.50	57.00	P->L German methods 25°C
	U/l	765	650	880	57.50	115.00	P->L SFBC 37°C
	U/l	552	469	635	41.50	83.00	P->L SFBC 30°C
	U/l	388	330	446	29.00	58.00	P->L SFBC 25°C
	U/l	384	327	441	28.50	57.00	L->P IFCC 37°C
	U/l	277	236	318	20.50	41.00	L->P IFCC 30°C
	U/l	195	166	224	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	68	55	81	6.50	13.00	Other Colorimetric 37°C
	U/l	751	602	900	74.50	149.00	Ortho Vitros Microslide Systems 37°C
	U/l	62	49	75	6.50	13.00	Roche Colorimetric 37°C
	U/l	415	333	497	41.00	82.00	Randox Turbidimetric with colipase 37°C
	U/l	82	66	98	8.00	16.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.48	2.18	2.78	0.15	0.30	Ortho Vitros Microslide Systems
	mg/dl	1.72	1.51	1.93	0.11	0.21	
	mmol/l	2.16	1.90	2.42	0.13	0.26	Ion selective electrode
	mg/dl	1.50	1.32	1.68	0.09	0.18	
	mmol/l	2.11	1.85	2.37	0.13	0.26	Spectrophotometric
	mg/dl	1.47	1.28	1.66	0.10	0.19	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lithium	mmol/l	2.07	1.82	2.32	0.13	0.25	Randox Colorimetric
	mg/dl	1.44	1.26	1.62	0.09	0.18	
Magnesium	mmol/l	1.80	1.59	2.01	0.11	0.21	Arsenazo III
	mg/dl	4.37	3.86	4.88	0.26	0.51	
	mmol/l	1.82	1.61	2.03	0.11	0.21	Ortho Vitros Microslide Systems
	mg/dl	4.42	3.91	4.93	0.26	0.51	
	mmol/l	1.78	1.56	2.00	0.11	0.22	Calmagite
	mg/dl	4.33	3.79	4.87	0.27	0.54	
	mmol/l	1.80	1.59	2.01	0.11	0.21	Xylidyl Blue
	mg/dl	4.37	3.86	4.88	0.26	0.51	
	mmol/l	1.79	1.58	2.00	0.11	0.21	Methylthymol blue
	mg/dl	4.35	3.84	4.86	0.26	0.51	
	mmol/l	1.78	1.56	2.00	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.33	3.79	4.87	0.27	0.54	
	mmol/l	1.82	1.60	2.04	0.11	0.22	Enzymatic
	mg/dl	4.42	3.89	4.95	0.27	0.53	
NEFA	mmol/l	0.48	0.41	0.55	0.04	0.07	Colorimetric
Osmolality	mOsm/kg	346	277	415	34.50	69.00	Calculated
	mOsm/kg	381	305	457	38.00	76.00	Freezing point depression
Paracetamol	mmol/l	0.60	0.48	0.72	0.06	0.12	Colorimetric
	mg/l	90.6	72.5	109	9.05	18.10	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Ortho Vitros Microslide Systems
	mg/dl	7.10	6.05	8.15	0.53	1.05	
	mmol/l	2.32	1.97	2.67	0.18	0.35	Phosphomolybdate enzymatic
	mg/dl	7.19	6.11	8.27	0.54	1.08	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.31	1.96	2.66	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.16	6.08	8.24	0.54	1.08	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	Ortho Vitros Microslide Systems
	mmol/l	6.35	5.84	6.86	0.26	0.51	Enzymatic
	mmol/l	5.94	5.47	6.41	0.24	0.47	Flame photometry
	mmol/l	6.13	5.64	6.62	0.25	0.49	ISE method - direct
	mmol/l	6.21	5.71	6.71	0.25	0.50	ISE method - indirect
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Ortho Vitros Microslide Systems
	g/dl	4.55	3.64	5.46	0.46	0.91	
	g/l	45.2	36.1	54.3	4.55	9.10	Biuret reaction end point
	g/dl	4.52	3.61	5.43	0.46	0.91	
	g/l	44.1	35.3	52.9	4.40	8.80	Biuret reaction kinetic
	g/dl	4.41	3.53	5.29	0.44	0.88	
PSA Total	ng/ml =	34.4	25.8	43.0	4.30	8.60	Roche Elecsys Modular E170
	ng/ml =	31.4	23.5	39.3	3.95	7.90	bioMerieux VIDAS TPSA
	ng/ml =	27.0	20.3	33.7	3.35	6.70	Siemens Centaur XP/Classic
	ng/ml =	28.3	21.2	35.4	3.55	7.10	Abbott Architect
	ng/ml =	35.6	26.7	44.5	4.45	8.90	Cobas E411
	ng/ml =	36.0	27.0	45.0	4.50	9.00	Roche Cobas 6000/8000
Salicylate	mmol/l	0.83	0.67	1.00	0.08	0.17	Enzymatic
	mg/dl	11.5	9.19	13.8	1.16	2.31	
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	158	150	166	4.00	8.00	Enzymatic
	mmol/l	156	148	164	4.00	8.00	Flame photometry
	mmol/l	159	151	167	4.00	8.00	ISE method - direct

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MEAN OF ALL INSTRUMENTS

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Theophylline	µmol/l	118	94.4	142	11.80	23.60	Immunoturbidimetric
	µg/ml	21.3	17.0	25.6	2.15	4.30	
Thyroid Stimulating Hormone	µU/ml =	1.02	0.82	1.22	0.10	0.20	Abbott Architect
	µU/ml =	1.32	1.06	1.58	0.13	0.26	bioMerieux VIDAS TSH
	µU/ml =	1.28	1.02	1.54	0.13	0.26	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.20	0.96	1.44	0.12	0.24	Siemens Immulite 1000
	µU/ml =	1.25	1.00	1.50	0.13	0.25	Vitros ECi
	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Elecsys
	µU/ml =	1.42	1.14	1.70	0.14	0.28	Roche Modular E170
	µU/ml =	1.45	1.16	1.74	0.15	0.29	Roche Cobas E411
	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Cobas 6000/8000
	µU/ml =	1.14	0.91	1.37	0.12	0.23	Siemens Centaur XP/Classic TSH3-Ultra
TIBC	µmol/l	62.4	49.3	75.5	6.55	13.10	Ortho Vitros Microslide Systems
	µg/dl	349	276	422	36.50	73.00	
	µmol/l	47.1	37.2	57.0	4.95	9.90	Removal of excess free iron
	µg/dl	263	208	318	27.50	55.00	
	µmol/l	51.5	40.7	62.3	5.40	10.80	FE+UIBC(saturation with iron)
	µg/dl	288	228	348	30.00	60.00	
	µmol/l	47.8	37.8	57.8	5.00	10.00	Direct Colorimetric
	µg/dl	267	211	323	28.00	56.00	
	µmol/l	51.9	41.0	62.8	5.45	10.90	Randox Direct
	µg/dl	290	229	351	30.50	61.00	
Tobramycin	µmol/l	15.4	12.3	18.5	1.55	3.10	Immunoturbidimetric
	µg/ml	7.21	5.76	8.66	0.73	1.45	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	3.48	2.61	4.35	0.44	0.87	Abbott Architect
	ng/ml	2.27	1.70	2.84	0.29	0.57	
	ng/dl	227	170	284	28.50	57.00	Abbott Architect
	nmol/l	3.99	2.99	4.99	0.50	1.00	BioMerieux Vidas
	ng/ml	2.60	1.95	3.25	0.33	0.65	
	ng/dl	260	195	325	32.50	65.00	BioMerieux Vidas
	nmol/l	4.65	3.49	5.81	0.58	1.16	Roche Cobas E411
	ng/ml	3.03	2.27	3.79	0.38	0.76	
	ng/dl	303	227	379	38.00	76.00	Roche Cobas E411
Total T4	nmol/l	242	181	303	30.50	61.00	Abbott Architect
	µg/dl	18.9	14.1	23.7	2.40	4.80	
	ng/ml	189	141	237	24.00	48.00	Abbott Architect
	nmol/l	211	158	264	26.50	53.00	BioMerieux Vidas
	µg/dl	16.5	12.3	20.7	2.10	4.20	
	ng/ml	165	123	207	21.00	42.00	BioMerieux Vidas
	nmol/l	220	165	275	27.50	55.00	Siemens Immulite 2000/2500
	µg/dl	17.2	12.9	21.5	2.15	4.30	
	ng/ml	172	129	215	21.50	43.00	Siemens Immulite 2000/2500
	nmol/l	195	146	244	24.50	49.00	Roche Cobas E411
	µg/dl	15.2	11.4	19.0	1.90	3.80	
	ng/ml	152	114	190	19.00	38.00	Roche Cobas E411
Transferrin	g/l	1.64	1.31	1.97	0.17	0.33	Immunoturbidimetric
	mg/dl	164	131	197	16.50	33.00	
Triglycerides	mmol/l	2.96	2.48	3.44	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	262	219	305	21.50	43.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	266	223	309	21.50	43.00	
	mmol/l	3.06	2.57	3.55	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	271	227	315	22.00	44.00	
	mmol/l	3.00	2.52	3.48	0.24	0.48	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	266	223	309	21.50	43.00	
	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	265	222	308	21.50	43.00	
	mmol/l	3.57	3.00	4.14	0.29	0.57	Ortho Vitros Microslide Systems
	mg/dl	316	266	366	25.00	50.00	
Uric Acid (Urate)	mmol/l	0.52	0.46	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.79	7.64	9.94	0.58	1.15	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.54	8.30	10.8	0.62	1.24	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.39	8.18	10.6	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.29	8.08	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.21	8.01	10.4	0.60	1.20	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.27	8.08	10.5	0.60	1.19	
Urea	mmol/l	18.1	15.4	20.8	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	17.9	15.2	20.6	1.35	2.70	Urease end point
	mg/dl	108	91.4	125	8.30	16.60	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	18.7	15.9	21.5	1.40	2.80	Urease hypochlorite
	mg/dl	112	95.6	128	8.20	16.40	
	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease Berthelot
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	
Vitamin B12	pmol/l	221	177	265	22.00	44.00	Roche Cobas E411
	pg/ml	299	240	358	29.50	59.00	
Zinc	µmol/l	33.1	26.5	39.7	3.30	6.60	Atomic absorption
	µg/dl	216	173	259	21.50	43.00	
	µmol/l	34.3	27.4	41.2	3.45	6.90	Colorimetric with deproteinisation
	µg/dl	224	179	269	22.50	45.00	

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RANDOX

MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-1-globulin		7.0	5.3	8.7	0.84	1.68	% of total Protein (Beckman Capillary)
alpha-2-globulin		7.4	5.6	9.2	0.89	1.78	% of total Protein (Beckman Capillary)
Albumin (electrophoresis)		60.7	54.7	66.7	3.00	6.00	% of total Protein (Beckman Capillary)
beta-globulin		11.9	9.0	14.8	1.43	2.86	% of total Protein (Beckman Capillary)
gamma-globulin		13.0	9.9	16.1	1.56	3.12	% of total Protein (Beckman Capillary)

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RANDOX

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.5	26.0	35.0	2.25	4.50	Bromocresol Green
	g/dl	3.05	2.60	3.50	0.23	0.45	
ALT (GPT)	U/l	141	113	169	14.00	28.00	Tris buffer without P5P 37°C
	U/l	104	84	124	10.00	20.00	Tris buffer without P5P 30°C
	U/l	79	64	94	7.50	15.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37°C
	U/l	101	80	122	10.50	21.00	Tris buffer without P5P 30°C
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Total	µmol/l	95.1	75.2	115	9.95	19.90	Diazo with Sulphanilic Acid
	mg/dl	5.56	4.40	6.72	0.58	1.16	
	µmol/l	95.7	75.6	116	10.05	20.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.60	4.42	6.78	0.59	1.18	
Calcium	mmol/l	3.41	3.07	3.75	0.17	0.34	Cresolphthalein complexone
	mg/dl	13.7	12.3	15.1	0.70	1.40	
	mmol/l	3.15	2.83	3.47	0.16	0.32	Arsenazo III
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.60	5.74	7.46	0.43	0.86	Cholesterol Oxidase
	mg/dl	255	222	288	16.50	33.00	
Chloride	mmol/l	116	106	126	5.00	10.00	ISE direct
CK Total	U/l	531	435	627	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	332	272	392	30.00	60.00	CK-NAC (IFCC) 30°C
	U/l	226	185	267	20.50	41.00	CK-NAC (IFCC) 25°C

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	347	277	417	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.92	3.13	4.71	0.40	0.79	
	µmol/l	367	293	441	37.00	74.00	Randox Enzymatic UV method
	mg/dl	4.15	3.31	4.99	0.42	0.84	
gamma-GT	U/l	154	130	178	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	121	102	140	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	95	80	110	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	2.86	2.43	3.29	0.22	0.43	Direct HDL PPD
	mg/dl	110	93.8	126	8.10	16.20	
	mmol/l	2.81	2.39	3.23	0.21	0.42	Direct Clearance Method
	mg/dl	108	92.3	124	7.85	15.70	
Iron	µmol/l	36.1	29.6	42.6	3.25	6.50	Colorimetric without ppt.
	µg/dl	202	165	239	18.50	37.00	
LD (LDH)	U/l	734	624	844	55.00	110.00	P->L German methods 37°C
	U/l	530	451	609	39.50	79.00	P->L German methods 30°C
	U/l	372	316	428	28.00	56.00	P->L German methods 25°C
	U/l	758	644	872	57.00	114.00	P->L SFBC 37°C
	U/l	547	465	629	41.00	82.00	P->L SFBC 30°C
	U/l	384	327	441	28.50	57.00	P->L SFBC 25°C
	U/l	380	323	437	28.50	57.00	L->P IFCC 37°C
	U/l	274	233	315	20.50	41.00	L->P IFCC 30°C
	U/l	193	164	222	14.50	29.00	L->P IFCC 25°C

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MINDRAY BS-200/300/400

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Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.71	1.51	1.91	0.10	0.20	Xylidyl Blue
	mg/dl	4.16	3.67	4.65	0.25	0.49	
Phosphate Inorganic	mmol/l	2.43	2.06	2.80	0.19	0.37	Phosphomolybdate UV
	mg/dl	7.53	6.39	8.67	0.57	1.14	
Potassium	mmol/l	5.90	5.42	6.38	0.24	0.48	ISE method - direct
Protein Total	g/l	48.8	39.1	58.5	4.85	9.70	Biuret reaction end point
	g/dl	4.88	3.91	5.85	0.49	0.97	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	3.07	2.58	3.56	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	272	228	316	22.00	44.00	
Uric Acid (Urate)	mmol/l	0.60	0.52	0.68	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	10.1	8.77	11.4	0.67	1.33	
	mmol/l	0.58	0.51	0.66	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.74	8.48	11.0	0.63	1.26	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	8.00	10.4	0.61	1.21	
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease end point
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease hypochlorite
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	

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RANDOX

PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.4	25.0	33.8	2.20	4.40	Bromocresol Green
	g/dl	2.94	2.50	3.38	0.22	0.44	
Alkaline Phosphatase	U/l	483	411	555	36.00	72.00	Diethanolamine buffer DEA 37°C
	U/l	376	320	432	28.00	56.00	Diethanolamine buffer DEA 30°C
	U/l	309	263	355	23.00	46.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	138	110	166	14.00	28.00	Tris buffer without P5P 37°C
	U/l	102	81	123	10.50	21.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
	U/l	97	77	117	10.00	20.00	Tris buffer without P5P 30°C
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	23.8	18.8	28.8	2.50	5.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.39	1.10	1.68	0.15	0.29	
Bilirubin Total	µmol/l	86.2	68.1	104	9.05	18.10	Diazo with Dichloroaniline (DCA)
	mg/dl	5.04	3.98	6.10	0.53	1.06	
Calcium	mmol/l	3.23	2.91	3.55	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.7	14.1	0.60	1.20	
Cholesterol	mmol/l	6.74	5.86	7.62	0.44	0.88	Cholesterol Oxidase
	mg/dl	260	226	294	17.00	34.00	
Chloride	mmol/l	120	110	130	5.00	10.00	ISE direct
CK Total	U/l	531	435	627	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	332	272	392	30.00	60.00	CK-NAC (IFCC) 30°C
	U/l	226	185	267	20.50	41.00	CK-NAC (IFCC) 25°C

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	384	307	461	38.50	77.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.34	3.47	5.21	0.44	0.87	
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Glucose oxidase
	mg/dl	285	241	329	22.00	44.00	
Phosphate Inorganic	mmol/l	2.24	1.91	2.57	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.94	5.92	7.96	0.51	1.02	
Protein Total	g/l	43.7	35.0	52.4	4.35	8.70	Biuret reaction end point
	g/dl	4.37	3.50	5.24	0.44	0.87	
Triglycerides	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	223	309	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	8.11	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	8.13	10.6	0.61	1.23	
Urea	mmol/l	19.3	16.4	22.2	1.45	2.90	Urease kinetic
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	19.3	16.4	22.2	1.45	2.90	BUN
	mg/dl	54.2	46.1	62.3	4.05	8.10	

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.5	25.9	35.1	2.30	4.60	Bromocresol Green
	g/dl	3.05	2.59	3.51	0.23	0.46	
	g/l	27.5	23.4	31.6	2.05	4.10	Bromocresol Purple
	g/dl	2.75	2.34	3.16	0.21	0.41	
	g/l	26.7	22.7	30.7	2.00	4.00	Turbidimetric Assays
	g/dl	2.67	2.27	3.07	0.20	0.40	
Alkaline Phosphatase	U/l	269	228	310	20.50	41.00	Roche Integra AMP buffer 37°C
	U/l	210	178	242	16.00	32.00	Roche Integra AMP buffer 30°C
	U/l	172	146	198	13.00	26.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	127	102	152	12.50	25.00	Tris buffer without P5P 37°C
	U/l	94	75	113	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	266	226	306	20.00	40.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	286	243	329	21.50	43.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	288	245	331	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bile Acids	µmol/l	50.3	40.2	60.4	5.05	10.10	Enzymatic Colorimetric
Bicarbonate	mmol/l	16.5	13.1	19.9	1.70	3.40	Colorimetric
	mmol/l	16.5	13.1	19.9	1.70	3.40	Enzymatic

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	29.2	23.1	35.3	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	29.2	23.0	35.4	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	29.6	23.3	35.9	3.15	6.30	Diazo with Dichloroaniline (DCA)
	mg/dl	1.73	1.36	2.10	0.19	0.37	
Bilirubin Total	µmol/l	77.8	61.4	94.2	8.20	16.40	Diazo with Sulphanilic Acid
	mg/dl	4.55	3.59	5.51	0.48	0.96	
	µmol/l	77.9	61.5	94.3	8.20	16.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.56	3.60	5.52	0.48	0.96	
	µmol/l	77.6	61.3	93.9	8.15	16.30	Diazonium ion
	mg/dl	4.54	3.59	5.49	0.48	0.95	
Calcium	mmol/l	3.22	2.90	3.54	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.9	11.6	14.2	0.65	1.30	
	mmol/l	3.23	2.90	3.56	0.17	0.33	NM-BAPTA
	mg/dl	12.9	11.6	14.2	0.65	1.30	
Cholesterol	mmol/l	6.58	5.72	7.44	0.43	0.86	Cholesterol Oxidase
	mg/dl	254	221	287	16.50	33.00	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
Cholinesterase	U/l	5324	4259	6389	532.50	1065.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	577	473	681	52.00	104.00	CK-NAC substrate start (DGKC) 37°C
	U/l	361	296	426	32.50	65.00	CK-NAC substrate start (DGKC) 30°C
	U/l	245	201	289	22.00	44.00	CK-NAC substrate start (DGKC) 25°C
	U/l	574	471	677	51.50	103.00	CK-NAC (IFCC) 37°C
	U/l	359	295	423	32.00	64.00	CK-NAC (IFCC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC (IFCC) 25°C

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	375	300	450	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	387	310	464	38.50	77.00	Randox Enzymatic UV method
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	383	306	460	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	377	302	452	37.50	75.00	Jaffe rate blanked
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	377	301	453	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.26	3.40	5.12	0.43	0.86	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
D-3-Hydroxybutyrate	mmol/l	1.16	0.99	1.33	0.09	0.17	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	82.3	61.7	103	10.30	20.60	Roche Cobas 6000/8000
	ng/dl	6.42	4.81	8.03	0.81	1.61	
	pg/ml	64.2	48.1	80.3	8.05	16.10	Roche Cobas 6000/8000
gamma-GT	U/l	147	125	169	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	116	99	133	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	91	77	105	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
HDL - Cholesterol	mmol/l	2.94	2.50	3.38	0.22	0.44	Direct HDL PEGME
	mg/dl	113	96.5	130	8.25	16.50	
	mmol/l	2.97	2.52	3.42	0.23	0.45	Direct HDL Roche 3rd generation
	mg/dl	115	97.3	133	8.85	17.70	
Iron	µmol/l	37.6	30.8	44.4	3.40	6.80	Colorimetric with ppt.
	µg/dl	210	172	248	19.00	38.00	
	µmol/l	37.2	30.5	43.9	3.35	6.70	Colorimetric without ppt.
	µg/dl	208	170	246	19.00	38.00	
Lactate	mmol/l	5.60	4.59	6.61	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.5	41.4	59.6	4.55	9.10	
LD (LDH)	U/l	734	624	844	55.00	110.00	P->L German methods 37°C
	U/l	530	451	609	39.50	79.00	P->L German methods 30°C
	U/l	372	316	428	28.00	56.00	P->L German methods 25°C
	U/l	734	624	844	55.00	110.00	P->L SFBC 37°C
	U/l	530	451	609	39.50	79.00	P->L SFBC 30°C
	U/l	372	316	428	28.00	56.00	P->L SFBC 25°C
	U/l	379	322	436	28.50	57.00	L->P IFCC 37°C
	U/l	274	232	316	21.00	42.00	L->P IFCC 30°C
	U/l	192	163	221	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	60	48	72	6.00	12.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.10	1.85	2.35	0.13	0.25	Spectrophotometric
	mg/dl	1.46	1.28	1.64	0.09	0.18	
Magnesium	mmol/l	1.81	1.59	2.03	0.11	0.22	Xylidyl Blue
	mg/dl	4.40	3.86	4.94	0.27	0.54	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.37	3.84	4.90	0.27	0.53	
Osmolality	mOsm/kg	342	274	410	34.00	68.00	Calculated
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.07	6.01	8.13	0.53	1.06	
	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.3	35.4	53.2	4.45	8.90	Biuret reaction end point
	g/dl	4.43	3.54	5.32	0.45	0.89	
	g/l	44.2	35.4	53.0	4.40	8.80	Biuret reaction kinetic
	g/dl	4.42	3.54	5.30	0.44	0.88	
PSA Total	ng/ml =	36.0	27.0	45.0	4.50	9.00	Roche Cobas 6000/8000
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Cobas 6000/8000
TIBC	µmol/l	51.2	40.5	61.9	5.35	10.70	FE+UIBC(saturation with iron)
	µg/dl	286	226	346	30.00	60.00	
Triglycerides	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	257	216	298	20.50	41.00	
	mmol/l	2.89	2.43	3.35	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	256	215	297	20.50	41.00	
	mmol/l	2.91	2.45	3.37	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	258	217	299	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.07	7.90	10.2	0.59	1.17	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.17	7.98	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	8.00	10.4	0.60	1.19	
Urea	mmol/l	19.1	16.2	22.0	1.45	2.90	Urease kinetic
	mg/dl	115	97.4	133	8.80	17.60	
	mmol/l	19.1	16.2	22.0	1.45	2.90	BUN
	mg/dl	53.6	45.6	61.6	4.00	8.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.1	25.6	34.6	2.25	4.50	Bromocresol Green
	g/dl	3.01	2.56	3.46	0.23	0.45	
Alkaline Phosphatase	U/l	250	212	288	19.00	38.00	Roche Integra AMP buffer 37°C
	U/l	195	165	225	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	160	135	185	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	127	101	153	13.00	26.00	Tris buffer without P5P 37°C
	U/l	94	75	113	9.50	19.00	Tris buffer without P5P 30°C
	U/l	72	57	87	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	294	250	338	22.00	44.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	134	108	160	13.00	26.00	Tris buffer without P5P 37°C
	U/l	91	73	109	9.00	18.00	Tris buffer without P5P 30°C
	U/l	64	51	77	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	17.0	13.5	20.5	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	30.6	24.2	37.0	3.20	6.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.79	1.42	2.16	0.19	0.37	
	µmol/l	29.7	23.5	35.9	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Bilirubin Total	µmol/l	77.4	61.1	93.7	8.15	16.30	Diazo with Sulphanilic Acid
	mg/dl	4.53	3.57	5.49	0.48	0.96	
	µmol/l	77.0	60.9	93.1	8.05	16.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.50	3.56	5.44	0.47	0.94	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	77.5	61.2	93.8	8.15	16.30	Diazonium ion
	mg/dl	4.53	3.58	5.48	0.48	0.95	
Calcium	mmol/l	3.26	2.93	3.59	0.17	0.33	Cresolphthalein complexone
	mg/dl	13.1	11.7	14.5	0.70	1.40	
	mmol/l	3.24	2.92	3.56	0.16	0.32	NM-BAPTA
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	6.84	5.95	7.73	0.45	0.89	Cholesterol Oxidase
	mg/dl	264	230	298	17.00	34.00	
Chloride	mmol/l	116	106	126	5.00	10.00	ISE indirect
CK Total	U/l	575	471	679	52.00	104.00	CK-NAC (IFCC) 37°C
	U/l	360	295	425	32.50	65.00	CK-NAC (IFCC) 30°C
	U/l	244	200	288	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	354	283	425	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	365	292	438	36.50	73.00	Roche Creatinine Plus
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	341	273	409	34.00	68.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.85	3.08	4.62	0.39	0.77	
gamma-GT	U/l	163	139	187	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	110	146	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	160	136	184	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	126	107	145	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	99	84	114	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	

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RANDOX

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	2.93	2.49	3.37	0.22	0.44	Direct HDL PEGME
	mg/dl	113	96.1	130	8.45	16.90	
	mmol/l	3.06	2.60	3.52	0.23	0.46	Direct HDL Roche 3rd generation
	mg/dl	118	100	136	9.00	18.00	
Iron	µmol/l	34.5	28.3	40.7	3.10	6.20	Colorimetric without ppt.
	µg/dl	193	158	228	17.50	35.00	
LD (LDH)	U/l	396	336	456	30.00	60.00	L->P IFCC 37°C
	U/l	286	243	329	21.50	43.00	L->P IFCC 30°C
	U/l	201	170	232	15.50	31.00	L->P IFCC 25°C
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.38	2.02	2.74	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.38	6.26	8.50	0.56	1.12	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.95	2.48	3.42	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	255	214	296	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.41	8.18	10.6	0.62	1.23	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.42	8.20	10.6	0.61	1.22	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.21	8.01	10.4	0.60	1.20	
Urea	mmol/l	18.8	16.0	21.6	1.40	2.80	Urease kinetic
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	18.5	15.7	21.3	1.40	2.80	Urease hypochlorite
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.8	16.0	21.6	1.40	2.80	BUN
	mg/dl	52.8	44.9	60.7	3.95	7.90	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.1	25.6	34.6	2.25	4.50	Bromocresol Green
	g/dl	3.01	2.56	3.46	0.23	0.45	
	g/l	27.9	23.7	32.1	2.10	4.20	Bromocresol Purple
	g/dl	2.79	2.37	3.21	0.21	0.42	
Alkaline Phosphatase	U/l	262	223	301	19.50	39.00	Roche Integra AMP buffer 37°C
	U/l	204	174	234	15.00	30.00	Roche Integra AMP buffer 30°C
	U/l	167	142	192	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	129	103	155	13.00	26.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	73	58	88	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	290	247	333	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
	U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.4	13.0	19.8	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	28.6	22.6	34.6	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	28.7	22.7	34.7	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Dichloroaniline (DCA)
	mg/dl	1.72	1.36	2.08	0.18	0.36	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Bilirubin Total	µmol/l	78.9	62.3	95.5	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.62	3.64	5.60	0.49	0.98	
	µmol/l	77.6	61.3	93.9	8.15	16.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.54	3.59	5.49	0.48	0.95	
	µmol/l	77.9	61.6	94.2	8.15	16.30	Diazonium ion
	mg/dl	4.56	3.60	5.52	0.48	0.96	
Calcium	mmol/l	3.25	2.93	3.57	0.16	0.32	Cresolphthalein complexone
	mg/dl	13.0	11.7	14.3	0.65	1.30	
	mmol/l	3.24	2.91	3.57	0.17	0.33	NM-BAPTA
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	6.59	5.73	7.45	0.43	0.86	Cholesterol Oxidase
	mg/dl	254	221	287	16.50	33.00	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
CK Total	U/l	576	472	680	52.00	104.00	CK-NAC (IFCC) 37°C
	U/l	361	295	427	33.00	66.00	CK-NAC (IFCC) 30°C
	U/l	245	201	289	22.00	44.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	363	291	435	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.10	3.29	4.91	0.41	0.81	
	µmol/l	392	314	470	39.00	78.00	Randox Enzymatic UV method
	mg/dl	4.43	3.55	5.31	0.44	0.88	
	µmol/l	387	310	464	38.50	77.00	Roche Creatinine Plus
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	384	307	461	38.50	77.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.34	3.47	5.21	0.44	0.87	
gamma-GT	U/l	149	127	171	11.00	22.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	117	100	134	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	92	78	106	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	169	144	194	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	133	113	153	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	104	89	119	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.0	12.8	17.2	1.10	2.20	Glucose oxidase
	mg/dl	270	231	309	19.50	39.00	
HDL - Cholesterol	mmol/l	2.95	2.51	3.39	0.22	0.44	Direct HDL Roche 3rd generation
	mg/dl	114	96.9	131	8.55	17.10	
Iron	µmol/l	36.4	29.9	42.9	3.25	6.50	Colorimetric without ppt.
	µg/dl	203	167	239	18.00	36.00	
Lactate	mmol/l	5.64	4.63	6.65	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.8	41.7	59.9	4.55	9.10	
LD (LDH)	U/l	379	322	436	28.50	57.00	L->P IFCC 37°C
	U/l	274	232	316	21.00	42.00	L->P IFCC 30°C
	U/l	192	163	221	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	61	49	73	6.00	12.00	Roche Colorimetric 37°C
Magnesium	mmol/l	1.79	1.57	2.01	0.11	0.22	Xylidyl Blue
	mg/dl	4.35	3.82	4.88	0.27	0.53	
	mmol/l	1.83	1.61	2.05	0.11	0.22	Chlorphosphonazo III
	mg/dl	4.45	3.91	4.99	0.27	0.54	
Phosphate Inorganic	mmol/l	2.32	1.97	2.67	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.19	6.11	8.27	0.54	1.08	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.27	5.77	6.77	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.5	35.6	53.4	4.45	8.90	Biuret reaction end point
	g/dl	4.45	3.56	5.34	0.45	0.89	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.92	2.45	3.39	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.92	2.45	3.39	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	217	299	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.36	8.13	10.6	0.61	1.23	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.29	8.08	10.5	0.61	1.21	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.3	25.8	34.8	2.25	4.50	Bromocresol Green
	g/dl	3.03	2.58	3.48	0.23	0.45	
Alkaline Phosphatase	U/l	231	196	266	17.50	35.00	Roche Integra AMP buffer 37°C
	U/l	180	153	207	13.50	27.00	Roche Integra AMP buffer 30°C
	U/l	148	125	171	11.50	23.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	131	105	157	13.00	26.00	Tris buffer without P5P 37°C
	U/l	97	78	116	9.50	19.00	Tris buffer without P5P 30°C
	U/l	74	59	89	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	271	231	311	20.00	40.00	Randox EPS Liquid and BM/Roche EPS Liquid 37°C
Amylase Total	U/l	289	246	332	21.50	43.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	92	74	110	9.00	18.00	Tris buffer without P5P 30°C
	U/l	65	52	78	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.8	13.3	20.3	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	29.7	23.5	35.9	3.10	6.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.74	1.37	2.11	0.19	0.37	
Bilirubin Total	µmol/l	74.9	59.2	90.6	7.85	15.70	Diazo with Sulphanilic Acid
	mg/dl	4.38	3.46	5.30	0.46	0.92	
	µmol/l	76.2	60.2	92.2	8.00	16.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.46	3.52	5.40	0.47	0.94	
	µmol/l	76.1	60.1	92.1	8.00	16.00	Diazonium ion
	mg/dl	4.45	3.52	5.38	0.47	0.93	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.19	2.87	3.51	0.16	0.32	NM-BAPTA
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	6.51	5.66	7.36	0.43	0.85	Cholesterol Oxidase
	mg/dl	251	218	284	16.50	33.00	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
CK Total	U/l	508	416	600	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	318	260	376	29.00	58.00	CK-NAC (IFCC) 30°C
	U/l	216	177	255	19.50	39.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	389	311	467	39.00	78.00	Roche Creatinine Plus
	mg/dl	4.40	3.51	5.29	0.45	0.89	
	µmol/l	375	300	450	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.24	3.39	5.09	0.43	0.85	
gamma-GT	U/l	145	124	166	10.50	21.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	114	98	130	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	89	77	101	6.00	12.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	165	140	190	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	130	110	150	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	102	86	118	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
HDL - Cholesterol	mmol/l	2.91	2.47	3.35	0.22	0.44	Direct HDL Roche 3rd generation
	mg/dl	112	95.3	129	8.35	16.70	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	35.9	29.4	42.4	3.25	6.50	Colorimetric without ppt.
	µg/dl	201	164	238	18.50	37.00	
Lactate	mmol/l	5.63	4.61	6.65	0.51	1.02	Colorimetric Lactate Oxidase
	mg/dl	50.7	41.5	59.9	4.60	9.20	
LD (LDH)	U/l	378	321	435	28.50	57.00	L->P IFCC 37°C
	U/l	273	232	314	20.50	41.00	L->P IFCC 30°C
	U/l	192	163	221	14.50	29.00	L->P IFCC 25°C
Lipase	U/l	59	48	70	5.50	11.00	Roche Colorimetric 37°C
Lithium	mmol/l	2.04	1.80	2.28	0.12	0.24	Spectrophotometric
	mg/dl	1.42	1.25	1.59	0.09	0.17	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Xylidyl Blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Potassium	mmol/l	6.31	5.81	6.81	0.25	0.50	ISE method - indirect
Protein Total	g/l	44.2	35.3	53.1	4.45	8.90	Biuret reaction end point
	g/dl	4.42	3.53	5.31	0.45	0.89	
Sodium	mmol/l	163	154	172	4.50	9.00	ISE method - indirect
TIBC	µmol/l	51.4	40.6	62.2	5.40	10.80	FE+UIBC(saturation with iron)
	µg/dl	287	227	347	30.00	60.00	
Triglycerides	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	255	214	296	20.50	41.00	
Uric Acid (Urate)	mmol/l	0.53	0.47	0.60	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.97	7.81	10.1	0.58	1.16	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	7.91	10.3	0.60	1.20	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.07	7.88	10.3	0.60	1.19	
Urea	mmol/l	18.8	16.0	21.6	1.40	2.80	Urease kinetic
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	18.8	16.0	21.6	1.40	2.80	BUN
	mg/dl	52.8	44.9	60.7	3.95	7.90	

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RANDOX

RX SERIES® ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.8	25.3	34.3	2.25	4.50	Bromocresol Green
	g/dl	2.98	2.53	3.43	0.23	0.45	
Alkaline Phosphatase	U/l	590	502	678	44.00	88.00	Diethanolamine buffer DEA 37°C
	U/l	374	318	430	28.00	56.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	300	255	345	22.50	45.00	Randox liquid stable pNPG7 37°C
Amylase Total	U/l	333	283	383	25.00	50.00	Randox liquid stable pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
Bile Acids	µmol/l	52.2	41.8	62.6	5.20	10.40	5th Generation Colorimetric
Bicarbonate	mmol/l	17.7	14.0	21.4	1.85	3.70	Enzymatic
Bilirubin Direct	µmol/l	30.0	23.7	36.3	3.15	6.30	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	31.6	25.0	38.2	3.30	6.60	Vanadate Oxidation
	mg/dl	1.85	1.46	2.24	0.20	0.39	
Bilirubin Total	µmol/l	87.0	68.7	105	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.09	4.02	6.16	0.54	1.07	
	µmol/l	90.0	71.1	109	9.45	18.90	Vanadate Oxidation
	mg/dl	5.27	4.16	6.38	0.56	1.11	
Calcium	mmol/l	3.14	2.83	3.45	0.16	0.31	Arsenazo III
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.68	5.81	7.55	0.44	0.87	Cholesterol Oxidase
	mg/dl	258	224	292	17.00	34.00	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	110	102	118	4.00	8.00	ISE direct
CK Total	U/l	524	430	618	47.00	94.00	CK-NAC substrate start (DGKC) 37°C
	U/l	583	478	688	52.50	105.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	320	256	384	32.00	64.00	Alkaline picrate no deproteinization
	mg/dl	3.62	2.89	4.35	0.37	0.73	
	µmol/l	375	300	450	37.50	75.00	Randox Enzymatic UV method
	mg/dl	4.24	3.39	5.09	0.43	0.85	
gamma-GT	U/l	170	145	195	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
	mmol/l	16.1	13.7	18.5	1.20	2.40	Glucose oxidase
	mg/dl	290	247	333	21.50	43.00	
Iron	µmol/l	37.9	31.1	44.7	3.40	6.80	Colorimetric without ppt.
	µg/dl	212	174	250	19.00	38.00	
Lactate	mmol/l	5.57	4.57	6.57	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.2	41.2	59.2	4.50	9.00	
LD (LDH)	U/l	812	690	934	61.00	122.00	P->L German methods 37°C
	U/l	385	327	443	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	84	67	101	8.50	17.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.07	1.82	2.32	0.13	0.25	Colorimetric
	mg/dl	1.44	1.26	1.62	0.09	0.18	
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Xylidyl Blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.34	1.99	2.69	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.25	6.17	8.33	0.54	1.08	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.35	5.84	6.86	0.26	0.51	Enzymatic
	mmol/l	6.01	5.53	6.49	0.24	0.48	ISE method - direct
Protein Total	g/l	45.5	36.4	54.6	4.55	9.10	Biuret reaction end point
	g/dl	4.55	3.64	5.46	0.46	0.91	
Sodium	mmol/l	158	150	166	4.00	8.00	Enzymatic
	mmol/l	159	151	167	4.00	8.00	ISE method - direct
TIBC	µmol/l	51.9	41.0	62.8	5.45	10.90	Direct Colorimetric
	µg/dl	290	229	351	30.50	61.00	
Triglycerides	mmol/l	3.00	2.52	3.48	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	266	223	309	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.59	8.33	10.9	0.63	1.26	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.44	8.22	10.7	0.61	1.22	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	

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SIEMENS ADVIA 1200/1650/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.5	24.3	32.7	2.10	4.20	Bromocresol Green
	g/dl	2.85	2.43	3.27	0.21	0.42	
	g/l	29.0	24.7	33.3	2.15	4.30	Bromocresol Purple
	g/dl	2.90	2.47	3.33	0.22	0.43	
Alkaline Phosphatase	U/l	376	320	432	28.00	56.00	AMP optimised to IFCC 37°C
	U/l	361	307	415	27.00	54.00	AMP non-optimised 37°C
ALT (GPT)	U/l	137	110	164	13.50	27.00	Tris buffer without P5P 37°C
Amylase Total	U/l	301	256	346	22.50	45.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	18.3	14.5	22.1	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	30.4	24.0	36.8	3.20	6.40	Oxidation to Biliverdin
	mg/dl	1.78	1.40	2.16	0.19	0.38	
Bilirubin Total	µmol/l	89.7	70.9	109	9.40	18.80	Oxidation to Biliverdin
	mg/dl	5.25	4.15	6.35	0.55	1.10	
Calcium	mmol/l	3.23	2.91	3.55	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.9	11.7	14.1	0.60	1.20	
	mmol/l	3.15	2.83	3.47	0.16	0.32	Arsenazo III
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Cholesterol	mmol/l	6.52	5.67	7.37	0.43	0.85	Cholesterol Oxidase
	mg/dl	252	219	285	16.50	33.00	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect

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Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	533	437	629	48.00	96.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	357	285	429	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.03	3.22	4.84	0.41	0.81	
	µmol/l	371	297	445	37.00	74.00	Randox Enzymatic UV method
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	354	283	425	35.50	71.00	Jaffe rate blanked
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	366	293	439	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.14	3.31	4.97	0.42	0.83	
gamma-GT	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Glucose oxidase
	mg/dl	278	236	320	21.00	42.00	
HDL - Cholesterol	mmol/l	2.26	1.92	2.60	0.17	0.34	Direct Clearance Method
	mg/dl	87.2	74.1	100	6.55	13.10	
Iron	µmol/l	38.1	31.2	45.0	3.45	6.90	Colorimetric without ppt.
	µg/dl	213	174	252	19.50	39.00	
Lactate	mmol/l	5.62	4.61	6.63	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.6	41.5	59.7	4.55	9.10	
LD (LDH)	U/l	368	312	424	28.00	56.00	L->P 37°C
	U/l	775	659	891	58.00	116.00	P->L German methods 37°C
	U/l	370	314	426	28.00	56.00	L->P IFCC 37°C
Lipase	U/l	81	65	97	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	2.07	1.82	2.32	0.13	0.25	Spectrophotometric
	mg/dl	1.44	1.26	1.62	0.09	0.18	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.81	1.60	2.02	0.11	0.21	Xylidyl Blue
	mg/dl	4.40	3.89	4.91	0.26	0.51	
Phosphate Inorganic	mmol/l	2.32	1.97	2.67	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.19	6.11	8.27	0.54	1.08	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	45.1	36.1	54.1	4.50	9.00	Biuret reaction end point
	g/dl	4.51	3.61	5.41	0.45	0.90	
Sodium	mmol/l	162	154	170	4.00	8.00	ISE method - indirect
TIBC	µmol/l	49.4	39.0	59.8	5.20	10.40	FE+UIBC(saturation with iron)
	µg/dl	276	218	334	29.00	58.00	
	µmol/l	52.3	41.3	63.3	5.50	11.00	Direct Colorimetric
	µg/dl	292	231	353	30.50	61.00	
Triglycerides	mmol/l	3.03	2.55	3.51	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	268	226	310	21.00	42.00	
	mmol/l	2.99	2.51	3.47	0.24	0.48	L/G Kinase EP. no correction
	mg/dl	265	222	308	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.44	8.22	10.7	0.61	1.22	
	mmol/l	0.58	0.51	0.66	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.76	8.48	11.0	0.64	1.28	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	19.8	16.8	22.8	1.50	3.00	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	

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RANDOX

Siemens Dimension EXL

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.0	23.8	32.2	2.10	4.20	Bromocresol Purple
	g/dl	2.80	2.38	3.22	0.21	0.42	
Alkaline Phosphatase	U/l	327	278	376	24.50	49.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer with P5P 37°C
	U/l	144	115	173	14.50	29.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	365	311	419	27.00	54.00	Siemens 2-chloro-pNP linked substrate 37°C
	U/l	367	312	422	27.50	55.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	159	127	191	16.00	32.00	Tris buffer with P5P 37°C
	U/l	160	128	192	16.00	32.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.5	13.9	21.1	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	18.3	14.5	22.1	1.90	3.80	Diazo with Sulphanilic Acid
	mg/dl	1.07	0.848	1.29	0.11	0.22	
Bilirubin Total	µmol/l	82.5	65.2	99.8	8.65	17.30	Diazo with Sulphanilic Acid
	mg/dl	4.83	3.81	5.85	0.51	1.02	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	5.96	5.18	6.74	0.39	0.78	Dimension-Siemens reagents
	mg/dl	230	200	260	15.00	30.00	
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
CK Total	U/l	511	419	603	46.00	92.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	382	306	458	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.32	3.46	5.18	0.43	0.86	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	176	149	203	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	200	170	230	15.00	30.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
Iron	µmol/l	35.5	29.1	41.9	3.20	6.40	Colorimetric without ppt.
	µg/dl	198	163	233	17.50	35.00	
LD (LDH)	U/l	384	326	442	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	269	215	323	27.00	54.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.42	2.13	2.71	0.15	0.29	Spectrophotometric
	mg/dl	1.68	1.48	1.88	0.10	0.20	
Magnesium	mmol/l	1.81	1.60	2.02	0.11	0.21	Methylthymol blue
	mg/dl	4.40	3.89	4.91	0.26	0.51	
Phosphate Inorganic	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.13	6.08	8.18	0.53	1.05	
Potassium	mmol/l	6.16	5.67	6.65	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.2	37.0	55.4	4.60	9.20	Biuret reaction end point
	g/dl	4.62	3.70	5.54	0.46	0.92	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	3.02	2.53	3.51	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	267	224	310	21.50	43.00	
Uric Acid (Urate)	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.49	8.25	10.7	0.62	1.24	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.27	8.06	10.5	0.61	1.21	
Urea	mmol/l	19.7	16.8	22.6	1.45	2.90	Urease kinetic
	mg/dl	118	101	135	8.50	17.00	
	mmol/l	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	

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RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.3	24.0	32.6	2.15	4.30	Bromocresol Green
	g/dl	2.83	2.40	3.26	0.22	0.43	
	g/l	28.0	23.8	32.2	2.10	4.20	Bromocresol Purple
	g/dl	2.80	2.38	3.22	0.21	0.42	
Alkaline Phosphatase	U/l	271	203	339	34.00	68.00	Siemens Dimension AMP buffer 37°C
	U/l	324	275	373	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	325	276	374	24.50	49.00	Randox AMP 37°C
ALT (GPT)	U/l	139	111	167	14.00	28.00	Tris buffer with P5P 37°C
	U/l	142	114	170	14.00	28.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	352	299	405	26.50	53.00	Siemens - maltopenta/hexaoside 37°C
	U/l	362	308	416	27.00	54.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	161	129	193	16.00	32.00	Tris buffer with P5P 37°C
	U/l	161	129	193	16.00	32.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.7	14.0	21.4	1.85	3.70	Enzymatic
Bilirubin Direct	µmol/l	17.2	13.6	20.8	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.796	1.22	0.11	0.21	
Bilirubin Total	µmol/l	82.0	64.8	99.2	8.60	17.20	Diazo with Sulphanilic Acid
	mg/dl	4.80	3.79	5.81	0.51	1.01	
Calcium	mmol/l	3.19	2.87	3.51	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Cholesterol	mmol/l	6.06	5.27	6.85	0.40	0.79	Dimension-Siemens reagents
	mg/dl	234	203	265	15.50	31.00	

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RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
CK Total	U/l	507	415	599	46.00	92.00	CK-NAC (IFCC) 37°C
	U/l	508	417	599	45.50	91.00	Dithioerythritol 37°C
Creatinine	µmol/l	385	308	462	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.35	3.48	5.22	0.44	0.87	
	µmol/l	370	296	444	37.00	74.00	Randox Enzymatic UV method
	mg/dl	4.18	3.34	5.02	0.42	0.84	
	µmol/l	370	296	444	37.00	74.00	Creatinine PAP method
	mg/dl	4.18	3.34	5.02	0.42	0.84	
	µmol/l	394	315	473	39.50	79.00	Jaffe rate blanked
	mg/dl	4.45	3.56	5.34	0.45	0.89	
gamma-GT	U/l	174	148	200	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	198	169	227	14.50	29.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
HDL - Cholesterol	mmol/l	3.20	2.72	3.68	0.24	0.48	Direct HDL PPD
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	3.10	2.63	3.57	0.24	0.47	Direct HDL PEGME
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	3.03	2.58	3.48	0.23	0.45	Direct Clearance Method
	mg/dl	117	99.6	134	8.70	17.40	
Iron	µmol/l	36.0	29.5	42.5	3.25	6.50	Colorimetric with ppt.
	µg/dl	201	165	237	18.00	36.00	
	µmol/l	35.3	29.0	41.6	3.15	6.30	Colorimetric without ppt.
	µg/dl	197	162	232	17.50	35.00	

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Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	5.20	4.26	6.14	0.47	0.94	UV LDH
	mg/dl	46.9	38.4	55.4	4.25	8.50	
LD (LDH)	U/l	380	323	437	28.50	57.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	384	326	442	29.00	58.00	L->P IFCC 37°C
Lipase	U/l	266	213	319	26.50	53.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.80	1.58	2.02	0.11	0.22	Methylthymol blue
	mg/dl	4.37	3.84	4.90	0.27	0.53	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.1	36.9	55.3	4.60	9.20	Biuret reaction end point
	g/dl	4.61	3.69	5.53	0.46	0.92	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
TIBC	µmol/l	45.6	36.0	55.2	4.80	9.60	Removal of excess free iron
	µg/dl	255	201	309	27.00	54.00	
	µmol/l	46.4	36.6	56.2	4.90	9.80	Direct Colorimetric
	µg/dl	259	205	313	27.00	54.00	
Triglycerides	mmol/l	3.02	2.54	3.50	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	267	225	309	21.00	42.00	
	mmol/l	3.06	2.57	3.55	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	271	227	315	22.00	44.00	
	mmol/l	3.09	2.59	3.59	0.25	0.50	Lipase/Glycerol Dehydrogenase
	mg/dl	273	229	317	22.00	44.00	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.29	8.08	10.5	0.61	1.21	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 772UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.01	10.4	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.17	7.98	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.19	8.00	10.4	0.60	1.19	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease end point
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	

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Siemens Dimension Vista

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Size 20 x 5ml / 5 x 5ml Expiry 2019-01

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.4	25.0	33.8	2.20	4.40	Bromocresol Purple
	g/dl	2.94	2.50	3.38	0.22	0.44	
Alkaline Phosphatase	U/l	325	276	374	24.50	49.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer with P5P 37°C
Amylase Total	U/l	340	289	391	25.50	51.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	159	127	191	16.00	32.00	Tris buffer with P5P 37°C
Bicarbonate	mmol/l	17.7	14.1	21.3	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	17.4	13.8	21.0	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.02	0.807	1.23	0.11	0.21	
Bilirubin Total	µmol/l	80.2	63.3	97.1	8.45	16.90	Diazo with Sulphanilic Acid
	mg/dl	4.69	3.70	5.68	0.50	0.99	
Calcium	mmol/l	3.16	2.84	3.48	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
Cholesterol	mmol/l	6.09	5.30	6.88	0.40	0.79	Dimension-Siemens reagents
	mg/dl	235	205	265	15.00	30.00	
Chloride	mmol/l	116	107	125	4.50	9.00	ISE indirect
Creatinine	µmol/l	372	297	447	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.20	3.36	5.04	0.42	0.84	
gamma-GT	U/l	197	168	226	14.50	29.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.0	12.8	17.2	1.10	2.20	Hexokinase
	mg/dl	270	231	309	19.50	39.00	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	3.06	2.60	3.52	0.23	0.46	Direct HDL PEGME
	mg/dl	118	100	136	9.00	18.00	
LD (LDH)	U/l	377	320	434	28.50	57.00	L->P IFCC 37°C
Lipase	U/l	319	255	383	32.00	64.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Lithium	mmol/l	2.16	1.90	2.42	0.13	0.26	Spectrophotometric
	mg/dl	1.50	1.32	1.68	0.09	0.18	
Magnesium	mmol/l	1.78	1.57	1.99	0.11	0.21	Methylthymol blue
	mg/dl	4.33	3.82	4.84	0.26	0.51	
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.07	6.01	8.13	0.53	1.06	
Potassium	mmol/l	6.03	5.54	6.52	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.2	36.9	55.5	4.65	9.30	Biuret reaction end point
	g/dl	4.62	3.69	5.55	0.47	0.93	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Spectrophotometric at 280-290
	mg/dl	8.85	7.71	9.99	0.57	1.14	
Urea	mmol/l	19.0	16.1	21.9	1.45	2.90	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	19.0	16.2	21.8	1.40	2.80	BUN
	mg/dl	53.3	45.3	61.3	4.00	8.00	

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