RANDOX 0086 CE

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

CAT. NO. HE1532 **GTIN:** 05055273203608 **SIZE:** 20 x 5ml
CAT. NO. HS2611 **GTIN:** 05055273203813 **SIZE:** 5 x 5ml
LOT NO. 982UE **EXPIRY:** 2021-11-28

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

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

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

Human source material, from which this product has been derived, has been tested at donor level for the Human Immunodeficiency Virus (HIV 1, HIV 2) antibody, Hepatitis B Surface Antigen (HbsAg), and Hepatitis C Virus (HCV) antibody and found to be NON-REACTIVE. FDA approved methods have been used to conduct these tests.
However, since no method can offer complete assurance as to the absence of infectious agents, this material and all patient samples should be handled as though capable of transmitting infectious diseases and disposed of accordingly.

Health and Safety Data Sheets are available on request.

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

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

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

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

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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RANDOX

Abbott Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Green
	g/dl	2.90	2.46	3.34	0.22	0.44	
	g/l	27.7	23.5	31.9	2.10	4.20	Bromocresol Purple
	g/dl	2.77	2.35	3.19	0.21	0.42	
Alkaline Phosphatase	U/l	286	243	329	21.50	43.00	AMP optimised to IFCC 37℃
	U/l	283	241	325	21.00	42.00	AMP non-optimised 37℃
	U/l	272	231	313	20.50	41.00	Colorimetric 37℃
ALT (GPT)	U/l	153	122	184	15.50	31.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	248	211	285	18.50	37.00	Immunoinhibition EPS substrate 37℃
Amylase Total	U/l	333	283	383	25.00	50.00	Abbott Architect IFCC Cal. 37℃
	U/l	315	267	363	24.00	48.00	Abbott Architect Non-IFCC Cal. 37℃
AST (GOT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	16.9	13.4	20.4	1.75	3.50	Enzymatic
Bile Acids	µmol/l	49.9	39.9	59.9	5.00	10.00	Enzymatic Colorimetric
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	
	µmol/l	29.2	23.1	35.3	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	29.2	23.1	35.3	3.05	6.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Bilirubin Total	µmol/l	85.1	67.2	103	8.95	17.90	Diazo with Dichloroaniline (DCA)
	mg/dl	4.98	3.93	6.03	0.53	1.05	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	83.9	66.3	102	8.80	17.60	Diazo with Sulphanilic Acid
	mg/dl	4.91	3.88	5.94	0.52	1.03	
	µmol/l	86.4	68.3	105	9.05	18.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.05	4.00	6.10	0.53	1.05	
	µmol/l	83.7	66.1	101	8.80	17.60	Nitrobenzenediazonium salt
	mg/dl	4.90	3.87	5.93	0.52	1.03	
	µmol/l	83.4	65.9	101	8.75	17.50	Diazonium ion
	mg/dl	4.88	3.86	5.90	0.51	1.02	
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.61	6.62	8.60	0.50	0.99	Cholesterol Oxidase
	mg/dl	294	256	332	19.00	38.00	
Cholinesterase	U/l	6257	5005	7509	626.00	1252.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	495	406	584	44.50	89.00	CK-NAC serum start (DGKC) 37℃
	U/l	489	401	577	44.00	88.00	CK-NAC substrate start (DGKC) 37℃
	U/l	485	398	572	43.50	87.00	CK-NAC (IFCC) 37℃
	U/l	485	397	573	44.00	88.00	Monothioglycerol 37℃
	U/l	495	406	584	44.50	89.00	Creatinine phosphate substrate Start 37℃
Creatinine	µmol/l	397	318	476	39.50	79.00	Alkaline picrate with deproteinization
	mg/dl	4.49	3.59	5.39	0.45	0.90	
	µmol/l	401	321	481	40.00	80.00	Alkaline picrate no deproteinization
	mg/dl	4.53	3.63	5.43	0.45	0.90	
	µmol/l	390	312	468	39.00	78.00	Enzymatic UV method
	mg/dl	4.41	3.53	5.29	0.44	0.88	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	396	317	475	39.50	79.00	Jaffe rate blanked
	mg/dl	4.47	3.58	5.36	0.45	0.89	
	µmol/l	402	321	483	40.50	81.00	IDMS traceable
	mg/dl	4.54	3.63	5.45	0.46	0.91	
Free T4	pmol/l	48.5	36.4	60.6	6.05	12.10	Abbott Architect
	ng/dl	3.78	2.84	4.72	0.47	0.94	
	pg/ml	37.8	28.4	47.2	4.70	9.40	Abbott Architect
gamma-GT	U/l	169	144	194	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	171	145	197	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	168	143	193	12.50	25.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37℃
Glucose	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	2.83	2.40	3.26	0.22	0.43	Direct HDL PPD
	mg/dl	109	92.6	125	8.20	16.40	
	mmol/l	2.77	2.36	3.18	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	107	91.1	123	7.95	15.90	
	mmol/l	2.85	2.42	3.28	0.22	0.43	Direct Clearance Method
	mg/dl	110	93.4	127	8.30	16.60	
	mmol/l	2.82	2.39	3.25	0.22	0.43	HDL - Ultra
	mg/dl	109	92.3	126	8.35	16.70	
Iron	µmol/l	42.8	35.1	50.5	3.85	7.70	Colorimetric with ppt.
	µg/dl	239	196	282	21.50	43.00	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	41.8	34.3	49.3	3.75	7.50	Colorimetric without ppt.
	µg/dl	234	192	276	21.00	42.00	
Lactate	mmol/l	5.22	4.28	6.16	0.47	0.94	Colorimetric Lactate Oxidase
	mg/dl	47.0	38.6	55.4	4.20	8.40	
LD (LDH)	U/l	358	304	412	27.00	54.00	L->P 37℃
	U/l	360	306	414	27.00	54.00	L->P IFCC 37℃
Lipase	U/l	60	48	72	6.00	12.00	Other Colorimetric 37℃
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	1.76	1.55	1.97	0.11	0.21	Arsenazo III
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	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	1.78	1.56	2.00	0.11	0.22	Enzymatic
	mg/dl	4.33	3.79	4.87	0.27	0.54	
Osmolality	mOsm/kg	357	286	428	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.17	1.85	2.49	0.16	0.32	Phosphomolybdate enzymatic
	mg/dl	6.73	5.74	7.72	0.50	0.99	
	mmol/l	2.16	1.83	2.49	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.70	5.67	7.73	0.52	1.03	
Potassium	mmol/l	6.23	5.74	6.72	0.25	0.49	ISE method - indirect
Protein Total	g/l	47.4	37.9	56.9	4.75	9.50	Biuret reaction end point
	g/dl	4.74	3.79	5.69	0.48	0.95	
	g/l	46.7	37.4	56.0	4.65	9.30	Biuret reaction kinetic
	g/dl	4.67	3.74	5.60	0.47	0.93	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	23.8	17.8	29.8	3.00	6.00	Abbott Architect
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.05	0.84	1.26	0.10	0.21	Abbott Architect
TIBC	µmol/l	52.7	41.7	63.7	5.50	11.00	FE+UIBC(saturation with iron)
	µg/dl	295	233	357	31.00	62.00	
	µmol/l	37.8	29.8	45.8	4.00	8.00	Calculated from Transferrin
	µg/dl	211	167	255	22.00	44.00	
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	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	216	300	21.00	42.00	
	mmol/l	2.91	2.45	3.37	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	258	217	299	20.50	41.00	
Urea	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease end point
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.9	17.7	24.1	1.60	3.20	Urease kinetic
	mg/dl	126	106	146	10.00	20.00	
	mmol/l	20.9	17.8	24.0	1.55	3.10	BUN
	mg/dl	58.0	49.9	67.5	4.40	8.80	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.07	7.90	10.2	0.59	1.17	

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Analyte	unit	Target	Range low	Range 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	9.12	7.95	10.3	0.59	1.17	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.5	25.1	33.9	2.20	4.40	Bromocresol Green
	g/dl	2.95	2.51	3.39	0.22	0.44	
Alkaline Phosphatase	U/l	289	245	333	22.00	44.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	171	137	205	17.00	34.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37℃
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	89.2	70.5	108	9.35	18.70	Diazo with Dichloroaniline (DCA)
	mg/dl	5.22	4.12	6.32	0.55	1.10	
Calcium	mmol/l	3.20	2.88	3.52	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.20	2.88	3.52	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE direct
Cholesterol	mmol/l	7.75	6.74	8.76	0.51	1.01	Cholesterol Oxidase
	mg/dl	299	260	338	19.50	39.00	
CK Total	U/l	484	397	571	43.50	87.00	CK-NAC (IFCC) 37℃
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	383	307	459	38.00	76.00	Jaffe rate blanked
	mg/dl	4.33	3.47	5.19	0.43	0.86	

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gamma-GT	U/l	172	147	197	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
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	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	2.73	2.32	3.14	0.21	0.41	Direct HDL PPD
	mg/dl	105	89.6	120	7.70	15.40	
	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	40.0	32.8	47.2	3.60	7.20	Colorimetric with ppt.
	µg/dl	224	183	265	20.50	41.00	
	µmol/l	38.8	31.8	45.8	3.50	7.00	Colorimetric without ppt.
	µg/dl	217	178	256	19.50	39.00	
LD (LDH)	U/l	735	625	845	55.00	110.00	P->L German methods 37℃
	U/l	388	329	447	29.50	59.00	L->P IFCC 37℃
Lipase	U/l	52	42	62	5.00	10.00	Other Colorimetric 37℃
Magnesium	mmol/l	1.61	1.42	1.80	0.10	0.19	Xylidyl Blue
	mg/dl	3.91	3.45	4.37	0.23	0.46	
Phosphate Inorganic	mmol/l	2.41	2.05	2.77	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.47	6.36	8.58	0.56	1.11	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - direct
Protein Total	g/l	48.0	38.4	57.6	4.80	9.60	Biuret reaction end point
	g/dl	4.80	3.84	5.76	0.48	0.96	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.98	2.50	3.46	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	264	221	307	21.50	43.00	

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Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.75	7.63	9.87	0.56	1.12	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.06	7.88	10.2	0.59	1.18	

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RANDOX

Arkray Spotchem EZ/EL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.0	24.0	34.0	2.50	5.00	ARKRAY Spotchem EZ
	g/dl	2.90	2.40	3.40	0.22	0.44	
Alkaline Phosphatase	U/l	505	393	617	55.60	111.10	ARKRAY Spotchem EZ 37℃
ALT (GPT)	U/l	154	123	185	15.40	30.80	ARKRAY Spotchem EZ 37℃
Amylase Total	U/l	224	168	280	28.00	56.00	ARKRAY Spotchem EZ 37℃
AST (GOT)	U/l	145	116	174	14.50	29.00	ARKRAY Spotchem EZ 37℃
Bilirubin Total	µmol/l	82.1	70.1	94.1	6.00	12.00	ARKRAY Spotchem EZ
	mg/dl	4.80	4.10	5.50	0.34	0.67	
Bun Urea	mmol/l	23.2	19.6	26.8	1.80	3.60	ARKRAY Spotchem EZ
	mg/dl	65.0	55.0	75.0	4.90	9.80	
Calcium	mmol/l	3.59	3.04	4.14	0.28	0.55	ARKRAY Spotchem EZ
	mg/dl	14.4	12.2	16.6	1.08	2.16	
Chloride	mmol/l	129	121	137	3.90	7.70	ARKRAY Spotchem EL
Cholesterol	mmol/l	6.66	5.65	7.67	0.51	1.01	ARKRAY Spotchem EZ
	mg/dl	257	218	296	19.30	38.60	
CK Total	U/l	443	354	532	44.30	88.60	ARKRAY Spotchem EZ 37℃
Creatinine	µmol/l	372	310	434	31.00	62.00	ARKRAY Spotchem EZ (creatinine)
	mg/dl	4.20	3.50	4.90	0.34	0.67	
	µmol/l	354	301	407	26.50	53.00	ARKRAY Spotchem EZ (creatinine2)
	mg/dl	4.00	3.40	4.60	0.28	0.56	
gamma-GT	U/l	218	174	262	21.80	43.60	ARKRAY Spotchem EZ 37℃

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	16.1	13.7	18.5	1.20	2.40	ARKRAY Spotchem EZ
	mg/dl	291	247	335	21.90	43.70	
HDL - Cholesterol	mmol/l	2.05	1.53	2.57	0.26	0.52	ARKRAY Spotchem EZ
	mg/dl	79.0	59.0	99.0	9.90	19.80	
LD (LDH)	U/l	601	456	746	72.10	144.20	ARKRAY Spotchem EZ 37℃
Magnesium	mmol/l	1.77	1.52	2.02	0.13	0.25	ARKRAY Spotchem EZ
	mg/dl	4.30	3.70	4.90	0.30	0.60	
Phosphate Inorganic	mmol/l	2.03	1.74	2.32	0.15	0.29	ARKRAY Spotchem EZ
	mg/dl	6.30	5.40	7.20	0.41	0.82	
Potassium	mmol/l	5.80	5.50	6.10	0.15	0.30	ARKRAY Spotchem EL
Protein Total	g/l	48.0	40.0	56.0	4.00	8.00	ARKRAY Spotchem EZ
	g/dl	4.80	4.00	5.60	0.36	0.72	
Sodium	mmol/l	151	143	159	3.80	7.60	ARKRAY Spotchem EL
Triglycerides	mmol/l	1.88	1.60	2.16	0.14	0.28	ARKRAY Spotchem EZ
	mg/dl	166	141	191	12.50	24.90	
Uric Acid (Urate)	mmol/l	0.52	0.46	0.59	0.03	0.07	ARKRAY Spotchem EZ
	mg/dl	8.80	7.70	9.90	0.53	1.06	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.2	23.9	32.5	2.15	4.30	Bromocresol Green
	g/dl	2.82	2.39	3.25	0.22	0.43	
Alkaline Phosphatase	U/l	377	321	433	28.00	56.00	Diethanolamine buffer DEA 37°C
	U/l	358	304	412	27.00	54.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	240	204	276	18.00	36.00	Immunoinhibition EPS substrate 37℃
	U/l	237	202	272	17.50	35.00	Roche EPS Liquid 37℃
	U/l	254	216	292	19.00	38.00	Beckman Synchron/CX/LXi/DxC 37℃
Amylase Total	U/l	289	246	332	21.50	43.00	pNP Maltotrioside substrates 37℃
	U/l	285	242	328	21.50	43.00	Randox Lyo. Ethylidene pNPG7 37℃
	U/l	281	239	323	21.00	42.00	Beckman Synchron CX4/CX5/CX7 37℃
	U/l	275	234	316	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	285	242	328	21.50	43.00	Beckman Coulter - blocked pNPG7 37℃
	U/l	288	245	331	21.50	43.00	Beckman Synchron AMY7 37℃
AST (GOT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	18.2	14.4	22.0	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	23.7	18.8	28.6	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.39	1.10	1.68	0.15	0.29	
Bilirubin Total	µmol/l	86.6	68.4	105	9.10	18.20	Diazo with Dichloroaniline (DCA)
	mg/dl	5.07	4.00	6.14	0.54	1.07	
	µmol/l	87.3	69.0	106	9.15	18.30	Diazo with Sulphanilic Acid
	mg/dl	5.11	4.04	6.18	0.54	1.07	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	87.1	68.8	105	9.15	18.30	Diazonium ion
	mg/dl	5.10	4.02	6.18	0.54	1.08	
	µmol/l	86.9	68.6	105	9.15	18.30	DPD (Beckman AU)
	mg/dl	5.08	4.01	6.15	0.54	1.07	
Calcium	mmol/l	3.13	2.82	3.44	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	2.96	2.66	3.26	0.15	0.30	Ion selective electrode
	mg/dl	11.9	10.7	13.1	0.60	1.20	
	mmol/l	3.10	2.79	3.41	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Chloride	mmol/l	115	106	124	4.50	9.00	Colorimetric
	mmol/l	114	105	123	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.74	6.74	8.74	0.50	1.00	Cholesterol Oxidase
	mg/dl	299	260	338	19.50	39.00	
Cholinesterase	U/l	5033	4026	6040	503.50	1007.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	512	420	604	46.00	92.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	368	294	442	37.00	74.00	Alkaline picrate with deproteinization
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	368	294	442	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	387	309	465	39.00	78.00	Enzymatic UV method
	mg/dl	4.37	3.49	5.25	0.44	0.88	
	µmol/l	393	314	472	39.50	79.00	Creatinine PAP method
	mg/dl	4.44	3.55	5.33	0.45	0.89	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	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	377	302	452	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.26	3.41	5.11	0.43	0.85	
	µmol/l	372	298	446	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.20	3.37	5.03	0.42	0.83	
	µmol/l	372	297	447	37.50	75.00	IDMS traceable
	mg/dl	4.20	3.36	5.04	0.42	0.84	
D-3-Hydroxybutyrate	mmol/l	1.30	1.11	1.49	0.10	0.19	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	173	147	199	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	175	148	202	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	171	145	197	13.00	26.00	DCL gamma glutamyl-3-carboxy-4-nitroanilide 37℃
GLDH	U/l	29	23	35	3.00	6.00	Triethanolamine buffer 50 mmol 37℃
Glucose	mmol/l	16.4	13.9	18.9	1.25	2.50	GOD/02-Beckman method
	mg/dl	296	250	342	23.00	46.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose dehydrogenase
	mg/dl	287	243	331	22.00	44.00	
	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.8	13.5	18.1	1.15	2.30	Glucose oxidase
	mg/dl	285	243	327	21.00	42.00	
HDL - Cholesterol	mmol/l	2.94	2.50	3.38	0.22	0.44	Direct HDL PPD
	mg/dl	113	96.5	130	8.25	16.50	
	mmol/l	2.81	2.39	3.23	0.21	0.42	Direct HDL Immunoseparation
	mg/dl	108	92.3	124	7.85	15.70	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.02	1.72	2.32	0.15	0.30	Direct HDL PEGME
	mg/dl	78.0	66.4	89.6	5.80	11.60	
	mmol/l	2.98	2.53	3.43	0.23	0.45	HDL - Ultra
	mg/dl	115	97.7	132	8.65	17.30	
Iron	µmol/l	41.9	34.4	49.4	3.75	7.50	Colorimetric with ppt.
	µg/dl	234	192	276	21.00	42.00	
	µmol/l	41.5	34.0	49.0	3.75	7.50	Colorimetric without ppt.
	µg/dl	232	190	274	21.00	42.00	
Lactate	mmol/l	5.08	4.16	6.00	0.46	0.92	Colorimetric Lactate Oxidase
	mg/dl	45.8	37.5	54.1	4.15	8.30	
LD (LDH)	U/l	367	312	422	27.50	55.00	L->P 37℃
	U/l	815	693	937	61.00	122.00	P->L Scandinavian & Dutch 37℃
	U/l	733	623	843	55.00	110.00	P->L German methods 37℃
	U/l	372	316	428	28.00	56.00	L->P IFCC 37℃
Lipase	U/l	64	51	77	6.50	13.00	Other Colorimetric 37℃
Lithium	mmol/l	2.07	1.83	2.31	0.12	0.24	Ion selective electrode
	mg/dl	1.44	1.27	1.61	0.09	0.17	
	mmol/l	2.08	1.83	2.33	0.13	0.25	Spectrophotometric
	mg/dl	1.44	1.27	1.61	0.09	0.17	
Magnesium	mmol/l	1.82	1.60	2.04	0.11	0.22	Xylidyl Blue
	mg/dl	4.42	3.89	4.95	0.27	0.53	
	mmol/l	1.80	1.59	2.01	0.11	0.21	Methylthymol blue
	mg/dl	4.37	3.86	4.88	0.26	0.51	
Osmolality	mOsm/kg	346	277	415	34.50	69.00	Calculated
Phosphate Inorganic	mmol/l	2.18	1.86	2.50	0.16	0.32	Phosphomolybdate enzymatic
	mg/dl	6.76	5.77	7.75	0.50	0.99	

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Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	
	mmol/l	2.23	1.90	2.56	0.17	0.33	Beckman PHOSm (365nm)
	mg/dl	6.91	5.89	7.93	0.51	1.02	
Potassium	mmol/l	6.21	5.71	6.71	0.25	0.50	ISE method - indirect
Protein Total	g/l	46.7	37.3	56.1	4.70	9.40	Biuret reaction end point
	g/dl	4.67	3.73	5.61	0.47	0.94	
	g/l	46.4	37.1	55.7	4.65	9.30	Biuret reaction kinetic
	g/dl	4.64	3.71	5.57	0.47	0.93	
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	
	µmol/l	51.2	40.5	61.9	5.35	10.70	Direct Colorimetric
	µg/dl	286	226	346	30.00	60.00	
	µmol/l	38.1	30.1	46.1	4.00	8.00	Calculated from Transferrin
	µg/dl	213	168	258	22.50	45.00	
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	
	mmol/l	2.98	2.50	3.46	0.24	0.48	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	264	221	307	21.50	43.00	
	mmol/l	2.94	2.47	3.41	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.91	2.44	3.38	0.24	0.47	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	216	300	21.00	42.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.97	2.49	3.45	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	263	220	306	21.50	43.00	
UIBC	µmol/l	10.4	8.56	12.2	0.92	1.84	Direct Colorimetric
	µg/dl	58.1	47.9	68.3	5.10	10.20	
Urea	mmol/l	20.9	17.7	24.1	1.60	3.20	Beckman-Conductivity
	mg/dl	126	106	146	10.00	20.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease end point
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease kinetic
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.8	17.7	23.9	1.55	3.10	BUN
	mg/dl	58.4	49.6	67.2	4.40	8.80	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.64	8.40	10.9	0.62	1.24	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.53	8.28	10.8	0.63	1.25	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.59	8.35	10.8	0.62	1.24	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			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	
	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	304	259	349	22.50	45.00	AMP optimised to IFCC 37℃
	U/l	310	264	356	23.00	46.00	AMP non-optimised 37℃
ALT (GPT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37℃
	U/l	145	116	174	14.50	29.00	Tris buffer SCE 37℃
Amylase Total	U/l	293	249	337	22.00	44.00	Beckman Synchron CX4/CX5/CX7 37℃
	U/l	294	250	338	22.00	44.00	Beckman Coulter - blocked pNPG7 37℃
	U/l	290	246	334	22.00	44.00	Beckman Synchron AMY7 37℃
AST (GOT)	U/l	139	111	167	14.00	28.00	Tris buffer without P5P 37℃
	U/l	138	110	166	14.00	28.00	Tris buffer SCE 37℃
Bicarbonate	mmol/l	17.3	13.7	20.9	1.80	3.60	Differential rate pH change
Bilirubin Direct	µmol/l	16.5	13.0	20.0	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.965	0.761	1.17	0.10	0.20	
Bilirubin Total	µmol/l	85.1	67.3	103	8.90	17.80	Diazo with Sulphanilic Acid
	mg/dl	4.98	3.94	6.02	0.52	1.04	
Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Ion selective electrode
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.07	2.76	3.38	0.16	0.31	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	114	105	123	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.58	6.60	8.56	0.49	0.98	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
Cholinesterase	U/l	5300	4240	6360	530.00	1060.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	492	403	581	44.50	89.00	CK-NAC substrate start (DGKC) 37℃
	U/l	505	414	596	45.50	91.00	CK-NAC (IFCC) 37℃
	U/l	490	401	579	44.50	89.00	Monothioglycerol 37℃
	U/l	506	415	597	45.50	91.00	Creatinine phosphate substrate Start 37℃
Creatinine	µmol/l	384	307	461	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	µmol/l	387	309	465	39.00	78.00	Jaffe rate blanked
	mg/dl	4.37	3.49	5.25	0.44	0.88	
	µmol/l	389	311	467	39.00	78.00	IDMS traceable
	mg/dl	4.40	3.51	5.29	0.45	0.89	
Free T4	pmol/l	62.5	46.8	78.2	7.85	15.70	Beckman DxI800
	ng/dl	4.88	3.65	6.11	0.62	1.23	
	pg/ml	48.8	36.5	61.1	6.15	12.30	Beckman DxI800
gamma-GT	U/l	138	117	159	10.50	21.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	141	120	162	10.50	21.00	Gamma glutamyl-4-nitroanilide 37℃
	U/l	139	118	160	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	15.1	12.8	17.4	1.15	2.30	GOD/02-Beckman method
	mg/dl	272	231	313	20.50	41.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Hexokinase
	mg/dl	274	232	316	21.00	42.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Oxygen electrode
	mg/dl	274	232	316	21.00	42.00	
	mmol/l	15.1	12.8	17.4	1.15	2.30	Glucose oxidase
	mg/dl	272	231	313	20.50	41.00	
HDL - Cholesterol	mmol/l	2.95	2.51	3.39	0.22	0.44	Direct HDL PPD
	mg/dl	114	96.9	131	8.55	17.10	
	mmol/l	2.91	2.47	3.35	0.22	0.44	Direct HDL Immunoseparation
	mg/dl	112	95.3	129	8.35	16.70	
	mmol/l	2.95	2.51	3.39	0.22	0.44	HDL - Ultra
	mg/dl	114	96.9	131	8.55	17.10	
Iron	µmol/l	40.8	33.5	48.1	3.65	7.30	Colorimetric without ppt.
	µg/dl	228	187	269	20.50	41.00	
Lactate	mmol/l	4.72	3.87	5.57	0.43	0.85	Colorimetric Lactate Oxidase
	mg/dl	42.5	34.9	50.1	3.80	7.60	
LD (LDH)	U/l	302	256	348	23.00	46.00	L->P 37℃
	U/l	945	803	1087	71.00	142.00	Pyruvate 1.4 mM - Beckman LD-P 37℃
Lipase	U/l	60	48	72	6.00	12.00	Other Colorimetric 37℃
Lithium	mmol/l	2.03	1.78	2.28	0.13	0.25	Spectrophotometric
	mg/dl	1.41	1.24	1.58	0.09	0.17	
Magnesium	mmol/l	1.73	1.52	1.94	0.11	0.21	Calmagite
	mg/dl	4.20	3.69	4.71	0.26	0.51	
Osmolality	mOsm/kg	350	280	420	35.00	70.00	Calculated
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	
	mmol/l	2.30	1.96	2.64	0.17	0.34	Beckman PHOSm (365nm)
	mg/dl	7.13	6.08	8.18	0.53	1.05	

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Beckman CX4/5/7/9/LX20®/DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.21	5.72	6.70	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.3	37.1	55.5	4.60	9.20	Biuret reaction CX4/5/7
	g/dl	4.63	3.71	5.55	0.46	0.92	
	g/l	46.1	36.8	55.4	4.65	9.30	Biuret reaction end point
	g/dl	4.61	3.68	5.54	0.47	0.93	
	g/l	45.2	36.1	54.3	4.55	9.10	Biuret reaction kinetic
	g/dl	4.52	3.61	5.43	0.46	0.91	
PSA Total	ng/ml =	27.4	20.6	34.2	3.40	6.80	Beckman DXI standardised to Hybritech
Sodium	mmol/l	157	150	164	3.50	7.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.17	0.94	1.40	0.12	0.23	Beckman DxI800 Hyper TSH
	µU/ml =	1.17	0.94	1.40	0.12	0.23	Beckman DxI 600/800 Access (3rd IS)
TIBC	µmol/l	56.6	44.7	68.5	5.95	11.90	FE+UIBC(saturation with iron)
	µg/dl	316	250	382	33.00	66.00	
Total T3	nmol/l	3.40	2.55	4.25	0.43	0.85	Beckman DxI800
	ng/ml	2.21	1.66	2.76	0.28	0.55	
	ng/dl	221	166	276	27.50	55.00	Beckman DxI800
Total T4	nmol/l	243	183	303	30.00	60.00	Beckman DxI800
	µg/dl	19.0	14.3	23.7	2.35	4.70	
	ng/ml	190	143	237	23.50	47.00	Beckman DxI800
Triglycerides	mmol/l	3.06	2.57	3.55	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	271	227	315	22.00	44.00	
	mmol/l	3.14	2.63	3.65	0.26	0.51	L/G Kinase EP. no correction
	mg/dl	278	233	323	22.50	45.00	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Beckman-Conductivity
	mg/dl	121	103	139	9.00	18.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease kinetic
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.8	17.7	23.9	1.55	3.10	BUN
	mg/dl	58.4	49.6	67.2	4.40	8.80	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.72	7.58	9.86	0.57	1.14	
	mmol/l	0.52	0.45	0.58	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.67	7.54	9.80	0.57	1.13	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
Alkaline Phosphatase	U/l	307	261	353	23.00	46.00	AMP optimised to IFCC 37℃
	U/l	239	203	275	18.00	36.00	AMP optimised to IFCC 30℃
	U/l	196	167	225	14.50	29.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	157	125	189	16.00	32.00	Tris buffer without P5P 37℃
	U/l	116	93	139	11.50	23.00	Tris buffer without P5P 30℃
	U/l	88	70	106	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	154	123	185	15.50	31.00	Tris buffer without P5P 37℃
	U/l	104	83	125	10.50	21.00	Tris buffer without P5P 30℃
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	88.4	69.9	107	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.17	4.09	6.25	0.54	1.08	
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	
	mmol/l	2.95	2.65	3.25	0.15	0.30	Arsenazo III
	mg/dl	11.8	10.6	13.0	0.60	1.20	
Cholesterol	mmol/l	7.74	6.73	8.75	0.51	1.01	Cholesterol Oxidase
	mg/dl	299	260	338	19.50	39.00	
Creatinine	µmol/l	388	310	466	39.00	78.00	Jaffe rate blanked
	mg/dl	4.38	3.50	5.26	0.44	0.88	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	170	144	196	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	134	113	155	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	105	89	121	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
Phosphate Inorganic	mmol/l	2.39	2.04	2.74	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.41	6.32	8.50	0.55	1.09	
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	
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	
Urea	mmol/l	19.1	16.3	21.9	1.40	2.80	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	
	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	
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	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.21	8.01	10.4	0.60	1.20	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.07	7.90	10.2	0.59	1.17	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
Alkaline Phosphatase	U/l	304	258	350	23.00	46.00	AMP optimised to IFCC 37℃
	U/l	237	201	273	18.00	36.00	AMP optimised to IFCC 30℃
	U/l	194	165	223	14.50	29.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37℃
	U/l	118	94	142	12.00	24.00	Tris buffer without P5P 30℃
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	157	126	188	15.50	31.00	Tris buffer without P5P 37℃
	U/l	106	85	127	10.50	21.00	Tris buffer without P5P 30℃
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25℃
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	7.63	6.63	8.63	0.50	1.00	Cholesterol Oxidase
	mg/dl	295	256	334	19.50	39.00	
Creatinine	µmol/l	342	273	411	34.50	69.00	Alkaline picrate no deproteinization
	mg/dl	3.86	3.08	4.64	0.39	0.78	
gamma-GT	U/l	177	150	204	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	139	118	160	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	109	93	125	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	3.04	2.58	3.50	0.23	0.46	Direct HDL PPD
	mg/dl	117	99.6	134	8.70	17.40	
	mmol/l	2.72	2.31	3.13	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	105	89.2	121	7.90	15.80	
Protein Total	g/l	47.6	38.1	57.1	4.75	9.50	Biuret reaction end point
	g/dl	4.76	3.81	5.71	0.48	0.95	
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	
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	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	
	mmol/l	0.59	0.51	0.66	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.84	8.57	11.1	0.64	1.27	
	mmol/l	0.57	0.50	0.65	0.04	0.08	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.64	8.38	10.9	0.63	1.26	

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Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
Alkaline Phosphatase	U/l	449	381	517	34.00	68.00	Diethanolamine buffer DEA 37°C
	U/l	350	297	403	26.50	53.00	Diethanolamine buffer DEA 30°C
	U/l	287	243	331	22.00	44.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37℃
	U/l	118	95	141	11.50	23.00	Tris buffer without P5P 30℃
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	154	124	184	15.00	30.00	Tris buffer without P5P 37℃
	U/l	104	84	124	10.00	20.00	Tris buffer without P5P 30℃
	U/l	73	59	87	7.00	14.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	28.1	22.2	34.0	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.30	1.98	0.17	0.34	
Bilirubin Total	µmol/l	86.0	67.9	104	9.05	18.10	Diazo with Sulphanilic Acid
	mg/dl	5.03	3.97	6.09	0.53	1.06	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
	mmol/l	2.95	2.65	3.25	0.15	0.30	Arsenazo III
	mg/dl	11.8	10.6	13.0	0.60	1.20	
Chloride	mmol/l	114	105	123	4.50	9.00	Colorimetric
Cholesterol	mmol/l	7.67	6.68	8.66	0.50	0.99	Cholesterol Oxidase
	mg/dl	296	258	334	19.00	38.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholinesterase	U/l	5324	4259	6389	532.50	1065.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	515	423	607	46.00	92.00	CK-NAC (IFCC) 37℃
	U/l	322	265	379	28.50	57.00	CK-NAC (IFCC) 30℃
	U/l	219	180	258	19.50	39.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	359	287	431	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.06	3.24	4.88	0.41	0.82	
	µmol/l	368	294	442	37.00	74.00	Jaffe rate blanked
	mg/dl	4.16	3.32	5.00	0.42	0.84	
gamma-GT	U/l	164	140	188	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	129	110	148	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	163	139	187	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	128	110	146	9.00	18.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	101	86	116	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Glucose oxidase
	mg/dl	283	240	326	21.50	43.00	
LD (LDH)	U/l	664	564	764	50.00	100.00	P->L Scandinavian & Dutch 37℃
	U/l	479	407	551	36.00	72.00	P->L Scandinavian & Dutch 30°C
	U/l	337	286	388	25.50	51.00	P->L Scandinavian & Dutch 25°C
	U/l	660	561	759	49.50	99.00	P->L German methods 37℃
	U/l	477	405	549	36.00	72.00	P->L German methods 30℃
	U/l	335	284	386	25.50	51.00	P->L German methods 25℃
	U/l	749	637	861	56.00	112.00	P->L SFBC 37℃
	U/l	541	460	622	40.50	81.00	P->L SFBC 30℃
	U/l	380	323	437	28.50	57.00	P->L SFBC 25℃

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RANDOX

Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	66	53	79	6.50	13.00	Other Colorimetric 37℃
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	
Protein Total	g/l	50.2	40.2	60.2	5.00	10.00	Biuret reaction end point
	g/dl	5.02	4.02	6.02	0.50	1.00	
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	254	213	295	20.50	41.00	
Urea	mmol/l	20.9	17.7	24.1	1.60	3.20	Urease kinetic
	mg/dl	126	106	146	10.00	20.00	
	mmol/l	20.9	17.8	24.0	1.55	3.10	BUN
	mg/dl	58.7	49.9	67.5	4.40	8.80	
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	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.00	7.85	10.2	0.58	1.15	
	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.16	7.96	10.4	0.60	1.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.1	26.5	35.7	2.30	4.60	Bromocresol Green
	g/dl	3.11	2.65	3.57	0.23	0.46	
	g/l	30.7	26.1	35.3	2.30	4.60	Bromocresol Purple
	g/dl	3.07	2.61	3.53	0.23	0.46	
	g/l	28.8	24.5	33.1	2.15	4.30	Turbidimetric Assays
	g/dl	2.88	2.45	3.31	0.22	0.43	
Alkaline Phosphatase	U/l	258	219	297	19.50	39.00	Roche Integra AMP buffer 37℃
	U/l	201	171	231	15.00	30.00	Roche Integra AMP buffer 30℃
	U/l	165	140	190	12.50	25.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37℃
	U/l	109	87	131	11.00	22.00	Tris buffer without P5P 30℃
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	252	214	290	19.00	38.00	Roche EPS Liquid 37℃
Amylase Total	U/l	274	233	315	20.50	41.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	276	235	317	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	142	113	171	14.50	29.00	Tris buffer without P5P 37℃
	U/l	96	76	116	10.00	20.00	Tris buffer without P5P 30℃
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	17.2	13.7	20.7	1.75	3.50	Enzymatic
Bilirubin Direct	µmol/l	29.3	23.1	35.5	3.10	6.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	1.35	2.07	0.18	0.36	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	29.1	23.0	35.2	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.35	2.05	0.18	0.35	
	µmol/l	29.1	23.0	35.2	3.05	6.10	Roche JG factored
	mg/dl	1.70	1.35	2.05	0.18	0.35	
	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	77.7	61.4	94.0	8.15	16.30	Diazo with Dichloroaniline (DCA)
	mg/dl	4.55	3.59	5.51	0.48	0.96	
	µmol/l	77.6	61.3	93.9	8.15	16.30	Diazo with Sulphanilic Acid
	mg/dl	4.54	3.59	5.49	0.48	0.95	
	µmol/l	76.7	60.6	92.8	8.05	16.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.49	3.55	5.43	0.47	0.94	
	µmol/l	77.8	61.4	94.2	8.20	16.40	Diazonium ion
	mg/dl	4.55	3.59	5.51	0.48	0.96	
Calcium	mmol/l	3.13	2.82	3.44	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	3.18	2.86	3.50	0.16	0.32	Arsenazo III
	mg/dl	12.7	11.5	13.9	0.60	1.20	
	mmol/l	3.14	2.83	3.45	0.16	0.31	NM-BAPTA
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	253	329	19.00	38.00	
Cholinesterase	U/l	5492	4394	6590	549.00	1098.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	476	391	561	42.50	85.00	CK-NAC serum start (DGKC) 37℃
	U/l	298	245	351	26.50	53.00	CK-NAC serum start (DGKC) 30°C
	U/l	202	166	238	18.00	36.00	CK-NAC serum start (DGKC) 25°C

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	480	394	566	43.00	86.00	CK-NAC substrate start (DGKC) 37℃
	U/l	300	247	353	26.50	53.00	CK-NAC substrate start (DGKC) 30℃
	U/l	204	167	241	18.50	37.00	CK-NAC substrate start (DGKC) 25℃
	U/l	480	393	567	43.50	87.00	CK-NAC (IFCC) 37℃
	U/l	300	246	354	27.00	54.00	CK-NAC (IFCC) 30℃
	U/l	204	167	241	18.50	37.00	CK-NAC (IFCC) 25℃
	U/l	489	401	577	44.00	88.00	Creatinine phosphate substrate Start 37℃
	U/l	306	251	361	27.50	55.00	Creatinine phosphate substrate Start 30℃
	U/l	208	170	246	19.00	38.00	Creatinine phosphate substrate Start 25℃
Creatinine	µmol/l	371	297	445	37.00	74.00	Alkaline picrate with deproteinization
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	373	298	448	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	µmol/l	386	309	463	38.50	77.00	Enzymatic UV method
	mg/dl	4.36	3.49	5.23	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	359	287	431	36.00	72.00	Jaffe rate blanked
	mg/dl	4.06	3.24	4.88	0.41	0.82	
	µmol/l	374	299	449	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	371	297	445	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.19	3.36	5.02	0.42	0.83	

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	167	142	192	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	132	112	152	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	103	88	118	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	176	149	203	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	139	117	161	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	109	92	126	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose dehydrogenase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
	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	3.55	3.02	4.08	0.27	0.53	Direct HDL PEGME
	mg/dl	137	117	157	10.00	20.00	
	mmol/l	3.55	3.02	4.08	0.27	0.53	Direct HDL Roche 3rd generation
	mg/dl	137	117	157	10.00	20.00	
Iron	µmol/l	41.2	33.8	48.6	3.70	7.40	Colorimetric with ppt.
	µg/dl	230	189	271	20.50	41.00	
	µmol/l	41.7	34.2	49.2	3.75	7.50	Colorimetric without ppt.
	µg/dl	233	191	275	21.00	42.00	
Lactate	mmol/l	5.24	4.30	6.18	0.47	0.94	Colorimetric Lactate Oxidase
	mg/dl	47.2	38.7	55.7	4.25	8.50	
LD (LDH)	U/l	722	614	830	54.00	108.00	P->L German methods 37℃
	U/l	521	443	599	39.00	78.00	P->L German methods 30℃
	U/l	366	311	421	27.50	55.00	P->L German methods 25℃

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	383	326	440	28.50	57.00	L->P IFCC 37℃
	U/l	277	235	319	21.00	42.00	L->P IFCC 30℃
	U/l	194	165	223	14.50	29.00	L->P IFCC 25℃
Lipase	U/l	66	53	79	6.50	13.00	Roche Colorimetric 37℃
Lithium	mmol/l	2.14	1.89	2.39	0.13	0.25	Ion selective electrode
	mg/dl	1.49	1.31	1.67	0.09	0.18	
Magnesium	mmol/l	1.82	1.60	2.04	0.11	0.22	Xylidyl Blue
	mg/dl	4.42	3.89	4.95	0.27	0.53	
	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	2.28	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	1.94	2.64	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.10	6.01	8.19	0.55	1.09	
Potassium	mmol/l	6.26	5.76	6.76	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	
	g/l	44.7	35.8	53.6	4.45	8.90	Biuret reaction kinetic
	g/dl	4.47	3.58	5.36	0.45	0.89	
Sodium	mmol/l	159	151	167	4.00	8.00	ISE method - indirect
TIBC	µmol/l	53.9	42.6	65.2	5.65	11.30	FE+UIBC(saturation with iron)
	µg/dl	301	238	364	31.50	63.00	
Triglycerides	mmol/l	2.95	2.47	3.43	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	261	219	303	21.00	42.00	
	mmol/l	2.95	2.48	3.42	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	261	219	303	21.00	42.00	

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COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.91	2.45	3.37	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.99	2.51	3.47	0.24	0.48	Lipase/Glycerol Dehydrogenase
	mg/dl	265	222	308	21.50	43.00	
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease end point
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.8	16.9	22.7	1.45	2.90	Urease kinetic
	mg/dl	119	102	136	8.50	17.00	
	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	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	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	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.11	7.93	10.3	0.59	1.18	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.7	26.9	36.5	2.40	4.80	Bromocresol Green
	g/dl	3.17	2.69	3.65	0.24	0.48	
Alkaline Phosphatase	U/l	448	381	515	33.50	67.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	157	125	189	16.00	32.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	142	113	171	14.50	29.00	Tris buffer without P5P 37℃
Bilirubin Direct	µmol/l	28.7	22.7	34.7	3.00	6.00	Diazo with Dichloroaniline (DCA)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Bilirubin Total	µmol/l	86.8	68.6	105	9.10	18.20	Diazo with Sulphanilic Acid
	mg/dl	5.08	4.01	6.15	0.54	1.07	
Calcium	mmol/l	3.09	2.78	3.40	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.1	13.7	0.65	1.30	
Chloride	mmol/l	114	105	123	4.50	9.00	Colorimetric
Cholesterol	mmol/l	7.55	6.57	8.53	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	254	328	18.50	37.00	
Creatinine	µmol/l	348	278	418	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.93	3.14	4.72	0.40	0.79	
	µmol/l	366	293	439	36.50	73.00	Enzymatic UV method
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	365	292	438	36.50	73.00	Creatinine PAP method
	mg/dl	4.12	3.30	4.94	0.41	0.82	
gamma-GT	U/l	173	147	199	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	
LD (LDH)	U/l	388	330	446	29.00	58.00	L->P IFCC 37℃
Magnesium	mmol/l	1.82	1.60	2.04	0.11	0.22	Calmagite
	mg/dl	4.42	3.89	4.95	0.27	0.53	
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	
Protein Total	g/l	48.6	38.9	58.3	4.85	9.70	Biuret reaction end point
	g/dl	4.86	3.89	5.83	0.49	0.97	
Triglycerides	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	252	212	292	20.00	40.00	
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	19.7	16.7	22.7	1.50	3.00	BUN
	mg/dl	55.3	47.0	63.6	4.15	8.30	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.58	8.33	10.8	0.63	1.25	
	mmol/l	0.56	0.49	0.64	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.48	8.25	10.7	0.62	1.23	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	8.16	10.6	0.61	1.21	

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RANDOX

HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.6	26.0	35.2	2.30	4.60	Bromocresol Green
	g/dl	3.06	2.60	3.52	0.23	0.46	
Alkaline Phosphatase	U/l	242	206	278	18.00	36.00	Roche Integra AMP buffer 37℃
	U/l	189	160	218	14.50	29.00	Roche Integra AMP buffer 30℃
	U/l	155	132	178	11.50	23.00	Roche Integra AMP buffer 25℃
	U/l	320	272	368	24.00	48.00	Randox AMP 37℃
	U/l	249	212	286	18.50	37.00	Randox AMP 30℃
	U/l	204	174	234	15.00	30.00	Randox AMP 25℃
ALT (GPT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37℃
	U/l	115	93	137	11.00	22.00	Tris buffer without P5P 30℃
	U/l	88	70	106	9.00	18.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	240	204	276	18.00	36.00	Roche EPS Liquid 37℃
	U/l	287	244	330	21.50	43.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	271	230	312	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	296	252	340	22.00	44.00	Randox Liquid Ethylidene pNPG7 37℃
AST (GOT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37℃
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30℃
	U/l	71	57	85	7.00	14.00	Tris buffer without P5P 25℃
Bile Acids	µmol/l	47.9	38.3	57.5	4.80	9.60	5th Generation Colorimetric
Bilirubin Direct	µmol/l	26.7	21.1	32.3	2.80	5.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.56	1.23	1.89	0.17	0.33	

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	26.7	21.1	32.3	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Bilirubin Total	µmol/l	85.7	67.7	104	9.00	18.00	Diazo with Dichloroaniline (DCA)
	mg/dl	5.01	3.96	6.06	0.53	1.05	
	µmol/l	86.3	68.2	104	9.05	18.10	Diazo with Sulphanilic Acid
	mg/dl	5.05	3.99	6.11	0.53	1.06	
	µmol/l	81.5	64.4	98.6	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	3.77	5.77	0.50	1.00	
	µmol/l	79.6	62.9	96.3	8.35	16.70	Diazonium ion
	mg/dl	4.66	3.68	5.64	0.49	0.98	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
	mmol/l	3.19	2.87	3.51	0.16	0.32	Arsenazo III
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.08	2.78	3.38	0.15	0.30	Phosphonazo
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.62	6.63	8.61	0.50	0.99	Cholesterol Oxidase
	mg/dl	294	256	332	19.00	38.00	
Cholinesterase	U/l	5296	4237	6355	529.50	1059.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	501	411	591	45.00	90.00	CK-NAC (IFCC) 37℃
	U/l	314	257	371	28.50	57.00	CK-NAC (IFCC) 30℃
	U/l	213	175	251	19.00	38.00	CK-NAC (IFCC) 25℃
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	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	366	293	439	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	377	301	453	38.00	76.00	Creatinine PAP method
	mg/dl	4.26	3.40	5.12	0.43	0.86	
	µmol/l	373	298	448	37.50	75.00	Jaffe rate blanked
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	µmol/l	371	297	445	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.19	3.36	5.02	0.42	0.83	
gamma-GT	U/l	163	139	187	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	128	110	146	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	173	147	199	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	136	116	156	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	107	91	123	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
	U/l	183	156	210	13.50	27.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	144	123	165	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	113	96	130	8.50	17.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
Glucose	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.8	13.5	18.1	1.15	2.30	Glucose oxidase
	mg/dl	285	243	327	21.00	42.00	
Iron	µmol/l	40.6	33.3	47.9	3.65	7.30	Colorimetric without ppt.
	µg/dl	227	186	268	20.50	41.00	
LD (LDH)	U/l	705	599	811	53.00	106.00	P->L German methods 37℃
	U/l	509	432	586	38.50	77.00	P->L German methods 30℃
	U/l	357	304	410	26.50	53.00	P->L German methods 25℃

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	375	318	432	28.50	57.00	L->P IFCC 37℃
	U/l	271	230	312	20.50	41.00	L->P IFCC 30℃
	U/l	190	161	219	14.50	29.00	L->P IFCC 25℃
Lipase	U/l	58	46	70	6.00	12.00	Roche Colorimetric 37℃
Magnesium	mmol/l	1.74	1.53	1.95	0.11	0.21	Xylidyl Blue
	mg/dl	4.23	3.72	4.74	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	6.31	5.81	6.81	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.1	37.7	56.5	4.70	9.40	Biuret reaction end point
	g/dl	4.71	3.77	5.65	0.47	0.94	
Sodium	mmol/l	160	152	168	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	2.91	2.44	3.38	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	258	216	300	21.00	42.00	
Urea	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease end point
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	21.2	18.0	24.4	1.60	3.20	Urease kinetic
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	21.2	18.0	24.4	1.60	3.20	BUN
	mg/dl	59.5	50.6	68.4	4.45	8.90	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.66	8.40	10.9	0.63	1.26	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			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	9.21	8.01	10.4	0.60	1.20	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.32	8.11	10.5	0.61	1.21	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			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	313	266	360	23.50	47.00	AMP optimised to IFCC 37℃
	U/l	244	207	281	18.50	37.00	AMP optimised to IFCC 30℃
	U/l	200	170	230	15.00	30.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	143	115	171	14.00	28.00	Tris buffer without P5P 37℃
	U/l	106	85	127	10.50	21.00	Tris buffer without P5P 30℃
	U/l	81	65	97	8.00	16.00	Tris buffer without P5P 25℃
Amylase Total	U/l	300	255	345	22.50	45.00	I.L. 2-chloro-pNPG3 37℃
AST (GOT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37℃
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30℃
	U/l	67	53	81	7.00	14.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	18.7	14.8	22.6	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.09	0.866	1.31	0.11	0.22	
Bilirubin Total	µmol/l	86.6	68.4	105	9.10	18.20	Diazo with Sulphanilic Acid
	mg/dl	5.07	4.00	6.14	0.54	1.07	
	µmol/l	91.7	72.4	111	9.65	19.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.36	4.24	6.48	0.56	1.12	
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	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.55	6.57	8.53	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	254	328	18.50	37.00	
Cholinesterase	U/l	5469	4375	6563	547.00	1094.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	445	365	525	40.00	80.00	CK-NAC (IFCC) 37℃
	U/l	279	228	330	25.50	51.00	CK-NAC (IFCC) 30℃
	U/l	189	155	223	17.00	34.00	CK-NAC (IFCC) 25℃
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	
	µmol/l	404	323	485	40.50	81.00	Enzymatic UV method
	mg/dl	4.57	3.65	5.49	0.46	0.92	
	µmol/l	377	301	453	38.00	76.00	Jaffe rate blanked
	mg/dl	4.26	3.40	5.12	0.43	0.86	
	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	351	281	421	35.00	70.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.97	3.18	4.76	0.40	0.79	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	128	109	147	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	163	138	188	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	128	109	147	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	101	85	117	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
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	15.3	13.0	17.6	1.15	2.30	Glucose oxidase
	mg/dl	276	234	318	21.00	42.00	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.26	1.92	2.60	0.17	0.34	Direct HDL Immunoseparation
	mg/dl	87.2	74.1	100	6.55	13.10	
	mmol/l	2.60	2.21	2.99	0.20	0.39	HDL - Ultra
	mg/dl	100	85.3	115	7.35	14.70	
Iron	µmol/l	40.4	33.1	47.7	3.65	7.30	Colorimetric without ppt.
	µg/dl	226	185	267	20.50	41.00	
LD (LDH)	U/l	739	629	849	55.00	110.00	P->L German methods 37℃
	U/l	534	454	614	40.00	80.00	P->L German methods 30℃
	U/l	375	319	431	28.00	56.00	P->L German methods 25℃
	U/l	761	647	875	57.00	114.00	P->L SFBC 37℃
	U/l	549	467	631	41.00	82.00	P->L SFBC 30℃
	U/l	386	328	444	29.00	58.00	P->L SFBC 25℃
Lipase	U/l	73	58	88	7.50	15.00	Other Colorimetric 37℃
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	1.79	1.57	2.01	0.11	0.22	Enzymatic
	mg/dl	4.35	3.82	4.88	0.27	0.53	
Phosphate Inorganic	mmol/l	2.20	1.87	2.53	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.82	5.80	7.84	0.51	1.02	
Potassium	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.4	38.0	56.8	4.70	9.40	Biuret reaction end point
	g/dl	4.74	3.80	5.68	0.47	0.94	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	260	219	301	20.50	41.00	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.96	2.49	3.43	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	262	220	304	21.00	42.00	
Urea	mmol/l	21.1	18.0	24.2	1.55	3.10	Urease end point
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	21.1	17.9	24.3	1.60	3.20	Urease kinetic
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	21.1	17.9	24.3	1.60	3.20	BUN
	mg/dl	59.2	50.3	68.1	4.45	8.90	
Uric Acid (Urate)	mmol/l	0.51	0.44	0.57	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.53	7.43	9.63	0.55	1.10	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	28.2	24.0	32.4	2.10	4.20	Ortho Vitros Microslide Systems
	g/dl	2.82	2.40	3.24	0.21	0.42	
Alkaline Phosphatase	U/l	225	191	259	17.00	34.00	Ortho Vitros Microslide Systems 37℃
ALT (GPT)	U/l	163	130	196	16.50	33.00	Ortho Vitros Microslide Systems 37℃
Amylase Total	U/l	173	147	199	13.00	26.00	Ortho Vitros Microslide Systems 37℃
AST (GOT)	U/l	190	152	228	19.00	38.00	Ortho Vitros Microslide visible slide 37℃
Bicarbonate	mmol/l	18.4	14.6	22.2	1.90	3.80	Ortho Vitros Microslide Systems
Bilirubin Total	µmol/l	80.1	63.2	97.0	8.45	16.90	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	80.6	63.7	97.5	8.45	16.90	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.72	3.73	5.71	0.50	0.99	
Bilirubin, Unconjugated Vitros BU	µmol/l	75.5	59.6	91.4	7.95	15.90	BuBc Vitros Slide
	mg/dl	4.42	3.49	5.35	0.47	0.93	
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	
Chloride	mmol/l	115	106	124	4.50	9.00	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	7.16	6.23	8.09	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	276	240	312	18.00	36.00	
Cholinesterase	U/l	5337	4269	6405	534.00	1068.00	Ortho Vitros Microslide Systems 37℃
CK Total	U/l	419	344	494	37.50	75.00	Ortho Vitros Microslide Systems 37℃
Creatinine	µmol/l	387	310	464	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.37	3.50	5.24	0.44	0.87	

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RANDOX

JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	89.7	67.3	112	11.20	22.40	Vitros ECi
	ng/dl	7.00	5.25	8.75	0.88	1.75	
	pg/ml	70.0	52.5	87.5	8.75	17.50	Vitros ECi
gamma-GT	U/l	212	180	244	16.00	32.00	Ortho Vitros Microslide Systems 37℃
Glucose	mmol/l	14.2	12.1	16.3	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	256	218	294	19.00	38.00	
HDL - Cholesterol	mmol/l	2.58	2.20	2.96	0.19	0.38	Vitros Magnetic HDL
	mg/dl	99.6	84.9	114	7.35	14.70	
	mmol/l	2.58	2.20	2.96	0.19	0.38	Vitros 5.1 FS microtip assay
	mg/dl	99.6	84.9	114	7.35	14.70	
	mmol/l	2.59	2.20	2.98	0.20	0.39	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	100	84.9	115	7.55	15.10	
Iron	µmol/l	44.2	36.3	52.1	3.95	7.90	Ortho Vitros Microslide Systems
	µg/dl	247	203	291	22.00	44.00	
Lactate	mmol/l	4.69	3.84	5.54	0.43	0.85	Ortho Vitros Microslide Systems
	mg/dl	42.3	34.6	50.0	3.85	7.70	
LD (LDH)	U/l	987	839	1135	74.00	148.00	Ortho Vitros Microslide Systems 37℃
Lipase	U/l	694	557	831	68.50	137.00	Ortho Vitros Microslide Systems 37℃
Lithium	mmol/l	2.39	2.10	2.68	0.15	0.29	Ortho Vitros Microslide Systems
	mg/dl	1.66	1.46	1.86	0.10	0.20	
Magnesium	mmol/l	1.83	1.61	2.05	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.45	3.91	4.99	0.27	0.54	
Phosphate Inorganic	mmol/l	2.22	1.88	2.56	0.17	0.34	Ortho Vitros Microslide Systems
	mg/dl	6.88	5.83	7.93	0.53	1.05	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.19	5.70	6.68	0.25	0.49	Ortho Vitros Microslide Systems
Protein Total	g/l	47.4	37.9	56.9	4.75	9.50	Ortho Vitros Microslide Systems
	g/dl	4.74	3.79	5.69	0.48	0.95	
PSA Total	ng/ml =	25.5	19.1	31.9	3.20	6.40	Ortho Vitros ECi
	ng/ml =	25.7	19.3	32.1	3.20	6.40	Ortho Vitros 3600/5600/ECi PSA II
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
Thyroid Stimulating Hormone	µU/ml =	1.26	1.01	1.51	0.13	0.25	Vitros ECi
Total T3	nmol/l	6.44	4.83	8.05	0.81	1.61	Vitros ECi
	ng/ml	4.19	3.14	5.24	0.53	1.05	
	ng/dl	419	314	524	52.50	105.00	Vitros ECi
Total T4	nmol/l	223	167	279	28.00	56.00	Vitros ECi
	µg/dl	17.4	13.0	21.8	2.20	4.40	
	ng/ml	174	130	218	22.00	44.00	Vitros ECi
Triglycerides	mmol/l	3.22	2.71	3.73	0.26	0.51	Ortho Vitros Microslide Systems
	mg/dl	285	240	330	22.50	45.00	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Ortho Vitros Microslide Systems
	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	
Uric Acid (Urate)	mmol/l	0.51	0.45	0.58	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.62	7.49	9.75	0.57	1.13	

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RANDOX

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

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			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	
Alkaline Phosphatase	U/l	296	251	341	22.50	45.00	AMP optimised to IFCC 37℃
	U/l	231	196	266	17.50	35.00	AMP optimised to IFCC 30℃
	U/l	189	160	218	14.50	29.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	158	126	190	16.00	32.00	Tris buffer without P5P 37℃
	U/l	117	93	141	12.00	24.00	Tris buffer without P5P 30℃
	U/l	89	71	107	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	158	127	189	15.50	31.00	Tris buffer without P5P 37℃
	U/l	107	86	128	10.50	21.00	Tris buffer without P5P 30℃
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	81.2	64.2	98.2	8.50	17.00	Nitrobenzenediazonium salt
	mg/dl	4.75	3.76	5.74	0.50	0.99	
Calcium	mmol/l	3.25	2.92	3.58	0.17	0.33	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Chloride	mmol/l	111	102	120	4.50	9.00	Colorimetric
	mmol/l	114	105	123	4.50	9.00	ISE direct
Cholesterol	mmol/l	7.51	6.54	8.48	0.49	0.97	Cholesterol Oxidase
	mg/dl	290	252	328	19.00	38.00	
CK Total	U/l	510	419	601	45.50	91.00	CK-NAC (IFCC) 37℃
	U/l	319	262	376	28.50	57.00	CK-NAC (IFCC) 30℃
	U/l	217	178	256	19.50	39.00	CK-NAC (IFCC) 25℃

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RANDOX

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

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	391	313	469	39.00	78.00	Enzymatic UV method
	mg/dl	4.42	3.54	5.30	0.44	0.88	
	µmol/l	375	300	450	37.50	75.00	Jaffe rate blanked
	mg/dl	4.24	3.39	5.09	0.43	0.85	
	µmol/l	377	302	452	37.50	75.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.26	3.41	5.11	0.43	0.85	
gamma-GT	U/l	175	148	202	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	138	117	159	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	108	91	125	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	16.3	13.9	18.7	1.20	2.40	Hexokinase
	mg/dl	294	250	338	22.00	44.00	
	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.21	2.73	3.69	0.24	0.48	Direct HDL PPD
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	3.29	2.79	3.79	0.25	0.50	Direct HDL PEGME
	mg/dl	127	108	146	9.50	19.00	
Iron	µmol/l	41.0	33.7	48.3	3.65	7.30	Colorimetric without ppt.
	µg/dl	229	188	270	20.50	41.00	
LD (LDH)	U/l	784	667	901	58.50	117.00	P->L Scandinavian & Dutch 37℃
	U/l	566	482	650	42.00	84.00	P->L Scandinavian & Dutch 30°C
	U/l	397	338	456	29.50	59.00	P->L Scandinavian & Dutch 25°C
	U/l	728	618	838	55.00	110.00	P->L SFBC 37℃
	U/l	526	446	606	40.00	80.00	P->L SFBC 30℃
	U/l	369	313	425	28.00	56.00	P->L SFBC 25℃

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

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	369	314	424	27.50	55.00	L->P IFCC 37℃
	U/l	266	227	305	19.50	39.00	L->P IFCC 30℃
	U/l	187	159	215	14.00	28.00	L->P IFCC 25℃
Phosphate Inorganic	mmol/l	2.25	1.91	2.59	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.98	5.92	8.04	0.53	1.06	
Potassium	mmol/l	6.01	5.53	6.49	0.24	0.48	ISE method - direct
Protein Total	g/l	47.9	38.3	57.5	4.80	9.60	Biuret reaction end point
	g/dl	4.79	3.83	5.75	0.48	0.96	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - direct
Triglycerides	mmol/l	2.94	2.47	3.41	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	260	219	301	20.50	41.00	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease end point
	mg/dl	119	101	137	9.00	18.00	
	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	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.61	8.37	10.9	0.62	1.24	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.56	8.32	10.8	0.62	1.24	

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MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin (electrophoresis)		61.1	55.1	67.1	3.00	6.00	% of total Protein (Beckman Capillary)
alpha-1-globulin		6.9	5.2	8.6	0.83	1.66	% of total Protein (Beckman Capillary)
alpha-2-globulin		7.5	5.7	9.3	0.90	1.80	% of total Protein (Beckman Capillary)
beta-globulin		12.0	9.1	14.9	1.44	2.88	% of total Protein (Beckman Capillary)
gamma-globulin		12.5	9.5	15.5	1.50	3.00	% of total Protein (Beckman Capillary)

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-HBDH	U/l	407	322	492	42.50	85.00	Oxobutyrate < 10 mmol/l 37℃
	U/l	307	243	371	32.00	64.00	Oxobutyrate < 10 mmol/l 30℃
	U/l	230	182	278	24.00	48.00	Oxobutyrate < 10 mmol/l 25℃
Acid Phosphatase (Total)	U/l	27.7	18.6	36.8	4.55	9.10	1-Naphthyl Phosphate substrate Kinetic 37℃
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	
	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	
	g/l	28.2	24.0	32.4	2.10	4.20	Ortho Vitros Microslide Systems
	g/dl	2.82	2.40	3.24	0.21	0.42	
	g/l	28.8	24.5	33.1	2.15	4.30	Turbidimetric Assays
	g/dl	2.88	2.45	3.31	0.22	0.43	
Alkaline Phosphatase	U/l	225	191	259	17.00	34.00	Ortho Vitros Microslide Systems 37℃
	U/l	401	341	461	30.00	60.00	Diethanolamine buffer DEA 37°C
	U/l	312	266	358	23.00	46.00	Diethanolamine buffer DEA 30°C
	U/l	256	218	294	19.00	38.00	Diethanolamine buffer DEA 25°C
	U/l	314	267	361	23.50	47.00	AMP optimised to IFCC 37℃
	U/l	245	208	282	18.50	37.00	AMP optimised to IFCC 30℃
	U/l	201	171	231	15.00	30.00	AMP optimised to IFCC 25℃
	U/l	317	269	365	24.00	48.00	AMP reduced interference 37℃
	U/l	247	210	284	18.50	37.00	AMP reduced interference 30℃
	U/l	203	172	234	15.50	31.00	AMP reduced interference 25℃

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MEAN OF ALL INSTRUMENTS

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Alkaline Phosphatase	U/l	310	263	357	23.50	47.00	AMP non-optimised 37℃
	U/l	241	205	277	18.00	36.00	AMP non-optimised 30℃
	U/l	198	168	228	15.00	30.00	AMP non-optimised 25℃
ALT (GPT)	U/l	147	118	176	14.50	29.00	Colorimetric 37℃
	U/l	109	87	131	11.00	22.00	Colorimetric 30℃
	U/l	83	66	100	8.50	17.00	Colorimetric 25℃
	U/l	163	130	196	16.50	33.00	Ortho Vitros Microslide Systems 37℃
	U/l	191	153	229	19.00	38.00	Tris buffer with P5P 37℃
	U/l	141	113	169	14.00	28.00	Tris buffer with P5P 30℃
	U/l	108	86	130	11.00	22.00	Tris buffer with P5P 25℃
	U/l	153	122	184	15.50	31.00	Tris buffer without P5P 37℃
	U/l	113	90	136	11.50	23.00	Tris buffer without P5P 30℃
	U/l	86	69	103	8.50	17.00	Tris buffer without P5P 25℃
	U/l	147	117	177	15.00	30.00	Phosphate buffer DGKC 37℃
	U/l	109	87	131	11.00	22.00	Phosphate buffer DGKC 30℃
	U/l	83	66	100	8.50	17.00	Phosphate buffer DGKC 25℃
	U/l	146	117	175	14.50	29.00	Tris buffer SCE 37℃
	U/l	108	87	129	10.50	21.00	Tris buffer SCE 30℃
	U/l	82	66	98	8.00	16.00	Tris buffer SCE 25℃
Amylase Pancreatic	U/l	251	213	289	19.00	38.00	Immunoinhibition EPS substrate 37℃
	U/l	247	210	284	18.50	37.00	Roche EPS Liquid 37℃
	U/l	287	244	330	21.50	43.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	291	247	335	22.00	44.00	pNP Maltotrioside substrates 37℃
	U/l	281	239	323	21.00	42.00	Siemens - blocked pNPG7 37℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	275	234	316	20.50	41.00	bioMerieux - blocked pNPG7 37℃
	U/l	226	192	260	17.00	34.00	Randox Lyo. Ethylidene pNPG7 37℃
	U/l	296	252	340	22.00	44.00	Randox Liquid Ethylidene pNPG7 37℃
	U/l	293	249	337	22.00	44.00	Beckman Synchron CX4/CX5/CX7 37℃
	U/l	303	257	349	23.00	46.00	Siemens - maltopenta/hexaoside 37℃
	U/l	279	237	321	21.00	42.00	Siemens 2-chloro-pNP linked substrate 37℃
	U/l	273	232	314	20.50	41.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	173	147	199	13.00	26.00	Ortho Vitros Microslide Systems 37℃
	U/l	269	229	309	20.00	40.00	Other Roche 2-chloro-pNPG7 37℃
	U/l	269	228	310	20.50	41.00	Roche liquid stable pNPG7 37°C
	U/l	338	287	389	25.50	51.00	Siemens 2-chloro-pNPG3 37℃
	U/l	288	245	331	21.50	43.00	bioMerieux 2-chloro-pNPG3 37°C
	U/l	285	242	328	21.50	43.00	Beckman Coulter - blocked pNPG7 37℃
	U/l	289	246	332	21.50	43.00	Beckman Synchron AMY7 37℃
	U/l	297	253	341	22.00	44.00	Agappe - CNPG3 37℃
	U/l	301	256	346	22.50	45.00	I.L. 2-chloro-pNPG3 37℃
	U/l	333	283	383	25.00	50.00	Abbott Architect IFCC Cal. 37℃
	U/l	315	267	363	24.00	48.00	Abbott Architect Non-IFCC Cal. 37℃
	U/l	260	221	299	19.50	39.00	BM/Roche Colorimetric pNPG7 37℃
Apolipoprotein A-1	g/l	1.05	0.86	1.24	0.09	0.19	Immunoturbidimetric
	mg/dl	105	86.1	124	9.45	18.90	
Apolipoprotein B	g/l	0.58	0.47	0.68	0.05	0.10	Immunoturbidimetric
	mg/dl	57.7	47.3	68.1	5.20	10.40	
AST (GOT)	U/l	142	114	170	14.00	28.00	Colorimetric 37℃
	U/l	96	77	115	9.50	19.00	Colorimetric 30℃
	U/l	68	54	82	7.00	14.00	Colorimetric 25℃

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	190	152	228	19.00	38.00	Ortho Vitros Microslide visible slide 37℃
	U/l	220	176	264	22.00	44.00	Tris buffer with P5P 37℃
	U/l	149	119	179	15.00	30.00	Tris buffer with P5P 30℃
	U/l	105	84	126	10.50	21.00	Tris buffer with P5P 25℃
	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37℃
	U/l	100	80	120	10.00	20.00	Tris buffer without P5P 30℃
	U/l	70	56	84	7.00	14.00	Tris buffer without P5P 25℃
	U/l	145	116	174	14.50	29.00	Phosphate buffer DGKC 37℃
	U/l	98	78	118	10.00	20.00	Phosphate buffer DGKC 30℃
	U/l	69	55	83	7.00	14.00	Phosphate buffer DGKC 25℃
	U/l	141	113	169	14.00	28.00	Tris buffer SCE 37℃
	U/l	95	76	114	9.50	19.00	Tris buffer SCE 30℃
	U/l	67	54	80	6.50	13.00	Tris buffer SCE 25℃
Bicarbonate	mmol/l	17.3	13.7	20.9	1.80	3.60	Colorimetric
	mmol/l	18.4	14.6	22.2	1.90	3.80	Ortho Vitros Microslide Systems
	mmol/l	17.7	14.0	21.4	1.85	3.70	Differential rate pH change
	mmol/l	17.7	14.1	21.3	1.80	3.60	Enzymatic
	mmol/l	17.4	13.8	21.0	1.80	3.60	Ion selective electrode
Bile Acids	µmol/l	49.2	39.4	59.0	4.90	9.80	4th Generation Colorimetric
	µmol/l	47.9	38.3	57.5	4.80	9.60	5th Generation Colorimetric
Bilirubin Direct	µmol/l	25.9	20.4	31.4	2.75	5.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.52	1.19	1.85	0.17	0.33	
	µmol/l	31.0	24.5	37.5	3.25	6.50	Diazo with Sulphanilic Acid
	mg/dl	1.81	1.43	2.19	0.19	0.38	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	
	µmol/l	30.1	23.8	36.4	3.15	6.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.76	1.39	2.13	0.19	0.37	
	µmol/l	31.4	24.8	38.0	3.30	6.60	Modified Jendrassik
	mg/dl	1.84	1.45	2.23	0.20	0.39	
Bilirubin Total	µmol/l	80.1	63.2	97.0	8.45	16.90	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	80.6	63.7	97.5	8.45	16.90	Vitros 250/500/700/950 Total BUBC
	mg/dl	4.72	3.73	5.71	0.50	0.99	
	µmol/l	96.6	76.3	117	10.15	20.30	Diazo with Dichloroaniline (DCA)
	mg/dl	5.65	4.46	6.84	0.60	1.19	
	µmol/l	86.0	67.9	104	9.05	18.10	Diazo with Sulphanilic Acid
	mg/dl	5.03	3.97	6.09	0.53	1.06	
	µmol/l	93.3	73.7	113	9.80	19.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.46	4.31	6.61	0.58	1.15	
	µmol/l	82.1	64.8	99.4	8.65	17.30	Nitrobenzenediazonium salt
	mg/dl	4.80	3.79	5.81	0.51	1.01	
	µmol/l	80.4	63.5	97.3	8.45	16.90	Diazonium ion
	mg/dl	4.70	3.71	5.69	0.50	0.99	
	µmol/l	91.4	72.2	111	9.60	19.20	Oxidation to Biliverdin/Vanadate
	mg/dl	5.35	4.22	6.48	0.57	1.13	
	µmol/l	98.8	78.1	120	10.35	20.70	Modified Jendrassik
	mg/dl	5.78	4.57	6.99	0.61	1.21	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
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	3.07	2.76	3.38	0.16	0.31	Ion selective electrode
	mg/dl	12.3	11.1	13.5	0.60	1.20	
	mmol/l	3.05	2.75	3.35	0.15	0.30	Methylthymol blue
	mg/dl	12.2	11.0	13.4	0.60	1.20	
	mmol/l	3.10	2.79	3.41	0.16	0.31	Arsenazo III
	mg/dl	12.4	11.2	13.6	0.60	1.20	
	mmol/l	3.12	2.81	3.43	0.16	0.31	Phosphonazo
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	3.13	2.82	3.44	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	112	103	121	4.50	9.00	Colorimetric
	mmol/l	115	106	124	4.50	9.00	Ortho Vitros Microslide Systems
	mmol/l	114	104	124	5.00	10.00	ISE indirect
	mmol/l	114	105	123	4.50	9.00	ISE direct
Cholesterol	mmol/l	7.16	6.23	8.09	0.47	0.93	Ortho Vitros Microslide Systems
	mg/dl	276	240	312	18.00	36.00	
	mmol/l	7.59	6.61	8.57	0.49	0.98	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
	mmol/l	7.37	6.41	8.33	0.48	0.96	Cholesterol Dehydrogenase
	mg/dl	284	247	321	18.50	37.00	
Cholinesterase	U/l	5348	4279	6417	534.50	1069.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	419	344	494	37.50	75.00	Ortho Vitros Microslide Systems 37℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	498	408	588	45.00	90.00	CK-NAC serum start (DGKC) 37℃
	U/l	312	255	369	28.50	57.00	CK-NAC serum start (DGKC) 30°C
	U/l	212	173	251	19.50	39.00	CK-NAC serum start (DGKC) 25°C
	U/l	479	392	566	43.50	87.00	CK-NAC substrate start (DGKC) 37℃
	U/l	300	245	355	27.50	55.00	CK-NAC substrate start (DGKC) 30℃
	U/l	204	167	241	18.50	37.00	CK-NAC substrate start (DGKC) 25℃
	U/l	487	400	574	43.50	87.00	CK-NAC (IFCC) 37℃
	U/l	305	250	360	27.50	55.00	CK-NAC (IFCC) 30℃
	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 25℃
	U/l	490	402	578	44.00	88.00	Monothioglycerol 37℃
	U/l	307	252	362	27.50	55.00	Monothioglycerol 30℃
	U/l	208	171	245	18.50	37.00	Monothioglycerol 25℃
	U/l	471	387	555	42.00	84.00	Dithioerythritol (DTE) IFCC correlated 37℃
	U/l	295	242	348	26.50	53.00	Dithioerythritol (DTE) IFCC correlated 30℃
	U/l	200	164	236	18.00	36.00	Dithioerythritol (DTE) IFCC correlated 25℃
Copper	µmol/l	25.1	20.1	30.1	2.50	5.00	Atomic absorption
	µg/dl	160	128	192	16.00	32.00	
	µmol/l	25.7	20.6	30.8	2.55	5.10	Colorimetric
	µg/dl	163	131	195	16.00	32.00	
Cortisol	nmol/l	988	741	1235	123.50	247.00	Roche Cobas E411
	µg/dl	35.6	26.7	44.5	4.45	8.90	
Creatinine	µmol/l	368	294	442	37.00	74.00	Alkaline picrate with deproteinization
	mg/dl	4.16	3.32	5.00	0.42	0.84	
	µmol/l	372	298	446	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.20	3.37	5.03	0.42	0.83	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	386	309	463	38.50	77.00	Enzymatic UV method
	mg/dl	4.36	3.49	5.23	0.44	0.87	
	µmol/l	381	305	457	38.00	76.00	Creatinine PAP method
	mg/dl	4.31	3.45	5.17	0.43	0.86	
	µmol/l	366	293	439	36.50	73.00	Jaffe rate blanked
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	380	304	456	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.29	3.44	5.14	0.43	0.85	
	µmol/l	374	299	449	37.50	75.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	387	310	464	38.50	77.00	Vitros IDMS Traceable
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	385	308	462	38.50	77.00	IDMS traceable
	mg/dl	4.35	3.48	5.22	0.44	0.87	
D-3-Hydroxybutyrate	mmol/l	1.28	1.09	1.47	0.10	0.19	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	3.84	3.07	4.61	0.39	0.77	Gravimetric
	ng/ml	3.00	2.40	3.60	0.30	0.60	
Folate	nmol/l	16.7	12.7	20.7	2.01	4.01	Roche Cobas E411
	ng/ml	7.37	5.60	9.14	0.89	1.77	
Free T4	pmol/l	49.8	37.3	62.3	6.25	12.50	Abbott Architect
	ng/dl	3.88	2.91	4.85	0.49	0.97	
	pg/ml	38.8	29.1	48.5	4.85	9.70	Abbott Architect
	pmol/l	68.9	51.7	86.1	8.60	17.20	Siemens Immulite 2000/2500
	ng/dl	5.37	4.03	6.71	0.67	1.34	
	pg/ml	53.7	40.3	67.1	6.70	13.40	Siemens Immulite 2000/2500

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	70.5	52.8	88.2	8.85	17.70	Siemens Immulite 1000
	ng/dl	5.50	4.12	6.88	0.69	1.38	
	pg/ml	55.0	41.2	68.8	6.90	13.80	Siemens Immulite 1000
	pmol/l	62.5	46.8	78.2	7.85	15.70	Beckman DxI800
	ng/dl	4.88	3.65	6.11	0.62	1.23	
	pg/ml	48.8	36.5	61.1	6.15	12.30	Beckman DxI800
	pmol/l	75.9	56.9	94.9	9.50	19.00	Roche Elecsys
	ng/dl	5.92	4.44	7.40	0.74	1.48	
	pg/ml	59.2	44.4	74.0	7.40	14.80	Roche Elecsys
	pmol/l	80.8	60.6	101	10.10	20.20	Diasorin Liaison
	ng/dl	6.30	4.73	7.87	0.79	1.57	
	pg/ml	63.0	47.3	78.7	7.85	15.70	Diasorin Liaison
	pmol/l	61.3	46.0	76.6	7.65	15.30	Beckman Access
	ng/dl	4.78	3.59	5.97	0.60	1.19	
	pg/ml	47.8	35.9	59.7	5.95	11.90	Beckman Access
	pmol/l	77.0	57.7	96.3	9.65	19.30	Tosoh Series
	ng/dl	6.01	4.50	7.52	0.76	1.51	
	pg/ml	60.1	45.0	75.2	7.55	15.10	Tosoh Series
	pmol/l	89.7	67.3	112	11.20	22.40	Vitros ECi
	ng/dl	7.00	5.25	8.75	0.88	1.75	
	pg/ml	70.0	52.5	87.5	8.75	17.50	Vitros ECi
	pmol/l	74.7	56.0	93.4	9.35	18.70	Roche Cobas E411
	ng/dl	5.83	4.37	7.29	0.73	1.46	
	pg/ml	58.3	43.7	72.9	7.30	14.60	Roche Cobas E411
	pmol/l	74.6	55.9	93.3	9.35	18.70	Roche Cobas 6000/8000
	ng/dl	5.82	4.36	7.28	0.73	1.46	
	pg/ml	58.2	43.6	72.8	7.30	14.60	Roche Cobas 6000/8000

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	68.1	51.1	85.1	8.50	17.00	Biomerieux Vidas FT4N Kit
	ng/dl	5.31	3.99	6.63	0.66	1.32	
	pg/ml	53.1	39.9	66.3	6.60	13.20	Biomerieux Vidas FT4N Kit
	pmol/l	71.1	53.3	88.9	8.90	17.80	Siemens Centaur CP
	ng/dl	5.55	4.16	6.94	0.70	1.39	
	pg/ml	55.5	41.6	69.4	6.95	13.90	Siemens Centaur CP
Gentamicin	µmol/l	19.0	15.2	22.8	1.90	3.80	Gravimetric
	µg/ml	9.08	7.27	10.9	0.91	1.81	
gamma-GT	U/l	166	141	191	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	131	111	151	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	212	180	244	16.00	32.00	Ortho Vitros Microslide Systems 37℃
	U/l	152	129	175	11.50	23.00	Gamma glutamyl-4-nitroanilide 37℃
	U/l	120	102	138	9.00	18.00	Gamma glutamyl-4-nitroanilide 30℃
	U/l	94	80	108	7.00	14.00	Gamma glutamyl-4-nitroanilide 25℃
	U/l	174	148	200	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	137	117	157	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	107	91	123	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
	U/l	183	156	210	13.50	27.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	144	123	165	10.50	21.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	113	96	130	8.50	17.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
GLDH	U/l	28	22	34	3.00	6.00	Triethanolamine buffer 50 mmol 37℃
	U/l	22	17	27	2.50	5.00	Triethanolamine buffer 50 mmol 30°C
	U/l	17	14	20	1.50	3.00	Triethanolamine buffer 50 mmol 25°C

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	14.2	12.1	16.3	1.05	2.10	Ortho Vitros Microslide Systems
	mg/dl	256	218	294	19.00	38.00	
	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose dehydrogenase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Oxygen electrode
	mg/dl	274	232	316	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	3.07	2.61	3.53	0.23	0.46	Direct HDL PPD
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	2.74	2.33	3.15	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	106	89.9	122	8.05	16.10	
	mmol/l	2.58	2.20	2.96	0.19	0.38	Vitros Magnetic HDL
	mg/dl	99.6	84.9	114	7.35	14.70	
	mmol/l	2.99	2.54	3.44	0.23	0.45	Direct Clearance Method
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	2.58	2.20	2.96	0.19	0.38	Vitros 5.1 FS microtip assay
	mg/dl	99.6	84.9	114	7.35	14.70	
	mmol/l	2.59	2.20	2.98	0.20	0.39	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	100	84.9	115	7.55	15.10	
	mmol/l	3.41	2.90	3.92	0.26	0.51	Direct HDL Roche 3rd generation
	mg/dl	132	112	152	10.00	20.00	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.81	2.39	3.23	0.21	0.42	HDL - Ultra
	mg/dl	108	92.3	124	7.85	15.70	
Immunoglobulin A	g/l	1.71	1.28	2.14	0.22	0.43	Immunoturbidimetric
	mg/dl	171	128	214	21.50	43.00	
Immunoglobulin G	g/l	6.61	5.42	7.80	0.60	1.19	Immunoturbidimetric
	mg/dl	661	542	780	59.50	119.00	
Immunoglobulin M	g/l	0.74	0.60	0.89	0.07	0.15	Immunoturbidimetric
	mg/dl	74.4	59.5	89.3	7.45	14.90	
Iron	µmol/l	40.6	33.3	47.9	3.65	7.30	Colorimetric with ppt.
	µg/dl	227	186	268	20.50	41.00	
	µmol/l	41.1	33.7	48.5	3.70	7.40	Colorimetric without ppt.
	µg/dl	230	188	272	21.00	42.00	
	µmol/l	44.2	36.3	52.1	3.95	7.90	Ortho Vitros Microslide Systems
	µg/dl	247	203	291	22.00	44.00	
Lactate	mmol/l	5.10	4.18	6.02	0.46	0.92	Colorimetric Lactate Oxidase
	mg/dl	46.0	37.7	54.3	4.15	8.30	
	mmol/l	4.69	3.84	5.54	0.43	0.85	Ortho Vitros Microslide Systems
	mg/dl	42.3	34.6	50.0	3.85	7.70	
	mmol/l	4.96	4.07	5.85	0.45	0.89	Ion selective electrode
	mg/dl	44.7	36.7	52.7	4.00	8.00	
	mmol/l	5.21	4.27	6.15	0.47	0.94	UV LDH
	mg/dl	46.9	38.5	55.3	4.20	8.40	
LAP	U/l	15	13	17	1.00	2.00	NAGEL 37℃
LD (LDH)	U/l	987	839	1135	74.00	148.00	Ortho Vitros Microslide Systems 37℃
	U/l	341	290	392	25.50	51.00	L->P 37℃
	U/l	246	209	283	18.50	37.00	L->P 30℃
	U/l	173	147	199	13.00	26.00	L->P 25℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	733	623	843	55.00	110.00	P->L Scandinavian & Dutch 37℃
	U/l	529	450	608	39.50	79.00	P->L Scandinavian & Dutch 30°C
	U/l	372	316	428	28.00	56.00	P->L Scandinavian & Dutch 25°C
	U/l	718	610	826	54.00	108.00	P->L German methods 37℃
	U/l	518	440	596	39.00	78.00	P->L German methods 30℃
	U/l	364	309	419	27.50	55.00	P->L German methods 25℃
	U/l	370	315	425	27.50	55.00	L->P IFCC 37℃
	U/l	267	227	307	20.00	40.00	L->P IFCC 30℃
	U/l	188	160	216	14.00	28.00	L->P IFCC 25℃
Lipase	U/l	63	51	75	6.00	12.00	Other Colorimetric 37℃
	U/l	694	557	831	68.50	137.00	Ortho Vitros Microslide Systems 37℃
	U/l	59	47	71	6.00	12.00	Roche Colorimetric 37℃
	U/l	405	325	485	40.00	80.00	Randox Turbidimetric with colipase 37℃
	U/l	87	70	104	8.50	17.00	Randox Colorimetric 37℃
Lithium	mmol/l	2.39	2.10	2.68	0.15	0.29	Ortho Vitros Microslide Systems
	mg/dl	1.66	1.46	1.86	0.10	0.20	
	mmol/l	2.06	1.82	2.30	0.12	0.24	Ion selective electrode
	mg/dl	1.43	1.26	1.60	0.09	0.17	
	mmol/l	2.06	1.81	2.31	0.13	0.25	Spectrophotometric
	mg/dl	1.43	1.26	1.60	0.09	0.17	
	mmol/l	2.04	1.80	2.28	0.12	0.24	Randox Colorimetric
	mg/dl	1.42	1.25	1.59	0.09	0.17	
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Arsenazo III
	mg/dl	4.30	3.79	4.81	0.26	0.51	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.83	1.61	2.05	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.45	3.91	4.99	0.27	0.54	
	mmol/l	1.78	1.57	1.99	0.11	0.21	Atomic absorption
	mg/dl	4.33	3.82	4.84	0.26	0.51	
	mmol/l	1.71	1.50	1.92	0.11	0.21	Calmagite
	mg/dl	4.16	3.65	4.67	0.26	0.51	
	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	1.77	1.56	1.98	0.11	0.21	Methylthymol blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
	mmol/l	1.79	1.58	2.00	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.35	3.84	4.86	0.26	0.51	
	mmol/l	1.78	1.57	1.99	0.11	0.21	Enzymatic
	mg/dl	4.33	3.82	4.84	0.26	0.51	
NEFA	mmol/l	0.44	0.37	0.51	0.03	0.07	Colorimetric
Osmolality	mOsm/kg	349	279	419	35.00	70.00	Calculated
	mOsm/kg	386	309	463	38.50	77.00	Freezing point depression
Paracetamol	mmol/l	0.60	0.48	0.71	0.06	0.12	Gravimetric
	mg/l	90.0	72.0	108	9.00	18.00	
Phosphate Inorganic	mmol/l	2.22	1.88	2.56	0.17	0.34	Ortho Vitros Microslide Systems
	mg/dl	6.88	5.83	7.93	0.53	1.05	
	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.88	5.86	7.90	0.51	1.02	
	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.19	5.70	6.68	0.25	0.49	Ortho Vitros Microslide Systems
	mmol/l	6.13	5.64	6.62	0.25	0.49	Enzymatic
	mmol/l	6.05	5.57	6.53	0.24	0.48	Flame photometry
	mmol/l	6.14	5.65	6.63	0.25	0.49	ISE method - direct
	mmol/l	6.25	5.75	6.75	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.4	37.9	56.9	4.75	9.50	Ortho Vitros Microslide Systems
	g/dl	4.74	3.79	5.69	0.48	0.95	
	g/l	47.3	37.9	56.7	4.70	9.40	Biuret reaction end point
	g/dl	4.73	3.79	5.67	0.47	0.94	
	g/l	46.0	36.8	55.2	4.60	9.20	Biuret reaction kinetic
	g/dl	4.60	3.68	5.52	0.46	0.92	
PSA Total	ng/ml =	18.6	13.9	23.3	2.35	4.70	Tosoh Series
	ng/ml =	21.5	16.1	26.9	2.70	5.40	Siemens Immulite 1000
	ng/ml =	27.4	20.6	34.2	3.40	6.80	Roche Elecsys Modular E170
	ng/ml =	24.4	18.3	30.5	3.05	6.10	Beckman Access standardised to Hybritech
	ng/ml =	26.7	20.0	33.4	3.35	6.70	bioMerieux VIDAS TPSA
	ng/ml =	22.7	17.0	28.4	2.85	5.70	Siemens Centaur XP/XPT/Classic
	ng/ml =	24.6	18.4	30.8	3.10	6.20	Siemens Immulite 2000 1st Generation
	ng/ml =	23.1	17.3	28.9	2.90	5.80	Siemens Immulite 2000 3rd Generation
	ng/ml =	23.2	17.4	29.0	2.90	5.80	Abbott Architect
	ng/ml =	25.5	19.1	31.9	3.20	6.40	Ortho Vitros ECi
	ng/ml =	28.0	21.0	35.0	3.50	7.00	Cobas E411
	ng/ml =	26.7	20.0	33.4	3.35	6.70	Roche Cobas 6000/8000
	ng/ml =	25.7	19.3	32.1	3.20	6.40	Ortho Vitros 3600/5600/ECi PSA II

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	27.4	20.6	34.2	3.40	6.80	Beckman DXI standardised to Hybritech
Salicylate	mmol/l	0.87	0.70	1.04	0.09	0.17	Gravimetric
	mg/dl	12.0	9.60	14.4	1.20	2.40	
Sodium	mmol/l	158	150	166	4.00	8.00	Ortho Vitros Microslide Systems
	mmol/l	156	148	164	4.00	8.00	Enzymatic
	mmol/l	157	149	165	4.00	8.00	Flame photometry
	mmol/l	158	150	166	4.00	8.00	ISE method - direct
	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Theophylline	µmol/l	139	111	167	14.00	28.00	Gravimetric
	µg/ml	25.0	20.0	30.0	2.50	5.00	
Thyroid Stimulating Hormone	µU/ml =	1.07	0.85	1.29	0.11	0.22	Abbott Architect
	µU/ml =	1.31	1.05	1.57	0.13	0.26	bioMerieux VIDAS TSH
	µU/ml =	1.28	1.03	1.53	0.13	0.25	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.30	1.04	1.56	0.13	0.26	Siemens Immulite 2000/2500
	µU/ml =	1.23	0.98	1.48	0.12	0.25	Siemens Immulite 1000
	µU/ml =	1.44	1.15	1.73	0.15	0.29	Roche Elecsys
	µU/ml =	1.53	1.22	1.84	0.16	0.31	Diasorin Liaison
	µU/ml =	1.18	0.94	1.42	0.12	0.24	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.24	0.99	1.49	0.13	0.25	Tosoh Series
	µU/ml =	1.26	1.01	1.51	0.13	0.25	Vitros ECi
	µU/ml =	1.42	1.14	1.70	0.14	0.28	Roche Cobas E411
	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Cobas 6000/8000
	µU/ml =	1.17	0.94	1.40	0.12	0.23	Beckman DxI800 Hyper TSH
	µU/ml =	1.14	0.92	1.37	0.11	0.23	Siemens Centaur XP/XPT/Classic TSH3-Ultra
	µU/ml =	1.06	0.85	1.27	0.11	0.21	Siemens Centaur CP TSH3-Ultra

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Thyroid Stimulating Hormone	µU/ml =	1.18	0.95	1.42	0.12	0.24	Beckman DxI 600/800 Access (3rd IS)
TIBC	µmol/l	46.9	37.0	56.8	4.95	9.90	Removal of excess free iron
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	52.0	41.1	62.9	5.45	10.90	FE+UIBC(saturation with iron)
	µg/dl	291	230	352	30.50	61.00	
	µmol/l	46.9	37.1	56.7	4.90	9.80	Direct Colorimetric
	µg/dl	262	207	317	27.50	55.00	
	µmol/l	39.9	31.6	48.2	4.15	8.30	Calculated from Transferrin
	µg/dl	223	177	269	23.00	46.00	
	µmol/l	52.7	41.6	63.8	5.55	11.10	Randox Direct
	µg/dl	295	233	357	31.00	62.00	
Tobramycin	µmol/l	15.6	12.5	18.7	1.55	3.10	Gravimetric
	µg/ml	7.30	5.85	8.75	0.73	1.45	
Total T3	nmol/l	3.25	2.44	4.06	0.41	0.81	Abbott Architect
	ng/ml	2.12	1.59	2.65	0.27	0.53	
	ng/dl	212	159	265	26.50	53.00	Abbott Architect
	nmol/l	3.92	2.94	4.90	0.49	0.98	BioMerieux Vidas
	ng/ml	2.55	1.91	3.19	0.32	0.64	
	ng/dl	255	191	319	32.00	64.00	BioMerieux Vidas
	nmol/l	4.56	3.42	5.70	0.57	1.14	Siemens Centaur XP/XPT/Classic
	ng/ml	2.97	2.23	3.71	0.37	0.74	
	ng/dl	297	223	371	37.00	74.00	Siemens Centaur XP/XPT/Classic
	nmol/l	3.81	2.85	4.77	0.48	0.96	Siemens Immulite 2000/2500
	ng/ml	2.48	1.86	3.10	0.31	0.62	
	ng/dl	248	186	310	31.00	62.00	Siemens Immulite 2000/2500

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T3	nmol/l	4.32	3.24	5.40	0.54	1.08	Siemens Immulite 1000
	ng/ml	2.81	2.11	3.51	0.35	0.70	
	ng/dl	281	211	351	35.00	70.00	Siemens Immulite 1000
	nmol/l	3.44	2.58	4.30	0.43	0.86	Beckman DxI800
	ng/ml	2.24	1.68	2.80	0.28	0.56	
	ng/dl	224	168	280	28.00	56.00	Beckman DxI800
	nmol/l	4.12	3.09	5.15	0.52	1.03	Roche Elecsys
	ng/ml	2.68	2.01	3.35	0.34	0.67	
	ng/dl	268	201	335	33.50	67.00	Roche Elecsys
	nmol/l	3.66	2.75	4.57	0.46	0.91	Beckman Access
	ng/ml	2.38	1.79	2.97	0.30	0.59	
	ng/dl	238	179	297	29.50	59.00	Beckman Access
	nmol/l	6.44	4.83	8.05	0.81	1.61	Vitros ECi
	ng/ml	4.19	3.14	5.24	0.53	1.05	
	ng/dl	419	314	524	52.50	105.00	Vitros ECi
	nmol/l	4.21	3.15	5.27	0.53	1.06	Roche Cobas E411
	ng/ml	2.74	2.05	3.43	0.35	0.69	
	ng/dl	274	205	343	34.50	69.00	Roche Cobas E411
	nmol/l	4.13	3.10	5.16	0.52	1.03	Roche Cobas 6000/8000
	ng/ml	2.69	2.02	3.36	0.34	0.67	
	ng/dl	269	202	336	33.50	67.00	Roche Cobas 6000/8000
	nmol/l	3.65	2.74	4.56	0.46	0.91	Monobind Inc. ELISA / CLIA
	ng/ml	2.38	1.78	2.98	0.30	0.60	
	ng/dl	238	178	298	30.00	60.00	Monobind Inc. ELISA / CLIA
	nmol/l	4.68	3.51	5.85	0.59	1.17	Siemens Centaur CP
	ng/ml	3.05	2.29	3.81	0.38	0.76	
	ng/dl	305	229	381	38.00	76.00	Siemens Centaur CP

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	214	160	268	27.00	54.00	Abbott Architect
	µg/dl	16.7	12.5	20.9	2.10	4.20	
	ng/ml	167	125	209	21.00	42.00	Abbott Architect
	nmol/l	210	158	262	26.00	52.00	BioMerieux Vidas
	µg/dl	16.4	12.3	20.5	2.05	4.10	
	ng/ml	164	123	205	20.50	41.00	BioMerieux Vidas
	nmol/l	214	160	268	27.00	54.00	Siemens Centaur XP/XPT/Classic
	µg/dl	16.7	12.5	20.9	2.10	4.20	
	ng/ml	167	125	209	21.00	42.00	Siemens Centaur XP/XPT/Classic
	nmol/l	215	161	269	27.00	54.00	Siemens Immulite 2000/2500
	µg/dl	16.8	12.6	21.0	2.10	4.20	
	ng/ml	168	126	210	21.00	42.00	Siemens Immulite 2000/2500
	nmol/l	229	172	286	28.50	57.00	Siemens Immulite 1000
	µg/dl	17.9	13.4	22.4	2.25	4.50	
	ng/ml	179	134	224	22.50	45.00	Siemens Immulite 1000
	nmol/l	243	182	304	30.50	61.00	Beckman DxI800
	µg/dl	19.0	14.2	23.8	2.40	4.80	
	ng/ml	190	142	238	24.00	48.00	Beckman DxI800
	nmol/l	206	155	257	25.50	51.00	Roche Elecsys
	µg/dl	16.1	12.1	20.1	2.00	4.00	
	ng/ml	161	121	201	20.00	40.00	Roche Elecsys
	nmol/l	229	172	286	28.50	57.00	Beckman Access
	µg/dl	17.9	13.4	22.4	2.25	4.50	
	ng/ml	179	134	224	22.50	45.00	Beckman Access

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	223	167	279	28.00	56.00	Vitros ECi
	µg/dl	17.4	13.0	21.8	2.20	4.40	
	ng/ml	174	130	218	22.00	44.00	Vitros ECi
	nmol/l	198	148	248	25.00	50.00	Roche Cobas E411
	µg/dl	15.4	11.5	19.3	1.95	3.90	
	ng/ml	154	115	193	19.50	39.00	Roche Cobas E411
	nmol/l	190	143	237	23.50	47.00	Roche Cobas 6000/8000
	µg/dl	14.8	11.2	18.4	1.80	3.60	
	ng/ml	148	112	184	18.00	36.00	Roche Cobas 6000/8000
	nmol/l	213	160	266	26.50	53.00	Siemens Centaur CP
	µg/dl	16.6	12.5	20.7	2.05	4.10	
	ng/ml	166	125	207	20.50	41.00	Siemens Centaur CP
Transferrin	g/l	1.72	1.38	2.06	0.17	0.34	Immunoturbidimetric
	mg/dl	172	138	206	17.00	34.00	
Triglycerides	mmol/l	2.91	2.44	3.38	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	216	300	21.00	42.00	
	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	2.44	3.38	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	258	216	300	21.00	42.00	
	mmol/l	2.89	2.43	3.35	0.23	0.46	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	256	215	297	20.50	41.00	
	mmol/l	2.90	2.44	3.36	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	257	216	298	20.50	41.00	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	3.22	2.71	3.73	0.26	0.51	Ortho Vitros Microslide Systems
	mg/dl	285	240	330	22.50	45.00	
UIBC	µmol/l	10.9	8.92	12.9	0.99	1.98	Direct Colorimetric
	µg/dl	60.9	49.9	71.9	5.50	11.00	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Ortho Vitros Microslide Systems
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease end point
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.4	17.4	23.4	1.50	3.00	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	19.7	16.7	22.7	1.50	3.00	Urease hypochlorite
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
	mg/dl	57.3	48.7	65.9	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.51	0.45	0.58	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.62	7.49	9.75	0.57	1.13	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.06	7.88	10.2	0.59	1.18	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.34	8.13	10.6	0.61	1.21	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.60	0.03	0.07	Spectrophotometric at 280-290
	mg/dl	8.99	7.83	10.2	0.58	1.16	
	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.14	7.95	10.3	0.60	1.19	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Vitamin B12	pmol/l	252	202	302	25.00	50.00	Roche Cobas E411
	pg/ml	341	274	408	33.50	67.00	
Zinc	µmol/l	39.4	31.6	47.2	3.90	7.80	Atomic absorption
	µg/dl	257	206	308	25.50	51.00	
	µmol/l	39.4	31.5	47.3	3.95	7.90	Colorimetric with deproteinisation
	µg/dl	257	206	308	25.50	51.00	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.7	26.1	35.3	2.30	4.60	Bromocresol Green
	g/dl	3.07	2.61	3.53	0.23	0.46	
Alkaline Phosphatase	U/l	315	268	362	23.50	47.00	AMP optimised to IFCC 37℃
	U/l	245	209	281	18.00	36.00	AMP optimised to IFCC 30℃
	U/l	201	171	231	15.00	30.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37℃
	U/l	118	94	142	12.00	24.00	Tris buffer without P5P 30℃
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	151	121	181	15.00	30.00	Tris buffer without P5P 37℃
	U/l	102	82	122	10.00	20.00	Tris buffer without P5P 30℃
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	18.4	14.6	22.2	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	31.4	24.8	38.0	3.30	6.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.84	1.45	2.23	0.20	0.39	
Bilirubin Total	µmol/l	86.4	68.2	105	9.10	18.20	Diazo with Sulphanilic Acid
	mg/dl	5.05	3.99	6.11	0.53	1.06	
	µmol/l	88.5	70.0	107	9.25	18.50	Oxidation to Biliverdin/Vanadate
	mg/dl	5.18	4.10	6.26	0.54	1.08	
Calcium	mmol/l	3.20	2.88	3.52	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.8	11.5	14.1	0.65	1.30	
	mmol/l	3.13	2.82	3.44	0.16	0.31	Arsenazo III
	mg/dl	12.5	11.3	13.7	0.60	1.20	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.56	6.58	8.54	0.49	0.98	Cholesterol Oxidase
	mg/dl	292	254	330	19.00	38.00	
Cholinesterase	U/l	5765	4612	6918	576.50	1153.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	489	401	577	44.00	88.00	CK-NAC (IFCC) 37℃
	U/l	306	251	361	27.50	55.00	CK-NAC (IFCC) 30℃
	U/l	208	170	246	19.00	38.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	367	294	440	36.50	73.00	Alkaline picrate with deproteinization
	mg/dl	4.15	3.32	4.98	0.42	0.83	
	µmol/l	355	284	426	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	4.01	3.21	4.81	0.40	0.80	
	µmol/l	372	297	447	37.50	75.00	Creatinine PAP method
	mg/dl	4.20	3.36	5.04	0.42	0.84	
	µmol/l	363	291	435	36.00	72.00	Jaffe rate blanked
	mg/dl	4.10	3.29	4.91	0.41	0.81	
gamma-GT	U/l	166	141	191	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	131	111	151	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	102	87	117	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	172	146	198	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	136	115	157	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	106	90	122	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
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	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.66	2.26	3.06	0.20	0.40	Direct HDL Immunoseparation
	mg/dl	103	87.2	119	7.90	15.80	
Iron	µmol/l	38.3	31.4	45.2	3.45	6.90	Colorimetric with ppt.
	µg/dl	214	176	252	19.00	38.00	
	µmol/l	40.7	33.4	48.0	3.65	7.30	Colorimetric without ppt.
	µg/dl	228	187	269	20.50	41.00	
Lactate	mmol/l	5.04	4.14	5.94	0.45	0.90	Colorimetric Lactate Oxidase
	mg/dl	45.4	37.3	53.5	4.05	8.10	
LD (LDH)	U/l	732	623	841	54.50	109.00	P->L SFBC 37℃
	U/l	529	450	608	39.50	79.00	P->L SFBC 30℃
	U/l	371	316	426	27.50	55.00	P->L SFBC 25℃
	U/l	372	316	428	28.00	56.00	L->P IFCC 37℃
	U/l	269	228	310	20.50	41.00	L->P IFCC 30℃
	U/l	189	160	218	14.50	29.00	L->P IFCC 25℃
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Calmagite
	mg/dl	4.13	3.65	4.61	0.24	0.48	
	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	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.07	6.01	8.13	0.53	1.06	
	mmol/l	2.13	1.81	2.45	0.16	0.32	Phosphomolybdate UV
	mg/dl	6.60	5.61	7.59	0.50	0.99	
Protein Total	g/l	48.9	39.1	58.7	4.90	9.80	Biuret reaction end point
	g/dl	4.89	3.91	5.87	0.49	0.98	
TIBC	µmol/l	52.7	41.6	63.8	5.55	11.10	FE+UIBC(saturation with iron)
	µg/dl	295	233	357	31.00	62.00	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.84	2.39	3.29	0.23	0.45	Lipase/GPO-PAP no correction
	mg/dl	251	212	290	19.50	39.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	252	212	292	20.00	40.00	
	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	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	255	214	296	20.50	41.00	
Urea	mmol/l	20.5	17.4	23.6	1.55	3.10	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	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	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.07	7.90	10.2	0.59	1.17	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			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	288	245	331	21.50	43.00	AMP optimised to IFCC 37℃
	U/l	224	191	257	16.50	33.00	AMP optimised to IFCC 30℃
	U/l	184	157	211	13.50	27.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37℃
	U/l	118	94	142	12.00	24.00	Tris buffer without P5P 30℃
	U/l	90	72	108	9.00	18.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	151	121	181	15.00	30.00	Tris buffer without P5P 37℃
	U/l	102	82	122	10.00	20.00	Tris buffer without P5P 30℃
	U/l	72	58	86	7.00	14.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	31.9	25.2	38.6	3.35	6.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.87	1.47	2.27	0.20	0.40	
Bilirubin Total	µmol/l	83.6	66.0	101	8.80	17.60	Diazo with Dichloroaniline (DCA)
	mg/dl	4.89	3.86	5.92	0.52	1.03	
	µmol/l	93.1	73.5	113	9.80	19.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.45	4.30	6.60	0.58	1.15	
	µmol/l	98.1	77.5	119	10.30	20.60	Oxidation to Biliverdin/Vanadate
	mg/dl	5.74	4.53	6.95	0.61	1.21	
Calcium	mmol/l	3.01	2.71	3.31	0.15	0.30	Cresolphthalein complexone
	mg/dl	12.1	10.9	13.3	0.60	1.20	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	107	98.0	116	4.50	9.00	Colorimetric
Cholesterol	mmol/l	7.78	6.77	8.79	0.51	1.01	Cholesterol Oxidase
	mg/dl	300	261	339	19.50	39.00	
CK Total	U/l	498	409	587	44.50	89.00	CK-NAC (IFCC) 37℃
	U/l	312	256	368	28.00	56.00	CK-NAC (IFCC) 30℃
	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 25℃
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	
gamma-GT	U/l	177	150	204	13.50	27.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	139	118	160	10.50	21.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	109	93	125	8.00	16.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose oxidase
	mg/dl	283	241	325	21.00	42.00	
Iron	µmol/l	41.5	34.1	48.9	3.70	7.40	Colorimetric without ppt.
	µg/dl	232	191	273	20.50	41.00	
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	
Protein Total	g/l	48.0	38.4	57.6	4.80	9.60	Biuret reaction end point
	g/dl	4.80	3.84	5.76	0.48	0.96	
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	
Urea	mmol/l	20.6	17.5	23.7	1.55	3.10	Urease kinetic
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	20.6	17.5	23.7	1.55	3.10	BUN
	mg/dl	57.8	49.1	66.5	4.35	8.70	

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PRESTIGE 24i

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.14	7.95	10.3	0.60	1.19	
	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	9.21	8.01	10.4	0.60	1.20	

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.3	26.6	36.0	2.35	4.70	Bromocresol Green
	g/dl	3.13	2.66	3.60	0.24	0.47	
	g/l	30.9	26.2	35.6	2.35	4.70	Bromocresol Purple
	g/dl	3.09	2.62	3.56	0.24	0.47	
	g/l	27.6	23.5	31.7	2.05	4.10	Turbidimetric Assays
	g/dl	2.76	2.35	3.17	0.21	0.41	
Alkaline Phosphatase	U/l	250	213	287	18.50	37.00	Roche Integra AMP buffer 37℃
	U/l	195	166	224	14.50	29.00	Roche Integra AMP buffer 30℃
	U/l	160	136	184	12.00	24.00	Roche Integra AMP buffer 25℃
	U/l	252	215	289	18.50	37.00	AMP optimised to IFCC 37℃
	U/l	196	167	225	14.50	29.00	AMP optimised to IFCC 30℃
	U/l	161	137	185	12.00	24.00	AMP optimised to IFCC 25℃
	U/l	251	213	289	19.00	38.00	Colorimetric 37℃
	U/l	196	166	226	15.00	30.00	Colorimetric 30℃
	U/l	160	136	184	12.00	24.00	Colorimetric 25℃
ALT (GPT)	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37℃
	U/l	109	87	131	11.00	22.00	Tris buffer without P5P 30℃
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	246	209	283	18.50	37.00	Immunoinhibition EPS substrate 37℃
	U/l	244	207	281	18.50	37.00	Roche EPS Liquid 37℃
Amylase Total	U/l	266	226	306	20.00	40.00	Randox Liquid Ethylidene pNPG7 37℃

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	267	227	307	20.00	40.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	268	228	308	20.00	40.00	Other Roche 2-chloro-pNPG7 37℃
	U/l	266	227	305	19.50	39.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	142	114	170	14.00	28.00	Tris buffer without P5P 37℃
	U/l	96	77	115	9.50	19.00	Tris buffer without P5P 30℃
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	17.2	13.6	20.8	1.80	3.60	Colorimetric
	mmol/l	17.3	13.7	20.9	1.80	3.60	Enzymatic
Bile Acids	µmol/l	46.2	37.0	55.4	4.60	9.20	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.8	22.8	34.8	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	29.0	22.9	35.1	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.70	1.34	2.06	0.18	0.36	
	µmol/l	28.5	22.5	34.5	3.00	6.00	Roche JG factored
	mg/dl	1.67	1.32	2.02	0.18	0.35	
	µmol/l	28.0	22.1	33.9	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	1.29	1.99	0.18	0.35	
Bilirubin Total	µmol/l	81.2	64.1	98.3	8.55	17.10	Diazo with Dichloroaniline (DCA)
	mg/dl	4.75	3.75	5.75	0.50	1.00	
	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	79.0	62.4	95.6	8.30	16.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.62	3.65	5.59	0.49	0.97	
	µmol/l	81.4	64.3	98.5	8.55	17.10	Nitrobenzenediazonium salt
	mg/dl	4.76	3.76	5.76	0.50	1.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	79.5	62.8	96.2	8.35	16.70	Diazonium ion
	mg/dl	4.65	3.67	5.63	0.49	0.98	
Calcium	mmol/l	3.14	2.82	3.46	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.6	11.3	13.9	0.65	1.30	
	mmol/l	3.16	2.84	3.48	0.16	0.32	Arsenazo III
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.13	2.81	3.45	0.16	0.32	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.41	6.45	8.37	0.48	0.96	Cholesterol Oxidase
	mg/dl	286	249	323	18.50	37.00	
Cholinesterase	U/l	5541	4433	6649	554.00	1108.00	Colorimetric Benzoylcholine 37℃
	U/l	5367	4294	6440	536.50	1073.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	470	385	555	42.50	85.00	CK-NAC serum start (DGKC) 37℃
	U/l	294	241	347	26.50	53.00	CK-NAC serum start (DGKC) 30°C
	U/l	200	164	236	18.00	36.00	CK-NAC serum start (DGKC) 25°C
	U/l	471	386	556	42.50	85.00	CK-NAC substrate start (DGKC) 37℃
	U/l	295	242	348	26.50	53.00	CK-NAC substrate start (DGKC) 30℃
	U/l	200	164	236	18.00	36.00	CK-NAC substrate start (DGKC) 25℃
	U/l	474	389	559	42.50	85.00	CK-NAC (IFCC) 37℃
	U/l	297	244	350	26.50	53.00	CK-NAC (IFCC) 30℃
	U/l	201	165	237	18.00	36.00	CK-NAC (IFCC) 25℃
	U/l	495	406	584	44.50	89.00	Creatinine phosphate substrate Start 37℃
	U/l	310	254	366	28.00	56.00	Creatinine phosphate substrate Start 30℃
	U/l	210	173	247	18.50	37.00	Creatinine phosphate substrate Start 25℃

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Copper	µmol/l	26.6	21.3	31.9	2.65	5.30	Colorimetric
	µg/dl	169	135	203	17.00	34.00	
Creatinine	µmol/l	384	307	461	38.50	77.00	Alkaline picrate with deproteinization
	mg/dl	4.34	3.47	5.21	0.44	0.87	
	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	
	µmol/l	396	316	476	40.00	80.00	Enzymatic UV method
	mg/dl	4.47	3.57	5.37	0.45	0.90	
	µmol/l	385	308	462	38.50	77.00	Creatinine PAP method
	mg/dl	4.35	3.48	5.22	0.44	0.87	
	µmol/l	394	315	473	39.50	79.00	Roche Creatinine Plus
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	µmol/l	387	310	464	38.50	77.00	Jaffe rate blanked
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	381	305	457	38.00	76.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.31	3.45	5.17	0.43	0.86	
	µmol/l	387	310	464	38.50	77.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	393	314	472	39.50	79.00	IDMS traceable
	mg/dl	4.44	3.55	5.33	0.45	0.89	
Free T4	pmol/l	74.6	55.9	93.3	9.35	18.70	Roche Cobas 6000/8000
	ng/dl	5.82	4.36	7.28	0.73	1.46	
	pg/ml	58.2	43.6	72.8	7.30	14.60	Roche Cobas 6000/8000
gamma-GT	U/l	164	139	189	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	129	110	148	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	183	155	211	14.00	28.00	Gamma glutamyl-4-nitroanilide 37℃
	U/l	144	122	166	11.00	22.00	Gamma glutamyl-4-nitroanilide 30℃
	U/l	113	96	130	8.50	17.00	Gamma glutamyl-4-nitroanilide 25℃
	U/l	177	150	204	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	139	118	160	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	109	93	125	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose dehydrogenase
	mg/dl	281	240	322	20.50	41.00	
	mmol/l	15.4	13.1	17.7	1.15	2.30	Hexokinase
	mg/dl	278	236	320	21.00	42.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
Iron	µmol/l	41.0	33.6	48.4	3.70	7.40	Colorimetric with ppt.
	µg/dl	229	188	270	20.50	41.00	
	µmol/l	41.4	33.9	48.9	3.75	7.50	Colorimetric without ppt.
	µg/dl	231	190	272	20.50	41.00	
Lactate	mmol/l	5.13	4.21	6.05	0.46	0.92	Colorimetric Lactate Oxidase
	mg/dl	46.2	37.9	54.5	4.15	8.30	
LD (LDH)	U/l	374	318	430	28.00	56.00	L->P 37℃
	U/l	270	230	310	20.00	40.00	L->P 30℃
	U/l	190	161	219	14.50	29.00	L->P 25℃
	U/l	714	607	821	53.50	107.00	P->L Scandinavian & Dutch 37℃
	U/l	516	438	594	39.00	78.00	P->L Scandinavian & Dutch 30°C
	U/l	362	308	416	27.00	54.00	P->L Scandinavian & Dutch 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	711	605	817	53.00	106.00	P->L German methods 37℃
	U/l	513	437	589	38.00	76.00	P->L German methods 30℃
	U/l	360	307	413	26.50	53.00	P->L German methods 25℃
	U/l	375	319	431	28.00	56.00	L->P IFCC 37℃
	U/l	271	230	312	20.50	41.00	L->P IFCC 30℃
	U/l	190	162	218	14.00	28.00	L->P IFCC 25℃
Lipase	U/l	58	46	70	6.00	12.00	Other Colorimetric 37℃
	U/l	57	46	68	5.50	11.00	Roche Colorimetric 37℃
	U/l	58	46	70	6.00	12.00	Roche Turbidimetric with colipase 37℃
Lithium	mmol/l	2.03	1.78	2.28	0.13	0.25	Ion selective electrode
	mg/dl	1.41	1.24	1.58	0.09	0.17	
	mmol/l	2.05	1.81	2.29	0.12	0.24	Spectrophotometric
	mg/dl	1.42	1.26	1.58	0.08	0.16	
Magnesium	mmol/l	1.76	1.55	1.97	0.11	0.21	Arsenazo III
	mg/dl	4.28	3.77	4.79	0.26	0.51	
	mmol/l	1.81	1.59	2.03	0.11	0.22	Atomic absorption
	mg/dl	4.40	3.86	4.94	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	1.80	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	352	281	423	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.20	1.87	2.53	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.82	5.80	7.84	0.51	1.02	
	mmol/l	2.21	1.88	2.54	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.85	5.83	7.87	0.51	1.02	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.32	5.81	6.83	0.26	0.51	ISE method - indirect
Protein Total	g/l	46.3	37.1	55.5	4.60	9.20	Biuret reaction end point
	g/dl	4.63	3.71	5.55	0.46	0.92	
	g/l	46.2	36.9	55.5	4.65	9.30	Biuret reaction kinetic
	g/dl	4.62	3.69	5.55	0.47	0.93	
PSA Total	ng/ml =	26.7	20.0	33.4	3.35	6.70	Roche Cobas 6000/8000
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.42	1.13	1.71	0.15	0.29	Roche Elecsys
	µU/ml =	1.41	1.13	1.69	0.14	0.28	Roche Cobas 6000/8000
TIBC	µmol/l	52.3	41.3	63.3	5.50	11.00	FE+UIBC(saturation with iron)
	µg/dl	292	231	353	30.50	61.00	
	µmol/l	43.4	34.3	52.5	4.55	9.10	Calculated from Transferrin
	µg/dl	243	192	294	25.50	51.00	
Total T3	nmol/l	4.13	3.10	5.16	0.52	1.03	Roche Cobas 6000/8000
	ng/ml	2.69	2.02	3.36	0.34	0.67	
	ng/dl	269	202	336	33.50	67.00	Roche Cobas 6000/8000
Total T4	nmol/l	190	143	237	23.50	47.00	Roche Cobas 6000/8000
	µg/dl	14.8	11.2	18.4	1.80	3.60	
	ng/ml	148	112	184	18.00	36.00	Roche Cobas 6000/8000
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	2.91	2.45	3.37	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.90	2.44	3.36	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	257	216	298	20.50	41.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.90	2.43	3.37	0.24	0.47	Lipase/Glycerol Dehydrogenase
	mg/dl	257	215	299	21.00	42.00	
UIBC	µmol/l	10.6	8.71	12.5	0.94	1.89	Direct Colorimetric
	µg/dl	59.3	48.7	69.9	5.30	10.60	
Urea	mmol/l	20.2	17.2	23.2	1.50	3.00	Urease end point
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease kinetic
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
	mg/dl	57.3	48.7	65.9	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase catalase 340nm
	mg/dl	8.90	7.74	10.1	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.92	7.76	10.1	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.89	7.73	10.1	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.89	7.73	10.1	0.58	1.16	
Zinc	µmol/l	37.1	29.7	44.5	3.70	7.40	Colorimetric with deproteinisation
	µg/dl	242	194	290	24.00	48.00	

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.0	26.4	35.6	2.30	4.60	Bromocresol Green
	g/dl	3.10	2.64	3.56	0.23	0.46	
Alkaline Phosphatase	U/l	263	224	302	19.50	39.00	Roche Integra AMP buffer 37℃
	U/l	205	174	236	15.50	31.00	Roche Integra AMP buffer 30℃
	U/l	168	143	193	12.50	25.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37℃
	U/l	107	86	128	10.50	21.00	Tris buffer without P5P 30℃
	U/l	82	65	99	8.50	17.00	Tris buffer without P5P 25℃
Amylase Total	U/l	280	238	322	21.00	42.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37℃
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30℃
	U/l	67	53	81	7.00	14.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	29.8	23.5	36.1	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.74	1.37	2.11	0.19	0.37	
	µmol/l	29.3	23.1	35.5	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	29.0	22.9	35.1	3.05	6.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.70	1.34	2.06	0.18	0.36	
Bilirubin Total	µmol/l	79.4	62.8	96.0	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.64	3.67	5.61	0.49	0.97	
	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	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	78.3	61.8	94.8	8.25	16.50	Diazonium ion
	mg/dl	4.58	3.62	5.54	0.48	0.96	
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	3.15	2.83	3.47	0.16	0.32	NM-BAPTA
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.54	6.56	8.52	0.49	0.98	Cholesterol Oxidase
	mg/dl	291	253	329	19.00	38.00	
CK Total	U/l	492	404	580	44.00	88.00	CK-NAC (IFCC) 37℃
	U/l	308	253	363	27.50	55.00	CK-NAC (IFCC) 30℃
	U/l	209	172	246	18.50	37.00	CK-NAC (IFCC) 25℃
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	373	298	448	37.50	75.00	Roche Creatinine Plus
	mg/dl	4.21	3.37	5.05	0.42	0.84	
	µmol/l	346	277	415	34.50	69.00	Jaffe rate blanked
	mg/dl	3.91	3.13	4.69	0.39	0.78	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	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	
gamma-GT	U/l	171	145	197	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	135	114	156	10.50	21.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	106	89	123	8.50	17.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃

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RANDOX

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	167	142	192	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	132	112	152	10.00	20.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	103	88	118	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
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	3.30	2.81	3.79	0.25	0.49	Direct HDL PEGME
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	3.38	2.87	3.89	0.26	0.51	Direct HDL Roche 3rd generation
	mg/dl	130	111	149	9.50	19.00	
Iron	µmol/l	40.9	33.6	48.2	3.65	7.30	Colorimetric without ppt.
	µg/dl	229	188	270	20.50	41.00	
LD (LDH)	U/l	378	321	435	28.50	57.00	L->P IFCC 37℃
	U/l	273	232	314	20.50	41.00	L->P IFCC 30℃
	U/l	192	163	221	14.50	29.00	L->P IFCC 25℃
Lipase	U/l	65	52	78	6.50	13.00	Roche Colorimetric 37℃
Magnesium	mmol/l	1.80	1.59	2.01	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.37	3.86	4.88	0.26	0.51	
Phosphate Inorganic	mmol/l	2.27	1.93	2.61	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.04	5.98	8.10	0.53	1.06	
Potassium	mmol/l	6.16	5.66	6.66	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.2	37.8	56.6	4.70	9.40	Biuret reaction end point
	g/dl	4.72	3.78	5.66	0.47	0.94	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	2.91	2.44	3.38	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	258	216	300	21.00	42.00	

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	254	213	295	20.50	41.00	
	mmol/l	2.58	2.17	2.99	0.21	0.41	Lipase/Glycerol Dehydrogenase
	mg/dl	228	192	264	18.00	36.00	
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	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.14	7.96	10.3	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.87	7.73	10.0	0.57	1.14	

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.1	26.4	35.8	2.35	4.70	Bromocresol Green
	g/dl	3.11	2.64	3.58	0.24	0.47	
	g/l	31.0	26.4	35.6	2.30	4.60	Bromocresol Purple
	g/dl	3.10	2.64	3.56	0.23	0.46	
Alkaline Phosphatase	U/l	245	208	282	18.50	37.00	Roche Integra AMP buffer 37℃
	U/l	191	162	220	14.50	29.00	Roche Integra AMP buffer 30℃
	U/l	157	133	181	12.00	24.00	Roche Integra AMP buffer 25℃
	U/l	255	216	294	19.50	39.00	AMP optimised to IFCC 37℃
	U/l	199	168	230	15.50	31.00	AMP optimised to IFCC 30℃
	U/l	163	138	188	12.50	25.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	148	118	178	15.00	30.00	Tris buffer without P5P 37℃
	U/l	110	87	133	11.50	23.00	Tris buffer without P5P 30℃
	U/l	83	66	100	8.50	17.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	260	221	299	19.50	39.00	Immunoinhibition EPS substrate 37℃
	U/l	248	211	285	18.50	37.00	Roche EPS Liquid 37℃
Amylase Total	U/l	279	237	321	21.00	42.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	270	229	311	20.50	41.00	Other Roche 2-chloro-pNPG7 37℃
	U/l	270	229	311	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37℃
	U/l	97	77	117	10.00	20.00	Tris buffer without P5P 30℃
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25℃

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bicarbonate	mmol/l	16.3	12.9	19.7	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	27.1	21.4	32.8	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.59	1.25	1.93	0.17	0.34	
	µmol/l	28.2	22.3	34.1	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.65	1.30	2.00	0.18	0.35	
	µmol/l	27.8	21.9	33.7	2.95	5.90	Roche JG factored
	mg/dl	1.63	1.28	1.98	0.18	0.35	
Bilirubin Total	µmol/l	79.2	62.6	95.8	8.30	16.60	Diazo with Sulphanilic Acid
	mg/dl	4.63	3.66	5.60	0.49	0.97	
	µmol/l	80.2	63.3	97.1	8.45	16.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	80.8	63.8	97.8	8.50	17.00	Diazonium ion
	mg/dl	4.73	3.73	5.73	0.50	1.00	
Calcium	mmol/l	3.14	2.83	3.45	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.6	11.3	13.9	0.65	1.30	
	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	
	mmol/l	3.14	2.83	3.45	0.16	0.31	NM-BAPTA
	mg/dl	12.6	11.3	13.9	0.65	1.30	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.50	6.53	8.47	0.49	0.97	Cholesterol Oxidase
	mg/dl	290	252	328	19.00	38.00	
Cholinesterase	U/l	5341	4273	6409	534.00	1068.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	498	408	588	45.00	90.00	CK-NAC substrate start (DGKC) 37℃
	U/l	312	255	369	28.50	57.00	CK-NAC substrate start (DGKC) 30℃
	U/l	212	173	251	19.50	39.00	CK-NAC substrate start (DGKC) 25℃

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	490	402	578	44.00	88.00	CK-NAC (IFCC) 37℃
	U/l	307	252	362	27.50	55.00	CK-NAC (IFCC) 30℃
	U/l	208	171	245	18.50	37.00	CK-NAC (IFCC) 25℃
	U/l	486	399	573	43.50	87.00	Creatinine phosphate substrate Start 37℃
	U/l	304	250	358	27.00	54.00	Creatinine phosphate substrate Start 30℃
	U/l	207	170	244	18.50	37.00	Creatinine phosphate substrate Start 25℃
Creatinine	µmol/l	386	309	463	38.50	77.00	Alkaline picrate no deproteinization
	mg/dl	4.36	3.49	5.23	0.44	0.87	
	µmol/l	393	315	471	39.00	78.00	Roche Creatinine Plus
	mg/dl	4.44	3.56	5.32	0.44	0.88	
	µmol/l	386	308	464	39.00	78.00	Jaffe rate blanked
	mg/dl	4.36	3.48	5.24	0.44	0.88	
	µmol/l	386	309	463	38.50	77.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.36	3.49	5.23	0.44	0.87	
	µmol/l	387	310	464	38.50	77.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.37	3.50	5.24	0.44	0.87	
gamma-GT	U/l	162	137	187	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	128	108	148	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	138	117	159	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	108	92	124	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.6	13.2	18.0	1.20	2.40	Hexokinase
	mg/dl	281	238	324	21.50	43.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.27	2.78	3.76	0.25	0.49	Direct HDL PEGME
	mg/dl	126	107	145	9.50	19.00	
	mmol/l	3.33	2.83	3.83	0.25	0.50	Direct HDL Roche 3rd generation
	mg/dl	129	109	149	10.00	20.00	
Iron	µmol/l	41.2	33.8	48.6	3.70	7.40	Colorimetric with ppt.
	µg/dl	230	189	271	20.50	41.00	
	µmol/l	41.0	33.7	48.3	3.65	7.30	Colorimetric without ppt.
	µg/dl	229	188	270	20.50	41.00	
Lactate	mmol/l	5.15	4.22	6.08	0.47	0.93	Colorimetric Lactate Oxidase
	mg/dl	46.4	38.0	54.8	4.20	8.40	
LD (LDH)	U/l	368	313	423	27.50	55.00	L->P 37℃
	U/l	266	226	306	20.00	40.00	L->P 30℃
	U/l	187	159	215	14.00	28.00	L->P 25℃
	U/l	709	603	815	53.00	106.00	P->L German methods 37℃
	U/l	512	435	589	38.50	77.00	P->L German methods 30℃
	U/l	359	306	412	26.50	53.00	P->L German methods 25℃
	U/l	374	318	430	28.00	56.00	L->P IFCC 37℃
	U/l	270	230	310	20.00	40.00	L->P IFCC 30℃
	U/l	190	161	219	14.50	29.00	L->P IFCC 25℃
Lipase	U/l	57	45	69	6.00	12.00	Roche Colorimetric 37℃
	U/l	59	47	71	6.00	12.00	Roche Turbidimetric with colipase 37℃
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. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	1.78	1.56	2.00	0.11	0.22	Atomic absorption
	mg/dl	4.33	3.79	4.87	0.27	0.54	
	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	1.80	1.59	2.01	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.37	3.86	4.88	0.26	0.51	
Phosphate Inorganic	mmol/l	2.25	1.91	2.59	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	6.98	5.92	8.04	0.53	1.06	
	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	
Potassium	mmol/l	6.32	5.82	6.82	0.25	0.50	ISE method - indirect
Protein Total	g/l	46.4	37.1	55.7	4.65	9.30	Biuret reaction end point
	g/dl	4.64	3.71	5.57	0.47	0.93	
	g/l	46.2	36.9	55.5	4.65	9.30	Biuret reaction kinetic
	g/dl	4.62	3.69	5.55	0.47	0.93	
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	53.0	41.8	64.2	5.60	11.20	FE+UIBC(saturation with iron)
	µg/dl	296	234	358	31.00	62.00	
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	2.93	2.46	3.40	0.24	0.47	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	259	218	300	20.50	41.00	
	mmol/l	2.94	2.47	3.41	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	260	219	301	20.50	41.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	255	214	296	20.50	41.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
UIBC	µmol/l	12.4	10.2	14.6	1.10	2.20	Direct Colorimetric
	µg/dl	69.3	57.0	81.6	6.15	12.30	
Urea	mmol/l	20.8	17.7	23.9	1.55	3.10	Urease end point
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.5	17.5	23.5	1.50	3.00	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.00	7.85	10.2	0.58	1.15	
	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	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.02	7.85	10.2	0.59	1.17	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	31.0	26.4	35.6	2.30	4.60	Bromocresol Green
	g/dl	3.10	2.64	3.56	0.23	0.46	
Alkaline Phosphatase	U/l	242	205	279	18.50	37.00	Roche Integra AMP buffer 37℃
	U/l	189	160	218	14.50	29.00	Roche Integra AMP buffer 30℃
	U/l	155	131	179	12.00	24.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	150	120	180	15.00	30.00	Tris buffer without P5P 37℃
	U/l	111	89	133	11.00	22.00	Tris buffer without P5P 30℃
	U/l	84	68	100	8.00	16.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	237	202	272	17.50	35.00	Immunoinhibition EPS substrate 37℃
	U/l	251	214	288	18.50	37.00	Roche EPS Liquid 37℃
Amylase Total	U/l	267	227	307	20.00	40.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	142	113	171	14.50	29.00	Tris buffer without P5P 37℃
	U/l	96	76	116	10.00	20.00	Tris buffer without P5P 30℃
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	18.2	14.4	22.0	1.90	3.80	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	
Bilirubin Total	µmol/l	83.4	65.9	101	8.75	17.50	Diazo with Sulphanilic Acid
	mg/dl	4.88	3.86	5.90	0.51	1.02	
	µmol/l	78.9	62.3	95.5	8.30	16.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.62	3.64	5.60	0.49	0.98	

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	79.9	63.1	96.7	8.40	16.80	Diazonium ion
	mg/dl	4.67	3.69	5.65	0.49	0.98	
Calcium	mmol/l	3.15	2.84	3.46	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.6	11.4	13.8	0.60	1.20	
	mmol/l	3.13	2.81	3.45	0.16	0.32	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	111	103	119	4.00	8.00	ISE indirect
Cholesterol	mmol/l	7.37	6.41	8.33	0.48	0.96	Cholesterol Oxidase
	mg/dl	284	247	321	18.50	37.00	
Cholinesterase	U/l	5431	4345	6517	543.00	1086.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	465	381	549	42.00	84.00	CK-NAC substrate start (DGKC) 37℃
	U/l	291	239	343	26.00	52.00	CK-NAC substrate start (DGKC) 30℃
	U/l	198	162	234	18.00	36.00	CK-NAC substrate start (DGKC) 25℃
	U/l	456	374	538	41.00	82.00	CK-NAC (IFCC) 37℃
	U/l	285	234	336	25.50	51.00	CK-NAC (IFCC) 30℃
	U/l	194	159	229	17.50	35.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	399	319	479	40.00	80.00	Roche Creatinine Plus
	mg/dl	4.51	3.60	5.42	0.46	0.91	
	µmol/l	388	310	466	39.00	78.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.38	3.50	5.26	0.44	0.88	
	µmol/l	374	299	449	37.50	75.00	IDMS traceable
	mg/dl	4.23	3.38	5.08	0.43	0.85	
gamma-GT	U/l	159	135	183	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	125	106	144	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	98	83	113	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	138	117	159	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	108	92	124	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.37	2.87	3.87	0.25	0.50	Direct HDL Roche 3rd generation
	mg/dl	130	111	149	9.50	19.00	
Iron	µmol/l	40.2	33.0	47.4	3.60	7.20	Colorimetric without ppt.
	µg/dl	225	184	266	20.50	41.00	
Lactate	mmol/l	5.06	4.15	5.97	0.46	0.91	Colorimetric Lactate Oxidase
	mg/dl	45.6	37.4	53.8	4.10	8.20	
LD (LDH)	U/l	376	320	432	28.00	56.00	L->P IFCC 37℃
	U/l	271	231	311	20.00	40.00	L->P IFCC 30℃
	U/l	191	162	220	14.50	29.00	L->P IFCC 25℃
Lipase	U/l	57	46	68	5.50	11.00	Roche Colorimetric 37℃
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	
	mmol/l	1.77	1.56	1.98	0.11	0.21	Chlorphosphonazo III
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Osmolality	mOsm/kg	355	284	426	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.19	1.86	2.52	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.79	5.77	7.81	0.51	1.02	
Potassium	mmol/l	6.33	5.82	6.84	0.26	0.51	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	

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Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	53.4	42.2	64.6	5.60	11.20	FE+UIBC(saturation with iron)
	µg/dl	299	236	362	31.50	63.00	
Triglycerides	mmol/l	2.92	2.46	3.38	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	258	218	298	20.00	40.00	
	mmol/l	2.91	2.45	3.37	0.23	0.46	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	258	217	299	20.50	41.00	
	mmol/l	2.94	2.47	3.41	0.24	0.47	L/G kinase EP. 0.11 mmol/l correction
	mg/dl	260	219	301	20.50	41.00	
UIBC	µmol/l	12.8	10.5	15.1	1.15	2.30	Direct Colorimetric
	µg/dl	71.6	58.7	84.5	6.45	12.90	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.1	17.1	23.1	1.50	3.00	BUN
	mg/dl	56.4	47.9	64.9	4.25	8.50	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.97	7.80	10.1	0.59	1.17	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.94	7.78	10.1	0.58	1.16	
	mmol/l	0.52	0.46	0.59	0.03	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.80	7.64	9.96	0.58	1.16	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	30.1	25.5	34.7	2.30	4.60	Bromocresol Green
	g/dl	3.01	2.55	3.47	0.23	0.46	
Alkaline Phosphatase	U/l	474	403	545	35.50	71.00	Diethanolamine buffer DEA 37°C
	U/l	320	272	368	24.00	48.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	287	244	330	21.50	43.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	296	252	340	22.00	44.00	Randox Liquid Ethylidene pNPG7 37℃
AST (GOT)	U/l	144	115	173	14.50	29.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	19.8	15.7	23.9	2.05	4.10	Enzymatic
Bile Acids	µmol/l	47.9	38.3	57.5	4.80	9.60	5th Generation Colorimetric
Bilirubin Direct	µmol/l	31.2	24.7	37.7	3.25	6.50	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	µmol/l	30.1	23.8	36.4	3.15	6.30	Oxidation to Biliverdin/Vanadate
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Bilirubin Total	µmol/l	90.5	71.5	110	9.50	19.00	Diazo with Sulphanilic Acid
	mg/dl	5.29	4.18	6.40	0.56	1.11	
	µmol/l	94.0	74.3	114	9.85	19.70	Oxidation to Biliverdin/Vanadate
	mg/dl	5.50	4.35	6.65	0.58	1.15	
Calcium	mmol/l	3.15	2.84	3.46	0.16	0.31	Arsenazo III
	mg/dl	12.6	11.4	13.8	0.60	1.20	
Chloride	mmol/l	111	102	120	4.50	9.00	ISE direct

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	7.91	6.89	8.93	0.51	1.02	Cholesterol Oxidase
	mg/dl	305	266	344	19.50	39.00	
CK Total	U/l	493	405	581	44.00	88.00	CK-NAC substrate start (DGKC) 37℃
	U/l	528	433	623	47.50	95.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	323	258	388	32.50	65.00	Alkaline picrate no deproteinization
	mg/dl	3.65	2.92	4.38	0.37	0.73	
	µmol/l	389	311	467	39.00	78.00	Enzymatic UV method
	mg/dl	4.40	3.51	5.29	0.45	0.89	
gamma-GT	U/l	183	156	210	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
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	16.0	13.6	18.4	1.20	2.40	Glucose oxidase
	mg/dl	288	245	331	21.50	43.00	
Iron	µmol/l	42.9	35.2	50.6	3.85	7.70	Colorimetric without ppt.
	µg/dl	240	197	283	21.50	43.00	
Lactate	mmol/l	4.97	4.08	5.86	0.45	0.89	Colorimetric Lactate Oxidase
	mg/dl	44.8	36.8	52.8	4.00	8.00	
LD (LDH)	U/l	774	658	890	58.00	116.00	P->L German methods 37℃
	U/l	345	293	397	26.00	52.00	L->P IFCC 37℃
Lipase	U/l	87	70	104	8.50	17.00	Randox Colorimetric 37℃
Lithium	mmol/l	2.04	1.80	2.28	0.12	0.24	Colorimetric
	mg/dl	1.42	1.25	1.59	0.09	0.17	
Magnesium	mmol/l	1.78	1.56	2.00	0.11	0.22	Xylidyl Blue
	mg/dl	4.33	3.79	4.87	0.27	0.54	
Phosphate Inorganic	mmol/l	2.23	1.89	2.57	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.91	5.86	7.96	0.53	1.05	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	6.13	5.64	6.62	0.25	0.49	Enzymatic
	mmol/l	6.09	5.60	6.58	0.25	0.49	ISE method - direct
Protein Total	g/l	47.1	37.7	56.5	4.70	9.40	Biuret reaction end point
	g/dl	4.71	3.77	5.65	0.47	0.94	
Sodium	mmol/l	156	148	164	4.00	8.00	Enzymatic
	mmol/l	158	150	166	4.00	8.00	ISE method - direct
TIBC	µmol/l	52.7	41.6	63.8	5.55	11.10	Direct Colorimetric
	µg/dl	295	233	357	31.00	62.00	
Triglycerides	mmol/l	2.87	2.41	3.33	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	254	213	295	20.50	41.00	
Urea	mmol/l	20.3	17.2	23.4	1.55	3.10	Urease kinetic
	mg/dl	122	103	141	9.50	19.00	
	mmol/l	20.3	17.3	23.3	1.50	3.00	BUN
	mg/dl	57.0	48.5	65.5	4.25	8.50	
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	9.27	8.06	10.5	0.61	1.21	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	29.1	24.7	33.5	2.20	4.40	Bromocresol Green
	g/dl	2.91	2.47	3.35	0.22	0.44	
Alkaline Phosphatase	U/l	388	330	446	29.00	58.00	Diethanolamine buffer DEA 37°C
	U/l	271	230	312	20.50	41.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	260	221	299	19.50	39.00	Immunoinhibition EPS substrate 37℃
Amylase Total	U/l	280	238	322	21.00	42.00	Siemens - blocked pNPG7 37℃
	U/l	282	240	324	21.00	42.00	Siemens - maltopenta/hexaoside 37℃
AST (GOT)	U/l	152	122	182	15.00	30.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	19.9	15.8	24.0	2.05	4.10	Enzymatic
Bile Acids	µmol/l	50.1	40.1	60.1	5.00	10.00	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	24.6	19.4	29.8	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.13	1.75	0.16	0.31	
	µmol/l	29.3	23.1	35.5	3.10	6.20	Oxidation to Biliverdin/Vanadate
	mg/dl	1.71	1.35	2.07	0.18	0.36	
Bilirubin Total	µmol/l	88.3	69.8	107	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.17	4.08	6.26	0.55	1.09	
	µmol/l	90.7	71.7	110	9.50	19.00	Oxidation to Biliverdin/Vanadate
	mg/dl	5.31	4.19	6.43	0.56	1.12	
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	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	3.05	2.75	3.35	0.15	0.30	Arsenazo III
	mg/dl	12.2	11.0	13.4	0.60	1.20	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.80	6.79	8.81	0.51	1.01	Cholesterol Oxidase
	mg/dl	301	262	340	19.50	39.00	
Cholinesterase	U/l	6381	5105	7657	638.00	1276.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	452	371	533	40.50	81.00	CK-NAC substrate start (DGKC) 37℃
	U/l	489	401	577	44.00	88.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	369	295	443	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.17	3.33	5.01	0.42	0.84	
	µmol/l	390	312	468	39.00	78.00	Enzymatic UV method
	mg/dl	4.41	3.53	5.29	0.44	0.88	
	µmol/l	387	310	464	38.50	77.00	Creatinine PAP method
	mg/dl	4.37	3.50	5.24	0.44	0.87	
	µmol/l	374	299	449	37.50	75.00	Jaffe rate blanked
	mg/dl	4.23	3.38	5.08	0.43	0.85	
	µmol/l	371	297	445	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	369	295	443	37.00	74.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.17	3.33	5.01	0.42	0.84	
gamma-GT	U/l	175	149	201	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
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	15.1	12.8	17.4	1.15	2.30	Glucose oxidase
	mg/dl	272	231	313	20.50	41.00	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	2.54	2.16	2.92	0.19	0.38	Direct HDL Immunoseparation
	mg/dl	98.0	83.4	113	7.30	14.60	
	mmol/l	2.54	2.16	2.92	0.19	0.38	Direct Clearance Method
	mg/dl	98.0	83.4	113	7.30	14.60	
Iron	µmol/l	43.4	35.6	51.2	3.90	7.80	Colorimetric with ppt.
	µg/dl	243	199	287	22.00	44.00	
	µmol/l	42.4	34.7	50.1	3.85	7.70	Colorimetric without ppt.
	µg/dl	237	194	280	21.50	43.00	
Lactate	mmol/l	4.99	4.09	5.89	0.45	0.90	Colorimetric Lactate Oxidase
	mg/dl	45.0	36.9	53.1	4.05	8.10	
LD (LDH)	U/l	368	313	423	27.50	55.00	L->P 37℃
	U/l	738	627	849	55.50	111.00	P->L German methods 37℃
	U/l	360	306	414	27.00	54.00	L->P IFCC 37℃
Lipase	U/l	79	64	94	7.50	15.00	Other Colorimetric 37℃
Lithium	mmol/l	1.96	1.72	2.20	0.12	0.24	Spectrophotometric
	mg/dl	1.36	1.19	1.53	0.09	0.17	
Magnesium	mmol/l	1.77	1.55	1.99	0.11	0.22	Xylidyl Blue
	mg/dl	4.30	3.77	4.83	0.27	0.53	
Phosphate Inorganic	mmol/l	2.23	1.89	2.57	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.91	5.86	7.96	0.53	1.05	
Potassium	mmol/l	6.30	5.80	6.80	0.25	0.50	ISE method - indirect
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction end point
	g/dl	4.75	3.80	5.70	0.48	0.95	
	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction kinetic
	g/dl	4.75	3.80	5.70	0.48	0.95	

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RANDOX

SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	161	153	169	4.00	8.00	ISE method - indirect
TIBC	µmol/l	50.6	40.0	61.2	5.30	10.60	Removal of excess free iron
	µg/dl	283	224	342	29.50	59.00	
	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	
	µmol/l	48.0	37.9	58.1	5.05	10.10	Direct Colorimetric
	µg/dl	268	212	324	28.00	56.00	
Triglycerides	mmol/l	3.04	2.55	3.53	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	269	226	312	21.50	43.00	
	mmol/l	2.93	2.46	3.40	0.24	0.47	L/G Kinase EP. no correction
	mg/dl	259	218	300	20.50	41.00	
Urea	mmol/l	20.8	17.6	24.0	1.60	3.20	Urease end point
	mg/dl	125	106	144	9.50	19.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	Urease kinetic
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	BUN
	mg/dl	58.1	49.4	66.8	4.35	8.70	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.22	8.03	10.4	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.12	7.93	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.12	7.93	10.3	0.60	1.19	

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RANDOX

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.8	23.7	31.9	2.05	4.10	Bromocresol Purple
	g/dl	2.78	2.37	3.19	0.21	0.41	
Alkaline Phosphatase	U/l	281	239	323	21.00	42.00	Siemens Dimension AMP buffer 37℃
	U/l	274	233	315	20.50	41.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	163	130	196	16.50	33.00	Tris buffer with P5P 37℃
	U/l	161	129	193	16.00	32.00	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Total	U/l	338	287	389	25.50	51.00	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/l	189	151	227	19.00	38.00	Tris buffer with P5P 37℃
	U/l	189	152	226	18.50	37.00	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	18.7	14.8	22.6	1.95	3.90	Enzymatic
Bilirubin Direct	µmol/l	17.5	13.9	21.1	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.02	0.813	1.23	0.10	0.21	
Bilirubin Total	µmol/l	84.4	66.7	102	8.85	17.70	Diazo with Sulphanilic Acid
	mg/dl	4.94	3.90	5.98	0.52	1.04	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.22	6.28	8.16	0.47	0.94	Dimension-Siemens reagents
	mg/dl	279	242	316	18.50	37.00	
Cholinesterase	U/l	9424	7539	10000	942.50	1885.00	Colorimetric - Butyrythiochol. Dimension 37℃
CK Total	U/l	466	382	550	42.00	84.00	CK-NAC (IFCC) 37℃

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	396	317	475	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.47	3.58	5.36	0.45	0.89	
	µmol/l	386	309	463	38.50	77.00	IDMS traceable
	mg/dl	4.36	3.49	5.23	0.44	0.87	
gamma-GT	U/l	194	165	223	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	213	181	245	16.00	32.00	Siemens Dimension (non IFCC) 37℃
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.51	2.99	4.03	0.26	0.52	Direct HDL PPD
	mg/dl	135	115	155	10.00	20.00	
	mmol/l	3.51	2.99	4.03	0.26	0.52	Direct HDL PEGME
	mg/dl	135	115	155	10.00	20.00	
Iron	µmol/l	39.7	32.6	46.8	3.55	7.10	Colorimetric with ppt.
	µg/dl	222	182	262	20.00	40.00	
	µmol/l	39.6	32.5	46.7	3.55	7.10	Colorimetric without ppt.
	µg/dl	221	182	260	19.50	39.00	
Lactate	mmol/l	5.04	4.14	5.94	0.45	0.90	Colorimetric Lactate Oxidase
	mg/dl	45.4	37.3	53.5	4.05	8.10	
LD (LDH)	U/l	359	305	413	27.00	54.00	Siemens Dimension L-P Non IFCC 37℃
	U/l	368	312	424	28.00	56.00	L->P IFCC 37℃
Lipase	U/l	261	209	313	26.00	52.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	1.77	1.56	1.98	0.11	0.21	Methylthymol blue
	mg/dl	4.30	3.79	4.81	0.26	0.51	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.10	6.05	8.15	0.53	1.05	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	2.28	1.93	2.63	0.18	0.35	Phosphomolybdate UV
	mg/dl	7.07	5.98	8.16	0.55	1.09	
Potassium	mmol/l	6.28	5.78	6.78	0.25	0.50	ISE method - indirect
Protein Total	g/l	48.5	38.8	58.2	4.85	9.70	Biuret reaction end point
	g/dl	4.85	3.88	5.82	0.49	0.97	
PSA Total	ng/ml =	23.9	18.0	29.8	2.95	5.90	Siemens Dimension
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.16	0.93	1.39	0.12	0.23	
TIBC	µmol/l	46.2	36.5	55.9	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	258	204	312	27.00	54.00	
	µmol/l	45.5	35.9	55.1	4.80	9.60	Direct Colorimetric
	µg/dl	254	201	307	26.50	53.00	
Triglycerides	mmol/l	2.89	2.42	3.36	0.24	0.47	Lipase/GPO-PAP no correction
	mg/dl	256	214	298	21.00	42.00	
	mmol/l	2.90	2.44	3.36	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	257	216	298	20.50	41.00	
	mmol/l	2.88	2.42	3.34	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	255	214	296	20.50	41.00	
Urea	mmol/l	21.0	17.9	24.1	1.55	3.10	Urease kinetic
	mg/dl	126	108	144	9.00	18.00	
	mmol/l	21.0	17.9	24.1	1.55	3.10	BUN
	mg/dl	58.9	50.1	67.7	4.40	8.80	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.12	7.95	10.3	0.59	1.17	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	7.93	10.3	0.59	1.18	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.04	7.86	10.2	0.59	1.18	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	27.4	23.3	31.5	2.05	4.10	Bromocresol Green
	g/dl	2.74	2.33	3.15	0.21	0.41	
	g/l	27.4	23.3	31.5	2.05	4.10	Bromocresol Purple
	g/dl	2.74	2.33	3.15	0.21	0.41	
Alkaline Phosphatase	U/l	273	232	314	20.50	41.00	Siemens Dimension AMP buffer 37℃
	U/l	273	232	314	20.50	41.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	164	131	197	16.50	33.00	Tris buffer with P5P 37℃
	U/l	162	130	194	16.00	32.00	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Total	U/l	338	287	389	25.50	51.00	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/l	192	153	231	19.50	39.00	Tris buffer with P5P 37℃
	U/l	190	152	228	19.00	38.00	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	19.2	15.3	23.1	1.95	3.90	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	84.5	66.7	102	8.90	17.80	Diazo with Sulphanilic Acid
	mg/dl	4.94	3.90	5.98	0.52	1.04	
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	
Chloride	mmol/l	115	106	124	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.15	6.22	8.08	0.47	0.93	Dimension-Siemens reagents
	mg/dl	276	240	312	18.00	36.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholinesterase	U/l	9394	7515	10000	939.50	1879.00	Colorimetric - Butyrythiochol. Dimension 37℃
CK Total	U/l	465	381	549	42.00	84.00	CK-NAC (IFCC) 37℃
	U/l	469	384	554	42.50	85.00	Dithioerythritol (DTE) IFCC correlated 37℃
Creatinine	µmol/l	394	315	473	39.50	79.00	Alkaline picrate no deproteinization
	mg/dl	4.45	3.56	5.34	0.45	0.89	
	µmol/l	383	306	460	38.50	77.00	Enzymatic UV method
	mg/dl	4.33	3.46	5.20	0.44	0.87	
	µmol/l	381	305	457	38.00	76.00	Creatinine PAP method
	mg/dl	4.31	3.45	5.17	0.43	0.86	
	µmol/l	392	313	471	39.50	79.00	Jaffe rate blanked
	mg/dl	4.43	3.54	5.32	0.45	0.89	
	µmol/l	396	317	475	39.50	79.00	IDMS traceable
	mg/dl	4.47	3.58	5.36	0.45	0.89	
gamma-GT	U/l	189	161	217	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	209	177	241	16.00	32.00	Siemens Dimension (non IFCC) 37℃
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Glucose dehydrogenase
	mg/dl	283	241	325	21.00	42.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.38	2.87	3.89	0.26	0.51	Direct HDL PPD
	mg/dl	130	111	149	9.50	19.00	
	mmol/l	3.24	2.76	3.72	0.24	0.48	Direct HDL Immunoseparation
	mg/dl	125	107	143	9.00	18.00	
	mmol/l	3.43	2.92	3.94	0.26	0.51	Direct HDL PEGME
	mg/dl	132	113	151	9.50	19.00	

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	3.51	2.99	4.03	0.26	0.52	Direct Clearance Method
	mg/dl	135	115	155	10.00	20.00	
Iron	µmol/l	39.6	32.5	46.7	3.55	7.10	Colorimetric with ppt.
	µg/dl	221	182	260	19.50	39.00	
	µmol/l	39.4	32.3	46.5	3.55	7.10	Colorimetric without ppt.
	µg/dl	220	181	259	19.50	39.00	
Lactate	mmol/l	5.27	4.32	6.22	0.48	0.95	Colorimetric Lactate Oxidase
	mg/dl	47.5	38.9	56.1	4.30	8.60	
	mmol/l	5.12	4.20	6.04	0.46	0.92	UV LDH
	mg/dl	46.1	37.8	54.4	4.15	8.30	
LD (LDH)	U/l	357	303	411	27.00	54.00	Siemens Dimension L-P Non IFCC 37℃
	U/l	362	308	416	27.00	54.00	L->P IFCC 37℃
Lipase	U/l	265	213	317	26.00	52.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	1.76	1.54	1.98	0.11	0.22	Xylidyl Blue
	mg/dl	4.28	3.74	4.82	0.27	0.54	
	mmol/l	1.76	1.55	1.97	0.11	0.21	Methylthymol blue
	mg/dl	4.28	3.77	4.79	0.26	0.51	
Osmolality	mOsm/kg	353	282	424	35.50	71.00	Calculated
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	6.94	5.89	7.99	0.53	1.05	
	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.19	5.70	6.68	0.25	0.49	ISE method - indirect
Protein Total	g/l	48.0	38.4	57.6	4.80	9.60	Biuret reaction end point
	g/dl	4.80	3.84	5.76	0.48	0.96	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	µmol/l	45.8	36.2	55.4	4.80	9.60	Removal of excess free iron
	µg/dl	256	202	310	27.00	54.00	
	µmol/l	46.1	36.5	55.7	4.80	9.60	FE+UIBC(saturation with iron)
	µg/dl	258	204	312	27.00	54.00	
	µmol/l	45.4	35.9	54.9	4.75	9.50	Direct Colorimetric
	µg/dl	254	201	307	26.50	53.00	
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	
	mmol/l	2.89	2.43	3.35	0.23	0.46	L/G Kinase EP. no correction
	mg/dl	256	215	297	20.50	41.00	
	mmol/l	2.85	2.39	3.31	0.23	0.46	Lipase/Glycerol Dehydrogenase
	mg/dl	252	212	292	20.00	40.00	
Urea	mmol/l	20.6	17.5	23.7	1.55	3.10	Urease end point
	mg/dl	124	105	143	9.50	19.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	Urease kinetic
	mg/dl	124	106	142	9.00	18.00	
	mmol/l	20.7	17.6	23.8	1.55	3.10	BUN
	mg/dl	58.1	49.4	66.8	4.35	8.70	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase catalase 340nm
	mg/dl	9.04	7.86	10.2	0.59	1.18	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.94	7.78	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	9.00	7.83	10.2	0.59	1.17	

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RANDOX

SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	8.99	7.81	10.2	0.59	1.18	

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RANDOX

SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	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	
Alkaline Phosphatase	U/l	279	237	321	21.00	42.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	157	126	188	15.50	31.00	Tris buffer with P5P 37℃
Amylase Total	U/l	329	280	378	24.50	49.00	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/l	184	147	221	18.50	37.00	Tris buffer with P5P 37℃
Bilirubin Direct	µmol/l	19.2	15.1	23.3	2.05	4.10	Diazo with Sulphanilic Acid
	mg/dl	1.12	0.883	1.36	0.12	0.24	
Bilirubin Total	µmol/l	84.4	66.7	102	8.85	17.70	Diazo with Sulphanilic Acid
	mg/dl	4.94	3.90	5.98	0.52	1.04	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Chloride	mmol/l	118	109	127	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.24	6.30	8.18	0.47	0.94	Dimension-Siemens reagents
	mg/dl	279	243	315	18.00	36.00	
CK Total	U/l	472	387	557	42.50	85.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	405	324	486	40.50	81.00	Alkaline picrate no deproteinization
	mg/dl	4.58	3.66	5.50	0.46	0.92	
gamma-GT	U/l	193	164	222	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	15.2	12.9	17.5	1.15	2.30	Hexokinase
	mg/dl	274	232	316	21.00	42.00	

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Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	3.59	3.05	4.13	0.27	0.54	Direct HDL PEGME
	mg/dl	139	118	160	10.50	21.00	
Iron	µmol/l	40.8	33.5	48.1	3.65	7.30	Colorimetric without ppt.
	µg/dl	228	187	269	20.50	41.00	
Lactate	mmol/l	5.31	4.35	6.27	0.48	0.96	UV LDH
	mg/dl	47.8	39.2	56.4	4.30	8.60	
LD (LDH)	U/l	378	321	435	28.50	57.00	L->P IFCC 37℃
Lipase	U/l	332	266	398	33.00	66.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	1.88	1.66	2.10	0.11	0.22	Methylthymol blue
	mg/dl	4.57	4.03	5.11	0.27	0.54	
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.20	5.70	6.70	0.25	0.50	ISE method - indirect
Protein Total	g/l	49.1	39.2	59.0	4.95	9.90	Biuret reaction end point
	g/dl	4.91	3.92	5.90	0.50	0.99	
Sodium	mmol/l	160	152	168	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.12	2.62	3.62	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	276	232	320	22.00	44.00	
Urea	mmol/l	21.2	18.0	24.4	1.60	3.20	Urease kinetic
	mg/dl	127	108	146	9.50	19.00	
	mmol/l	21.2	18.0	24.4	1.60	3.20	BUN
	mg/dl	59.5	50.6	68.4	4.45	8.90	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.14	7.95	10.3	0.60	1.19	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.02	7.85	10.2	0.59	1.17	

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VITALAB FLEXOR®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 982UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-11-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	33.0	28.1	37.9	2.45	4.90	Bromocresol Green
	g/dl	3.30	2.81	3.79	0.25	0.49	
Alkaline Phosphatase	U/l	418	356	480	31.00	62.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	159	127	191	16.00	32.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37℃
Bilirubin Total	µmol/l	98.2	77.6	119	10.30	20.60	Diazo with Sulphanilic Acid
	mg/dl	5.74	4.54	6.94	0.60	1.20	
Calcium	mmol/l	3.27	2.94	3.60	0.17	0.33	Arsenazo III
	mg/dl	13.1	11.8	14.4	0.65	1.30	
Cholesterol	mmol/l	7.59	6.60	8.58	0.50	0.99	Cholesterol Oxidase
	mg/dl	293	255	331	19.00	38.00	
gamma-GT	U/l	180	153	207	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	14.9	12.6	17.2	1.15	2.30	Glucose oxidase
	mg/dl	268	227	309	20.50	41.00	
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	
Protein Total	g/l	52.2	41.7	62.7	5.25	10.50	Biuret reaction end point
	g/dl	5.22	4.17	6.27	0.53	1.05	
Triglycerides	mmol/l	2.86	2.40	3.32	0.23	0.46	Lipase/GPO-PAP no correction
	mg/dl	253	212	294	20.50	41.00	
Urea	mmol/l	19.8	16.8	22.8	1.50	3.00	Urease kinetic
	mg/dl	119	101	137	9.00	18.00	

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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	BUN
	mg/dl	55.6	47.3	63.9	4.15	8.30	
Uric Acid (Urate)	mmol/l	0.58	0.50	0.65	0.04	0.08	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.73	8.47	11.0	0.63	1.26	

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