RANDOX 0086 CE

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

CAT. NO. HN1530 **GTIN:** 05055273203783 **SIZE:** 20 x 5ml
CAT. NO. HS2611 **GTIN:** 05055273203813 **SIZE:** 5 x 5ml
LOT NO. 1230UN **EXPIRY:** 2021-06-28

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 2 20 x 5ml / 5 x 5ml

MATERIALS REQUIRED BUT NOT PROVIDED
Volumetric pipette

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

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

24 Apr 18 pl

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RANDOX

Abbott Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.0	35.7	48.3	3.15	6.30	Bromocresol Green
	g/dl	4.20	3.57	4.83	0.32	0.63	
	g/l	42.5	36.2	48.8	3.15	6.30	Bromocresol Purple
	g/dl	4.25	3.62	4.88	0.32	0.63	
Alkaline Phosphatase	U/l	162	138	186	12.00	24.00	AMP optimised to IFCC 37℃
	U/l	161	137	185	12.00	24.00	AMP non-optimised 37℃
ALT (GPT)	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	54	46	62	4.00	8.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	83	70	96	6.50	13.00	Abbott Architect Non-IFCC Cal. 37℃
	U/l	92	78	106	7.00	14.00	Abbott Architect IFCC Cal. 37℃
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	13.4	10.6	16.2	1.40	2.80	Enzymatic
Bile Acids	µmol/l	26.5	21.2	31.8	2.65	5.30	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	17.1	13.5	20.7	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	µmol/l	17.3	13.6	21.0	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.796	1.22	0.11	0.21	
	µmol/l	17.6	13.9	21.3	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.03	0.813	1.25	0.11	0.22	
Bilirubin Total	µmol/l	26.1	20.7	31.5	2.70	5.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.53	1.21	1.85	0.16	0.32	

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Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	26.5	20.9	32.1	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.55	1.22	1.88	0.17	0.33	
	µmol/l	26.9	21.2	32.6	2.85	5.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.57	1.24	1.90	0.17	0.33	
	µmol/l	25.6	20.2	31.0	2.70	5.40	Diazonium ion
	mg/dl	1.50	1.18	1.82	0.16	0.32	
Calcium	mmol/l	2.17	1.96	2.38	0.11	0.21	Arsenazo III
	mg/dl	8.70	7.86	9.54	0.42	0.84	
Chloride	mmol/l	99.3	91.4	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.28	3.73	4.83	0.28	0.55	Cholesterol Oxidase
	mg/dl	165	144	186	10.50	21.00	
Cholinesterase	U/l	6667	5333	8001	667.00	1334.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 37℃
Copper	µmol/l	12.4	9.94	14.9	1.23	2.46	Colorimetric
	µg/dl	78.9	63.2	94.6	7.85	15.70	
Creatinine	µmol/l	130	104	156	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.47	1.18	1.76	0.15	0.29	
	µmol/l	126	101	151	12.50	25.00	Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	124	98.9	149	12.55	25.10	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	131	104	158	13.50	27.00	Jaffe rate blanked
	mg/dl	1.48	1.18	1.78	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	IDMS traceable
	mg/dl	1.46	1.16	1.76	0.15	0.30	

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	57	48	66	4.50	9.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	55	47	63	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	6.36	5.40	7.32	0.48	0.96	Hexokinase
	mg/dl	115	97.3	133	8.85	17.70	
	mmol/l	6.49	5.52	7.46	0.49	0.97	Glucose oxidase
	mg/dl	117	99.5	135	8.75	17.50	
HDL - Cholesterol	mmol/l	1.28	1.09	1.47	0.10	0.19	Direct HDL PPD
	mg/dl	49.4	42.1	56.7	3.65	7.30	
	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct Clearance Method
	mg/dl	48.6	41.3	55.9	3.65	7.30	
	mmol/l	1.28	1.08	1.48	0.10	0.20	HDL - Ultra
	mg/dl	49.4	41.7	57.1	3.85	7.70	
Iron	µmol/l	19.6	16.0	23.2	1.80	3.60	Colorimetric with ppt.
	µg/dl	110	89.4	131	10.30	20.60	
	µmol/l	19.4	15.9	22.9	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.9	127	9.55	19.10	
Lactate	mmol/l	1.53	1.25	1.81	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	13.8	11.3	16.3	1.25	2.50	
LD (LDH)	U/l	188	159	217	14.50	29.00	L->P 37℃
	U/l	186	158	214	14.00	28.00	L->P IFCC 37℃
Lipase	U/l	44	35	53	4.50	9.00	Other Colorimetric 37℃
Lithium	mmol/l	1.17	1.03	1.31	0.07	0.14	Spectrophotometric
	mg/dl	0.812	0.715	0.909	0.05	0.10	
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Arsenazo III
	mg/dl	2.13	1.87	2.39	0.13	0.26	

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.87	0.77	0.97	0.05	0.10	Enzymatic
	mg/dl	2.11	1.86	2.36	0.13	0.25	
Osmolality	mOsm/kg	299	239	359	30.00	60.00	Calculated
Phosphate Inorganic	mmol/l	1.33	1.13	1.53	0.10	0.20	Phosphomolybdate enzymatic
	mg/dl	4.12	3.50	4.74	0.31	0.62	
	mmol/l	1.38	1.18	1.58	0.10	0.20	Phosphomolybdate UV
	mg/dl	4.28	3.66	4.90	0.31	0.62	
Potassium	mmol/l	4.05	3.72	4.38	0.17	0.33	ISE method - indirect
Protein Total	g/l	61.2	48.9	73.5	6.15	12.30	Biuret reaction end point
	g/dl	6.12	4.89	7.35	0.62	1.23	
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
TIBC	µmol/l	47.4	37.5	57.3	4.95	9.90	FE+UIBC(saturation with iron)
	µg/dl	265	210	320	27.50	55.00	
Triglycerides	mmol/l	1.06	0.89	1.23	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	93.8	79.0	109	7.40	14.80	
	mmol/l	1.08	0.90	1.26	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	95.6	80.0	111	7.80	15.60	
	mmol/l	1.07	0.90	1.24	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	79.8	110	7.45	14.90	
UIBC	µmol/l	27.2	22.3	32.1	2.45	4.90	Direct Colorimetric
	µg/dl	152	125	179	13.50	27.00	
Urea	mmol/l	7.41	6.30	8.52	0.56	1.11	Urease end point
	mg/dl	44.5	37.9	51.1	3.30	6.60	
	mmol/l	7.29	6.20	8.38	0.55	1.09	Urease kinetic
	mg/dl	43.8	37.3	50.3	3.25	6.50	

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Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Urea	mmol/l	7.29	6.20	8.38	0.55	1.09	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.61	4.87	6.35	0.37	0.74	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.59	4.86	6.32	0.37	0.73	

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ABX Pentra 400®

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.8	34.7	46.9	3.05	6.10	Bromocresol Green
	g/dl	4.08	3.47	4.69	0.31	0.61	
Alkaline Phosphatase	U/l	147	125	169	11.00	22.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	42	34	50	4.00	8.00	Tris buffer without P5P 37℃
Bilirubin Direct	µmol/l	19.5	15.4	23.6	2.05	4.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.14	0.901	1.38	0.12	0.24	
Bilirubin Total	µmol/l	26.7	21.1	32.3	2.80	5.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Calcium	mmol/l	2.20	1.98	2.42	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.82	7.94	9.70	0.44	0.88	
	mmol/l	2.23	2.00	2.46	0.12	0.23	Arsenazo III
	mg/dl	8.94	8.02	9.86	0.46	0.92	
Cholesterol	mmol/l	4.40	3.82	4.98	0.29	0.58	Cholesterol Oxidase
	mg/dl	170	147	193	11.50	23.00	
CK Total	U/l	199	163	235	18.00	36.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	132	106	158	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.49	1.20	1.78	0.15	0.29	
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
Glucose	mmol/l	6.49	5.51	7.47	0.49	0.98	Glucose oxidase
	mg/dl	117	99.3	135	8.85	17.70	

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			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.35	1.15	1.55	0.10	0.20	Direct HDL PPD
	mg/dl	52.1	44.4	59.8	3.85	7.70	
Iron	µmol/l	18.5	15.2	21.8	1.65	3.30	Colorimetric without ppt.
	µg/dl	103	85.0	121	9.00	18.00	
Phosphate Inorganic	mmol/l	1.56	1.32	1.80	0.12	0.24	Phosphomolybdate UV
	mg/dl	4.84	4.09	5.59	0.38	0.75	
Potassium	mmol/l	3.94	3.63	4.25	0.16	0.31	ISE method - direct
Protein Total	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction end point
	g/dl	6.00	4.80	7.20	0.60	1.20	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.15	0.97	1.33	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	102	85.7	118	8.15	16.30	
Urea	mmol/l	6.87	5.84	7.90	0.52	1.03	Urease end point
	mg/dl	41.3	35.1	47.5	3.10	6.20	
	mmol/l	6.92	5.88	7.96	0.52	1.04	Urease kinetic
	mg/dl	41.6	35.3	47.9	3.15	6.30	
	mmol/l	6.92	5.88	7.96	0.52	1.04	BUN
	mg/dl	19.4	16.5	22.3	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.49	4.79	6.19	0.35	0.70	

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Alfa Wassermann Alfa 600/Analyticon Biolyzer 6(ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
Alkaline Phosphatase	U/l	171	145	197	13.00	26.00	AMP optimised to IFCC 37℃
	U/l	133	113	153	10.00	20.00	AMP optimised to IFCC 30℃
	U/l	109	93	125	8.00	16.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	34	28	40	3.00	6.00	Tris buffer without P5P 37℃
	U/l	25	21	29	2.00	4.00	Tris buffer without P5P 30℃
	U/l	19	16	22	1.50	3.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Cholesterol	mmol/l	4.10	3.57	4.63	0.27	0.53	Cholesterol Oxidase
	mg/dl	158	138	178	10.00	20.00	
Creatinine	µmol/l	123	98.3	148	12.35	24.70	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
Glucose	mmol/l	6.37	5.41	7.33	0.48	0.96	Hexokinase
	mg/dl	115	97.5	133	8.75	17.50	
Protein Total	g/l	59.8	47.8	71.8	6.00	12.00	Biuret reaction end point
	g/dl	5.98	4.78	7.18	0.60	1.20	
Triglycerides	mmol/l	1.13	0.95	1.32	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	100	83.6	116	8.20	16.40	

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Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.21	6.13	8.29	0.54	1.08	Urease kinetic
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.21	6.13	8.29	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.96	5.19	6.73	0.39	0.77	

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RANDOX

Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-HBDH	U/l	193	152	234	20.50	41.00	Oxobutyrate < 10 mmol/l 37℃
Albumin	g/l	41.5	35.2	47.8	3.15	6.30	Bromocresol Green
	g/dl	4.15	3.52	4.78	0.32	0.63	
	g/l	47.1	40.1	54.1	3.50	7.00	Bromocresol Purple
	g/dl	4.71	4.01	5.41	0.35	0.70	
Alkaline Phosphatase	U/l	256	217	295	19.50	39.00	Diethanolamine buffer DEA 37°C
	U/l	193	164	222	14.50	29.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37℃
Amylase Total	U/l	73	62	84	5.50	11.00	pNP Maltotrioside substrates 37℃
	U/l	73	62	84	5.50	11.00	Beckman Synchron CX4/CX5/CX7 37℃
	U/l	77	65	89	6.00	12.00	Beckman Coulter - blocked pNPG7 37℃
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Enzymatic
Bilirubin Direct	µmol/l	18.4	14.5	22.3	1.95	3.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.08	0.848	1.31	0.12	0.23	
Bilirubin Total	µmol/l	30.7	24.3	37.1	3.20	6.40	Diazo with Dichloroaniline (DCA)
	mg/dl	1.80	1.42	2.18	0.19	0.38	
	µmol/l	28.8	22.8	34.8	3.00	6.00	DPD (Beckman AU)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Arsenazo III
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Chloride	mmol/l	97.3	89.5	105	3.90	7.80	ISE indirect
Cholesterol	mmol/l	4.31	3.75	4.87	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	145	187	10.50	21.00	
Cholinesterase	U/l	5199	4159	6239	520.00	1040.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	223	182	264	20.50	41.00	CK-NAC substrate start (DGKC) 37℃
	U/l	208	171	245	18.50	37.00	CK-NAC (IFCC) 37℃
Copper	µmol/l	14.8	11.8	17.8	1.50	3.00	Colorimetric
	µg/dl	94.1	75.0	113	9.55	19.10	
Creatinine	µmol/l	127	101	153	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	127	101	153	13.00	26.00	Enzymatic UV method
	mg/dl	1.44	1.14	1.74	0.15	0.30	
	µmol/l	124	99.0	149	12.50	25.00	Creatinine PAP method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	118	94.8	141	11.60	23.20	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.33	1.07	1.59	0.13	0.26	
	µmol/l	123	98.4	148	12.30	24.60	IDMS traceable
	mg/dl	1.39	1.11	1.67	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.27	0.23	0.31	0.02	0.04	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	50	42	58	4.00	8.00	Gamma glutamyl-4-nitroanilide 37℃

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
GLDH	U/l	16	12	20	2.00	4.00	Triethanolamine buffer 50 mmol 37℃
Glucose	mmol/l	6.57	5.58	7.56	0.50	0.99	Hexokinase
	mg/dl	118	101	135	8.50	17.00	
	mmol/l	6.86	5.83	7.89	0.52	1.03	Glucose oxidase
	mg/dl	124	105	143	9.50	19.00	
HDL - Cholesterol	mmol/l	1.25	1.06	1.44	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	48.3	40.9	55.7	3.70	7.40	
	mmol/l	1.31	1.11	1.51	0.10	0.20	Direct Clearance Method
	mg/dl	50.6	42.8	58.4	3.90	7.80	
	mmol/l	1.29	1.09	1.49	0.10	0.20	HDL - Ultra
	mg/dl	49.8	42.1	57.5	3.85	7.70	
Iron	µmol/l	19.7	16.1	23.3	1.80	3.60	Colorimetric with ppt.
	µg/dl	110	90.0	130	10.00	20.00	
	µmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.3	128	9.85	19.70	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	183	156	210	13.50	27.00	L->P 37℃
	U/l	404	343	465	30.50	61.00	P->L Scandinavian & Dutch 37°C
	U/l	187	159	215	14.00	28.00	L->P IFCC 37℃
Lipase	U/l	43	34	52	4.50	9.00	Other Colorimetric 37℃
	U/l	36	29	43	3.50	7.00	Roche Colorimetric 37℃
	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37℃
Lithium	mmol/l	1.11	0.98	1.24	0.07	0.13	Spectrophotometric
	mg/dl	0.771	0.679	0.863	0.05	0.09	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.20	1.94	2.46	0.13	0.26	
Osmolality	mOsm/kg	299	239	359	30.00	60.00	Calculated
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.03	3.71	4.35	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.7	47.8	71.6	5.95	11.90	Biuret reaction end point
	g/dl	5.97	4.78	7.16	0.60	1.19	
	g/l	60.1	48.1	72.1	6.00	12.00	Biuret reaction kinetic
	g/dl	6.01	4.81	7.21	0.60	1.20	
Sodium	mmol/l	145	137	153	4.00	8.00	ISE method - indirect
TIBC	µmol/l	50.2	39.6	60.8	5.30	10.60	FE+UIBC(saturation with iron)
	µg/dl	281	221	341	30.00	60.00	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.5	115	7.80	15.60	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.8	116	8.10	16.20	
UIBC	µmol/l	31.4	25.8	37.0	2.80	5.60	Direct Colorimetric
	µg/dl	176	144	208	16.00	32.00	
Urea	mmol/l	7.23	6.15	8.31	0.54	1.08	Urease end point
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.78	5.02	6.54	0.38	0.76	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.02	6.50	0.37	0.74	
	mmol/l	0.35	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.81	5.06	6.56	0.38	0.75	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.9	37.3	50.5	3.30	6.60	Bromocresol Green
	g/dl	4.39	3.73	5.05	0.33	0.66	
	g/l	46.0	39.1	52.9	3.45	6.90	Bromocresol Purple
	g/dl	4.60	3.91	5.29	0.35	0.69	
Alkaline Phosphatase	U/l	171	145	197	13.00	26.00	AMP optimised to IFCC 37℃
	U/l	168	143	193	12.50	25.00	AMP non-optimised 37℃
ALT (GPT)	U/l	33	27	39	3.00	6.00	Tris buffer without P5P 37℃
	U/l	33	26	40	3.50	7.00	Tris buffer SCE 37℃
Amylase Total	U/l	77	65	89	6.00	12.00	Beckman Synchron CX4/CX5/CX7 37℃
	U/l	80	68	92	6.00	12.00	Beckman Synchron AMY7 37℃
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	36	28	44	4.00	8.00	Tris buffer SCE 37℃
Bicarbonate	mmol/l	13.6	10.8	16.4	1.40	2.80	Differential rate pH change
	mmol/l	13.9	11.1	16.7	1.40	2.80	Ion selective electrode
Bilirubin Direct	µmol/l	12.1	9.57	14.6	1.27	2.53	Diazo with Sulphanilic Acid
	mg/dl	0.708	0.560	0.856	0.07	0.15	
Bilirubin Total	µmol/l	27.6	21.8	33.4	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.28	1.94	0.17	0.33	
Calcium	mmol/l	2.13	1.91	2.35	0.11	0.22	Ion selective electrode
	mg/dl	8.54	7.66	9.42	0.44	0.88	
	mmol/l	2.16	1.94	2.38	0.11	0.22	Arsenazo III
	mg/dl	8.66	7.78	9.54	0.44	0.88	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Chloride	mmol/l	98.6	90.7	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.12	3.59	4.65	0.27	0.53	Cholesterol Oxidase
	mg/dl	159	139	179	10.00	20.00	
Cholinesterase	U/l	5714	4571	6857	571.50	1143.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	212	174	250	19.00	38.00	CK-NAC (IFCC) 37℃
	U/l	212	174	250	19.00	38.00	Monothioglycerol 37℃
Creatinine	µmol/l	124	98.8	149	12.60	25.20	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	123	98.6	147	12.20	24.40	Jaffe rate blanked
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	124	99.0	149	12.50	25.00	IDMS traceable
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	48	41	55	3.50	7.00	Gamma glutamyl-4-nitroanilide 37℃
Glucose	mmol/l	6.21	5.28	7.14	0.47	0.93	Hexokinase
	mg/dl	112	95.1	129	8.45	16.90	
	mmol/l	6.36	5.41	7.31	0.48	0.95	Oxygen electrode
	mg/dl	115	97.5	133	8.75	17.50	
	mmol/l	6.22	5.29	7.15	0.47	0.93	Glucose oxidase
	mg/dl	112	95.3	129	8.35	16.70	
HDL - Cholesterol	mmol/l	1.28	1.09	1.47	0.10	0.19	Direct HDL PPD
	mg/dl	49.4	42.1	56.7	3.65	7.30	
	mmol/l	1.34	1.14	1.54	0.10	0.20	HDL - Ultra
	mg/dl	51.7	44.0	59.4	3.85	7.70	
Iron	µmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric without ppt.
	µg/dl	101	82.7	119	9.15	18.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.49	1.22	1.76	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.4	11.0	15.8	1.20	2.40	
LD (LDH)	U/l	158	134	182	12.00	24.00	L->P 37℃
	U/l	498	423	573	37.50	75.00	Pyruvate 1.4 mM - Beckman LD-P 37℃
Lipase	U/l	32	26	38	3.00	6.00	Other Colorimetric 37℃
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Calmagite
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Osmolality	mOsm/kg	292	233	351	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	3.97	3.65	4.29	0.16	0.32	ISE method - indirect
Protein Total	g/l	59.3	47.5	71.1	5.90	11.80	Biuret reaction CX4/5/7
	g/dl	5.93	4.75	7.11	0.59	1.18	
	g/l	60.8	48.7	72.9	6.05	12.10	Biuret reaction end point
	g/dl	6.08	4.87	7.29	0.61	1.21	
	g/l	58.1	46.4	69.8	5.85	11.70	Biuret reaction kinetic
	g/dl	5.81	4.64	6.98	0.59	1.17	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.14	0.96	1.32	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	101	85.0	117	8.00	16.00	
	mmol/l	1.16	0.97	1.35	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	103	86.1	120	8.45	16.90	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.70	6.54	8.86	0.58	1.16	Urease end point
	mg/dl	46.3	39.3	53.3	3.50	7.00	
	mmol/l	7.60	6.46	8.74	0.57	1.14	Urease kinetic
	mg/dl	45.7	38.8	52.6	3.45	6.90	
	mmol/l	7.60	6.46	8.74	0.57	1.14	BUN
	mg/dl	21.3	18.1	24.5	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.46	4.75	6.17	0.36	0.71	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.9	36.5	49.3	3.20	6.40	Bromocresol Green
	g/dl	4.29	3.65	4.93	0.32	0.64	
Alkaline Phosphatase	U/l	163	139	187	12.00	24.00	AMP optimised to IFCC 37℃
	U/l	127	108	146	9.50	19.00	AMP optimised to IFCC 30℃
	U/l	104	89	119	7.50	15.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37℃
	U/l	29	23	35	3.00	6.00	Tris buffer without P5P 30℃
	U/l	22	17	27	2.50	5.00	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	31.6	25.0	38.2	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.85	1.46	2.24	0.20	0.39	
Calcium	mmol/l	2.30	2.07	2.53	0.12	0.23	Arsenazo III
	mg/dl	9.22	8.30	10.1	0.46	0.92	
Cholesterol	mmol/l	4.40	3.83	4.97	0.29	0.57	Cholesterol Oxidase
	mg/dl	170	148	192	11.00	22.00	
Creatinine	µmol/l	124	99.4	149	12.30	24.60	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
gamma-GT	U/l	57	49	65	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	45	39	51	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.83	5.80	7.86	0.52	1.03	Glucose oxidase
	mg/dl	123	105	141	9.00	18.00	

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BIOSYSTEMS A15

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	60.4	48.3	72.5	6.05	12.10	Biuret reaction end point
	g/dl	6.04	4.83	7.25	0.61	1.21	
Triglycerides	mmol/l	1.18	0.99	1.37	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.7	120	8.15	16.30	
Urea	mmol/l	7.01	5.96	8.06	0.53	1.05	Urease kinetic
	mg/dl	42.1	35.8	48.4	3.15	6.30	
	mmol/l	7.01	5.96	8.06	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.98	5.19	6.77	0.40	0.79	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.6	35.3	47.9	3.15	6.30	Bromocresol Green
	g/dl	4.16	3.53	4.79	0.32	0.63	
Alkaline Phosphatase	U/l	162	137	187	12.50	25.00	AMP optimised to IFCC 37℃
	U/l	126	107	145	9.50	19.00	AMP optimised to IFCC 30℃
	U/l	104	88	120	8.00	16.00	AMP optimised to IFCC 25℃
Bilirubin Total	µmol/l	32.9	26.0	39.8	3.45	6.90	Diazo with Sulphanilic Acid
	mg/dl	1.92	1.52	2.32	0.20	0.40	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Arsenazo III
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Cholesterol	mmol/l	4.34	3.78	4.90	0.28	0.56	Cholesterol Oxidase
	mg/dl	168	146	190	11.00	22.00	
CK Total	U/l	221	181	261	20.00	40.00	CK-NAC (IFCC) 37℃
	U/l	138	113	163	12.50	25.00	CK-NAC (IFCC) 30℃
	U/l	94	77	111	8.50	17.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	124	98.9	149	12.55	25.10	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
Glucose	mmol/l	6.70	5.69	7.71	0.51	1.01	Glucose oxidase
	mg/dl	121	103	139	9.00	18.00	
Phosphate Inorganic	mmol/l	1.55	1.32	1.78	0.12	0.23	Phosphomolybdate UV
	mg/dl	4.81	4.09	5.53	0.36	0.72	
Protein Total	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction end point
	g/dl	5.88	4.70	7.06	0.59	1.18	

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BIOSYSTEMS A25

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.1	116	7.95	15.90	
Urea	mmol/l	7.13	6.06	8.20	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.4	49.4	3.25	6.50	
	mmol/l	7.13	6.06	8.20	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.38	0.33	0.43	0.03	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	6.37	5.53	7.21	0.42	0.84	
	mmol/l	0.36	0.32	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.10	5.31	6.89	0.40	0.79	

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Biotechnica/Wiener BT and CB Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.7	35.5	47.9	3.10	6.20	Bromocresol Green
	g/dl	4.17	3.55	4.79	0.31	0.62	
AST (GOT)	U/l	40	32	48	4.00	8.00	Tris buffer without P5P 37℃
	U/l	27	22	32	2.50	5.00	Tris buffer without P5P 30℃
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	23.4	18.5	28.3	2.45	4.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.37	1.08	1.66	0.15	0.29	
Calcium	mmol/l	2.26	2.04	2.48	0.11	0.22	Arsenazo III
	mg/dl	9.06	8.18	9.94	0.44	0.88	
Cholesterol	mmol/l	4.30	3.74	4.86	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
Creatinine	µmol/l	123	98.3	148	12.35	24.70	Creatinine PAP method
	mg/dl	1.39	1.11	1.67	0.14	0.28	
Glucose	mmol/l	6.51	5.54	7.48	0.49	0.97	Glucose oxidase
	mg/dl	117	99.8	134	8.60	17.20	
HDL - Cholesterol	mmol/l	1.30	1.10	1.50	0.10	0.20	Direct HDL Immunoseparation
	mg/dl	50.2	42.5	57.9	3.85	7.70	
Phosphate Inorganic	mmol/l	1.37	1.16	1.58	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.25	3.60	4.90	0.33	0.65	
Protein Total	g/l	61.1	48.9	73.3	6.10	12.20	Biuret reaction end point
	g/dl	6.11	4.89	7.33	0.61	1.22	

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.02	0.86	1.18	0.08	0.16	Lipase/GPO-PAP no correction
	mg/dl	90.3	75.9	105	7.20	14.40	
Urea	mmol/l	7.41	6.30	8.52	0.56	1.11	Urease kinetic
	mg/dl	44.5	37.9	51.1	3.30	6.60	
	mmol/l	7.41	6.30	8.52	0.56	1.11	BUN
	mg/dl	20.8	17.7	23.9	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.37	0.32	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.15	5.36	6.94	0.40	0.79	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.3	37.7	50.9	3.30	6.60	Bromocresol Green
	g/dl	4.43	3.77	5.09	0.33	0.66	
	g/l	43.2	36.7	49.7	3.25	6.50	Bromocresol Purple
	g/dl	4.32	3.67	4.97	0.33	0.65	
	g/l	41.2	35.0	47.4	3.10	6.20	Turbidimetric Assays
	g/dl	4.12	3.50	4.74	0.31	0.62	
Alkaline Phosphatase	U/l	142	121	163	10.50	21.00	Roche Integra AMP buffer 37℃
	U/l	111	94	128	8.50	17.00	Roche Integra AMP buffer 30℃
	U/l	91	77	105	7.00	14.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 37℃
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	55	47	63	4.00	8.00	Immunoinhibition EPS substrate 37°C
	U/l	57	48	66	4.50	9.00	Roche liquid stable pNPG7 37℃
Amylase Total	U/l	73	62	84	5.50	11.00	BM/Roche Colorimetric pNPG7 37℃
	U/l	76	65	87	5.50	11.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	77	65	89	6.00	12.00	Roche liquid stable pNPG7 37℃
AST (GOT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30℃
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	13.3	10.6	16.0	1.35	2.70	Enzymatic

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Direct	µmol/l	17.0	13.4	20.6	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.995	0.784	1.21	0.11	0.21	
	µmol/l	16.7	13.2	20.2	1.75	3.50	Diazo with Sulphanilic Acid
	mg/dl	0.977	0.772	1.18	0.10	0.21	
	µmol/l	16.7	13.2	20.2	1.75	3.50	Roche JG factored
	mg/dl	0.977	0.772	1.18	0.10	0.21	
	µmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Dichloroaniline (DCA)
	mg/dl	1.00	0.790	1.21	0.11	0.21	
Bilirubin Total	µmol/l	24.2	19.1	29.3	2.55	5.10	Diazo with Dichloroaniline (DCA)
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.2	19.1	29.3	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.4	19.3	29.5	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	24.5	19.4	29.6	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	mmol/l	2.15	1.94	2.36	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.62	7.78	9.46	0.42	0.84	
	mmol/l	2.15	1.94	2.36	0.11	0.21	NM-BAPTA
	mg/dl	8.62	7.78	9.46	0.42	0.84	
Chloride	mmol/l	98.6	90.7	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.32	3.75	4.89	0.29	0.57	Cholesterol Oxidase
	mg/dl	167	145	189	11.00	22.00	
CK Total	U/l	197	161	233	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	123	101	145	11.00	22.00	CK-NAC (IFCC) 30℃
	U/l	84	68	100	8.00	16.00	CK-NAC (IFCC) 25℃

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	123	98.0	148	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	125	100	150	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	123	98.2	148	12.40	24.80	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.39	1.11	1.67	0.14	0.28	
	µmol/l	122	97.8	146	12.10	24.20	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.38	1.11	1.65	0.14	0.27	
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	42	35	49	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	58	49	67	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	36	30	42	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.29	5.35	7.23	0.47	0.94	Glucose dehydrogenase
	mg/dl	113	96.4	130	8.30	16.60	
	mmol/l	6.53	5.55	7.51	0.49	0.98	Hexokinase
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	6.50	5.52	7.48	0.49	0.98	Glucose oxidase
	mg/dl	117	99.5	135	8.75	17.50	
HDL - Cholesterol	mmol/l	1.12	0.95	1.29	0.09	0.17	Direct HDL PEGME
	mg/dl	43.2	36.6	49.8	3.30	6.60	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.12	0.95	1.29	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	43.2	36.7	49.7	3.25	6.50	
Iron	µmol/l	19.1	15.7	22.5	1.70	3.40	Colorimetric with ppt.
	µg/dl	107	87.8	126	9.60	19.20	
	µmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric without ppt.
	µg/dl	106	87.2	125	9.40	18.80	
Lactate	mmol/l	1.57	1.29	1.85	0.14	0.28	Colorimetric Lactate Oxidase
	mg/dl	14.1	11.6	16.6	1.25	2.50	
LD (LDH)	U/l	361	307	415	27.00	54.00	P->L German methods 37℃
	U/l	261	222	300	19.50	39.00	P->L German methods 30℃
	U/l	183	156	210	13.50	27.00	P->L German methods 25℃
	U/l	196	167	225	14.50	29.00	L->P IFCC 37℃
	U/l	142	121	163	10.50	21.00	L->P IFCC 30℃
	U/l	99	85	113	7.00	14.00	L->P IFCC 25℃
Lipase	U/l	37	30	44	3.50	7.00	Roche Colorimetric 37℃
Lithium	mmol/l	1.15	1.01	1.29	0.07	0.14	Ion selective electrode
	mg/dl	0.799	0.701	0.897	0.05	0.10	
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Methylthymol blue
	mg/dl	2.15	1.89	2.41	0.13	0.26	
	mmol/l	0.90	0.80	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.19	1.93	2.45	0.13	0.26	
Phosphate Inorganic	mmol/l	1.42	1.20	1.64	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.40	3.72	5.08	0.34	0.68	
	mmol/l	1.45	1.23	1.67	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.50	3.81	5.19	0.35	0.69	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.03	3.71	4.35	0.16	0.32	ISE method - indirect
Protein Total	g/l	57.8	46.3	69.3	5.75	11.50	Biuret reaction end point
	g/dl	5.78	4.63	6.93	0.58	1.15	
	g/l	57.2	45.7	68.7	5.75	11.50	Biuret reaction kinetic
	g/dl	5.72	4.57	6.87	0.58	1.15	
Sodium	mmol/l	144	137	151	3.50	7.00	ISE method - indirect
TIBC	µmol/l	46.5	36.8	56.2	4.85	9.70	FE+UIBC(saturation with iron)
	µg/dl	260	206	314	27.00	54.00	
Triglycerides	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	97.4	82.1	113	7.65	15.30	
	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	98.2	82.6	114	7.80	15.60	
	mmol/l	1.11	0.93	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.5	114	7.85	15.70	
	mmol/l	1.10	0.93	1.27	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	97.4	82.0	113	7.70	15.40	
UIBC	µmol/l	27.6	22.6	32.6	2.50	5.00	Direct Colorimetric
	µg/dl	154	126	182	14.00	28.00	
Urea	mmol/l	6.83	5.81	7.85	0.51	1.02	Urease kinetic
	mg/dl	41.0	34.9	47.1	3.05	6.10	
	mmol/l	6.83	5.81	7.85	0.51	1.02	BUN
	mg/dl	19.2	16.3	22.1	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.66	4.92	6.40	0.37	0.74	

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RANDOX

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	

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Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.2	36.8	49.6	3.20	6.40	Bromocresol Green
	g/dl	4.32	3.68	4.96	0.32	0.64	
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
Calcium	mmol/l	2.24	2.02	2.46	0.11	0.22	Arsenazo III
	mg/dl	8.98	8.10	9.86	0.44	0.88	
Cholesterol	mmol/l	4.42	3.85	4.99	0.29	0.57	Cholesterol Oxidase
	mg/dl	171	149	193	11.00	22.00	
CK Total	U/l	201	165	237	18.00	36.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	
Glucose	mmol/l	6.80	5.78	7.82	0.51	1.02	Glucose oxidase
	mg/dl	123	104	142	9.50	19.00	
Iron	µmol/l	20.0	16.4	23.6	1.80	3.60	Colorimetric without ppt.
	µg/dl	112	91.7	132	10.15	20.30	
LD (LDH)	U/l	183	155	211	14.00	28.00	L->P IFCC 37℃
Phosphate Inorganic	mmol/l	1.56	1.32	1.80	0.12	0.24	Phosphomolybdate UV
	mg/dl	4.84	4.09	5.59	0.38	0.75	
Protein Total	g/l	60.3	48.2	72.4	6.05	12.10	Biuret reaction end point
	g/dl	6.03	4.82	7.24	0.61	1.21	
Triglycerides	mmol/l	1.18	0.99	1.37	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	87.5	121	8.25	16.50	

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RANDOX

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.17	6.09	8.25	0.54	1.08	Urease kinetic
	mg/dl	43.1	36.6	49.6	3.25	6.50	
	mmol/l	7.17	6.09	8.25	0.54	1.08	BUN
	mg/dl	20.1	17.1	23.1	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.41	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	6.03	5.26	6.80	0.39	0.77	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.9	37.3	50.5	3.30	6.60	Bromocresol Green
	g/dl	4.39	3.73	5.05	0.33	0.66	
Alkaline Phosphatase	U/l	128	109	147	9.50	19.00	Roche Integra AMP buffer 37℃
	U/l	100	85	115	7.50	15.00	Roche Integra AMP buffer 30℃
	U/l	82	70	94	6.00	12.00	Roche Integra AMP buffer 25℃
	U/l	177	150	204	13.50	27.00	Randox AMP 37℃
	U/l	138	117	159	10.50	21.00	Randox AMP 30℃
	U/l	113	96	130	8.50	17.00	Randox AMP 25℃
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37℃
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30℃
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	64	54	74	5.00	10.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	73	62	84	5.50	11.00	Roche liquid stable pNPG7 37℃
	U/l	84	71	97	6.50	13.00	Randox Liquid Ethylidene pNPG7 37℃
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Enzymatic
Bilirubin Total	µmol/l	23.9	18.9	28.9	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.40	1.11	1.69	0.15	0.29	
	µmol/l	23.6	18.6	28.6	2.50	5.00	Diazonium ion
	mg/dl	1.38	1.09	1.67	0.15	0.29	
Calcium	mmol/l	2.16	1.95	2.37	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.66	7.82	9.50	0.42	0.84	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	NM-BAPTA
	mg/dl	8.86	7.98	9.74	0.44	0.88	
Chloride	mmol/l	93.9	86.4	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	4.28	3.72	4.84	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	144	186	10.50	21.00	
CK Total	U/l	192	158	226	17.00	34.00	CK-NAC (IFCC) 37℃
	U/l	120	99	141	10.50	21.00	CK-NAC (IFCC) 30℃
	U/l	82	67	97	7.50	15.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	129	103	155	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
gamma-GT	U/l	49	41	57	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	39	32	46	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	30	25	35	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	36	31	41	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
	U/l	62	53	71	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	49	42	56	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	38	33	43	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
Glucose	mmol/l	6.40	5.44	7.36	0.48	0.96	Hexokinase
	mg/dl	115	98.0	132	8.50	17.00	
	mmol/l	6.59	5.61	7.57	0.49	0.98	Glucose oxidase
	mg/dl	119	101	137	9.00	18.00	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.13	0.96	1.30	0.09	0.17	Direct HDL Roche 3rd generation
	mg/dl	43.6	36.9	50.3	3.35	6.70	
Iron	µmol/l	18.3	15.0	21.6	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.9	120	9.05	18.10	
LD (LDH)	U/l	182	155	209	13.50	27.00	L->P IFCC 37℃
	U/l	131	112	150	9.50	19.00	L->P IFCC 30℃
	U/l	92	79	105	6.50	13.00	L->P IFCC 25℃
Lipase	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37℃
Magnesium	mmol/l	0.89	0.78	0.99	0.05	0.11	Xylidyl Blue
	mg/dl	2.16	1.90	2.42	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.11	3.78	4.44	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.1	48.1	72.1	6.00	12.00	Biuret reaction end point
	g/dl	6.01	4.81	7.21	0.60	1.20	
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
TIBC	µmol/l	44.6	35.2	54.0	4.70	9.40	FE+UIBC(saturation with iron)
	µg/dl	249	197	301	26.00	52.00	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.4	115	7.85	15.70	
Urea	mmol/l	7.62	6.47	8.77	0.58	1.15	Urease kinetic
	mg/dl	45.8	38.9	52.7	3.45	6.90	
	mmol/l	7.62	6.48	8.76	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	

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HITACHI SERIES®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.56	4.84	6.28	0.36	0.72	

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ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.1	35.8	48.4	3.15	6.30	Bromocresol Green
	g/dl	4.21	3.58	4.84	0.32	0.63	
Alkaline Phosphatase	U/l	183	156	210	13.50	27.00	AMP optimised to IFCC 37℃
	U/l	143	122	164	10.50	21.00	AMP optimised to IFCC 30℃
	U/l	117	100	134	8.50	17.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30℃
	U/l	18	15	21	1.50	3.00	Tris buffer without P5P 25℃
Amylase Total	U/l	77	66	88	5.50	11.00	I.L. 2-chloro-pNPG3 37℃
AST (GOT)	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37℃
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30℃
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25℃
Bilirubin Total	µmol/l	29.4	23.2	35.6	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.72	1.36	2.08	0.18	0.36	
Calcium	mmol/l	2.13	1.92	2.34	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.54	7.70	9.38	0.42	0.84	
Chloride	mmol/l	95.1	87.5	103	3.80	7.60	ISE indirect
Cholesterol	mmol/l	4.29	3.73	4.85	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
CK Total	U/l	189	155	223	17.00	34.00	CK-NAC (IFCC) 37℃
	U/l	118	97	139	10.50	21.00	CK-NAC (IFCC) 30℃
	U/l	80	66	94	7.00	14.00	CK-NAC (IFCC) 25℃

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

Analyte	unit	Target	Range low	Range high	1SD	2SD	methods
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	
gamma-GT	U/l	53	45	61	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	42	35	49	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	33	28	38	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	51	43	59	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	40	34	46	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	31	27	35	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.52	5.54	7.50	0.49	0.98	Hexokinase
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	6.44	5.47	7.41	0.49	0.97	Glucose oxidase
	mg/dl	116	98.6	133	8.70	17.40	
HDL - Cholesterol	mmol/l	1.18	1.00	1.36	0.09	0.18	Direct HDL Immunoseparation
	mg/dl	45.5	38.6	52.4	3.45	6.90	
Iron	µmol/l	19.3	15.8	22.8	1.75	3.50	Colorimetric without ppt.
	µg/dl	108	88.3	128	9.85	19.70	
LD (LDH)	U/l	365	311	419	27.00	54.00	P->L German methods 37℃
	U/l	264	225	303	19.50	39.00	P->L German methods 30℃
	U/l	185	158	212	13.50	27.00	P->L German methods 25℃
Lipase	U/l	41	33	49	4.00	8.00	Randox Colorimetric 37℃
Magnesium	mmol/l	0.90	0.80	1.01	0.05	0.11	Enzymatic
	mg/dl	2.20	1.93	2.47	0.14	0.27	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	

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RANDOX

ILab 600®/650®/Aries/Taurus

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.14	3.81	4.47	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.2	48.2	72.2	6.00	12.00	Biuret reaction end point
	g/dl	6.02	4.82	7.22	0.60	1.20	
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.5	115	7.80	15.60	
	mmol/l	1.15	0.97	1.33	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	102	85.7	118	8.15	16.30	
Urea	mmol/l	7.62	6.48	8.76	0.57	1.14	Urease end point
	mg/dl	45.8	38.9	52.7	3.45	6.90	
	mmol/l	7.62	6.48	8.76	0.57	1.14	BUN
	mg/dl	21.4	18.2	24.6	1.60	3.20	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.2	35.9	48.5	3.15	6.30	Ortho Vitros Microslide Systems
	g/dl	4.22	3.59	4.85	0.32	0.63	
Alkaline Phosphatase	U/l	141	120	162	10.50	21.00	Ortho Vitros Microslide Systems 37℃
ALT (GPT)	U/l	46	37	55	4.50	9.00	Ortho Vitros Microslide Systems 37℃
Amylase Total	U/l	62	52	72	5.00	10.00	Ortho Vitros Microslide Systems 37℃
AST (GOT)	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37℃
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Ortho Vitros Microslide Systems
Bilirubin Conjugated Vitros BC	µmol/l	9.87	7.80	11.9	1.04	2.07	BuBc Vitros Slide
	mg/dl	0.577	0.456	0.698	0.06	0.12	
Bilirubin Total	µmol/l	23.3	18.4	28.2	2.45	4.90	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	24.7	19.5	29.9	2.60	5.20	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.44	1.14	1.74	0.15	0.30	
Bilirubin, Unconjugated Vitros BU	µmol/l	12.5	9.88	15.1	1.31	2.62	BuBc Vitros Slide
	mg/dl	0.731	0.578	0.884	0.08	0.15	
Calcium	mmol/l	2.23	2.01	2.45	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.94	8.06	9.82	0.44	0.88	
Chloride	mmol/l	98.4	90.6	106	3.90	7.80	Ortho Vitros Microslide Systems
Cholesterol	mmol/l	4.13	3.59	4.67	0.27	0.54	Ortho Vitros Microslide Systems
	mg/dl	159	139	179	10.00	20.00	
Cholinesterase	U/l	5586	4469	6703	558.50	1117.00	Ortho Vitros Microslide Systems 37℃

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RANDOX

JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	189	155	223	17.00	34.00	Ortho Vitros Microslide Systems 37℃
Creatinine	µmol/l	118	94.5	142	11.75	23.50	Vitros IDMS Traceable
	mg/dl	1.33	1.07	1.59	0.13	0.26	
gamma-GT	U/l	75	64	86	5.50	11.00	Ortho Vitros Microslide Systems 37℃
Glucose	mmol/l	6.28	5.33	7.23	0.48	0.95	Ortho Vitros Microslide Systems
	mg/dl	113	96.0	130	8.50	17.00	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Vitros Magnetic HDL
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.21	1.03	1.39	0.09	0.18	Vitros 5.1 FS microtip assay
	mg/dl	46.7	39.8	53.6	3.45	6.90	
	mmol/l	1.20	1.02	1.38	0.09	0.18	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	46.3	39.4	53.2	3.45	6.90	
Iron	µmol/l	18.9	15.5	22.3	1.70	3.40	Ortho Vitros Microslide Systems
	µg/dl	106	86.6	125	9.70	19.40	
Lactate	mmol/l	1.42	1.16	1.68	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	12.8	10.5	15.1	1.15	2.30	
LD (LDH)	U/l	533	453	613	40.00	80.00	Ortho Vitros Microslide Systems 37℃
Lipase	U/l	258	207	309	25.50	51.00	Ortho Vitros Microslide Systems 37℃
Lithium	mmol/l	1.37	1.21	1.53	0.08	0.16	Ortho Vitros Microslide Systems
	mg/dl	0.951	0.840	1.06	0.06	0.11	
Magnesium	mmol/l	0.87	0.76	0.97	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.10	1.85	2.35	0.13	0.25	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Potassium	mmol/l	4.10	3.78	4.42	0.16	0.32	Ortho Vitros Microslide Systems

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JOHNSON AND JOHNSON VITROS®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	60.2	48.2	72.2	6.00	12.00	Ortho Vitros Microslide Systems
	g/dl	6.02	4.82	7.22	0.60	1.20	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
TIBC	µmol/l	50.8	40.2	61.4	5.30	10.60	Ortho Vitros Microslide Systems
	µg/dl	284	225	343	29.50	59.00	
Triglycerides	mmol/l	1.25	1.05	1.45	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	111	92.9	129	9.05	18.10	
Urea	mmol/l	6.93	5.89	7.97	0.52	1.04	Ortho Vitros Microslide Systems
	mg/dl	41.6	35.4	47.8	3.10	6.20	
	mmol/l	6.93	5.89	7.97	0.52	1.04	BUN
	mg/dl	19.5	16.6	22.4	1.45	2.90	
Uric Acid (Urate)	mmol/l	0.32	0.28	0.37	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.44	4.74	6.14	0.35	0.70	

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

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	40.8	34.6	47.0	3.10	6.20	Bromocresol Green
	g/dl	4.08	3.46	4.70	0.31	0.62	
Alkaline Phosphatase	U/l	256	218	294	19.00	38.00	Diethanolamine buffer DEA 37°C
	U/l	199	170	228	14.50	29.00	Diethanolamine buffer DEA 30°C
	U/l	164	139	189	12.50	25.00	Diethanolamine buffer DEA 25°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30℃
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	41	33	49	4.00	8.00	Tris buffer without P5P 37℃
	U/l	28	22	34	3.00	6.00	Tris buffer without P5P 30℃
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	15.7	12.4	19.0	1.65	3.30	Diazo with Sulphanilic Acid
	mg/dl	0.918	0.725	1.11	0.10	0.19	
Bilirubin Total	µmol/l	23.4	18.5	28.3	2.45	4.90	Nitrobenzenediazonium salt
	mg/dl	1.37	1.08	1.66	0.15	0.29	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Arsenazo III
	mg/dl	8.78	7.90	9.66	0.44	0.88	
Chloride	mmol/l	102	93.6	110	4.20	8.40	ISE direct
Cholesterol	mmol/l	4.24	3.69	4.79	0.28	0.55	Cholesterol Oxidase
	mg/dl	164	142	186	11.00	22.00	
CK Total	U/l	221	181	261	20.00	40.00	CK-NAC (IFCC) 37℃
	U/l	138	113	163	12.50	25.00	CK-NAC (IFCC) 30℃
	U/l	94	77	111	8.50	17.00	CK-NAC (IFCC) 25℃

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

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	125	100	150	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	120	95.9	144	12.05	24.10	Jaffe rate blanked
	mg/dl	1.36	1.08	1.64	0.14	0.28	
gamma-GT	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	36	31	41	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.74	5.73	7.75	0.51	1.01	Hexokinase
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	6.68	5.68	7.68	0.50	1.00	Glucose oxidase
	mg/dl	120	102	138	9.00	18.00	
HDL - Cholesterol	mmol/l	1.08	0.92	1.24	0.08	0.16	Direct HDL PEGME
	mg/dl	41.7	35.4	48.0	3.15	6.30	
Iron	µmol/l	21.1	17.3	24.9	1.90	3.80	Colorimetric without ppt.
	µg/dl	118	96.7	139	10.65	21.30	
LD (LDH)	U/l	349	296	402	26.50	53.00	P->L Scandinavian & Dutch 37℃
	U/l	252	214	290	19.00	38.00	P->L Scandinavian & Dutch 30°C
	U/l	177	150	204	13.50	27.00	P->L Scandinavian & Dutch 25°C
	U/l	197	167	227	15.00	30.00	L->P IFCC 37℃
	U/l	142	121	163	10.50	21.00	L->P IFCC 30℃
	U/l	100	85	115	7.50	15.00	L->P IFCC 25℃
Lithium	mmol/l	1.11	0.98	1.24	0.07	0.13	Ion selective electrode
	mg/dl	0.771	0.678	0.864	0.05	0.09	

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

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.91	0.80	1.02	0.05	0.11	Xylidyl Blue
	mg/dl	2.21	1.95	2.47	0.13	0.26	
Phosphate Inorganic	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	3.93	3.61	4.25	0.16	0.32	ISE method - direct
Protein Total	g/l	60.6	48.4	72.8	6.10	12.20	Biuret reaction end point
	g/dl	6.06	4.84	7.28	0.61	1.22	
Sodium	mmol/l	141	134	148	3.50	7.00	ISE method - direct
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.2	115	7.95	15.90	
Urea	mmol/l	7.10	6.04	8.16	0.53	1.06	Urease kinetic
	mg/dl	42.7	36.3	49.1	3.20	6.40	
	mmol/l	7.10	6.04	8.16	0.53	1.06	BUN
	mg/dl	19.9	16.9	22.9	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.36	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.98	5.21	6.75	0.39	0.77	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28 **Range**

Analyte	unit	Target	low	high	1SD	2SD	methods
alpha-HBDH	U/l	204	161	247	21.50	43.00	Oxobutyrate < 10 mmol/l 37℃
	U/l	154	122	186	16.00	32.00	Oxobutyrate < 10 mmol/l 30℃
	U/l	115	91	139	12.00	24.00	Oxobutyrate < 10 mmol/l 25℃
Acid Phosphatase (non-prostatic)	U/l	5.94	3.98	7.90	0.98	1.96	1-Naphthyl Phosphate substrate Kinetic 37℃
Acid Phosphatase (Prostatic)	U/l	6.76	4.53	8.99	1.12	2.23	1-Naphthyl Phosphate substrate Kinetic 37℃
Acid Phosphatase (Total)	U/l	12.7	8.51	16.9	2.10	4.19	1-Naphthyl Phosphate substrate Kinetic 37℃
Albumin	g/l	42.7	36.3	49.1	3.20	6.40	Bromocresol Green
	g/dl	4.27	3.63	4.91	0.32	0.64	
	g/l	44.7	38.0	51.4	3.35	6.70	Bromocresol Purple
	g/dl	4.47	3.80	5.14	0.34	0.67	
	g/l	42.2	35.9	48.5	3.15	6.30	Ortho Vitros Microslide Systems
	g/dl	4.22	3.59	4.85	0.32	0.63	
	g/l	42.0	35.7	48.3	3.15	6.30	Turbidimetric Assays
	g/dl	4.20	3.57	4.83	0.32	0.63	
Alkaline Phosphatase	U/l	141	120	162	10.50	21.00	Ortho Vitros Microslide Systems 37℃
	U/l	261	222	300	19.50	39.00	Diethanolamine buffer DEA 37°C
	U/l	203	173	233	15.00	30.00	Diethanolamine buffer DEA 30°C
	U/l	167	142	192	12.50	25.00	Diethanolamine buffer DEA 25°C
	U/l	172	147	197	12.50	25.00	AMP optimised to IFCC 37℃
	U/l	134	115	153	9.50	19.00	AMP optimised to IFCC 30℃
	U/l	110	94	126	8.00	16.00	AMP optimised to IFCC 25℃

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Alkaline Phosphatase	U/l	164	139	189	12.50	25.00	AMP non-optimised 37℃
	U/l	128	108	148	10.00	20.00	AMP non-optimised 30℃
	U/l	105	89	121	8.00	16.00	AMP non-optimised 25℃
ALT (GPT)	U/l	32	25	39	3.50	7.00	Colorimetric 37℃
	U/l	24	19	29	2.50	5.00	Colorimetric 30℃
	U/l	18	14	22	2.00	4.00	Colorimetric 25℃
	U/l	46	37	55	4.50	9.00	Ortho Vitros Microslide Systems 37℃
	U/l	37	30	44	3.50	7.00	Tris buffer with P5P 37℃
	U/l	27	22	32	2.50	5.00	Tris buffer with P5P 30℃
	U/l	21	17	25	2.00	4.00	Tris buffer with P5P 25℃
	U/l	33	26	40	3.50	7.00	Tris buffer without P5P 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30℃
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25℃
	U/l	33	26	40	3.50	7.00	Tris buffer SCE 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer SCE 30℃
	U/l	19	15	23	2.00	4.00	Tris buffer SCE 25℃
Amylase Pancreatic	U/l	54	46	62	4.00	8.00	Immunoinhibition EPS substrate 37°C
	U/l	55	47	63	4.00	8.00	Roche liquid stable pNPG7 37℃
	U/l	64	54	74	5.00	10.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	73	62	84	5.50	11.00	pNP Maltotrioside substrates 37℃
	U/l	78	67	89	5.50	11.00	Siemens - blocked pNPG7 37℃
	U/l	62	53	71	4.50	9.00	Randox Lyo. Ethylidene pNPG7 37℃
	U/l	85	72	98	6.50	13.00	Randox Liquid Ethylidene pNPG7 37℃
	U/l	74	63	85	5.50	11.00	BM/Roche Colorimetric pNPG7 37℃
	U/l	74	63	85	5.50	11.00	Beckman Synchron CX4/CX5/CX7 37℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Amylase Total	U/l	81	69	93	6.00	12.00	Siemens - maltopenta/hexaoside 37℃
	U/l	72	61	83	5.50	11.00	Saccharogenic 37℃
	U/l	76	64	88	6.00	12.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	62	52	72	5.00	10.00	Ortho Vitros Microslide Systems 37℃
	U/l	75	64	86	5.50	11.00	Other Roche 2-chloro-pNPG7 37℃
	U/l	75	64	86	5.50	11.00	Roche liquid stable pNPG7 37℃
	U/l	83	71	95	6.00	12.00	Siemens 2-chloro-pNPG3 37℃
	U/l	85	72	98	6.50	13.00	bioMerieux 2-chloro-pNPG3 37℃
	U/l	77	65	89	6.00	12.00	Beckman Coulter - blocked pNPG7 37℃
	U/l	80	68	92	6.00	12.00	Beckman Synchron AMY7 37℃
	U/l	78	66	90	6.00	12.00	I.L. 2-chloro-pNPG3 37℃
	U/l	83	70	96	6.50	13.00	Abbott Architect Non-IFCC Cal. 37℃
	U/l	92	78	106	7.00	14.00	Abbott Architect IFCC Cal. 37℃
Apolipoprotein A-1	g/l	1.10	0.90	1.30	0.10	0.20	Immunoturbidimetric
	mg/dl	110	90.2	130	9.90	19.80	
Apolipoprotein B	g/l	0.57	0.46	0.67	0.05	0.10	Immunoturbidimetric
	mg/dl	56.5	46.3	66.7	5.10	10.20	
AST (GOT)	U/l	34	27	41	3.50	7.00	Colorimetric 37℃
	U/l	23	18	28	2.50	5.00	Colorimetric 30℃
	U/l	16	13	19	1.50	3.00	Colorimetric 25℃
	U/l	54	43	65	5.50	11.00	Ortho Vitros Microslide visible slide 37℃
	U/l	54	43	65	5.50	11.00	Tris buffer with P5P 37℃
	U/l	37	29	45	4.00	8.00	Tris buffer with P5P 30℃
	U/l	26	20	32	3.00	6.00	Tris buffer with P5P 25℃
	U/l	37	29	45	4.00	8.00	Tris buffer without P5P 37℃
	U/l	25	20	30	2.50	5.00	Tris buffer without P5P 30℃
	U/l	18	14	22	2.00	4.00	Tris buffer without P5P 25℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
AST (GOT)	U/l	36	28	44	4.00	8.00	Tris buffer SCE 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer SCE 30℃
	U/l	17	13	21	2.00	4.00	Tris buffer SCE 25℃
Bicarbonate	mmol/l	13.8	11.0	16.6	1.40	2.80	Colorimetric
	mmol/l	15.4	12.2	18.6	1.60	3.20	Ortho Vitros Microslide Systems
	mmol/l	13.6	10.8	16.4	1.40	2.80	Differential rate pH change
	mmol/l	14.0	11.1	16.9	1.45	2.90	Enzymatic
	mmol/l	14.3	11.4	17.2	1.45	2.90	Ion selective electrode
Bile Acids	µmol/l	26.3	21.0	31.6	2.65	5.30	4th Generation Colorimetric
	µmol/l	23.8	19.0	28.6	2.40	4.80	5th Generation Colorimetric
Bilirubin Direct	µmol/l	17.6	13.9	21.3	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.03	0.813	1.25	0.11	0.22	
	µmol/l	18.6	14.7	22.5	1.95	3.90	Diazo with Sulphanilic Acid
	mg/dl	1.09	0.860	1.32	0.12	0.23	
	µmol/l	17.7	14.0	21.4	1.85	3.70	Diazo with Dichloroaniline (DCA)
	mg/dl	1.04	0.819	1.26	0.11	0.22	
	µmol/l	15.1	11.9	18.3	1.60	3.20	Oxidation to Biliverdin/Vanadate
	mg/dl	0.883	0.696	1.07	0.09	0.19	
	µmol/l	17.0	13.4	20.6	1.80	3.60	Modified Jendrassik
	mg/dl	0.995	0.784	1.21	0.11	0.21	
Bilirubin Total	µmol/l	23.3	18.4	28.2	2.45	4.90	Vitros 250/500/700/950 Total Bilirubin
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	24.7	19.5	29.9	2.60	5.20	Vitros 250/500/700/950 Total BUBC
	mg/dl	1.44	1.14	1.74	0.15	0.30	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	35.7	28.2	43.2	3.75	7.50	Diazo with Dichloroaniline (DCA)
	mg/dl	2.09	1.65	2.53	0.22	0.44	
	µmol/l	27.3	21.5	33.1	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.60	1.26	1.94	0.17	0.34	
	µmol/l	27.6	21.8	33.4	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.61	1.28	1.94	0.17	0.33	
	µmol/l	23.4	18.5	28.3	2.45	4.90	Nitrobenzenediazonium salt
	mg/dl	1.37	1.08	1.66	0.15	0.29	
	µmol/l	24.5	19.4	29.6	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	28.2	22.2	34.2	3.00	6.00	Oxidation to Biliverdin/Vanadate
	mg/dl	1.65	1.30	2.00	0.18	0.35	
	µmol/l	34.7	27.4	42.0	3.65	7.30	Modified Jendrassik
	mg/dl	2.03	1.60	2.46	0.22	0.43	
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.74	7.86	9.62	0.44	0.88	
	mmol/l	2.23	2.01	2.45	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	8.94	8.06	9.82	0.44	0.88	
	mmol/l	2.13	1.91	2.35	0.11	0.22	Ion selective electrode
	mg/dl	8.54	7.66	9.42	0.44	0.88	
	mmol/l	2.29	2.06	2.52	0.12	0.23	Methylthymol blue
	mg/dl	9.18	8.26	10.1	0.46	0.92	
	mmol/l	2.20	1.98	2.42	0.11	0.22	Arsenazo III
	mg/dl	8.82	7.94	9.70	0.44	0.88	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	NM-BAPTA
	mg/dl	8.74	7.86	9.62	0.44	0.88	
Chloride	mmol/l	99.8	91.8	108	4.00	8.00	Colorimetric
	mmol/l	98.4	90.6	106	3.90	7.80	Ortho Vitros Microslide Systems
	mmol/l	96.3	88.6	104	3.85	7.70	ISE indirect
	mmol/l	98.9	91.0	107	3.95	7.90	ISE direct
Cholesterol	mmol/l	4.13	3.59	4.67	0.27	0.54	Ortho Vitros Microslide Systems
	mg/dl	159	139	179	10.00	20.00	
	mmol/l	4.27	3.71	4.83	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	143	187	11.00	22.00	
Cholinesterase	U/l	5441	4353	6529	544.00	1088.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	189	155	223	17.00	34.00	Ortho Vitros Microslide Systems 37℃
	U/l	210	172	248	19.00	38.00	CK-NAC serum start (DGKC) 37°C
	U/l	131	108	154	11.50	23.00	CK-NAC serum start (DGKC) 30°C
	U/l	89	73	105	8.00	16.00	CK-NAC serum start (DGKC) 25℃
	U/l	208	170	246	19.00	38.00	CK-NAC substrate start (DGKC) 37℃
	U/l	130	106	154	12.00	24.00	CK-NAC substrate start (DGKC) 30℃
	U/l	88	72	104	8.00	16.00	CK-NAC substrate start (DGKC) 25℃
	U/l	202	166	238	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	126	104	148	11.00	22.00	CK-NAC (IFCC) 30℃
	U/l	86	71	101	7.50	15.00	CK-NAC (IFCC) 25℃
	U/l	212	174	250	19.00	38.00	Monothioglycerol 37℃
	U/l	133	109	157	12.00	24.00	Monothioglycerol 30℃
	U/l	90	74	106	8.00	16.00	Monothioglycerol 25℃
	U/l	194	159	229	17.50	35.00	Dithioerythritol (DTE) IFCC correlated 37℃
	U/l	121	100	142	10.50	21.00	Dithioerythritol (DTE) IFCC correlated 30℃
	U/l	82	68	96	7.00	14.00	Dithioerythritol (DTE) IFCC correlated 25℃

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Copper	µmol/l	15.4	12.3	18.5	1.55	3.10	Atomic absorption
	µg/dl	97.9	78.2	118	9.85	19.70	
	µmol/l	15.9	12.7	19.1	1.60	3.20	Colorimetric
	µg/dl	101	80.8	121	10.10	20.20	
Cortisol	nmol/l	486	365	607	60.50	121.00	Roche Cobas E411
	µg/dl	17.5	13.1	21.9	2.20	4.40	
Creatinine	µmol/l	120	95.9	144	12.05	24.10	Alkaline picrate with deproteinization
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Enzymatic UV method
	mg/dl	1.42	1.14	1.70	0.14	0.28	
	µmol/l	125	99.8	150	12.60	25.20	Creatinine PAP method
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	128	103	153	12.50	25.00	Roche Creatinine Plus
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	128	102	154	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	122	98.0	146	12.00	24.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.38	1.11	1.65	0.14	0.27	
	µmol/l	118	94.5	142	11.75	23.50	Vitros IDMS Traceable
	mg/dl	1.33	1.07	1.59	0.13	0.26	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	125	100	150	12.50	25.00	IDMS traceable
	mg/dl	1.41	1.13	1.69	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.28	0.24	0.32	0.02	0.04	Tris buffer 100mmol pH 8.5
Digoxin	nmol/l	1.99	1.59	2.39	0.20	0.40	Immunoturbidimetric
	ng/ml	1.55	1.24	1.86	0.16	0.31	
Folate	nmol/l	27.4	20.8	34.0	3.30	6.60	Roche Cobas E411
	ng/ml	12.1	9.17	15.0	1.47	2.93	
Free T4	pmol/l	17.4	13.1	21.7	2.15	4.30	Abbott Architect
	ng/dl	1.36	1.02	1.70	0.17	0.34	
	pg/ml	13.6	10.2	17.0	1.70	3.40	Abbott Architect
	pmol/l	18.9	14.2	23.6	2.35	4.70	Siemens Centaur XP/XPT/Classic
	ng/dl	1.47	1.11	1.83	0.18	0.36	
	pg/ml	14.7	11.1	18.3	1.80	3.60	Siemens Centaur XP/XPT/Classic
	pmol/l	19.2	14.4	24.0	2.40	4.80	Beckman Access
	ng/dl	1.50	1.12	1.88	0.19	0.38	
	pg/ml	15.0	11.2	18.8	1.90	3.80	Beckman Access
	pmol/l	18.5	13.9	23.1	2.30	4.60	Beckman DxI800
	ng/dl	1.44	1.08	1.80	0.18	0.36	
	pg/ml	14.4	10.8	18.0	1.80	3.60	Beckman DxI800
	pmol/l	22.3	16.7	27.9	2.80	5.60	Siemens Immulite 2000/2500
	ng/dl	1.74	1.30	2.18	0.22	0.44	
	pg/ml	17.4	13.0	21.8	2.20	4.40	Siemens Immulite 2000/2500
	pmol/l	37.4	28.0	46.8	4.70	9.40	Vitros ECi
	ng/dl	2.92	2.18	3.66	0.37	0.74	
	pg/ml	29.2	21.8	36.6	3.70	7.40	Vitros ECi

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Free T4	pmol/l	23.3	17.4	29.2	2.95	5.90	Roche Elecsys
	ng/dl	1.82	1.36	2.28	0.23	0.46	
	pg/ml	18.2	13.6	22.8	2.30	4.60	Roche Elecsys
	pmol/l	22.5	16.9	28.1	2.80	5.60	Roche Cobas E411
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas E411
	pmol/l	22.6	16.9	28.3	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
	pmol/l	20.6	15.5	25.7	2.55	5.10	Biomerieux Vidas FT4N Kit
	ng/dl	1.61	1.21	2.01	0.20	0.40	
	pg/ml	16.1	12.1	20.1	2.00	4.00	Biomerieux Vidas FT4N Kit
Gentamicin	µmol/l	7.69	6.15	9.23	0.77	1.54	Immunoturbidimetric
	µg/ml	3.68	2.94	4.42	0.37	0.74	
gamma-GT	U/l	55	47	63	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	43	37	49	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	34	29	39	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	75	64	86	5.50	11.00	Ortho Vitros Microslide Systems 37℃
	U/l	48	41	55	3.50	7.00	Gamma glutamyl-4-nitroanilide 37℃
	U/l	38	32	44	3.00	6.00	Gamma glutamyl-4-nitroanilide 30℃
	U/l	30	25	35	2.50	5.00	Gamma glutamyl-4-nitroanilide 25℃
	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	36	31	41	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	62	53	71	4.50	9.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	49	42	56	3.50	7.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	38	33	43	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
GLDH	U/l	15	12	18	1.50	3.00	Triethanolamine buffer 50 mmol 37℃
	U/l	12	9	15	1.50	3.00	Triethanolamine buffer 50 mmol 30℃
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25℃
Glucose	mmol/l	6.28	5.33	7.23	0.48	0.95	Ortho Vitros Microslide Systems
	mg/dl	113	96.0	130	8.50	17.00	
	mmol/l	6.38	5.42	7.34	0.48	0.96	Glucose dehydrogenase
	mg/dl	115	97.7	132	8.65	17.30	
	mmol/l	6.47	5.50	7.44	0.49	0.97	Hexokinase
	mg/dl	117	99.1	135	8.95	17.90	
	mmol/l	6.60	5.61	7.59	0.50	0.99	Oxygen electrode
	mg/dl	119	101	137	9.00	18.00	
	mmol/l	6.46	5.49	7.43	0.49	0.97	Glucose oxidase
	mg/dl	116	98.9	133	8.55	17.10	
HDL - Cholesterol	mmol/l	1.27	1.08	1.46	0.10	0.19	Direct HDL PPD
	mg/dl	49.0	41.7	56.3	3.65	7.30	
	mmol/l	1.25	1.06	1.44	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	48.3	40.9	55.7	3.70	7.40	
	mmol/l	1.19	1.01	1.37	0.09	0.18	Vitros Magnetic HDL
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.14	0.97	1.31	0.08	0.17	Direct HDL PEGME
	mg/dl	44.0	37.5	50.5	3.25	6.50	
	mmol/l	1.24	1.05	1.43	0.10	0.19	Direct Clearance Method
	mg/dl	47.9	40.5	55.3	3.70	7.40	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
HDL - Cholesterol	mmol/l	1.21	1.03	1.39	0.09	0.18	Vitros 5.1 FS microtip assay
	mg/dl	46.7	39.8	53.6	3.45	6.90	
	mmol/l	1.20	1.02	1.38	0.09	0.18	Vitros dHDL PTA/MgCl2 direct precipitation
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.08	0.92	1.24	0.08	0.16	Direct HDL Roche 3rd generation
	mg/dl	41.7	35.5	47.9	3.10	6.20	
	mmol/l	1.28	1.09	1.47	0.10	0.19	HDL - Ultra
	mg/dl	49.4	42.1	56.7	3.65	7.30	
Immunoglobulin A	g/l	1.70	1.28	2.12	0.21	0.42	Immunoturbidimetric
	mg/dl	170	128	212	21.00	42.00	
Immunoglobulin G	g/l	6.13	5.03	7.23	0.55	1.10	Immunoturbidimetric
	mg/dl	613	503	723	55.00	110.00	
Immunoglobulin M	g/l	0.76	0.61	0.91	0.08	0.15	Immunoturbidimetric
	mg/dl	75.9	60.7	91.1	7.60	15.20	
Iron	µmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric with ppt.
	µg/dl	106	87.2	125	9.40	18.80	
	µmol/l	18.9	15.5	22.3	1.70	3.40	Colorimetric without ppt.
	µg/dl	106	86.6	125	9.70	19.40	
	µmol/l	18.9	15.5	22.3	1.70	3.40	Ortho Vitros Microslide Systems
	µg/dl	106	86.6	125	9.70	19.40	
Lactate	mmol/l	1.49	1.22	1.76	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.4	11.0	15.8	1.20	2.40	
	mmol/l	1.42	1.16	1.68	0.13	0.26	Ortho Vitros Microslide Systems
	mg/dl	12.8	10.5	15.1	1.15	2.30	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lactate	mmol/l	1.52	1.24	1.80	0.14	0.28	Enzymatic Electrode
	mg/dl	13.7	11.2	16.2	1.25	2.50	
	mmol/l	1.38	1.13	1.63	0.13	0.25	UV LDH
	mg/dl	12.4	10.2	14.6	1.10	2.20	
LAP	U/l	16	14	18	1.00	2.00	NAGEL 37℃
LD (LDH)	U/l	533	453	613	40.00	80.00	Ortho Vitros Microslide Systems 37℃
	U/l	171	145	197	13.00	26.00	L->P 37℃
	U/l	123	105	141	9.00	18.00	L->P 30℃
	U/l	87	74	100	6.50	13.00	L->P 25℃
	U/l	403	343	463	30.00	60.00	P->L Scandinavian & Dutch 37°C
	U/l	291	248	334	21.50	43.00	P->L Scandinavian & Dutch 30°C
	U/l	204	174	234	15.00	30.00	P->L Scandinavian & Dutch 25°C
	U/l	368	312	424	28.00	56.00	P->L German methods 37℃
	U/l	266	225	307	20.50	41.00	P->L German methods 30℃
	U/l	187	158	216	14.50	29.00	P->L German methods 25℃
	U/l	375	319	431	28.00	56.00	P->L SFBC 37℃
	U/l	271	230	312	20.50	41.00	P->L SFBC 30℃
	U/l	190	162	218	14.00	28.00	P->L SFBC 25℃
	U/l	189	161	217	14.00	28.00	L->P IFCC 37℃
	U/l	136	116	156	10.00	20.00	L->P IFCC 30℃
	U/l	96	82	110	7.00	14.00	L->P IFCC 25℃
Lipase	U/l	42	34	50	4.00	8.00	Other Colorimetric 37℃
	U/l	258	207	309	25.50	51.00	Ortho Vitros Microslide Systems 37℃
	U/l	35	28	42	3.50	7.00	Roche Colorimetric 37℃
	U/l	173	139	207	17.00	34.00	Randox Turbidimetric with colipase 37℃

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37℃
Lithium	mmol/l	1.37	1.21	1.53	0.08	0.16	Ortho Vitros Microslide Systems
	mg/dl	0.951	0.840	1.06	0.06	0.11	
	mmol/l	1.14	1.00	1.28	0.07	0.14	Ion selective electrode
	mg/dl	0.792	0.694	0.890	0.05	0.10	
	mmol/l	1.16	1.02	1.30	0.07	0.14	Spectrophotometric
	mg/dl	0.806	0.708	0.904	0.05	0.10	
	mmol/l	1.18	1.04	1.32	0.07	0.14	Randox Colorimetric
	mg/dl	0.819	0.722	0.916	0.05	0.10	
Magnesium	mmol/l	0.88	0.77	0.98	0.05	0.11	Arsenazo III
	mg/dl	2.13	1.87	2.39	0.13	0.26	
	mmol/l	0.87	0.76	0.97	0.05	0.10	Ortho Vitros Microslide Systems
	mg/dl	2.10	1.85	2.35	0.13	0.25	
	mmol/l	0.90	0.79	1.00	0.05	0.11	Calmagite
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Xylidyl Blue
	mg/dl	2.19	1.92	2.46	0.14	0.27	
	mmol/l	0.88	0.77	0.98	0.05	0.11	Methylthymol blue
	mg/dl	2.13	1.88	2.38	0.13	0.25	
	mmol/l	0.90	0.79	1.01	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.18	1.92	2.44	0.13	0.26	
	mmol/l	0.87	0.77	0.98	0.05	0.10	Enzymatic
	mg/dl	2.12	1.86	2.38	0.13	0.26	
NEFA	mmol/l	1.87	1.59	2.15	0.14	0.28	Colorimetric
Osmolality	mOsm/kg	295	236	354	29.50	59.00	Calculated

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Osmolality	mOsm/kg	308	247	369	30.50	61.00	Freezing point depression
Paracetamol	mmol/l	0.10	0.08	0.12	0.01	0.02	Colorimetric
	mg/l	15.1	12.1	18.1	1.50	3.00	
Phosphate Inorganic	mmol/l	1.46	1.24	1.68	0.11	0.22	Ortho Vitros Microslide Systems
	mg/dl	4.53	3.84	5.22	0.35	0.69	
	mmol/l	1.42	1.21	1.63	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.40	3.75	5.05	0.33	0.65	
	mmol/l	1.41	1.20	1.62	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.37	3.72	5.02	0.33	0.65	
Potassium	mmol/l	4.10	3.78	4.42	0.16	0.32	Ortho Vitros Microslide Systems
	mmol/l	4.07	3.74	4.40	0.17	0.33	Enzymatic
	mmol/l	3.99	3.67	4.31	0.16	0.32	Flame photometry
	mmol/l	4.00	3.68	4.32	0.16	0.32	ISE method - direct
	mmol/l	4.05	3.73	4.37	0.16	0.32	ISE method - indirect
	mmol/l	4.03	3.71	4.35	0.16	0.32	Colorimetric
Protein Total	g/l	60.2	48.2	72.2	6.00	12.00	Ortho Vitros Microslide Systems
	g/dl	6.02	4.82	7.22	0.60	1.20	
	g/l	60.1	48.1	72.1	6.00	12.00	Biuret reaction end point
	g/dl	6.01	4.81	7.21	0.60	1.20	
	g/l	58.8	47.0	70.6	5.90	11.80	Biuret reaction kinetic
	g/dl	5.88	4.70	7.06	0.59	1.18	
PSA Total	ng/ml =	12.6	9.47	15.7	1.57	3.13	Roche Elecsys Modular E170
	ng/ml =	12.1	9.06	15.1	1.52	3.04	Beckman Access standardised to Hybritech
	ng/ml =	13.1	9.82	16.4	1.64	3.28	bioMerieux VIDAS TPSA
	ng/ml =	11.4	8.53	14.3	1.44	2.87	Abbott Architect

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
PSA Total	ng/ml =	13.6	10.2	17.0	1.70	3.40	Cobas E411
	ng/ml =	13.4	10.0	16.8	1.70	3.40	Roche Cobas 6000/8000
	ng/ml =	12.5	9.34	15.7	1.58	3.16	Ortho Vitros 3600/5600/ECi PSA II
Salicylate	mmol/l	0.39	0.31	0.47	0.04	0.08	Enzymatic
	mg/dl	5.42	4.33	6.51	0.55	1.09	
Sodium	mmol/l	145	138	152	3.50	7.00	Ortho Vitros Microslide Systems
	mmol/l	144	137	151	3.50	7.00	Enzymatic
	mmol/l	140	133	147	3.50	7.00	Flame photometry
	mmol/l	143	136	150	3.50	7.00	ISE method - direct
	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
Theophylline	µmol/l	28.4	22.7	34.0	2.83	5.65	Immunoturbidimetric
	µg/ml	5.11	4.09	6.13	0.51	1.02	
Thyroid Stimulating Hormone	µU/ml =	1.03	0.83	1.24	0.10	0.21	Abbott Architect
	µU/ml =	1.25	1.00	1.50	0.13	0.25	Siemens Centaur XP/XPT/Classic
	µU/ml =	1.11	0.89	1.33	0.11	0.22	Beckman Access hyperTSH 3rd Generation
	µU/ml =	1.29	1.03	1.55	0.13	0.26	bioMerieux VIDAS TSH
	µU/ml =	1.31	1.05	1.57	0.13	0.26	bioMerieux VIDAS TSH3 Ultrasensitive
	µU/ml =	1.16	0.93	1.39	0.12	0.23	Vitros ECi
	µU/ml =	1.34	1.07	1.61	0.14	0.27	Roche Elecsys
	µU/ml =	1.11	0.89	1.33	0.11	0.22	Tosoh Series
	µU/ml =	1.36	1.09	1.63	0.14	0.27	Roche Cobas E411
	µU/ml =	1.34	1.07	1.61	0.14	0.27	Roche Cobas 6000/8000
	µU/ml =	1.12	0.90	1.34	0.11	0.22	Beckman DxI800 Hyper TSH
	µU/ml =	1.13	0.90	1.36	0.11	0.23	Siemens Centaur XP/XPT/Classic TSH3-Ultra
TIBC	µmol/l	50.8	40.2	61.4	5.30	10.60	Ortho Vitros Microslide Systems
	µg/dl	284	225	343	29.50	59.00	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	43.9	34.7	53.1	4.60	9.20	Removal of excess free iron
	µg/dl	245	194	296	25.50	51.00	
	µmol/l	47.2	37.3	57.1	4.95	9.90	FE+UIBC(saturation with iron)
	µg/dl	264	209	319	27.50	55.00	
	µmol/l	49.3	39.0	59.6	5.15	10.30	Direct Colorimetric
	µg/dl	276	218	334	29.00	58.00	
	µmol/l	46.2	36.5	55.9	4.85	9.70	Calculated from Transferrin
	µg/dl	258	204	312	27.00	54.00	
	µmol/l	53.8	42.5	65.1	5.65	11.30	Randox Direct
	µg/dl	301	238	364	31.50	63.00	
Tobramycin	µmol/l	5.87	4.70	7.04	0.59	1.17	Immunoturbidimetric
	µg/ml	2.75	2.20	3.30	0.28	0.55	
Total T3	nmol/l	2.53	1.90	3.16	0.32	0.63	Abbott Architect
	ng/ml	1.65	1.24	2.06	0.21	0.41	
	ng/dl	165	124	206	20.50	41.00	Abbott Architect
	nmol/l	2.77	2.07	3.47	0.35	0.70	Siemens Centaur XP/XPT/Classic
	ng/ml	1.80	1.35	2.25	0.23	0.45	
	ng/dl	180	135	225	22.50	45.00	Siemens Centaur XP/XPT/Classic
	nmol/l	2.70	2.02	3.38	0.34	0.68	Roche Cobas E411
	ng/ml	1.76	1.32	2.20	0.22	0.44	
	ng/dl	176	132	220	22.00	44.00	Roche Cobas E411
	nmol/l	2.80	2.10	3.50	0.35	0.70	Roche Cobas 6000/8000
	ng/ml	1.82	1.37	2.27	0.23	0.45	
	ng/dl	182	137	227	22.50	45.00	Roche Cobas 6000/8000

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Total T4	nmol/l	87.9	65.9	110	11.00	22.00	Abbott Architect
	µg/dl	6.86	5.14	8.58	0.86	1.72	
	ng/ml	68.6	51.4	85.8	8.60	17.20	Abbott Architect
	nmol/l	84.8	63.6	106	10.60	21.20	Siemens Centaur XP/XPT/Classic
	µg/dl	6.61	4.96	8.26	0.83	1.65	
	ng/ml	66.1	49.6	82.6	8.25	16.50	Siemens Centaur XP/XPT/Classic
	nmol/l	83.9	62.9	105	10.50	21.00	BioMerieux Vidas
	µg/dl	6.54	4.91	8.17	0.82	1.63	
	ng/ml	65.4	49.1	81.7	8.15	16.30	BioMerieux Vidas
	nmol/l	84.1	63.1	105	10.50	21.00	Siemens Immulite 1000
	µg/dl	6.56	4.92	8.20	0.82	1.64	
	ng/ml	65.6	49.2	82.0	8.20	16.40	Siemens Immulite 1000
	nmol/l	88.0	66.0	110	11.00	22.00	Siemens Immulite 2000/2500
	µg/dl	6.86	5.15	8.57	0.86	1.71	
	ng/ml	68.6	51.5	85.7	8.55	17.10	Siemens Immulite 2000/2500
	nmol/l	90.4	67.8	113	11.30	22.60	Roche Cobas E411
	µg/dl	7.05	5.29	8.81	0.88	1.76	
	ng/ml	70.5	52.9	88.1	8.80	17.60	Roche Cobas E411
	nmol/l	89.5	67.2	112	11.15	22.30	Roche Cobas 6000/8000
	µg/dl	6.98	5.24	8.72	0.87	1.74	
	ng/ml	69.8	52.4	87.2	8.70	17.40	Roche Cobas 6000/8000
Transferrin	g/l	1.98	1.58	2.38	0.20	0.40	Immunoturbidimetric
	mg/dl	198	158	238	20.00	40.00	
Triglycerides	mmol/l	1.11	0.94	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.7	114	7.75	15.50	

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MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	98.2	82.2	114	8.00	16.00	
	mmol/l	1.12	0.94	1.30	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	99.1	83.5	115	7.80	15.60	
	mmol/l	1.08	0.91	1.25	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	80.3	111	7.65	15.30	
	mmol/l	1.25	1.05	1.45	0.10	0.20	Ortho Vitros Microslide Systems
	mg/dl	111	92.9	129	9.05	18.10	
UIBC	µmol/l	27.6	22.6	32.6	2.50	5.00	Direct Colorimetric
	µg/dl	154	126	182	14.00	28.00	
Urea	mmol/l	6.93	5.89	7.97	0.52	1.04	Ortho Vitros Microslide Systems
	mg/dl	41.6	35.4	47.8	3.10	6.20	
	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease end point
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.23	6.15	8.31	0.54	1.08	Urease kinetic
	mg/dl	43.5	37.0	50.0	3.25	6.50	
	mmol/l	7.35	6.25	8.45	0.55	1.10	Urease hypochlorite
	mg/dl	44.2	37.6	50.8	3.30	6.60	
	mmol/l	7.23	6.15	8.31	0.54	1.08	BUN
	mg/dl	20.3	17.3	23.3	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.32	0.28	0.37	0.02	0.04	Ortho Vitros Microslide Systems
	mg/dl	5.44	4.74	6.14	0.35	0.70	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.64	4.92	6.36	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.87	6.35	0.37	0.74	

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RANDOX

MEAN OF ALL INSTRUMENTS

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.59	4.87	6.31	0.36	0.72	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.75	4.99	6.51	0.38	0.76	
Vitamin B12	pmol/l	522	418	626	52.00	104.00	Roche Cobas E411
	pg/ml	707	566	848	70.50	141.00	
Zinc	µmol/l	18.5	14.8	22.2	1.85	3.70	Atomic absorption
	µg/dl	121	96.6	145	12.20	24.40	
	µmol/l	21.1	16.9	25.3	2.10	4.20	Colorimetric with deproteinisation
	µg/dl	138	110	166	14.00	28.00	

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RANDOX

MEAN OF ALL INSTRUMENTS (Elec.)

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin (electrophoresis)		69.6	62.7	76.5	3.45	6.90	% of total Protein (Beckman Capillary)
alpha-1-globulin		5.2	4.0	6.5	0.63	1.25	% of total Protein (Beckman Capillary)
alpha-2-globulin		5.5	4.2	6.8	0.66	1.32	% of total Protein (Beckman Capillary)
beta-globulin		9.5	7.2	11.8	1.14	2.28	% of total Protein (Beckman Capillary)
gamma-globulin		10.2	7.8	12.7	1.23	2.45	% of total Protein (Beckman Capillary)

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RANDOX

MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.5	36.1	48.9	3.20	6.40	Bromocresol Green
	g/dl	4.25	3.61	4.89	0.32	0.64	
Alkaline Phosphatase	U/l	185	157	213	14.00	28.00	AMP optimised to IFCC 37℃
	U/l	144	122	166	11.00	22.00	AMP optimised to IFCC 30℃
	U/l	118	100	136	9.00	18.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	27	21	33	3.00	6.00	Tris buffer without P5P 30℃
	U/l	20	16	24	2.00	4.00	Tris buffer without P5P 25℃
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37℃
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 30℃
	U/l	19	15	23	2.00	4.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	17.9	14.1	21.7	1.90	3.80	Oxidation to Biliverdin/Vanadate
	mg/dl	1.05	0.825	1.28	0.11	0.23	
Bilirubin Total	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	
	µmol/l	28.2	22.3	34.1	2.95	5.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.65	1.30	2.00	0.18	0.35	
Calcium	mmol/l	2.22	2.00	2.44	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.90	8.02	9.78	0.44	0.88	
	mmol/l	2.26	2.03	2.49	0.12	0.23	Arsenazo III
	mg/dl	9.06	8.14	9.98	0.46	0.92	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.29	3.73	4.85	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
CK Total	U/l	203	167	239	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	127	105	149	11.00	22.00	CK-NAC (IFCC) 30℃
	U/l	86	71	101	7.50	15.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	117	93.3	141	11.85	23.70	Alkaline picrate with deproteinization
	mg/dl	1.32	1.05	1.59	0.14	0.27	
	µmol/l	124	99.0	149	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	122	97.7	146	12.15	24.30	Enzymatic UV method
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	130	104	156	13.00	26.00	Jaffe rate blanked
	mg/dl	1.47	1.18	1.76	0.15	0.29	
gamma-GT	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	37	31	43	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.38	5.42	7.34	0.48	0.96	Hexokinase
	mg/dl	115	97.7	132	8.65	17.30	
	mmol/l	6.70	5.69	7.71	0.51	1.01	Glucose oxidase
	mg/dl	121	103	139	9.00	18.00	
HDL - Cholesterol	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct HDL PPD
	mg/dl	48.6	41.3	55.9	3.65	7.30	
	mmol/l	1.26	1.07	1.45	0.10	0.19	Direct Clearance Method
	mg/dl	48.6	41.3	55.9	3.65	7.30	
Iron	µmol/l	18.7	15.3	22.1	1.70	3.40	Colorimetric without ppt.
	µg/dl	105	85.5	125	9.75	19.50	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	385	327	443	29.00	58.00	P->L German methods 37℃
	U/l	278	236	320	21.00	42.00	P->L German methods 30℃
	U/l	195	166	224	14.50	29.00	P->L German methods 25℃
	U/l	201	171	231	15.00	30.00	L->P IFCC 37℃
	U/l	145	123	167	11.00	22.00	L->P IFCC 30℃
	U/l	102	87	117	7.50	15.00	L->P IFCC 25℃
Magnesium	mmol/l	0.94	0.83	1.05	0.06	0.11	Xylidyl Blue
	mg/dl	2.28	2.01	2.55	0.14	0.27	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.31	3.66	4.96	0.33	0.65	
	mmol/l	1.46	1.24	1.68	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.53	3.84	5.22	0.35	0.69	
Protein Total	g/l	60.7	48.6	72.8	6.05	12.10	Biuret reaction end point
	g/dl	6.07	4.86	7.28	0.61	1.21	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.7	114	7.75	15.50	
Urea	mmol/l	7.30	6.20	8.40	0.55	1.10	Urease end point
	mg/dl	43.9	37.3	50.5	3.30	6.60	
	mmol/l	7.26	6.17	8.35	0.55	1.09	Urease kinetic
	mg/dl	43.6	37.1	50.1	3.25	6.50	
	mmol/l	7.28	6.19	8.37	0.55	1.09	Urease hypochlorite
	mg/dl	43.8	37.2	50.4	3.30	6.60	
	mmol/l	7.26	6.17	8.35	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	

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MINDRAY BS-200/300/400

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.35	0.31	0.40	0.02	0.05	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.88	5.12	6.64	0.38	0.76	
	mmol/l	0.34	0.30	0.39	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.75	5.01	6.49	0.37	0.74	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.70	4.96	6.44	0.37	0.74	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Green
	g/dl	4.40	3.74	5.06	0.33	0.66	
	g/l	44.2	37.6	50.8	3.30	6.60	Bromocresol Purple
	g/dl	4.42	3.76	5.08	0.33	0.66	
	g/l	42.8	36.4	49.2	3.20	6.40	Turbidimetric Assays
	g/dl	4.28	3.64	4.92	0.32	0.64	
Alkaline Phosphatase	U/l	138	117	159	10.50	21.00	Roche Integra AMP buffer 37℃
	U/l	108	91	125	8.50	17.00	Roche Integra AMP buffer 30℃
	U/l	88	75	101	6.50	13.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37℃
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	54	46	62	4.00	8.00	Roche liquid stable pNPG7 37℃
Amylase Total	U/l	73	62	84	5.50	11.00	Saccharogenic 37℃
	U/l	74	63	85	5.50	11.00	Roche Integra 2-chloro-pNPG7 37℃
	U/l	75	64	86	5.50	11.00	Roche liquid stable pNPG7 37℃
AST (GOT)	U/l	34	28	40	3.00	6.00	Tris buffer without P5P 37℃
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30℃
	U/l	16	13	19	1.50	3.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	13.6	10.7	16.5	1.45	2.90	Colorimetric
	mmol/l	13.7	10.9	16.5	1.40	2.80	Enzymatic

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bile Acids	µmol/l	24.4	19.5	29.3	2.45	4.90	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	17.4	13.7	21.1	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.02	0.801	1.24	0.11	0.22	
	µmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	µmol/l	16.5	13.0	20.0	1.75	3.50	Roche JG factored
	mg/dl	0.965	0.761	1.17	0.10	0.20	
Bilirubin Total	µmol/l	24.3	19.2	29.4	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.3	19.2	29.4	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.4	19.3	29.5	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	mmol/l	2.19	1.97	2.41	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.78	7.90	9.66	0.44	0.88	
	mmol/l	2.18	1.96	2.40	0.11	0.22	NM-BAPTA
	mg/dl	8.74	7.86	9.62	0.44	0.88	
Chloride	mmol/l	92.1	84.7	99.5	3.70	7.40	ISE indirect
Cholesterol	mmol/l	4.28	3.72	4.84	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	144	186	10.50	21.00	
Cholinesterase	U/l	5341	4273	6409	534.00	1068.00	Colorimetric Butyrylthiocholine 37℃
CK Total	U/l	206	169	243	18.50	37.00	CK-NAC substrate start (DGKC) 37℃
	U/l	129	106	152	11.50	23.00	CK-NAC substrate start (DGKC) 30℃
	U/l	88	72	104	8.00	16.00	CK-NAC substrate start (DGKC) 25℃
	U/l	199	163	235	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	125	102	148	11.50	23.00	CK-NAC (IFCC) 30℃
	U/l	85	69	101	8.00	16.00	CK-NAC (IFCC) 25℃

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Enzymatic UV method
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	129	103	155	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	128	103	153	12.50	25.00	Jaffe rate blanked
	mg/dl	1.45	1.16	1.74	0.15	0.29	
	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	124	99.4	149	12.30	24.60	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.40	1.12	1.68	0.14	0.28	
D-3-Hydroxybutyrate	mmol/l	0.25	0.21	0.29	0.02	0.04	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	22.6	16.9	28.3	2.85	5.70	Roche Cobas 6000/8000
	ng/dl	1.76	1.32	2.20	0.22	0.44	
	pg/ml	17.6	13.2	22.0	2.20	4.40	Roche Cobas 6000/8000
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	41	35	47	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	32	27	37	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	37	31	43	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
GLDH	U/l	14	11	17	1.50	3.00	Triethanolamine buffer 50 mmol 37℃
	U/l	11	8	14	1.50	3.00	Triethanolamine buffer 50 mmol 30℃
	U/l	9	7	11	1.00	2.00	Triethanolamine buffer 50 mmol 25℃

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Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.44	5.47	7.41	0.49	0.97	Glucose dehydrogenase
	mg/dl	116	98.6	133	8.70	17.40	
	mmol/l	6.44	5.48	7.40	0.48	0.96	Hexokinase
	mg/dl	116	98.7	133	8.65	17.30	
	mmol/l	6.40	5.44	7.36	0.48	0.96	Glucose oxidase
	mg/dl	115	98.0	132	8.50	17.00	
HDL - Cholesterol	mmol/l	1.24	1.05	1.43	0.10	0.19	Direct HDL Immunoseparation
	mg/dl	47.9	40.5	55.3	3.70	7.40	
	mmol/l	1.04	0.88	1.20	0.08	0.16	Direct HDL PEGME
	mg/dl	40.1	34.0	46.2	3.05	6.10	
	mmol/l	1.07	0.91	1.23	0.08	0.16	Direct HDL Roche 3rd generation
	mg/dl	41.3	35.1	47.5	3.10	6.20	
Iron	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric with ppt.
	µg/dl	104	85.5	123	9.25	18.50	
	µmol/l	19.0	15.5	22.5	1.75	3.50	Colorimetric without ppt.
	µg/dl	106	86.6	125	9.70	19.40	
Lactate	mmol/l	1.48	1.21	1.75	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.3	10.9	15.7	1.20	2.40	
LD (LDH)	U/l	368	313	423	27.50	55.00	P->L German methods 37℃
	U/l	266	226	306	20.00	40.00	P->L German methods 30℃
	U/l	187	159	215	14.00	28.00	P->L German methods 25℃
	U/l	189	161	217	14.00	28.00	L->P IFCC 37℃
	U/l	136	116	156	10.00	20.00	L->P IFCC 30℃
	U/l	96	82	110	7.00	14.00	L->P IFCC 25℃

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Lipase	U/l	34	28	40	3.00	6.00	Roche Colorimetric 37℃
	U/l	33	27	39	3.00	6.00	Roche Turbidimetric with colipase 37℃
Lithium	mmol/l	1.16	1.02	1.30	0.07	0.14	Spectrophotometric
	mg/dl	0.806	0.708	0.904	0.05	0.10	
Magnesium	mmol/l	0.89	0.78	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
	mmol/l	0.89	0.79	1.00	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Osmolality	mOsm/kg	297	238	356	29.50	59.00	Calculated
Phosphate Inorganic	mmol/l	1.42	1.20	1.64	0.11	0.22	Phosphomolybdate enzymatic
	mg/dl	4.40	3.72	5.08	0.34	0.68	
	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	
Potassium	mmol/l	4.10	3.77	4.43	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.8	47.8	71.8	6.00	12.00	Biuret reaction end point
	g/dl	5.98	4.78	7.18	0.60	1.20	
	g/l	59.5	47.6	71.4	5.95	11.90	Biuret reaction kinetic
	g/dl	5.95	4.76	7.14	0.60	1.19	
PSA Total	ng/ml =	13.4	10.0	16.8	1.70	3.40	Roche Cobas 6000/8000
Sodium	mmol/l	146	138	154	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	µU/ml =	1.34	1.07	1.61	0.14	0.27	Roche Cobas 6000/8000
TIBC	µmol/l	45.4	35.8	55.0	4.80	9.60	FE+UIBC(saturation with iron)
	µg/dl	254	200	308	27.00	54.00	
	µmol/l	46.1	36.4	55.8	4.85	9.70	Direct Colorimetric
	µg/dl	258	203	313	27.50	55.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
TIBC	µmol/l	48.0	37.9	58.1	5.05	10.10	Calculated from Transferrin
	µg/dl	268	212	324	28.00	56.00	
Total T3	nmol/l	2.80	2.10	3.50	0.35	0.70	Roche Cobas 6000/8000
	ng/ml	1.82	1.37	2.27	0.23	0.45	
	ng/dl	182	137	227	22.50	45.00	Roche Cobas 6000/8000
Total T4	nmol/l	89.5	67.2	112	11.15	22.30	Roche Cobas 6000/8000
	µg/dl	6.98	5.24	8.72	0.87	1.74	
	ng/ml	69.8	52.4	87.2	8.70	17.40	Roche Cobas 6000/8000
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.2	115	7.95	15.90	
	mmol/l	1.09	0.92	1.26	0.09	0.17	Lipase/GPO-PAP 0.11mmol/l correction
	mg/dl	96.5	81.3	112	7.60	15.20	
	mmol/l	1.13	0.95	1.31	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	100	83.9	116	8.05	16.10	
UIBC	µmol/l	26.9	22.1	31.7	2.40	4.80	Direct Colorimetric
	µg/dl	150	124	176	13.00	26.00	
Urea	mmol/l	7.42	6.31	8.53	0.56	1.11	Urease end point
	mg/dl	44.6	37.9	51.3	3.35	6.70	
	mmol/l	7.14	6.07	8.21	0.54	1.07	Urease kinetic
	mg/dl	42.9	36.5	49.3	3.20	6.40	
	mmol/l	7.14	6.07	8.21	0.54	1.07	BUN
	mg/dl	20.0	17.0	23.0	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.54	4.82	6.26	0.36	0.72	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.53	4.80	6.26	0.37	0.73	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.51	4.79	6.23	0.36	0.72	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.5	37.0	50.0	3.25	6.50	Bromocresol Green
	g/dl	4.35	3.70	5.00	0.33	0.65	
Alkaline Phosphatase	U/l	145	123	167	11.00	22.00	Roche Integra AMP buffer 37℃
	U/l	113	96	130	8.50	17.00	Roche Integra AMP buffer 30℃
	U/l	93	79	107	7.00	14.00	Roche Integra AMP buffer 25℃
	U/l	143	122	164	10.50	21.00	AMP optimised to IFCC 37℃
	U/l	111	95	127	8.00	16.00	AMP optimised to IFCC 30℃
	U/l	91	78	104	6.50	13.00	AMP optimised to IFCC 25℃
ALT (GPT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37℃
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Amylase Total	U/l	77	65	89	6.00	12.00	Roche liquid stable pNPG7 37℃
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Bilirubin Direct	µmol/l	16.9	13.4	20.4	1.75	3.50	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.989	0.784	1.19	0.10	0.21	
	µmol/l	17.1	13.5	20.7	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.00	0.790	1.21	0.11	0.21	
	µmol/l	17.2	13.6	20.8	1.80	3.60	Roche JG factored
	mg/dl	1.01	0.796	1.22	0.11	0.21	

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Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	25.3	20.0	30.6	2.65	5.30	Diazo with Sulphanilic Acid
	mg/dl	1.48	1.17	1.79	0.16	0.31	
	µmol/l	24.0	19.0	29.0	2.50	5.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.40	1.11	1.69	0.15	0.29	
	µmol/l	24.4	19.3	29.5	2.55	5.10	Diazonium ion
	mg/dl	1.43	1.13	1.73	0.15	0.30	
Calcium	mmol/l	2.21	1.99	2.43	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.86	7.98	9.74	0.44	0.88	
	mmol/l	2.16	1.94	2.38	0.11	0.22	Arsenazo III
	mg/dl	8.66	7.78	9.54	0.44	0.88	
	mmol/l	2.18	1.96	2.40	0.11	0.22	NM-BAPTA
	mg/dl	8.74	7.86	9.62	0.44	0.88	
Chloride	mmol/l	100	92.1	108	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.33	3.76	4.90	0.29	0.57	Cholesterol Oxidase
	mg/dl	167	145	189	11.00	22.00	
CK Total	U/l	198	162	234	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	124	101	147	11.50	23.00	CK-NAC (IFCC) 30℃
	U/l	84	69	99	7.50	15.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	112	89.9	134	11.05	22.10	Alkaline picrate with deproteinization
	mg/dl	1.27	1.02	1.52	0.13	0.25	
	µmol/l	120	95.7	144	12.15	24.30	Alkaline picrate no deproteinization
	mg/dl	1.36	1.08	1.64	0.14	0.28	
	µmol/l	124	98.9	149	12.55	25.10	Roche Creatinine Plus
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	126	101	151	12.50	25.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	1.42	1.14	1.70	0.14	0.28	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
gamma-GT	U/l	56	47	65	4.50	9.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	44	37	51	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	35	29	41	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	57	49	65	4.00	8.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	45	39	51	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	35	30	40	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.52	5.54	7.50	0.49	0.98	Hexokinase
	mg/dl	117	99.8	134	8.60	17.20	
	mmol/l	6.33	5.38	7.28	0.48	0.95	Glucose oxidase
	mg/dl	114	96.9	131	8.55	17.10	
HDL - Cholesterol	mmol/l	1.15	0.98	1.33	0.09	0.18	Direct HDL Roche 3rd generation
	mg/dl	44.4	37.6	51.2	3.40	6.80	
Iron	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
LD (LDH)	U/l	197	168	226	14.50	29.00	L->P IFCC 37℃
	U/l	142	121	163	10.50	21.00	L->P IFCC 30℃
	U/l	100	85	115	7.50	15.00	L->P IFCC 25℃
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Chlorphosphonazo III
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate enzymatic
	mg/dl	4.34	3.69	4.99	0.33	0.65	
	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	4.02	3.70	4.34	0.16	0.32	ISE method - indirect

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Protein Total	g/l	59.9	47.9	71.9	6.00	12.00	Biuret reaction end point
	g/dl	5.99	4.79	7.19	0.60	1.20	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	1.10	0.92	1.28	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	97.4	81.4	113	8.00	16.00	
Urea	mmol/l	7.09	6.03	8.15	0.53	1.06	Urease end point
	mg/dl	42.6	36.2	49.0	3.20	6.40	
	mmol/l	7.01	5.96	8.06	0.53	1.05	Urease kinetic
	mg/dl	42.1	35.8	48.4	3.15	6.30	
	mmol/l	7.02	5.97	8.07	0.53	1.05	Urease hypochlorite
	mg/dl	42.2	35.9	48.5	3.15	6.30	
	mmol/l	7.01	5.96	8.06	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.66	4.94	6.38	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.61	4.89	6.33	0.36	0.72	
	mmol/l	0.34	0.30	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.71	4.97	6.45	0.37	0.74	

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
	g/l	44.0	37.4	50.6	3.30	6.60	Bromocresol Purple
	g/dl	4.40	3.74	5.06	0.33	0.66	
Alkaline Phosphatase	U/l	137	117	157	10.00	20.00	Roche Integra AMP buffer 37℃
	U/l	107	91	123	8.00	16.00	Roche Integra AMP buffer 30℃
	U/l	88	75	101	6.50	13.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 37℃
	U/l	23	19	27	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	56	48	64	4.00	8.00	Roche liquid stable pNPG7 37℃
Amylase Total	U/l	76	65	87	5.50	11.00	Roche liquid stable pNPG7 37℃
AST (GOT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
	U/l	24	20	28	2.00	4.00	Tris buffer without P5P 30℃
	U/l	17	14	20	1.50	3.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	13.4	10.6	16.2	1.40	2.80	Enzymatic
Bilirubin Direct	µmol/l	17.7	14.0	21.4	1.85	3.70	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.04	0.819	1.26	0.11	0.22	
	µmol/l	17.3	13.7	20.9	1.80	3.60	Diazo with Sulphanilic Acid
	mg/dl	1.01	0.801	1.22	0.10	0.21	
	µmol/l	18.2	14.4	22.0	1.90	3.80	Diazo with Dichloroaniline (DCA)
	mg/dl	1.06	0.842	1.28	0.11	0.22	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	24.2	19.1	29.3	2.55	5.10	Diazo with Sulphanilic Acid
	mg/dl	1.42	1.12	1.72	0.15	0.30	
	µmol/l	24.4	19.3	29.5	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.43	1.13	1.73	0.15	0.30	
	µmol/l	24.8	19.6	30.0	2.60	5.20	Diazonium ion
	mg/dl	1.45	1.15	1.75	0.15	0.30	
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.74	7.86	9.62	0.44	0.88	
	mmol/l	2.27	2.04	2.50	0.12	0.23	Arsenazo III
	mg/dl	9.10	8.18	10.0	0.46	0.92	
	mmol/l	2.20	1.98	2.42	0.11	0.22	NM-BAPTA
	mg/dl	8.82	7.94	9.70	0.44	0.88	
Chloride	mmol/l	92.4	85.0	99.8	3.70	7.40	ISE indirect
Cholesterol	mmol/l	4.30	3.74	4.86	0.28	0.56	Cholesterol Oxidase
	mg/dl	166	144	188	11.00	22.00	
CK Total	U/l	200	164	236	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	125	103	147	11.00	22.00	CK-NAC (IFCC) 30℃
	U/l	85	70	100	7.50	15.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	128	102	154	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.45	1.15	1.75	0.15	0.30	
	µmol/l	127	102	152	12.50	25.00	Enzymatic UV method
	mg/dl	1.44	1.15	1.73	0.15	0.29	
	µmol/l	130	104	156	13.00	26.00	Roche Creatinine Plus
	mg/dl	1.47	1.18	1.76	0.15	0.29	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.46	1.16	1.76	0.15	0.30	
gamma-GT	U/l	52	44	60	4.00	8.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	41	35	47	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	32	27	37	2.50	5.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	60	51	69	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	47	40	54	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	37	31	43	3.00	6.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃
Glucose	mmol/l	6.46	5.49	7.43	0.49	0.97	Hexokinase
	mg/dl	116	98.9	133	8.55	17.10	
	mmol/l	6.52	5.55	7.49	0.49	0.97	Glucose oxidase
	mg/dl	117	100	134	8.50	17.00	
HDL - Cholesterol	mmol/l	1.08	0.92	1.24	0.08	0.16	Direct HDL Roche 3rd generation
	mg/dl	41.7	35.4	48.0	3.15	6.30	
Iron	µmol/l	18.6	15.3	21.9	1.65	3.30	Colorimetric without ppt.
	µg/dl	104	85.5	123	9.25	18.50	
Lactate	mmol/l	1.46	1.20	1.72	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.8	15.6	1.20	2.40	
LD (LDH)	U/l	361	307	415	27.00	54.00	P->L German methods 37℃
	U/l	261	222	300	19.50	39.00	P->L German methods 30℃
	U/l	183	156	210	13.50	27.00	P->L German methods 25℃
	U/l	190	162	218	14.00	28.00	L->P IFCC 37℃
	U/l	137	117	157	10.00	20.00	L->P IFCC 30℃
	U/l	96	82	110	7.00	14.00	L->P IFCC 25℃
Lipase	U/l	34	28	40	3.00	6.00	Roche Colorimetric 37℃

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.18	1.92	2.44	0.13	0.26	
	mmol/l	0.91	0.80	1.02	0.05	0.11	Chlorphosphonazo III
	mg/dl	2.21	1.94	2.48	0.14	0.27	
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.43	3.78	5.08	0.33	0.65	
Potassium	mmol/l	4.13	3.80	4.46	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.0	48.0	72.0	6.00	12.00	Biuret reaction end point
	g/dl	6.00	4.80	7.20	0.60	1.20	
Sodium	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
TIBC	µmol/l	47.5	37.6	57.4	4.95	9.90	FE+UIBC(saturation with iron)
	µg/dl	266	210	322	28.00	56.00	
Triglycerides	mmol/l	1.12	0.94	1.30	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	99.1	83.4	115	7.85	15.70	
	mmol/l	1.14	0.96	1.32	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	101	84.8	117	8.10	16.20	
Urea	mmol/l	7.33	6.23	8.43	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.4	50.8	3.35	6.70	
	mmol/l	7.33	6.23	8.43	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.64	4.91	6.37	0.37	0.73	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
alpha-HBDH	U/l	208	164	252	22.00	44.00	Oxobutyrate < 10 mmol/l 37℃
	U/l	157	124	190	16.50	33.00	Oxobutyrate < 10 mmol/l 30℃
	U/l	118	93	143	12.50	25.00	Oxobutyrate < 10 mmol/l 25℃
Albumin	g/l	44.1	37.5	50.7	3.30	6.60	Bromocresol Green
	g/dl	4.41	3.75	5.07	0.33	0.66	
Alkaline Phosphatase	U/l	131	111	151	10.00	20.00	Roche Integra AMP buffer 37℃
	U/l	102	86	118	8.00	16.00	Roche Integra AMP buffer 30℃
	U/l	84	71	97	6.50	13.00	Roche Integra AMP buffer 25℃
ALT (GPT)	U/l	32	26	38	3.00	6.00	Tris buffer without P5P 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30℃
	U/l	18	15	21	1.50	3.00	Tris buffer without P5P 25℃
Amylase Pancreatic	U/l	53	45	61	4.00	8.00	Roche liquid stable pNPG7 37℃
Amylase Total	U/l	75	64	86	5.50	11.00	Roche liquid stable pNPG7 37℃
AST (GOT)	U/l	36	28	44	4.00	8.00	Tris buffer without P5P 37℃
	U/l	24	19	29	2.50	5.00	Tris buffer without P5P 30℃
	U/l	17	13	21	2.00	4.00	Tris buffer without P5P 25℃
Bicarbonate	mmol/l	14.5	11.5	17.5	1.50	3.00	Enzymatic
Bile Acids	µmol/l	23.5	18.8	28.2	2.35	4.70	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	17.0	13.4	20.6	1.80	3.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.995	0.784	1.21	0.11	0.21	
	µmol/l	14.7	11.6	17.8	1.55	3.10	Oxidation to Biliverdin/Vanadate
	mg/dl	0.860	0.679	1.04	0.09	0.18	

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Bilirubin Total	µmol/l	23.1	18.3	27.9	2.40	4.80	Diazo with Sulphanilic Acid
	mg/dl	1.35	1.07	1.63	0.14	0.28	
	µmol/l	24.1	19.0	29.2	2.55	5.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.41	1.11	1.71	0.15	0.30	
	µmol/l	23.9	18.9	28.9	2.50	5.00	Diazonium ion
	mg/dl	1.40	1.11	1.69	0.15	0.29	
Calcium	mmol/l	2.18	1.96	2.40	0.11	0.22	Cresolphthalein complexone
	mg/dl	8.74	7.86	9.62	0.44	0.88	
	mmol/l	2.17	1.95	2.39	0.11	0.22	NM-BAPTA
	mg/dl	8.70	7.82	9.58	0.44	0.88	
Chloride	mmol/l	93.3	85.8	101	3.75	7.50	ISE indirect
Cholesterol	mmol/l	4.27	3.71	4.83	0.28	0.56	Cholesterol Oxidase
	mg/dl	165	143	187	11.00	22.00	
CK Total	U/l	198	162	234	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	124	101	147	11.50	23.00	CK-NAC (IFCC) 30℃
	U/l	84	69	99	7.50	15.00	CK-NAC (IFCC) 25℃
Creatinine	µmol/l	133	106	160	13.50	27.00	Roche Creatinine Plus
	mg/dl	1.50	1.20	1.80	0.15	0.30	
	µmol/l	133	106	160	13.50	27.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.50	1.20	1.80	0.15	0.30	
gamma-GT	U/l	49	42	56	3.50	7.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37℃
	U/l	39	33	45	3.00	6.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30℃
	U/l	30	26	34	2.00	4.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25℃
	U/l	59	50	68	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	46	39	53	3.50	7.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30℃
	U/l	36	31	41	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25℃

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RANDOX

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Glucose	mmol/l	6.45	5.48	7.42	0.49	0.97	Hexokinase
	mg/dl	116	98.7	133	8.65	17.30	
	mmol/l	6.40	5.44	7.36	0.48	0.96	Glucose oxidase
	mg/dl	115	98.0	132	8.50	17.00	
HDL - Cholesterol	mmol/l	1.03	0.87	1.19	0.08	0.16	Direct HDL Roche 3rd generation
	mg/dl	39.8	33.7	45.9	3.05	6.10	
Iron	µmol/l	18.1	14.8	21.4	1.65	3.30	Colorimetric without ppt.
	µg/dl	101	82.7	119	9.15	18.30	
Lactate	mmol/l	1.49	1.22	1.76	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.4	11.0	15.8	1.20	2.40	
LD (LDH)	U/l	362	307	417	27.50	55.00	P->L German methods 37℃
	U/l	261	222	300	19.50	39.00	P->L German methods 30℃
	U/l	184	156	212	14.00	28.00	P->L German methods 25℃
	U/l	192	163	221	14.50	29.00	L->P IFCC 37℃
	U/l	139	118	160	10.50	21.00	L->P IFCC 30℃
	U/l	97	83	111	7.00	14.00	L->P IFCC 25℃
Lipase	U/l	34	27	41	3.50	7.00	Roche Colorimetric 37℃
Lithium	mmol/l	1.18	1.04	1.32	0.07	0.14	Spectrophotometric
	mg/dl	0.819	0.722	0.916	0.05	0.10	
Magnesium	mmol/l	0.89	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.17	1.91	2.43	0.13	0.26	
Phosphate Inorganic	mmol/l	1.40	1.19	1.61	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.34	3.69	4.99	0.33	0.65	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.14	3.81	4.47	0.17	0.33	ISE method - indirect
Protein Total	g/l	59.5	47.6	71.4	5.95	11.90	Biuret reaction end point
	g/dl	5.95	4.76	7.14	0.60	1.19	
Sodium	mmol/l	147	140	154	3.50	7.00	ISE method - indirect
TIBC	µmol/l	48.0	37.9	58.1	5.05	10.10	FE+UIBC(saturation with iron)
	µg/dl	268	212	324	28.00	56.00	
	µmol/l	46.0	36.3	55.7	4.85	9.70	Calculated from Transferrin
	µg/dl	257	203	311	27.00	54.00	
Triglycerides	mmol/l	1.11	0.93	1.29	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	98.2	82.5	114	7.85	15.70	
	mmol/l	1.11	0.94	1.29	0.09	0.18	L/G Kinase EP. no correction
	mg/dl	98.2	82.7	114	7.75	15.50	
UIBC	µmol/l	29.2	23.9	34.5	2.65	5.30	Direct Colorimetric
	µg/dl	163	134	192	14.50	29.00	
Urea	mmol/l	7.01	5.96	8.06	0.53	1.05	Urease kinetic
	mg/dl	42.1	35.8	48.4	3.15	6.30	
	mmol/l	7.01	5.96	8.06	0.53	1.05	BUN
	mg/dl	19.7	16.7	22.7	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.33	0.28	0.37	0.02	0.04	Uricase peroxidase with ascorbate oxidase
	mg/dl	5.46	4.75	6.17	0.36	0.71	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.59	4.86	6.32	0.37	0.73	
	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.49	4.79	6.19	0.35	0.70	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.2	35.9	48.5	3.15	6.30	Bromocresol Green
	g/dl	4.22	3.59	4.85	0.32	0.63	
Alkaline Phosphatase	U/l	293	249	337	22.00	44.00	Diethanolamine buffer DEA 37°C
	U/l	177	150	204	13.50	27.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	64	54	74	5.00	10.00	Randox Liquid Ethylidene pNPG7 37℃
Amylase Total	U/l	84	71	97	6.50	13.00	Randox Liquid Ethylidene pNPG7 37℃
AST (GOT)	U/l	37	30	44	3.50	7.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	15.1	12.0	18.2	1.55	3.10	Enzymatic
Bile Acids	µmol/l	23.8	19.0	28.6	2.40	4.80	5th Generation Colorimetric
Bilirubin Direct	µmol/l	17.8	14.1	21.5	1.85	3.70	Diazo with Sulphanilic Acid
	mg/dl	1.04	0.825	1.26	0.11	0.22	
	µmol/l	15.0	11.9	18.1	1.55	3.10	Oxidation to Biliverdin/Vanadate
	mg/dl	0.878	0.696	1.06	0.09	0.18	
Bilirubin Total	µmol/l	29.7	23.5	35.9	3.10	6.20	Diazo with Sulphanilic Acid
	mg/dl	1.74	1.37	2.11	0.19	0.37	
	µmol/l	26.7	21.1	32.3	2.80	5.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Calcium	mmol/l	2.28	2.05	2.51	0.12	0.23	Arsenazo III
	mg/dl	9.14	8.22	10.1	0.46	0.92	
Chloride	mmol/l	95.7	88.1	103	3.80	7.60	ISE direct

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Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Cholesterol	mmol/l	4.39	3.82	4.96	0.29	0.57	Cholesterol Oxidase
	mg/dl	169	147	191	11.00	22.00	
CK Total	U/l	211	173	249	19.00	38.00	CK-NAC substrate start (DGKC) 37℃
	U/l	226	185	267	20.50	41.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	122	97.7	146	12.15	24.30	Alkaline picrate no deproteinization
	mg/dl	1.38	1.10	1.66	0.14	0.28	
	µmol/l	128	102	154	13.00	26.00	Enzymatic UV method
	mg/dl	1.45	1.15	1.75	0.15	0.30	
gamma-GT	U/l	62	53	71	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	6.76	5.75	7.77	0.51	1.01	Hexokinase
	mg/dl	122	104	140	9.00	18.00	
	mmol/l	6.95	5.91	7.99	0.52	1.04	Glucose oxidase
	mg/dl	125	106	144	9.50	19.00	
Iron	µmol/l	20.4	16.7	24.1	1.85	3.70	Colorimetric without ppt.
	µg/dl	114	93.4	135	10.30	20.60	
Lactate	mmol/l	1.43	1.17	1.69	0.13	0.26	Colorimetric Lactate Oxidase
	mg/dl	12.9	10.5	15.3	1.20	2.40	
LD (LDH)	U/l	364	309	419	27.50	55.00	P->L German methods 37℃
	U/l	188	160	216	14.00	28.00	L->P IFCC 37℃
Lipase	U/l	42	34	50	4.00	8.00	Randox Colorimetric 37℃
Lithium	mmol/l	1.18	1.04	1.32	0.07	0.14	Colorimetric
	mg/dl	0.819	0.722	0.916	0.05	0.10	
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Xylidyl Blue
	mg/dl	2.24	1.97	2.51	0.14	0.27	
Phosphate Inorganic	mmol/l	1.43	1.22	1.64	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.43	3.78	5.08	0.33	0.65	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Potassium	mmol/l	4.07	3.74	4.40	0.17	0.33	Enzymatic
	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - direct
Protein Total	g/l	61.1	48.9	73.3	6.10	12.20	Biuret reaction end point
	g/dl	6.11	4.89	7.33	0.61	1.22	
Sodium	mmol/l	143	136	150	3.50	7.00	ISE method - direct
	mmol/l	144	137	151	3.50	7.00	Enzymatic
TIBC	µmol/l	53.8	42.5	65.1	5.65	11.30	Direct Colorimetric
	µg/dl	301	238	364	31.50	63.00	
Triglycerides	mmol/l	1.13	0.95	1.31	0.09	0.18	Lipase/GPO-PAP no correction
	mg/dl	100	84.0	116	8.00	16.00	
Urea	mmol/l	7.20	6.12	8.28	0.54	1.08	Urease kinetic
	mg/dl	43.3	36.8	49.8	3.25	6.50	
	mmol/l	7.20	6.12	8.28	0.54	1.08	BUN
	mg/dl	20.2	17.2	23.2	1.50	3.00	
Uric Acid (Urate)	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.76	5.01	6.51	0.38	0.75	
	mmol/l	0.34	0.30	0.39	0.02	0.05	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.76	5.01	6.51	0.38	0.75	

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SIEMENS ADVIA 1200/1650/1800/2400®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.6	35.3	47.9	3.15	6.30	Bromocresol Green
	g/dl	4.16	3.53	4.79	0.32	0.63	
	g/l	44.5	37.9	51.1	3.30	6.60	Bromocresol Purple
	g/dl	4.45	3.79	5.11	0.33	0.66	
Alkaline Phosphatase	U/l	152	129	175	11.50	23.00	AMP optimised to IFCC 37℃
	U/l	151	129	173	11.00	22.00	AMP non-optimised 37℃
ALT (GPT)	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 37℃
Amylase Pancreatic	U/l	54	46	62	4.00	8.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	79	67	91	6.00	12.00	Siemens - blocked pNPG7 37℃
AST (GOT)	U/l	39	32	46	3.50	7.00	Tris buffer without P5P 37℃
Bicarbonate	mmol/l	16.0	12.6	19.4	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	14.8	11.7	17.9	1.55	3.10	Oxidation to Biliverdin/Vanadate
	mg/dl	0.866	0.684	1.05	0.09	0.18	
Bilirubin Total	µmol/l	27.8	21.9	33.7	2.95	5.90	Oxidation to Biliverdin/Vanadate
	mg/dl	1.63	1.28	1.98	0.18	0.35	
Calcium	mmol/l	2.12	1.91	2.33	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.50	7.66	9.34	0.42	0.84	
	mmol/l	2.25	2.02	2.48	0.12	0.23	Arsenazo III
	mg/dl	9.02	8.10	9.94	0.46	0.92	
Chloride	mmol/l	98.5	90.6	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	4.38	3.81	4.95	0.29	0.57	Cholesterol Oxidase
	mg/dl	169	147	191	11.00	22.00	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	201	165	237	18.00	36.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	124	99.3	149	12.35	24.70	Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	125	100	150	12.50	25.00	Jaffe rate blanked
	mg/dl	1.41	1.13	1.69	0.14	0.28	
	µmol/l	127	102	152	12.50	25.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	1.44	1.15	1.73	0.15	0.29	
gamma-GT	U/l	58	49	67	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
Glucose	mmol/l	6.38	5.42	7.34	0.48	0.96	Hexokinase
	mg/dl	115	97.7	132	8.65	17.30	
	mmol/l	6.50	5.52	7.48	0.49	0.98	Glucose oxidase
	mg/dl	117	99.5	135	8.75	17.50	
HDL - Cholesterol	mmol/l	1.13	0.96	1.30	0.09	0.17	Direct Clearance Method
	mg/dl	43.6	37.1	50.1	3.25	6.50	
Iron	µmol/l	19.0	15.6	22.4	1.70	3.40	Colorimetric without ppt.
	µg/dl	106	87.2	125	9.40	18.80	
Lactate	mmol/l	1.35	1.10	1.60	0.13	0.25	Colorimetric Lactate Oxidase
	mg/dl	12.2	9.91	14.5	1.15	2.29	
LD (LDH)	U/l	190	162	218	14.00	28.00	L->P 37℃
	U/l	360	306	414	27.00	54.00	P->L German methods 37℃
	U/l	193	164	222	14.50	29.00	L->P IFCC 37℃
Lipase	U/l	40	32	48	4.00	8.00	Other Colorimetric 37℃
Lithium	mmol/l	1.15	1.01	1.29	0.07	0.14	Spectrophotometric
	mg/dl	0.799	0.701	0.897	0.05	0.10	

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ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Magnesium	mmol/l	0.90	0.79	1.00	0.05	0.11	Xylidyl Blue
	mg/dl	2.18	1.91	2.45	0.14	0.27	
Phosphate Inorganic	mmol/l	1.42	1.20	1.64	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.40	3.72	5.08	0.34	0.68	
Potassium	mmol/l	4.10	3.77	4.43	0.17	0.33	ISE method - indirect
Protein Total	g/l	60.7	48.5	72.9	6.10	12.20	Biuret reaction end point
	g/dl	6.07	4.85	7.29	0.61	1.22	
Sodium	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
TIBC	µmol/l	51.7	40.9	62.5	5.40	10.80	Direct Colorimetric
	µg/dl	289	229	349	30.00	60.00	
Triglycerides	mmol/l	1.19	1.00	1.38	0.10	0.19	Lipase/GPO-PAP no correction
	mg/dl	105	88.1	122	8.45	16.90	
	mmol/l	1.14	0.95	1.33	0.09	0.19	L/G Kinase EP. no correction
	mg/dl	101	84.4	118	8.30	16.60	
Urea	mmol/l	7.38	6.27	8.49	0.56	1.11	Urease kinetic
	mg/dl	44.4	37.7	51.1	3.35	6.70	
	mmol/l	7.38	6.27	8.49	0.56	1.11	BUN
	mg/dl	20.7	17.6	23.8	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.89	6.37	0.37	0.74	

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RANDOX

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	44.7	38.0	51.4	3.35	6.70	Bromocresol Purple
	g/dl	4.47	3.80	5.14	0.34	0.67	
Alkaline Phosphatase	U/l	152	129	175	11.50	23.00	Siemens Dimension AMP buffer 37℃
	U/l	155	132	178	11.50	23.00	AMP optimised to IFCC 37℃
ALT (GPT)	U/l	40	32	48	4.00	8.00	Tris buffer with P5P 37℃
	U/l	40	32	48	4.00	8.00	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Total	U/l	83	71	95	6.00	12.00	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/l	52	41	63	5.50	11.00	Tris buffer with P5P 37℃
	U/l	54	43	65	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	14.8	11.7	17.9	1.55	3.10	Enzymatic
Bilirubin Direct	µmol/l	11.6	9.13	14.1	1.24	2.47	Diazo with Sulphanilic Acid
	mg/dl	0.679	0.534	0.824	0.07	0.15	
Bilirubin Total	µmol/l	27.2	21.5	32.9	2.85	5.70	Diazo with Sulphanilic Acid
	mg/dl	1.59	1.26	1.92	0.17	0.33	
Calcium	mmol/l	2.11	1.90	2.32	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.46	7.62	9.30	0.42	0.84	
Chloride	mmol/l	98.4	90.5	106	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.72	3.24	4.20	0.24	0.48	Dimension-Siemens reagents
	mg/dl	144	125	163	9.50	19.00	
CK Total	U/l	198	162	234	18.00	36.00	CK-NAC (IFCC) 37℃
	U/l	194	159	229	17.50	35.00	Dithioerythritol (DTE) IFCC correlated 37℃

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Creatinine	µmol/l	133	107	159	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.50	1.21	1.79	0.15	0.29	
	µmol/l	124	99.5	149	12.25	24.50	Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	132	106	158	13.00	26.00	IDMS traceable
	mg/dl	1.49	1.20	1.78	0.15	0.29	
gamma-GT	U/l	63	53	73	5.00	10.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	74	63	85	5.50	11.00	Siemens Dimension (non IFCC) 37℃
Glucose	mmol/l	6.63	5.64	7.62	0.50	0.99	Hexokinase
	mg/dl	119	102	136	8.50	17.00	
HDL - Cholesterol	mmol/l	1.20	1.02	1.38	0.09	0.18	Direct HDL PPD
	mg/dl	46.3	39.4	53.2	3.45	6.90	
	mmol/l	1.18	1.00	1.36	0.09	0.18	Direct HDL PEGME
	mg/dl	45.5	38.6	52.4	3.45	6.90	
Iron	µmol/l	18.3	15.0	21.6	1.65	3.30	Colorimetric with ppt.
	µg/dl	102	83.9	120	9.05	18.10	
	µmol/l	18.3	15.0	21.6	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.9	120	9.05	18.10	
Lactate	mmol/l	1.46	1.19	1.73	0.14	0.27	Colorimetric Lactate Oxidase
	mg/dl	13.2	10.7	15.7	1.25	2.50	
LD (LDH)	U/l	183	156	210	13.50	27.00	Siemens Dimension L-P Non IFCC 37℃
	U/l	179	153	205	13.00	26.00	L->P IFCC 37℃
Lipase	U/l	163	131	195	16.00	32.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	0.87	0.77	0.98	0.05	0.10	Methylthymol blue
	mg/dl	2.12	1.86	2.38	0.13	0.26	

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SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Phosphate Inorganic	mmol/l	1.47	1.25	1.69	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.56	3.88	5.24	0.34	0.68	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	62.4	49.9	74.9	6.25	12.50	Biuret reaction end point
	g/dl	6.24	4.99	7.49	0.63	1.25	
Sodium	mmol/l	146	139	153	3.50	7.00	ISE method - indirect
TIBC	µmol/l	42.8	33.8	51.8	4.50	9.00	Removal of excess free iron
	µg/dl	239	189	289	25.00	50.00	
Triglycerides	mmol/l	1.05	0.88	1.22	0.08	0.17	Lipase/GPO-PAP no correction
	mg/dl	92.9	78.2	108	7.35	14.70	
	mmol/l	1.05	0.88	1.22	0.08	0.17	L/G Kinase EP. no correction
	mg/dl	92.9	78.1	108	7.40	14.80	
	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	94.7	79.4	110	7.65	15.30	
Urea	mmol/l	7.48	6.36	8.60	0.56	1.12	Urease kinetic
	mg/dl	45.0	38.2	51.8	3.40	6.80	
	mmol/l	7.48	6.36	8.60	0.56	1.12	BUN
	mg/dl	21.0	17.9	24.1	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.63	4.91	6.35	0.36	0.72	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.63	4.91	6.35	0.36	0.72	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	41.8	35.5	48.1	3.15	6.30	Bromocresol Green
	g/dl	4.18	3.55	4.81	0.32	0.63	
	g/l	45.1	38.3	51.9	3.40	6.80	Bromocresol Purple
	g/dl	4.51	3.83	5.19	0.34	0.68	
Alkaline Phosphatase	U/l	154	131	177	11.50	23.00	Siemens Dimension AMP buffer 37℃
	U/l	154	131	177	11.50	23.00	AMP optimised to IFCC 37℃
	U/l	145	123	167	11.00	22.00	Randox AMP 37℃
ALT (GPT)	U/l	41	33	49	4.00	8.00	Tris buffer with P5P 37℃
	U/l	41	33	49	4.00	8.00	Siemens Dade Standard Non IFCC Correlated 37℃
Amylase Total	U/l	83	71	95	6.00	12.00	Siemens 2-chloro-pNPG3 37℃
AST (GOT)	U/l	53	43	63	5.00	10.00	Tris buffer with P5P 37℃
	U/l	54	43	65	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37℃
Bicarbonate	mmol/l	15.2	12.0	18.4	1.60	3.20	Enzymatic
Bilirubin Direct	µmol/l	11.5	9.08	13.9	1.21	2.42	Diazo with Sulphanilic Acid
	mg/dl	0.673	0.531	0.815	0.07	0.14	
Bilirubin Total	µmol/l	27.5	21.7	33.3	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.61	1.27	1.95	0.17	0.34	
Calcium	mmol/l	2.09	1.88	2.30	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.38	7.54	9.22	0.42	0.84	
Chloride	mmol/l	97.9	90.1	106	3.90	7.80	ISE indirect
Cholesterol	mmol/l	3.76	3.27	4.25	0.25	0.49	Dimension-Siemens reagents
	mg/dl	145	126	164	9.50	19.00	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
CK Total	U/l	197	161	233	18.00	36.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	131	105	157	13.00	26.00	Alkaline picrate no deproteinization
	mg/dl	1.48	1.19	1.77	0.15	0.29	
	µmol/l	124	99.2	149	12.40	24.80	Enzymatic UV method
	mg/dl	1.40	1.12	1.68	0.14	0.28	
	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
	µmol/l	130	104	156	13.00	26.00	IDMS traceable
	mg/dl	1.47	1.18	1.76	0.15	0.29	
gamma-GT	U/l	64	55	73	4.50	9.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37℃
	U/l	73	62	84	5.50	11.00	Siemens Dimension (non IFCC) 37℃
Glucose	mmol/l	6.68	5.68	7.68	0.50	1.00	Hexokinase
	mg/dl	120	102	138	9.00	18.00	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Direct HDL PPD
	mg/dl	45.9	39.0	52.8	3.45	6.90	
	mmol/l	1.18	1.01	1.35	0.09	0.17	Direct HDL PEGME
	mg/dl	45.5	39.0	52.0	3.25	6.50	
	mmol/l	1.30	1.10	1.50	0.10	0.20	Direct Clearance Method
	mg/dl	50.2	42.5	57.9	3.85	7.70	
Iron	µmol/l	18.2	14.9	21.5	1.65	3.30	Colorimetric without ppt.
	µg/dl	102	83.3	121	9.35	18.70	
Lactate	mmol/l	1.42	1.17	1.67	0.13	0.25	UV LDH
	mg/dl	12.8	10.5	15.1	1.15	2.30	
LD (LDH)	U/l	187	159	215	14.00	28.00	Siemens Dimension L-P Non IFCC 37℃

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
LD (LDH)	U/l	186	158	214	14.00	28.00	L->P IFCC 37℃
Lipase	U/l	153	123	183	15.00	30.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	0.87	0.77	0.98	0.05	0.10	Methylthymol blue
	mg/dl	2.12	1.86	2.38	0.13	0.26	
Phosphate Inorganic	mmol/l	1.48	1.26	1.70	0.11	0.22	Phosphomolybdate UV
	mg/dl	4.59	3.91	5.27	0.34	0.68	
Potassium	mmol/l	4.01	3.69	4.33	0.16	0.32	ISE method - indirect
Protein Total	g/l	62.5	50.0	75.0	6.25	12.50	Biuret reaction end point
	g/dl	6.25	5.00	7.50	0.63	1.25	
Sodium	mmol/l	145	138	152	3.50	7.00	ISE method - indirect
TIBC	µmol/l	40.6	32.1	49.1	4.25	8.50	Removal of excess free iron
	µg/dl	227	179	275	24.00	48.00	
	µmol/l	42.7	33.8	51.6	4.45	8.90	Direct Colorimetric
	µg/dl	239	189	289	25.00	50.00	
Triglycerides	mmol/l	1.07	0.90	1.24	0.09	0.17	Lipase/GPO-PAP no correction
	mg/dl	94.7	79.5	110	7.60	15.20	
	mmol/l	1.08	0.91	1.25	0.09	0.17	L/G Kinase EP. no correction
	mg/dl	95.6	80.4	111	7.60	15.20	
	mmol/l	1.08	0.91	1.25	0.08	0.17	Lipase/Glycerol Dehydrogenase
	mg/dl	95.6	80.6	111	7.50	15.00	
Urea	mmol/l	7.11	6.04	8.18	0.54	1.07	Urease end point
	mg/dl	42.7	36.3	49.1	3.20	6.40	
	mmol/l	7.34	6.24	8.44	0.55	1.10	Urease kinetic
	mg/dl	44.1	37.5	50.7	3.30	6.60	
	mmol/l	7.34	6.24	8.44	0.55	1.10	BUN
	mg/dl	20.6	17.5	23.7	1.55	3.10	

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SIEMENS DIMENSION RxL/Max/Xpand®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Uric Acid (Urate)	mmol/l	0.33	0.29	0.38	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.58	4.86	6.30	0.36	0.72	
	mmol/l	0.33	0.29	0.38	0.02	0.04	Spectrophotometric at 280-290
	mg/dl	5.58	4.84	6.32	0.37	0.74	
	mmol/l	0.34	0.29	0.38	0.02	0.04	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	5.68	4.94	6.42	0.37	0.74	

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SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	43.4	36.9	49.9	3.25	6.50	Bromocresol Purple
	g/dl	4.34	3.69	4.99	0.33	0.65	
Alkaline Phosphatase	U/l	153	130	176	11.50	23.00	Siemens Dimension AMP buffer 37℃
ALT (GPT)	U/l	39	31	47	4.00	8.00	Tris buffer with P5P 37℃
AST (GOT)	U/l	52	42	62	5.00	10.00	Tris buffer with P5P 37℃
Bicarbonate	mmol/l	14.6	11.6	17.6	1.50	3.00	Enzymatic
Bilirubin Direct	µmol/l	11.9	9.41	14.4	1.25	2.49	Diazo with Sulphanilic Acid
	mg/dl	0.696	0.550	0.842	0.07	0.15	
Bilirubin Total	µmol/l	26.7	21.1	32.3	2.80	5.60	Diazo with Sulphanilic Acid
	mg/dl	1.56	1.23	1.89	0.17	0.33	
Calcium	mmol/l	2.10	1.89	2.31	0.11	0.21	Cresolphthalein complexone
	mg/dl	8.42	7.58	9.26	0.42	0.84	
Chloride	mmol/l	99.2	91.3	107	3.95	7.90	ISE indirect
Cholesterol	mmol/l	3.74	3.26	4.22	0.24	0.48	Dimension-Siemens reagents
	mg/dl	144	126	162	9.00	18.00	
CK Total	U/l	193	158	228	17.50	35.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	129	103	155	13.00	26.00	Jaffe rate blanked
	mg/dl	1.46	1.16	1.76	0.15	0.30	
Glucose	mmol/l	6.34	5.39	7.29	0.48	0.95	Hexokinase
	mg/dl	114	97.1	131	8.45	16.90	
HDL - Cholesterol	mmol/l	1.13	0.96	1.30	0.09	0.17	Direct HDL PEGME
	mg/dl	43.6	37.1	50.1	3.25	6.50	

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SIEMENS DIMENSION Vista®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Iron	µmol/l	17.9	14.7	21.1	1.60	3.20	Colorimetric without ppt.
	µg/dl	100	82.2	118	8.90	17.80	
LD (LDH)	U/l	185	157	213	14.00	28.00	L->P IFCC 37℃
Lipase	U/l	177	142	212	17.50	35.00	Colorimetric Siemens Dimension (LIPL Kit) 37℃
Magnesium	mmol/l	0.92	0.81	1.03	0.06	0.11	Methylthymol blue
	mg/dl	2.23	1.96	2.50	0.14	0.27	
Phosphate Inorganic	mmol/l	1.39	1.18	1.60	0.11	0.21	Phosphomolybdate UV
	mg/dl	4.31	3.66	4.96	0.33	0.65	
Potassium	mmol/l	3.90	3.59	4.21	0.16	0.31	ISE method - indirect
Protein Total	g/l	60.8	48.6	73.0	6.10	12.20	Biuret reaction end point
	g/dl	6.08	4.86	7.30	0.61	1.22	
Sodium	mmol/l	142	135	149	3.50	7.00	ISE method - indirect
Urea	mmol/l	7.27	6.18	8.36	0.55	1.09	Urease kinetic
	mg/dl	43.7	37.1	50.3	3.30	6.60	
	mmol/l	7.27	6.18	8.36	0.55	1.09	BUN
	mg/dl	20.4	17.3	23.5	1.55	3.10	
Uric Acid (Urate)	mmol/l	0.33	0.29	0.37	0.02	0.04	Uricase peroxidase no ascorbate oxidase
	mg/dl	5.51	4.79	6.23	0.36	0.72	

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RANDOX

VITALAB FLEXOR®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Albumin	g/l	42.9	36.4	49.4	3.25	6.50	Bromocresol Green
	g/dl	4.29	3.64	4.94	0.33	0.65	
Alkaline Phosphatase	U/l	277	235	319	21.00	42.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	36	29	43	3.50	7.00	Tris buffer without P5P 37℃
AST (GOT)	U/l	39	31	47	4.00	8.00	Tris buffer without P5P 37℃
Calcium	mmol/l	2.34	2.10	2.58	0.12	0.24	Arsenazo III
	mg/dl	9.38	8.42	10.3	0.48	0.96	
Cholesterol	mmol/l	4.34	3.78	4.90	0.28	0.56	Cholesterol Oxidase
	mg/dl	168	146	190	11.00	22.00	
CK Total	U/l	210	173	247	18.50	37.00	CK-NAC (IFCC) 37℃
Creatinine	µmol/l	127	102	152	12.50	25.00	Alkaline picrate no deproteinization
	mg/dl	1.44	1.15	1.73	0.15	0.29	
Glucose	mmol/l	6.70	5.69	7.71	0.51	1.01	Glucose oxidase
	mg/dl	121	103	139	9.00	18.00	
LD (LDH)	U/l	194	165	223	14.50	29.00	L->P IFCC 37℃
Protein Total	g/l	62.1	49.7	74.5	6.20	12.40	Biuret reaction end point
	g/dl	6.21	4.97	7.45	0.62	1.24	
Triglycerides	mmol/l	1.17	0.98	1.36	0.09	0.19	Lipase/GPO-PAP no correction
	mg/dl	104	86.9	121	8.55	17.10	
Urea	mmol/l	7.30	6.20	8.40	0.55	1.10	Urease kinetic
	mg/dl	43.9	37.3	50.5	3.30	6.60	

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RANDOX

VITALAB FLEXOR®

ASSAYED HUMAN SERA LEVEL 2 (HUM ASY CONTROL 2)

Lot. No. 1230UN Cat. No. HN1530 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2021-06-28

			Range				
Analyte	**unit**	**Target**	**low**	**high**	**1SD**	**2SD**	**methods**
Urea	mmol/l	7.30	6.21	8.39	0.55	1.09	BUN
	mg/dl	20.5	17.4	23.6	1.55	3.10	

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