

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

CAT. NO. HE1532	GTIN: 05055273203608	SIZE: 20 x 5ml
CAT. NO. HS2611	GTIN: 05055273203813	SIZE: 5 x 5ml
LOT NO. 1173UE	EXPIRY: 2024-06-28	

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.

Due to the zinc content in some batches of rubber stoppers, the QC material should be aliquoted into suitable containers without rubber stoppers and stored at +2°C to +8°C to ensure stable zinc levels throughout the stability period.

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.

- 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.
- Refer to the Control section of the individual analyser application.
- Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

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

MATERIALS REQUIRED BUT NOT PROVIDED

Volumetric pipette

ASSIGNED VALUES

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

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

® All trademarks recognised.

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

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Dungloe, Donegal,
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Abbott Alinity/ Architect c/ci Systems®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	30.6	26.0	35.2	2.30	4.60	Bromocresol Green
	g/dl	3.06	2.60	3.52	0.23	0.46	
	g/l	29.1	24.7	33.5	2.20	4.40	Bromocresol Purple
	g/dl	2.91	2.47	3.35	0.22	0.44	
Alkaline Phosphatase	U/l	320	272	368	24.00	48.00	AMP optimised to IFCC 37°C
	U/l	316	269	363	23.50	47.00	AMP non-optimised 37°C
ALT (GPT)	U/l	143	115	171	14.00	28.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	252	214	290	19.00	38.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	303	257	349	23.00	46.00	Abbott Architect Non-IFCC Cal. 37°C
	U/l	332	283	381	24.50	49.00	Abbott Architect IFCC Cal. 37°C
AST (GOT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	14.3	11.3	17.3	1.50	3.00	Enzymatic
Bile Acids	µmol/l	42.5	34.0	51.0	4.25	8.50	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	28.1	22.2	34.0	2.95	5.90	Diazo with Sulphanilic Acid
	mg/dl	1.64	1.30	1.98	0.17	0.34	
	µmol/l	28.1	22.2	34.0	2.95	5.90	Diazo with Dichloroaniline (DCA)
	mg/dl	1.64	1.30	1.98	0.17	0.34	
Bilirubin Total	µmol/l	86.0	68.0	104	9.00	18.00	Diazo with Dichloroaniline (DCA)
	mg/dl	5.03	3.98	6.08	0.53	1.05	
	µmol/l	91.1	71.9	110	9.60	19.20	Diazo with Sulphanilic Acid
	mg/dl	5.33	4.21	6.45	0.56	1.12	


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Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Total	μmol/l	87.8	69.4	106	9.20	18.40	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.14	4.06	6.22	0.54	1.08	
	μmol/l	86.6	68.4	105	9.10	18.20	Diazonium ion
	mg/dl	5.07	4.00	6.14	0.54	1.07	
Calcium	mmol/l	3.07	2.77	3.37	0.15	0.30	Arsenazo III
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.25	6.31	8.19	0.47	0.94	Cholesterol Oxidase - Abell Kendall
	mg/dl	280	244	316	18.00	36.00	
Cholinesterase	U/l	5444	4355	6533	544.50	1089.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	492	404	580	44.00	88.00	CK-NAC serum start (DGKC) 37°C
	U/l	521	427	615	47.00	94.00	CK-NAC (IFCC) 37°C
	U/l	512	420	604	46.00	92.00	Abbott CK-NAC (IFCC) 37°C
Copper	μmol/l	18.8	15.0	22.6	1.90	3.80	Colorimetric
	μg/dl	120	95.4	145	12.30	24.60	
Creatinine	μmol/l	376	301	451	37.50	75.00	Alkaline picrate no deproteinization
	mg/dl	4.25	3.40	5.10	0.43	0.85	
	μmol/l	371	296	446	37.50	75.00	Enzymatic UV method
	mg/dl	4.19	3.34	5.04	0.43	0.85	
	μmol/l	372	298	446	37.00	74.00	Creatinine PAP method
	mg/dl	4.20	3.37	5.03	0.42	0.83	
gamma-GT	U/l	171	145	197	13.00	26.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	168	143	193	12.50	25.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C



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Analyte	unit	Target	low	high	1SD	2SD	methods	
Glucose	mmol/l	15.5	13.2	17.8	1.15	2.30	Hexokinase	
	mg/dl	279	238	320	20.50	41.00		
	mmol/l	15.0	12.7	17.3	1.15	2.30	Glucose oxidase	
	mg/dl	270	229	311	20.50	41.00		
HDL - Cholesterol	mmol/l	2.47	2.10	2.84	0.19	0.37	Direct HDL PPD	
	mg/dl	95.3	81.1	110	7.10	14.20		
	mmol/l	2.48	2.11	2.85	0.19	0.37	Direct Clearance Method	
	mg/dl	95.7	81.4	110	7.15	14.30		
Iron	mmol/l	2.47	2.10	2.84	0.19	0.37	HDL - Ultra	
	mg/dl	95.3	81.1	110	7.10	14.20		
	μmol/l	37.7	30.9	44.5	3.40	6.80	Colorimetric with ppt.	
	μg/dl	211	173	249	19.00	38.00		
Lactate	μmol/l	37.5	30.8	44.2	3.35	6.70	Colorimetric without ppt.	
	μg/dl	210	172	248	19.00	38.00		
	Lactate	mmol/l	5.69	4.67	6.71	0.51	1.02	Colorimetric Lactate Oxidase
		mg/dl	51.3	42.1	60.5	4.60	9.20	
LD (LDH)	U/l	365	310	420	27.50	55.00	L->P 37°C	
	U/l	367	312	422	27.50	55.00	L->P IFCC 37°C	
Lipase	U/l	59	47	71	6.00	12.00	Other Colorimetric 37°C	
Lithium	mmol/l	2.21	1.94	2.48	0.14	0.27	Spectrophotometric	
	mg/dl	1.53	1.35	1.71	0.09	0.18		
Magnesium	mmol/l	1.67	1.47	1.87	0.10	0.20	Arsenazo III	
	mg/dl	4.06	3.57	4.55	0.25	0.49		
	mmol/l	1.68	1.48	1.88	0.10	0.20	Enzymatic	
	mg/dl	4.08	3.60	4.56	0.24	0.48		


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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Osmolality	mOsm/kg	339	272	406	33.50	67.00	Calculated
Phosphate Inorganic	mmol/l	2.23	1.90	2.56	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.91	5.89	7.93	0.51	1.02	
	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate UV
	mg/dl	6.94	5.89	7.99	0.53	1.05	
Potassium	mmol/l	6.06	5.57	6.55	0.25	0.49	ISE method - indirect
Protein Total	g/l	46.1	36.8	55.4	4.65	9.30	Biuret reaction end point
	g/dl	4.61	3.68	5.54	0.47	0.93	
	g/l	46.4	37.1	55.7	4.65	9.30	Biuret reaction kinetic
	g/dl	4.64	3.71	5.57	0.47	0.93	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	μmol/l	40.8	32.2	49.4	4.30	8.60	FE+UIBC(saturation with iron)
	μg/dl	228	180	276	24.00	48.00	
	μmol/l	41.2	32.6	49.8	4.30	8.60	Calculated from Transferrin
	μg/dl	230	182	278	24.00	48.00	
Triglycerides	mmol/l	3.17	2.67	3.67	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	281	236	326	22.50	45.00	
	mmol/l	3.15	2.65	3.65	0.25	0.50	L/G Kinase EP. no correction
	mg/dl	279	235	323	22.00	44.00	
	mmol/l	3.22	2.70	3.74	0.26	0.52	Lipase/Glycerol Dehydrogenase
	mg/dl	285	239	331	23.00	46.00	
UIBC	μmol/l	4.42	3.62	5.22	0.40	0.80	Direct Colorimetric
	μg/dl	24.7	20.2	29.2	2.25	4.50	
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease end point
	mg/dl	120	102	138	9.00	18.00	

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Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	20.0	17.0	23.0	1.50	3.00	BUN
	mg/dl	56.1	47.7	64.5	4.20	8.40	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.19	8.00	10.4	0.60	1.19	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.26	8.05	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.34	8.13	10.6	0.61	1.21	

ABX Pentra 400®

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Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
ALT (GPT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	158	127	189	15.50	31.00	Tris buffer without P5P 37°C
Bilirubin Total	µmol/l	92.5	73.1	112	9.70	19.40	Diazo with Dichloroaniline (DCA)
	mg/dl	5.41	4.28	6.54	0.57	1.13	
Calcium	mmol/l	3.05	2.74	3.36	0.16	0.31	Arsenazo III
	mg/dl	12.2	11.0	13.4	0.60	1.20	
Cholesterol	mmol/l	7.33	6.37	8.29	0.48	0.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	283	246	320	18.50	37.00	
Creatinine	µmol/l	347	278	416	34.50	69.00	Alkaline picrate no deproteinization
	mg/dl	3.92	3.14	4.70	0.39	0.78	
Glucose	mmol/l	14.8	12.6	17.0	1.10	2.20	Glucose oxidase
	mg/dl	267	227	307	20.00	40.00	
Magnesium	mmol/l	1.53	1.35	1.71	0.09	0.18	Xylidyl Blue
	mg/dl	3.72	3.28	4.16	0.22	0.44	
Phosphate Inorganic	mmol/l	2.35	1.99	2.71	0.18	0.36	Phosphomolybdate UV
	mg/dl	7.29	6.17	8.41	0.56	1.12	
Protein Total	g/l	46.3	37.0	55.6	4.65	9.30	Biuret reaction end point
	g/dl	4.63	3.70	5.56	0.47	0.93	
Sodium	mmol/l	155	147	163	4.00	8.00	ISE method - direct

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Analyte	unit	Target	low	high	1SD	2SD	methods
Triglycerides	mmol/l	3.09	2.60	3.58	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	273	230	316	21.50	43.00	
Urea	mmol/l	17.5	14.9	20.1	1.30	2.60	Urease kinetic
	mg/dl	105	89.5	121	7.75	15.50	
	mmol/l	17.5	14.9	20.1	1.30	2.60	BUN
	mg/dl	49.1	41.7	56.5	3.70	7.40	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.07	7.90	10.2	0.59	1.17	



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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Green
	g/dl	2.87	2.44	3.30	0.22	0.43	
	g/l	28.9	24.6	33.2	2.15	4.30	Bromocresol Purple
	g/dl	2.89	2.46	3.32	0.22	0.43	
Alkaline Phosphatase	U/l	489	415	563	37.00	74.00	Diethanolamine buffer DEA 37°C
	U/l	383	326	440	28.50	57.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	149	119	179	15.00	30.00	Tris buffer without P5P 37°C
	U/l	140	112	168	14.00	28.00	Beckman (Extinction Coefficient) 37°C
Amylase Total	U/l	282	240	324	21.00	42.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	267	227	307	20.00	40.00	Beckman CNPG3 (Extinction Coeff) 37°C
AST (GOT)	U/l	156	125	187	15.50	31.00	Tris buffer without P5P 37°C
	U/l	145	116	174	14.50	29.00	Beckman (Extinction Coefficient) 37°C
Bicarbonate	mmol/l	16.1	12.7	19.5	1.70	3.40	Enzymatic
Bilirubin Direct	µmol/l	20.3	16.0	24.6	2.15	4.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.19	0.936	1.44	0.13	0.25	
Bilirubin Total	µmol/l	88.4	69.8	107	9.30	18.60	Dichlorophenyl Diazonium (DPD)
	mg/dl	5.17	4.08	6.26	0.55	1.09	
	µmol/l	88.8	70.2	107	9.30	18.60	DPD (Beckman AU)
	mg/dl	5.19	4.11	6.27	0.54	1.08	
Calcium	mmol/l	3.12	2.81	3.43	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	



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Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	3.11	2.80	3.42	0.16	0.31	Arsenazo III
	mg/dl	12.5	11.2	13.8	0.65	1.30	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.38	6.42	8.34	0.48	0.96	Cholesterol Oxidase - Abell Kendall
	mg/dl	285	248	322	18.50	37.00	
	mmol/l	7.56	6.58	8.54	0.49	0.98	Cholesterol Oxidase - IDMS
	mg/dl	292	254	330	19.00	38.00	
Cholinesterase	U/l	4402	3521	5283	440.50	881.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	530	435	625	47.50	95.00	CK-NAC substrate start (DGKC) 37°C
	U/l	532	436	628	48.00	96.00	CK-NAC (IFCC) 37°C
	U/l	509	417	601	46.00	92.00	Beckman CK-NAC (Extinction Coeff) 37°C
Copper	µmol/l	23.4	18.7	28.1	2.35	4.70	Colorimetric
	µg/dl	149	119	179	15.00	30.00	
Creatinine	µmol/l	348	278	418	35.00	70.00	Alkaline picrate no deproteinization
	mg/dl	3.93	3.14	4.72	0.40	0.79	
	µmol/l	378	303	453	37.50	75.00	Enzymatic UV method
	mg/dl	4.27	3.42	5.12	0.43	0.85	
	µmol/l	379	303	455	38.00	76.00	Creatinine PAP method
	mg/dl	4.28	3.42	5.14	0.43	0.86	
	µmol/l	348	278	418	35.00	70.00	Jaffe rate blanked
	mg/dl	3.93	3.14	4.72	0.40	0.79	
	µmol/l	355	284	426	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.01	3.21	4.81	0.40	0.80	
	µmol/l	360	288	432	36.00	72.00	IDMS traceable
	mg/dl	4.07	3.25	4.89	0.41	0.82	



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Analyte	unit	Target	low	high	1SD	2SD	methods
D-3-Hydroxybutyrate	mmol/l	1.15	0.98	1.32	0.09	0.17	Tris buffer 100mmol pH 8.5
gamma-GT	U/l	180	153	207	13.50	27.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	150	128	172	11.00	22.00	Gamma glutamyl-4-nitroanilide 37°C
	U/l	177	151	203	13.00	26.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	176	149	203	13.50	27.00	Beckman Szasz (Extinction Coeff) 37°C
GLDH	U/l	33	26	40	3.50	7.00	Triethanolamine buffer 50 mmol 37°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.9	13.5	18.3	1.20	2.40	Glucose oxidase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	2.66	2.26	3.06	0.20	0.40	Direct HDL PPD
	mg/dl	103	87.2	119	7.90	15.80	
	mmol/l	2.74	2.33	3.15	0.21	0.41	Direct HDL Immunoseparation
	mg/dl	106	89.9	122	8.05	16.10	
	mmol/l	2.61	2.22	3.00	0.20	0.39	Direct Clearance Method
	mg/dl	101	85.7	116	7.65	15.30	
Iron	mmol/l	2.58	2.19	2.97	0.20	0.39	HDL - Ultra
	mg/dl	99.6	84.5	115	7.55	15.10	
	µmol/l	37.9	31.1	44.7	3.40	6.80	Colorimetric with ppt.
	µg/dl	212	174	250	19.00	38.00	
Lactate	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.48	4.50	6.46	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.4	40.5	58.3	4.45	8.90	
LD (LDH)	U/l	359	305	413	27.00	54.00	L->P 37°C



Beckman Coulter AU Series®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
LD (LDH)	U/l	800	680	920	60.00	120.00	P->L Scandinavian & Dutch 37°C
	U/l	366	311	421	27.50	55.00	L->P IFCC 37°C
	U/l	348	295	401	26.50	53.00	L to P Beckman (Extinction Coeff) 37°C
Lipase	U/l	63	51	75	6.00	12.00	Other Colorimetric 37°C
	U/l	82	66	98	8.00	16.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.19	1.93	2.45	0.13	0.26	Spectrophotometric
	mg/dl	1.52	1.34	1.70	0.09	0.18	
Magnesium	mmol/l	1.70	1.49	1.91	0.11	0.21	Xylidyl Blue
	mg/dl	4.13	3.62	4.64	0.26	0.51	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	µmol/l	40.5	32.0	49.0	4.25	8.50	FE+UIBC(saturation with iron)
	µg/dl	226	179	273	23.50	47.00	
Triglycerides	mmol/l	3.12	2.62	3.62	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	276	232	320	22.00	44.00	
	mmol/l	3.15	2.64	3.66	0.26	0.51	L/G Kinase EP. no correction
	mg/dl	279	234	324	22.50	45.00	
Urea	mmol/l	20.1	17.1	23.1	1.50	3.00	Urease end point
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.0	17.0	23.0	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	

**Beckman Coulter AU Series®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	20.0	17.0	23.0	1.50	3.00	BUN
	mg/dl	56.1	47.7	64.5	4.20	8.40	
Uric Acid (Urate)	mmol/l	0.57	0.50	0.64	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.56	8.32	10.8	0.62	1.24	
	mmol/l	0.57	0.50	0.65	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.59	8.35	10.8	0.62	1.24	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.24	8.03	10.5	0.61	1.21	

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	30.1	25.6	34.6	2.25	4.50	Bromocresol Purple
	g/dl	3.01	2.56	3.46	0.23	0.45	
Alkaline Phosphatase	U/l	342	291	393	25.50	51.00	AMP optimised to IFCC 37°C
	U/l	342	291	393	25.50	51.00	AMP non-optimised 37°C
ALT (GPT)	U/l	137	109	165	14.00	28.00	Tris buffer without P5P 37°C
Amylase Total	U/l	294	250	338	22.00	44.00	Beckman Synchron AMY7 37°C
AST (GOT)	U/l	138	110	166	14.00	28.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.0	11.9	18.1	1.55	3.10	Differential rate pH change
Bilirubin Direct	µmol/l	15.5	12.3	18.7	1.60	3.20	Diazo/ Sulphanilic Beckman DxC
	mg/dl	0.907	0.720	1.09	0.09	0.19	
Bilirubin Total	µmol/l	88.1	69.6	107	9.25	18.50	Diazo with Sulphanilic Acid
	mg/dl	5.15	4.07	6.23	0.54	1.08	
Calcium	mmol/l	3.04	2.74	3.34	0.15	0.30	Ion selective electrode
	mg/dl	12.2	11.0	13.4	0.60	1.20	
Chloride	mmol/l	112	103	121	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.62	6.63	8.61	0.50	0.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	294	256	332	19.00	38.00	
CK Total	U/l	539	442	636	48.50	97.00	Monothioglycerol 37°C
Creatinine	µmol/l	365	292	438	36.50	73.00	Alkaline picrate no deproteinization
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	370	296	444	37.00	74.00	IDMS traceable
mg/dl	4.18	3.34	5.02	0.42	0.84		

Beckman DxC600/800®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	141	120	162	10.50	21.00	Gamma glutamyl-4-nitroanilide 37°C
Glucose	mmol/l	15.3	13.0	17.6	1.15	2.30	Hexokinase
	mg/dl	276	234	318	21.00	42.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	2.66	2.26	3.06	0.20	0.40	HDL - Ultra
	mg/dl	103	87.2	119	7.90	15.80	
Iron	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Lactate	mmol/l	5.23	4.29	6.17	0.47	0.94	Colorimetric Lactate Oxidase
	mg/dl	47.1	38.7	55.5	4.20	8.40	
LD (LDH)	U/l	299	254	344	22.50	45.00	L->P 37°C
Magnesium	mmol/l	1.66	1.46	1.86	0.10	0.20	Calmagite
	mg/dl	4.03	3.55	4.51	0.24	0.48	
Phosphate Inorganic	mmol/l	2.27	1.93	2.61	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.04	5.98	8.10	0.53	1.06	
Potassium	mmol/l	6.02	5.54	6.50	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.3	36.2	54.4	4.55	9.10	Biuret reaction end point
	g/dl	4.53	3.62	5.44	0.46	0.91	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.10	2.60	3.60	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	274	230	318	22.00	44.00	
	mmol/l	3.08	2.58	3.58	0.25	0.50	L/G Kinase EP. no correction
	mg/dl	273	228	318	22.50	45.00	

**Beckman DxC600/800®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	20.5	17.4	23.6	1.55	3.10	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.02	7.85	10.2	0.59	1.17	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.8	27.0	36.6	2.40	4.80	Bromocresol Green
	g/dl	3.18	2.70	3.66	0.24	0.48	
	g/l	27.2	23.2	31.2	2.00	4.00	Turbidimetric Assays
	g/dl	2.72	2.32	3.12	0.20	0.40	
Alkaline Phosphatase	U/l	289	246	332	21.50	43.00	Roche Integra AMP buffer 37°C
	U/l	225	192	258	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	185	157	213	14.00	28.00	Roche Integra AMP buffer 25°C
	U/l	310	263	357	23.50	47.00	AMP optimised to IFCC 37°C
	U/l	241	205	277	18.00	36.00	AMP optimised to IFCC 30°C
	U/l	198	168	228	15.00	30.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	136	109	163	13.50	27.00	Tris buffer without P5P 37°C
	U/l	101	81	121	10.00	20.00	Tris buffer without P5P 30°C
	U/l	77	61	93	8.00	16.00	Tris buffer without P5P 25°C
Amylase Total	U/l	271	230	312	20.50	41.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	273	232	314	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	56	82	6.50	13.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	29.3	23.1	35.5	3.10	6.20	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.71	1.35	2.07	0.18	0.36	
	µmol/l	29.2	23.1	35.3	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.71	1.35	2.07	0.18	0.36	

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	29.1	23.0	35.2	3.05	6.10	Roche JG factored
	mg/dl	1.70	1.35	2.05	0.18	0.35	
Bilirubin Total	µmol/l	80.2	63.4	97.0	8.40	16.80	Diazo with Sulphanilic Acid
	mg/dl	4.69	3.71	5.67	0.49	0.98	
	µmol/l	81.6	64.5	98.7	8.55	17.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.77	3.77	5.77	0.50	1.00	
Calcium	µmol/l	81.1	64.1	98.1	8.50	17.00	Diazonium ion
	mg/dl	4.74	3.75	5.73	0.50	0.99	
	mmol/l	3.09	2.78	3.40	0.16	0.31	Cresolphthalein complexone
		mg/dl	12.4	11.1	13.7	0.65	
mmol/l	3.14	2.82	3.46	0.16	0.32	NM-BAPTA	
	mg/dl	12.6	11.3	13.9	0.65		1.30
Chloride	mmol/l	114	104	124	5.00	10.00	ISE indirect
Cholesterol	mmol/l	7.15	6.22	8.08	0.47	0.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	276	240	312	18.00	36.00	
	mmol/l	7.19	6.26	8.12	0.47	0.93	Cholesterol Oxidase - IDMS
	mg/dl	278	242	314	18.00	36.00	
CK Total	U/l	489	401	577	44.00	88.00	CK-NAC (IFCC) 37°C
	U/l	306	251	361	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	208	170	246	19.00	38.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	357	285	429	36.00	72.00	Alkaline picrate no deproteinization
	mg/dl	4.03	3.22	4.84	0.41	0.81	
	µmol/l	364	291	437	36.50	73.00	Roche Creatinine Plus
	mg/dl	4.11	3.29	4.93	0.41	0.82	



COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	354	283	425	35.50	71.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.00	3.20	4.80	0.40	0.80	
	µmol/l	356	285	427	35.50	71.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.02	3.22	4.82	0.40	0.80	
gamma-GT	U/l	163	139	187	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	110	146	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	101	86	116	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	179	152	206	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	141	120	162	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	94	126	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.9	13.5	18.3	1.20	2.40	Hexokinase
	mg/dl	287	243	331	22.00	44.00	
HDL - Cholesterol	mmol/l	3.48	2.95	4.01	0.27	0.53	Direct HDL Roche 4th Generation
	mg/dl	134	114	154	10.00	20.00	
Iron	µmol/l	38.6	31.7	45.5	3.45	6.90	Colorimetric with ppt.
	µg/dl	216	177	255	19.50	39.00	
	µmol/l	37.8	31.0	44.6	3.40	6.80	Colorimetric without ppt.
	µg/dl	211	173	249	19.00	38.00	
Lactate	mmol/l	5.54	4.55	6.53	0.50	0.99	Colorimetric Lactate Oxidase
	mg/dl	49.9	41.0	58.8	4.45	8.90	
LD (LDH)	U/l	685	582	788	51.50	103.00	P->L German methods 37°C
	U/l	495	420	570	37.50	75.00	P->L German methods 30°C
	U/l	347	295	399	26.00	52.00	P->L German methods 25°C
	U/l	377	320	434	28.50	57.00	L->P IFCC 37°C
	U/l	272	231	313	20.50	41.00	L->P IFCC 30°C
	U/l	191	162	220	14.50	29.00	L->P IFCC 25°C

COBAS INTEGRA®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Lithium	mmol/l	2.20	1.94	2.46	0.13	0.26	Ion selective electrode
	mg/dl	1.53	1.35	1.71	0.09	0.18	
Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Xylidyl Blue
	mg/dl	4.11	3.62	4.60	0.25	0.49	
	mmol/l	1.70	1.50	1.90	0.10	0.20	Chlorphosphonazo III
	mg/dl	4.13	3.65	4.61	0.24	0.48	
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	7.07	6.01	8.13	0.53	1.06	
	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.13	6.08	8.18	0.53	1.05	
Potassium	mmol/l	6.06	5.57	6.55	0.25	0.49	ISE method - indirect
Protein Total	g/l	43.5	34.8	52.2	4.35	8.70	Biuret reaction end point
	g/dl	4.35	3.48	5.22	0.44	0.87	
	g/l	45.0	36.0	54.0	4.50	9.00	Biuret reaction kinetic
	g/dl	4.50	3.60	5.40	0.45	0.90	
Sodium	mmol/l	156	148	164	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.8	33.8	51.8	4.50	9.00	FE+UIBC(saturation with iron)
	µg/dl	239	189	289	25.00	50.00	
Triglycerides	mmol/l	3.11	2.62	3.60	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	275	232	318	21.50	43.00	
	mmol/l	3.12	2.62	3.62	0.25	0.50	Lipase/Glycerol Dehydrogenase
	mg/dl	276	232	320	22.00	44.00	
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	Urease kinetic
	mg/dl	115	98.0	132	8.50	17.00	

**COBAS INTEGRA®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.2	16.3	22.1	1.45	2.90	BUN
	mg/dl	53.9	45.8	62.0	4.05	8.10	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.32	8.11	10.5	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.24	8.03	10.5	0.61	1.21	
	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.32	8.11	10.5	0.61	1.21	

Elitech/Vitalab Selectra Series

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.8	27.0	36.6	2.40	4.80	Bromocresol Green
	g/dl	3.18	2.70	3.66	0.24	0.48	
Alkaline Phosphatase	U/l	459	391	527	34.00	68.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	146	116	176	15.00	30.00	Tris buffer without P5P 37°C
AST (GOT)	U/l	135	108	162	13.50	27.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	27.8	22.0	33.6	2.90	5.80	Diazo with Sulphanilic Acid
	mg/dl	1.63	1.29	1.97	0.17	0.34	
Calcium	mmol/l	3.25	2.93	3.57	0.16	0.32	Arsenazo III
	mg/dl	13.0	11.7	14.3	0.65	1.30	
Cholesterol	mmol/l	7.63	6.64	8.62	0.50	0.99	Cholesterol Oxidase - Abell Kendall
	mg/dl	295	256	334	19.50	39.00	
CK Total	U/l	536	439	633	48.50	97.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	339	271	407	34.00	68.00	Alkaline picrate no deproteinization
	mg/dl	3.83	3.06	4.60	0.39	0.77	
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Glucose oxidase
	mg/dl	281	240	322	20.50	41.00	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Protein Total	g/l	47.5	38.0	57.0	4.75	9.50	Biuret reaction end point
	g/dl	4.75	3.80	5.70	0.48	0.95	
Triglycerides	mmol/l	2.97	2.49	3.45	0.24	0.48	Lipase/GPO-PAP no correction
	mg/dl	263	220	306	21.50	43.00	

**Elitech/Vitalab Selectra Series**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	18.9	16.1	21.7	1.40	2.80	Urease kinetic
	mg/dl	114	96.8	131	8.60	17.20	
	mmol/l	18.9	16.1	21.7	1.40	2.80	BUN
	mg/dl	53.0	45.1	60.9	3.95	7.90	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.01	10.4	0.61	1.21	



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

Lot No. 1173UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	29.7	25.3	34.1	2.20	4.40	Bromocresol Green
	g/dl	2.97	2.53	3.41	0.22	0.44	
Alkaline Phosphatase	U/l	456	387	525	34.50	69.00	Diethanolamine buffer DEA 37°C
	U/l	355	301	409	27.00	54.00	Diethanolamine buffer DEA 30°C
	U/l	291	247	335	22.00	44.00	Diethanolamine buffer DEA 25°C
	U/l	326	277	375	24.50	49.00	AMP optimised to IFCC 37°C
	U/l	254	216	292	19.00	38.00	AMP optimised to IFCC 30°C
	U/l	208	177	239	15.50	31.00	AMP optimised to IFCC 25°C
ALT (GPT)	U/l	155	124	186	15.50	31.00	Tris buffer without P5P 37°C
	U/l	115	92	138	11.50	23.00	Tris buffer without P5P 30°C
	U/l	87	70	104	8.50	17.00	Tris buffer without P5P 25°C
AST (GOT)	U/l	167	133	201	17.00	34.00	Tris buffer without P5P 37°C
	U/l	113	90	136	11.50	23.00	Tris buffer without P5P 30°C
	U/l	79	63	95	8.00	16.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	24.6	19.4	29.8	2.60	5.20	Diazo with Sulphanilic Acid
	mg/dl	1.44	1.13	1.75	0.16	0.31	
Bilirubin Total	µmol/l	89.7	70.9	109	9.40	18.80	Diazo with Sulphanilic Acid
	mg/dl	5.25	4.15	6.35	0.55	1.10	
	µmol/l	89.5	70.7	108	9.40	18.80	Nitrobenzenediazonium salt
	mg/dl	5.24	4.14	6.34	0.55	1.10	
Calcium	mmol/l	3.23	2.91	3.55	0.16	0.32	Arsenazo III
	mg/dl	12.9	11.7	14.1	0.60	1.20	

**Ortho VITROS®****ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)**

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	18.4	15.7	21.1	1.35	2.70	Ortho Vitros Microslide Systems
	mg/dl	111	94.4	128	8.30	16.60	
	mmol/l	18.4	15.6	21.2	1.40	2.80	BUN
	mg/dl	51.6	43.9	59.3	3.85	7.70	
Uric Acid (Urate)	mmol/l	0.52	0.45	0.59	0.03	0.07	Ortho Vitros Microslide Systems
	mg/dl	8.72	7.58	9.86	0.57	1.14	

Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.7	26.9	36.5	2.40	4.80	Bromocresol Green
	g/dl	3.17	2.69	3.65	0.24	0.48	
	g/l	28.7	24.4	33.0	2.15	4.30	Bromocresol Purple
	g/dl	2.87	2.44	3.30	0.22	0.43	
	g/l	26.9	22.8	31.0	2.05	4.10	Turbidimetric Assays
	g/dl	2.69	2.28	3.10	0.21	0.41	
Alkaline Phosphatase	U/l	279	237	321	21.00	42.00	Roche Integra AMP buffer 37°C
	U/l	217	185	249	16.00	32.00	Roche Integra AMP buffer 30°C
	U/l	178	151	205	13.50	27.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	140	112	168	14.00	28.00	Tris buffer without P5P 37°C
	U/l	104	83	125	10.50	21.00	Tris buffer without P5P 30°C
	U/l	79	63	95	8.00	16.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	239	204	274	17.50	35.00	Roche EPS Liquid 37°C
Amylase Total	U/l	267	227	307	20.00	40.00	Roche Integra 2-chloro-pNPG7 37°C
	U/l	265	226	304	19.50	39.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	146	117	175	14.50	29.00	Tris buffer without P5P 37°C
	U/l	99	79	119	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	56	82	6.50	13.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	15.7	12.5	18.9	1.60	3.20	Colorimetric
	mmol/l	15.6	12.3	18.9	1.65	3.30	Enzymatic
Bile Acids	µmol/l	41.6	33.3	49.9	4.15	8.30	Enzymatic Colorimetric

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Bilirubin Direct	µmol/l	28.7	22.7	34.7	3.00	6.00	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.68	1.33	2.03	0.18	0.35	
	µmol/l	28.7	22.6	34.8	3.05	6.10	Diazo with Sulphanilic Acid
	mg/dl	1.68	1.32	2.04	0.18	0.36	
	µmol/l	28.2	22.3	34.1	2.95	5.90	Roche JG factored
	mg/dl	1.65	1.30	2.00	0.18	0.35	
Bilirubin Total	µmol/l	81.5	64.4	98.6	8.55	17.10	Diazo with Sulphanilic Acid
	mg/dl	4.77	3.77	5.77	0.50	1.00	
	µmol/l	80.3	63.4	97.2	8.45	16.90	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.70	3.71	5.69	0.50	0.99	
	µmol/l	80.0	63.2	96.8	8.40	16.80	Diazonium ion
	mg/dl	4.68	3.70	5.66	0.49	0.98	
Calcium	mmol/l	3.13	2.81	3.45	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.5	11.3	13.7	0.60	1.20	
	mmol/l	3.13	2.82	3.44	0.16	0.31	NM-BAPTA
	mg/dl	12.5	11.3	13.7	0.60	1.20	
Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.08	6.16	8.00	0.46	0.92	Cholesterol Oxidase - Abell Kendall
	mg/dl	273	238	308	17.50	35.00	
	mmol/l	7.09	6.17	8.01	0.46	0.92	Cholesterol Oxidase - IDMS
	mg/dl	274	238	310	18.00	36.00	
Cholinesterase	U/l	4724	3779	5669	472.50	945.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	508	417	599	45.50	91.00	CK-NAC substrate start (DGKC) 37°C
	U/l	318	261	375	28.50	57.00	CK-NAC substrate start (DGKC) 30°C
	U/l	216	177	255	19.50	39.00	CK-NAC substrate start (DGKC) 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	488	400	576	44.00	88.00	CK-NAC (IFCC) 37°C
	U/l	305	250	360	27.50	55.00	CK-NAC (IFCC) 30°C
	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	366	293	439	36.50	73.00	Enzymatic UV method
	mg/dl	4.14	3.31	4.97	0.42	0.83	
	µmol/l	371	297	445	37.00	74.00	Roche Creatinine Plus
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.12	3.30	4.94	0.41	0.82	
	µmol/l	364	291	437	36.50	73.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	4.11	3.29	4.93	0.41	0.82	
	µmol/l	381	305	457	38.00	76.00	IDMS traceable
	mg/dl	4.31	3.45	5.17	0.43	0.86	
D-3-Hydroxybutyrate	mmol/l	1.17	0.99	1.35	0.09	0.18	Tris buffer 100mmol pH 8.5
Free T4	pmol/l	91.4	68.5	114	11.45	22.90	Roche Cobas 6000/8000
	ng/dl	7.13	5.34	8.92	0.90	1.79	
	pg/ml	71.3	53.4	89.2	8.95	17.90	Roche Cobas 6000/8000
gamma-GT	U/l	158	134	182	12.00	24.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	125	106	144	9.50	19.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	97	83	111	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	182	155	209	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	143	122	164	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	112	96	128	8.00	16.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
GLDH	U/l	29	23	35	3.00	6.00	Triethanolamine buffer 50 mmol 37°C
	U/l	22	18	26	2.00	4.00	Triethanolamine buffer 50 mmol 30°C
	U/l	18	14	22	2.00	4.00	Triethanolamine buffer 50 mmol 25°C

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ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Glucose	mmol/l	15.7	13.4	18.0	1.15	2.30	Hexokinase
	mg/dl	283	241	325	21.00	42.00	
HDL - Cholesterol	mmol/l	3.30	2.81	3.79	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	127	108	146	9.50	19.00	
Iron	µmol/l	37.4	30.7	44.1	3.35	6.70	Colorimetric with ppt.
	µg/dl	209	172	246	18.50	37.00	
	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.59	4.58	6.60	0.51	1.01	Colorimetric Lactate Oxidase
	mg/dl	50.4	41.3	59.5	4.55	9.10	
LD (LDH)	U/l	693	589	797	52.00	104.00	P->L German methods 37°C
	U/l	500	425	575	37.50	75.00	P->L German methods 30°C
	U/l	351	299	403	26.00	52.00	P->L German methods 25°C
	U/l	369	314	424	27.50	55.00	L->P IFCC 37°C
	U/l	266	227	305	19.50	39.00	L->P IFCC 30°C
	U/l	187	159	215	14.00	28.00	L->P IFCC 25°C
Lithium	mmol/l	2.22	1.95	2.49	0.14	0.27	Spectrophotometric
	mg/dl	1.54	1.35	1.73	0.10	0.19	
Magnesium	mmol/l	1.70	1.49	1.91	0.11	0.21	Xylidyl Blue
	mg/dl	4.13	3.62	4.64	0.26	0.51	
	mmol/l	1.70	1.50	1.90	0.10	0.20	Chlorphosphonazo III
mg/dl	4.13	3.65	4.61	0.24	0.48		
Osmolality	mOsm/kg	342	273	411	34.50	69.00	Calculated
Phosphate Inorganic	mmol/l	2.24	1.90	2.58	0.17	0.34	Phosphomolybdate enzymatic
	mg/dl	6.94	5.89	7.99	0.53	1.05	



Roche Cobas 6000 c501 e601

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	2.24	1.91	2.57	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.94	5.92	7.96	0.51	1.02	
Potassium	mmol/l	6.10	5.61	6.59	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Biuret reaction end point
	g/dl	4.56	3.65	5.47	0.46	0.91	
PSA Total	ng/ml =	30.1	22.5	37.7	3.80	7.60	Roche Cobas 6000/8000
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Thyroid Stimulating Hormone	μU/ml =	1.28	1.02	1.54	0.13	0.26	Roche Cobas 6000/8000
TIBC	μmol/l	40.8	32.2	49.4	4.30	8.60	FE+UIBC(saturation with iron)
	μg/dl	228	180	276	24.00	48.00	
	μmol/l	45.1	35.6	54.6	4.75	9.50	Calculated from Transferrin
	μg/dl	252	199	305	26.50	53.00	
Total T3	nmol/l	3.87	2.90	4.84	0.49	0.97	Roche Cobas 6000/8000
	ng/ml	2.52	1.89	3.15	0.32	0.63	
	ng/dl	252	189	315	31.50	63.00	
Total T4	nmol/l	211	158	264	26.50	53.00	Roche Cobas 6000/8000
	μg/dl	16.5	12.3	20.7	2.10	4.20	
	ng/ml	165	123	207	21.00	42.00	
Triglycerides	mmol/l	3.09	2.59	3.59	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	273	229	317	22.00	44.00	
	mmol/l	3.08	2.59	3.57	0.25	0.49	L/G Kinase EP. no correction
	mg/dl	273	229	317	22.00	44.00	
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	Urease kinetic
	mg/dl	117	99.8	134	8.60	17.20	

**Roche Cobas 6000 c501 e601**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Urea	mmol/l	19.5	16.6	22.4	1.45	2.90	BUN
	mg/dl	54.7	46.5	62.9	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.99	7.81	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.99	7.81	10.2	0.59	1.18	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.04	7.86	10.2	0.59	1.18	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.8	27.1	36.5	2.35	4.70	Bromocresol Green
	g/dl	3.18	2.71	3.65	0.24	0.47	
Alkaline Phosphatase	U/l	281	239	323	21.00	42.00	Roche Integra AMP buffer 37°C
	U/l	219	186	252	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	180	153	207	13.50	27.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	133	107	159	13.00	26.00	Tris buffer without P5P 37°C
	U/l	98	79	117	9.50	19.00	Tris buffer without P5P 30°C
	U/l	75	60	90	7.50	15.00	Tris buffer without P5P 25°C
Amylase Total	U/l	271	230	312	20.50	41.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	141	112	170	14.50	29.00	Tris buffer without P5P 37°C
	U/l	95	76	114	9.50	19.00	Tris buffer without P5P 30°C
	U/l	67	53	81	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	30.2	23.9	36.5	3.15	6.30	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.77	1.40	2.14	0.19	0.37	
	µmol/l	30.1	23.7	36.5	3.20	6.40	Diazo with Sulphanilic Acid
	mg/dl	1.76	1.39	2.13	0.19	0.37	
Bilirubin Total	µmol/l	78.8	62.3	95.3	8.25	16.50	Diazo with Sulphanilic Acid
	mg/dl	4.61	3.64	5.58	0.49	0.97	
	µmol/l	80.1	63.3	96.9	8.40	16.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	4.69	3.70	5.68	0.50	0.99	
	µmol/l	78.8	62.3	95.3	8.25	16.50	Diazonium ion
	mg/dl	4.61	3.64	5.58	0.49	0.97	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Calcium	mmol/l	3.07	2.77	3.37	0.15	0.30	NM-BAPTA
	mg/dl	12.3	11.1	13.5	0.60	1.20	
Cholesterol	mmol/l	7.18	6.25	8.11	0.47	0.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	277	241	313	18.00	36.00	
	mmol/l	7.12	6.20	8.04	0.46	0.92	Cholesterol Oxidase - IDMS
	mg/dl	275	239	311	18.00	36.00	
CK Total	U/l	477	391	563	43.00	86.00	CK-NAC (IFCC) 37°C
	U/l	299	245	353	27.00	54.00	CK-NAC (IFCC) 30°C
	U/l	203	166	240	18.50	37.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	353	282	424	35.50	71.00	Alkaline picrate no deproteinization
	mg/dl	3.99	3.19	4.79	0.40	0.80	
	µmol/l	360	288	432	36.00	72.00	Roche Creatinine Plus
	mg/dl	4.07	3.25	4.89	0.41	0.82	
	µmol/l	347	278	416	34.50	69.00	Jaffe rate blanked compensated (-18 µmol/l)
	mg/dl	3.92	3.14	4.70	0.39	0.78	
gamma-GT	U/l	162	138	186	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	128	109	147	9.50	19.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	100	85	115	7.50	15.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	3.29	2.80	3.78	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	127	108	146	9.50	19.00	
Iron	µmol/l	38.5	31.6	45.4	3.45	6.90	Colorimetric without ppt.
	µg/dl	215	177	253	19.00	38.00	

Roche Cobas C111®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
LD (LDH)	U/l	370	315	425	27.50	55.00	L->P IFCC 37°C
	U/l	267	227	307	20.00	40.00	L->P IFCC 30°C
	U/l	188	160	216	14.00	28.00	L->P IFCC 25°C
Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Chlorphosphonazo III
	mg/dl	4.11	3.62	4.60	0.25	0.49	
Phosphate Inorganic	mmol/l	2.30	1.96	2.64	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.13	6.08	8.18	0.53	1.05	
Potassium	mmol/l	5.96	5.48	6.44	0.24	0.48	ISE method - indirect
Protein Total	g/l	45.0	36.0	54.0	4.50	9.00	Biuret reaction end point
	g/dl	4.50	3.60	5.40	0.45	0.90	
Sodium	mmol/l	151	144	158	3.50	7.00	ISE method - indirect
Triglycerides	mmol/l	3.10	2.61	3.59	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	274	231	317	21.50	43.00	
Urea	mmol/l	18.8	16.0	21.6	1.40	2.80	Urease kinetic
	mg/dl	113	96.2	130	8.40	16.80	
	mmol/l	18.8	16.0	21.6	1.40	2.80	BUN
	mg/dl	52.8	44.9	60.7	3.95	7.90	
Uric Acid (Urate)	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.06	7.88	10.2	0.59	1.18	
	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	8.10	10.5	0.61	1.21	
	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.37	8.16	10.6	0.61	1.21	



Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.5	26.8	36.2	2.35	4.70	Bromocresol Green
	g/dl	3.15	2.68	3.62	0.24	0.47	
	g/l	29.0	24.6	33.4	2.20	4.40	Bromocresol Purple
	g/dl	2.90	2.46	3.34	0.22	0.44	
Alkaline Phosphatase	U/l	271	231	311	20.00	40.00	Roche Integra AMP buffer 37°C
	U/l	211	180	242	15.50	31.00	Roche Integra AMP buffer 30°C
	U/l	173	148	198	12.50	25.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	138	111	165	13.50	27.00	Tris buffer without P5P 37°C
	U/l	102	82	122	10.00	20.00	Tris buffer without P5P 30°C
	U/l	78	62	94	8.00	16.00	Tris buffer without P5P 25°C
Amylase Total	U/l	268	228	308	20.00	40.00	BM/Roche Colorimetric pNPG7 37°C
	U/l	267	227	307	20.00	40.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	143	114	172	14.50	29.00	Tris buffer without P5P 37°C
	U/l	97	77	117	10.00	20.00	Tris buffer without P5P 30°C
	U/l	68	54	82	7.00	14.00	Tris buffer without P5P 25°C
Bilirubin Direct	µmol/l	27.8	22.0	33.6	2.90	5.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.63	1.29	1.97	0.17	0.34	
	µmol/l	28.4	22.4	34.4	3.00	6.00	Diazo with Sulphanilic Acid
	mg/dl	1.66	1.31	2.01	0.18	0.35	
	µmol/l	28.3	22.4	34.2	2.95	5.90	Roche JG factored
	mg/dl	1.66	1.31	2.01	0.18	0.35	



Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Bilirubin Total	µmol/l	80.3	63.4	97.2	8.45	16.90	Diazo with Sulphanilic Acid	
	mg/dl	4.70	3.71	5.69	0.50	0.99		
	µmol/l	80.7	63.7	97.7	8.50	17.00	Dichlorophenyl Diazonium (DPD)	
	mg/dl	4.72	3.73	5.71	0.50	0.99		
	µmol/l	78.9	62.4	95.4	8.25	16.50	Diazonium ion	
	mg/dl	4.62	3.65	5.59	0.49	0.97		
Calcium	mmol/l	3.15	2.84	3.46	0.16	0.31	Cresolphthalein complexone	
	mg/dl	12.6	11.4	13.8	0.60	1.20		
	mmol/l	3.15	2.84	3.46	0.16	0.31	NM-BAPTA	
	mg/dl	12.6	11.4	13.8	0.60	1.20		
	Chloride	mmol/l	110	101	119	4.50	9.00	ISE indirect
	Cholesterol	mmol/l	7.14	6.21	8.07	0.47	0.93	Cholesterol Oxidase - Abell Kendall
mg/dl		276	240	312	18.00	36.00		
mmol/l		7.12	6.19	8.05	0.47	0.93	Cholesterol Oxidase - IDMS	
mg/dl		275	239	311	18.00	36.00		
CK Total	U/l	488	400	576	44.00	88.00	CK-NAC (IFCC) 37°C	
	U/l	305	250	360	27.50	55.00	CK-NAC (IFCC) 30°C	
	U/l	207	170	244	18.50	37.00	CK-NAC (IFCC) 25°C	
Creatinine	µmol/l	372	297	447	37.50	75.00	Alkaline picrate no deproteinization	
	mg/dl	4.20	3.36	5.04	0.42	0.84		
	µmol/l	374	299	449	37.50	75.00	Enzymatic UV method	
	mg/dl	4.23	3.38	5.08	0.43	0.85		
	µmol/l	377	302	452	37.50	75.00	Roche Creatinine Plus	
	mg/dl	4.26	3.41	5.11	0.43	0.85		
	µmol/l	365	292	438	36.50	73.00	Jaffe rate blanked comp. (-26 µmol/l)	
	mg/dl	4.12	3.30	4.94	0.41	0.82		



Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	162	137	187	12.50	25.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	128	108	148	10.00	20.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	100	85	115	7.50	15.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	185	157	213	14.00	28.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	146	124	168	11.00	22.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	114	97	131	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
	mmol/l	15.5	13.2	17.8	1.15	2.30	Glucose oxidase
	mg/dl	279	238	320	20.50	41.00	
HDL - Cholesterol	mmol/l	3.25	2.76	3.74	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	125	107	143	9.00	18.00	
Iron	µmol/l	37.5	30.7	44.3	3.40	6.80	Colorimetric without ppt.
	µg/dl	210	172	248	19.00	38.00	
Lactate	mmol/l	5.64	4.62	6.66	0.51	1.02	Colorimetric Lactate Oxidase
	mg/dl	50.8	41.6	60.0	4.60	9.20	
LD (LDH)	U/l	683	581	785	51.00	102.00	P->L German methods 37°C
	U/l	493	419	567	37.00	74.00	P->L German methods 30°C
	U/l	346	295	397	25.50	51.00	P->L German methods 25°C
	U/l	373	317	429	28.00	56.00	L->P IFCC 37°C
	U/l	269	229	309	20.00	40.00	L->P IFCC 30°C
	U/l	189	161	217	14.00	28.00	L->P IFCC 25°C
Magnesium	mmol/l	1.70	1.50	1.90	0.10	0.20	Xylidyl Blue
	mg/dl	4.13	3.65	4.61	0.24	0.48	

Roche Cobas C311®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Magnesium	mmol/l	1.68	1.48	1.88	0.10	0.20	Chlorphosphonazo III
	mg/dl	4.08	3.60	4.56	0.24	0.48	
Phosphate Inorganic	mmol/l	2.27	1.93	2.61	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.04	5.98	8.10	0.53	1.06	
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.6	36.5	54.7	4.55	9.10	Biuret reaction end point
	g/dl	4.56	3.65	5.47	0.46	0.91	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
TIBC	µmol/l	42.4	33.5	51.3	4.45	8.90	FE+UIBC(saturation with iron)
	µg/dl	237	187	287	25.00	50.00	
Triglycerides	mmol/l	3.08	2.59	3.57	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	273	229	317	22.00	44.00	
Urea	mmol/l	19.6	16.7	22.5	1.45	2.90	Urease kinetic
	mg/dl	118	100	136	9.00	18.00	
	mmol/l	19.6	16.7	22.5	1.45	2.90	BUN
	mg/dl	55.0	46.8	63.2	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.55	0.47	0.62	0.04	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	9.16	7.96	10.4	0.60	1.20	
	mmol/l	0.54	0.47	0.61	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.11	7.93	10.3	0.59	1.18	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.22	8.03	10.4	0.60	1.19	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	31.4	26.7	36.1	2.35	4.70	Bromocresol Green
	g/dl	3.14	2.67	3.61	0.24	0.47	
	g/l	28.1	23.9	32.3	2.10	4.20	Bromocresol Purple
	g/dl	2.81	2.39	3.23	0.21	0.42	
	g/l	28.8	24.5	33.1	2.15	4.30	Turbidimetric Assays
	g/dl	2.88	2.45	3.31	0.22	0.43	
Alkaline Phosphatase	U/l	277	235	319	21.00	42.00	Roche Integra AMP buffer 37°C
	U/l	216	183	249	16.50	33.00	Roche Integra AMP buffer 30°C
	U/l	177	150	204	13.50	27.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	141	113	169	14.00	28.00	Tris buffer without P5P 37°C
	U/l	104	84	124	10.00	20.00	Tris buffer without P5P 30°C
	U/l	79	64	94	7.50	15.00	Tris buffer without P5P 25°C
Amylase Pancreatic	U/l	243	206	280	18.50	37.00	Roche EPS Liquid 37°C
Amylase Total	U/l	268	228	308	20.00	40.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	145	116	174	14.50	29.00	Tris buffer without P5P 37°C
	U/l	98	78	118	10.00	20.00	Tris buffer without P5P 30°C
	U/l	69	55	83	7.00	14.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	16.1	12.8	19.4	1.65	3.30	Enzymatic
Bile Acids	µmol/l	42.3	33.8	50.8	4.25	8.50	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	29.1	23.0	35.2	3.05	6.10	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.70	1.35	2.05	0.18	0.35	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods	
Bilirubin Direct	µmol/l	29.7	23.5	35.9	3.10	6.20	Roche JG factored	
	mg/dl	1.74	1.37	2.11	0.19	0.37		
	µmol/l	27.6	21.8	33.4	2.90	5.80	Oxidation to Biliverdin/Vanadate	
	mg/dl	1.61	1.28	1.94	0.17	0.33		
Bilirubin Total	µmol/l	80.8	63.9	97.7	8.45	16.90	Diazo with Sulphanilic Acid	
	mg/dl	4.73	3.74	5.72	0.50	0.99		
	µmol/l	80.9	63.9	97.9	8.50	17.00	Dichlorophenyl Diazonium (DPD)	
	mg/dl	4.73	3.74	5.72	0.50	0.99		
	µmol/l	81.4	64.3	98.5	8.55	17.10	Diazonium ion	
	mg/dl	4.76	3.76	5.76	0.50	1.00		
	Calcium	mmol/l	3.08	2.77	3.39	0.16	0.31	Cresolphthalein complexone
		mg/dl	12.3	11.1	13.5	0.60	1.20	
mmol/l		3.11	2.80	3.42	0.16	0.31	NM-BAPTA	
mg/dl		12.5	11.2	13.8	0.65	1.30		
Chloride	mmol/l	111	102	120	4.50	9.00	ISE indirect	
Cholesterol	mmol/l	7.05	6.13	7.97	0.46	0.92	Cholesterol Oxidase - Abell Kendall	
	mg/dl	272	237	307	17.50	35.00		
	mmol/l	7.12	6.19	8.05	0.47	0.93	Cholesterol Oxidase - IDMS	
	mg/dl	275	239	311	18.00	36.00		
Cholinesterase	U/l	4607	3686	5528	460.50	921.00	Colorimetric Butyrylthiocholine 37°C	
CK Total	U/l	490	402	578	44.00	88.00	CK-NAC (IFCC) 37°C	
	U/l	307	252	362	27.50	55.00	CK-NAC (IFCC) 30°C	
	U/l	208	171	245	18.50	37.00	CK-NAC (IFCC) 25°C	
Creatinine	µmol/l	376	301	451	37.50	75.00	Roche Creatinine Plus	
	mg/dl	4.25	3.40	5.10	0.43	0.85		

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Creatinine	µmol/l	371	297	445	37.00	74.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.19	3.36	5.02	0.42	0.83	
gamma-GT	U/l	154	131	177	11.50	23.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	121	103	139	9.00	18.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	95	81	109	7.00	14.00	Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
	U/l	178	151	205	13.50	27.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	140	119	161	10.50	21.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	110	93	127	8.50	17.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	15.8	13.4	18.2	1.20	2.40	Hexokinase
	mg/dl	285	241	329	22.00	44.00	
HDL - Cholesterol	mmol/l	3.28	2.79	3.77	0.25	0.49	Direct HDL Roche 4th Generation
	mg/dl	127	108	146	9.50	19.00	
Iron	µmol/l	36.7	30.1	43.3	3.30	6.60	Colorimetric without ppt.
	µg/dl	205	168	242	18.50	37.00	
Lactate	mmol/l	5.56	4.56	6.56	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	50.1	41.1	59.1	4.50	9.00	
LD (LDH)	U/l	370	314	426	28.00	56.00	L->P IFCC 37°C
	U/l	267	227	307	20.00	40.00	L->P IFCC 30°C
	U/l	188	159	217	14.50	29.00	L->P IFCC 25°C
Lithium	mmol/l	2.24	1.97	2.51	0.14	0.27	Spectrophotometric
	mg/dl	1.56	1.37	1.75	0.10	0.19	
Magnesium	mmol/l	1.69	1.48	1.90	0.11	0.21	Xylidyl Blue
	mg/dl	4.11	3.60	4.62	0.26	0.51	
Phosphate Inorganic	mmol/l	2.22	1.89	2.55	0.17	0.33	Phosphomolybdate UV
	mg/dl	6.88	5.86	7.90	0.51	1.02	

Roche Cobas c701 / c702 / c711

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	6.12	5.63	6.61	0.25	0.49	ISE method - indirect
Protein Total	g/l	45.4	36.3	54.5	4.55	9.10	Biuret reaction end point
	g/dl	4.54	3.63	5.45	0.46	0.91	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	μmol/l	42.4	33.5	51.3	4.45	8.90	FE+UIBC(saturation with iron)
	μg/dl	237	187	287	25.00	50.00	
Triglycerides	mmol/l	3.10	2.60	3.60	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	274	230	318	22.00	44.00	
Urea	mmol/l	19.4	16.5	22.3	1.45	2.90	Urease kinetic
	mg/dl	117	99.2	135	8.90	17.80	
	mmol/l	19.4	16.5	22.3	1.45	2.90	BUN
	mg/dl	54.4	46.2	62.6	4.10	8.20	
Uric Acid (Urate)	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase with ascorbate oxidase
	mg/dl	8.94	7.78	10.1	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.03	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	8.87	7.71	10.0	0.58	1.16	
	mmol/l	0.53	0.46	0.60	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	8.95	7.78	10.1	0.59	1.17	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	32.0	27.2	36.8	2.40	4.80	Bromocresol Green
	g/dl	3.20	2.72	3.68	0.24	0.48	
Alkaline Phosphatase	U/l	514	437	591	38.50	77.00	Diethanolamine buffer DEA 37°C
	U/l	327	278	376	24.50	49.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	147	118	176	14.50	29.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	272	231	313	20.50	41.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	302	257	347	22.50	45.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	157	126	188	15.50	31.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	16.4	13.0	19.8	1.70	3.40	Enzymatic
Bile Acids	µmol/l	41.4	33.1	49.7	4.15	8.30	5th Generation Colorimetric
Bilirubin Direct	µmol/l	31.3	24.7	37.9	3.30	6.60	Diazo with Sulphanilic Acid
	mg/dl	1.83	1.44	2.22	0.20	0.39	
	µmol/l	30.5	24.1	36.9	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.78	1.41	2.15	0.19	0.37	
Bilirubin Total	µmol/l	95.7	75.6	116	10.05	20.10	Diazo with Sulphanilic Acid
	mg/dl	5.60	4.42	6.78	0.59	1.18	
	µmol/l	94.9	75.0	115	9.95	19.90	Oxidation to Biliverdin/Vanadate
	mg/dl	5.55	4.39	6.71	0.58	1.16	
Calcium	mmol/l	3.18	2.86	3.50	0.16	0.32	Arsenazo III
	mg/dl	12.7	11.5	13.9	0.60	1.20	
Chloride	mmol/l	109	101	117	4.00	8.00	ISE direct

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	7.69	6.69	8.69	0.50	1.00	Cholesterol Oxidase - Abell Kendall
	mg/dl	297	258	336	19.50	39.00	
CK Total	U/l	544	446	642	49.00	98.00	CK-NAC substrate start (DGKC) 37°C
Creatinine	µmol/l	316	252	380	32.00	64.00	Alkaline picrate no deproteinization
	mg/dl	3.57	2.85	4.29	0.36	0.72	
	µmol/l	370	296	444	37.00	74.00	Enzymatic UV method
	mg/dl	4.18	3.34	5.02	0.42	0.84	
gamma-GT	U/l	194	165	223	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	16.3	13.9	18.7	1.20	2.40	Hexokinase
	mg/dl	294	250	338	22.00	44.00	
	mmol/l	16.3	13.9	18.7	1.20	2.40	Glucose oxidase
	mg/dl	294	250	338	22.00	44.00	
Iron	µmol/l	39.1	32.1	46.1	3.50	7.00	Colorimetric without ppt.
	µg/dl	219	179	259	20.00	40.00	
Lactate	mmol/l	5.44	4.46	6.42	0.49	0.98	Colorimetric Lactate Oxidase
	mg/dl	49.0	40.2	57.8	4.40	8.80	
LD (LDH)	U/l	765	650	880	57.50	115.00	P->L German methods 37°C
	U/l	352	299	405	26.50	53.00	L->P IFCC 37°C
Lipase	U/l	84	67	101	8.50	17.00	Randox Colorimetric 37°C
Lithium	mmol/l	2.21	1.94	2.48	0.14	0.27	Colorimetric
	mg/dl	1.53	1.35	1.71	0.09	0.18	
Magnesium	mmol/l	1.69	1.49	1.89	0.10	0.20	Xylidyl Blue
	mg/dl	4.11	3.62	4.60	0.25	0.49	
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	

RX SERIES®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Potassium	mmol/l	6.30	5.80	6.80	0.25	0.50	Enzymatic
	mmol/l	6.01	5.53	6.49	0.24	0.48	ISE method - direct
Protein Total	g/l	47.2	37.8	56.6	4.70	9.40	Biuret reaction end point
	g/dl	4.72	3.78	5.66	0.47	0.94	
Sodium	mmol/l	160	152	168	4.00	8.00	Enzymatic
	mmol/l	156	148	164	4.00	8.00	ISE method - direct
TIBC	μmol/l	49.5	39.1	59.9	5.20	10.40	Direct Colorimetric
	μg/dl	277	219	335	29.00	58.00	
Triglycerides	mmol/l	3.10	2.60	3.60	0.25	0.50	Lipase/GPO-PAP no correction
	mg/dl	274	230	318	22.00	44.00	
Urea	mmol/l	19.9	16.9	22.9	1.50	3.00	Urease kinetic
	mg/dl	120	102	138	9.00	18.00	
	mmol/l	19.9	16.9	22.9	1.50	3.00	BUN
	mg/dl	55.9	47.5	64.3	4.20	8.40	
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	8.15	10.6	0.61	1.21	
	mmol/l	0.57	0.49	0.64	0.04	0.07	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	9.51	8.27	10.8	0.62	1.24	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400 ® ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.9	25.4	34.4	2.25	4.50	Bromocresol Green
	g/dl	2.99	2.54	3.44	0.23	0.45	
	g/l	27.8	23.6	32.0	2.10	4.20	Bromocresol Purple
	g/dl	2.78	2.36	3.20	0.21	0.42	
Alkaline Phosphatase	U/l	291	247	335	22.00	44.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37°C
Amylase Total	U/l	283	240	326	21.50	43.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	160	128	192	16.00	32.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	17.2	13.6	20.8	1.80	3.60	Enzymatic
Bile Acids	µmol/l	45.1	36.1	54.1	4.50	9.00	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	30.5	24.1	36.9	3.20	6.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.78	1.41	2.15	0.19	0.37	
Bilirubin Total	µmol/l	98.6	77.9	119	10.35	20.70	Oxidation to Biliverdin/Vanadate
	mg/dl	5.77	4.56	6.98	0.61	1.21	
Calcium	mmol/l	3.16	2.84	3.48	0.16	0.32	Cresolphthalein complexone
	mg/dl	12.7	11.4	14.0	0.65	1.30	
	mmol/l	3.05	2.75	3.35	0.15	0.30	Arsenazo III
	mg/dl	12.2	11.0	13.4	0.60	1.20	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.28	6.33	8.23	0.48	0.95	Cholesterol Oxidase - Abell Kendall
	mg/dl	281	244	318	18.50	37.00	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400 ® ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
CK Total	U/l	527	432	622	47.50	95.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	359	288	430	35.50	71.00	Enzymatic UV method
	mg/dl	4.06	3.25	4.87	0.41	0.81	
	µmol/l	357	285	429	36.00	72.00	Jaffe rate blanked
	mg/dl	4.03	3.22	4.84	0.41	0.81	
Creatinine	µmol/l	357	286	428	35.50	71.00	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	4.03	3.23	4.83	0.40	0.80	
gamma-GT	U/l	161	137	185	12.00	24.00	Gamma Glutamyl-3-Carboxy-4-nitroaniide (IFCC) 37°C
Glucose	mmol/l	15.1	12.9	17.3	1.10	2.20	Hexokinase
	mg/dl	272	232	312	20.00	40.00	
	mmol/l	15.2	12.9	17.5	1.15	2.30	Glucose oxidase
	mg/dl	274	232	316	21.00	42.00	
HDL - Cholesterol	mmol/l	2.27	1.93	2.61	0.17	0.34	Direct Clearance Method
	mg/dl	87.6	74.5	101	6.55	13.10	
Iron	µmol/l	36.9	30.3	43.5	3.30	6.60	Colorimetric without ppt.
	µg/dl	206	169	243	18.50	37.00	
Lactate	mmol/l	5.54	4.54	6.54	0.50	1.00	Colorimetric Lactate Oxidase
	mg/dl	49.9	40.9	58.9	4.50	9.00	
LD (LDH)	U/l	723	614	832	54.50	109.00	P->L German methods 37°C
	U/l	373	317	429	28.00	56.00	Siemens Dimension L-P Non IFCC 37°C
	U/l	370	314	426	28.00	56.00	L->P IFCC 37°C
Lipase	U/l	78	62	94	8.00	16.00	Other Colorimetric 37°C
Lithium	mmol/l	2.15	1.89	2.41	0.13	0.26	Spectrophotometric
	mg/dl	1.49	1.31	1.67	0.09	0.18	
Magnesium	mmol/l	1.64	1.44	1.84	0.10	0.20	Xylidyl Blue
	mg/dl	3.99	3.50	4.48	0.25	0.49	



SIEMENS ATELLICA / ADVIA 1200/1650/1800/2400 ® ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	2.29	1.95	2.63	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.10	6.05	8.15	0.53	1.05	
Potassium	mmol/l	6.07	5.58	6.56	0.25	0.49	ISE method - indirect
Protein Total	g/l	44.6	35.7	53.5	4.45	8.90	Biuret reaction end point
	g/dl	4.46	3.57	5.35	0.45	0.89	
Sodium	mmol/l	158	150	166	4.00	8.00	ISE method - indirect
TIBC	μmol/l	44.9	35.5	54.3	4.70	9.40	Direct Colorimetric
	μg/dl	251	198	304	26.50	53.00	
	μmol/l	40.8	32.3	49.3	4.25	8.50	Calculated from Transferrin
	μg/dl	228	181	275	23.50	47.00	
Triglycerides	mmol/l	3.15	2.64	3.66	0.26	0.51	Lipase/GPO-PAP no correction
	mg/dl	279	234	324	22.50	45.00	
Urea	mmol/l	20.2	17.2	23.2	1.50	3.00	Urease kinetic
	mg/dl	121	103	139	9.00	18.00	
	mmol/l	20.2	17.2	23.2	1.50	3.00	BUN
	mg/dl	56.7	48.2	65.2	4.25	8.50	
Uric Acid (Urate)	mmol/l	0.56	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.36	8.13	10.6	0.61	1.23	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.0	24.7	33.3	2.15	4.30	Bromocresol Purple
	g/dl	2.90	2.47	3.33	0.22	0.43	
Alkaline Phosphatase	U/l	297	253	341	22.00	44.00	Siemens Dimension AMP buffer 37°C
	U/l	300	255	345	22.50	45.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	155	124	186	15.50	31.00	Tris buffer with P5P 37°C
	U/l	152	122	182	15.00	30.00	Tris buffer with P5P NVKC 37°C
	U/l	153	122	184	15.50	31.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	325	276	374	24.50	49.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	186	149	223	18.50	37.00	Tris buffer with P5P 37°C
	U/l	188	151	225	18.50	37.00	Tris buffer with P5P NVKC 37°C
	U/l	191	153	229	19.00	38.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	18.3	14.5	22.1	1.90	3.80	Enzymatic
Bilirubin Direct	µmol/l	17.0	13.4	20.6	1.80	3.60	Diazo/Sulphanilic Siemens Dimension
	mg/dl	0.995	0.784	1.21	0.11	0.21	
Bilirubin Total	µmol/l	85.7	67.7	104	9.00	18.00	Diazo with Sulphanilic Acid
	mg/dl	5.01	3.96	6.06	0.53	1.05	
Calcium	mmol/l	3.10	2.79	3.41	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.4	11.2	13.6	0.60	1.20	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.13	6.20	8.06	0.47	0.93	Cholesterol Oxidase - Abell Kendall
	mg/dl	275	239	311	18.00	36.00	


SIEMENS DIMENSION EXL®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Cholesterol	mmol/l	7.06	6.14	7.98	0.46	0.92	Dimension-Siemens reagents
	mg/dl	273	237	309	18.00	36.00	
CK Total	U/l	494	405	583	44.50	89.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	371	297	445	37.00	74.00	Alkaline picrate no deproteinization
	mg/dl	4.19	3.36	5.02	0.42	0.83	
	µmol/l	370	296	444	37.00	74.00	Jaffe rate blanked
	mg/dl	4.18	3.34	5.02	0.42	0.84	
gamma-GT	µmol/l	375	300	450	37.50	75.00	IDMS traceable
	mg/dl	4.24	3.39	5.09	0.43	0.85	
Glucose	U/l	194	165	223	14.50	29.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	201	171	231	15.00	30.00	
HDL - Cholesterol	mmol/l	15.6	13.3	17.9	1.15	2.30	Hexokinase
	mg/dl	281	240	322	20.50	41.00	
HDL - Cholesterol	mmol/l	2.88	2.45	3.31	0.22	0.43	Direct HDL PEGME
	mg/dl	111	94.6	127	8.20	16.40	
	mmol/l	2.78	2.37	3.19	0.21	0.41	Direct Clearance Method
	mg/dl	107	91.5	123	7.75	15.50	
Iron	µmol/l	35.8	29.4	42.2	3.20	6.40	Colorimetric without ppt.
	µg/dl	200	164	236	18.00	36.00	
LD (LDH)	U/l	362	308	416	27.00	54.00	L->P IFCC 37°C
Lipase	U/l	233	187	279	23.00	46.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	1.68	1.48	1.88	0.10	0.20	Methylthymol blue
	mg/dl	4.08	3.60	4.56	0.24	0.48	
Phosphate Inorganic	mmol/l	2.24	1.91	2.57	0.17	0.33	Phosphomolybdate enzymatic
	mg/dl	6.94	5.92	7.96	0.51	1.02	

SIEMENS DIMENSION EXL®

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Phosphate Inorganic	mmol/l	2.28	1.94	2.62	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.07	6.01	8.13	0.53	1.06	
Potassium	mmol/l	6.07	5.59	6.55	0.24	0.48	ISE method - indirect
Protein Total	g/l	47.1	37.6	56.6	4.75	9.50	Biuret reaction end point
	g/dl	4.71	3.76	5.66	0.48	0.95	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.09	2.60	3.58	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	273	230	316	21.50	43.00	
	mmol/l	3.14	2.64	3.64	0.25	0.50	L/G Kinase EP. no correction
	mg/dl	278	234	322	22.00	44.00	
Urea	mmol/l	20.5	17.4	23.6	1.55	3.10	Urease kinetic
	mg/dl	123	105	141	9.00	18.00	
	mmol/l	20.5	17.4	23.6	1.55	3.10	BUN
	mg/dl	57.5	48.9	66.1	4.30	8.60	
Uric Acid (Urate)	mmol/l	0.55	0.48	0.62	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.22	8.01	10.4	0.61	1.21	
	mmol/l	0.55	0.48	0.62	0.04	0.07	Spectrophotometric at 280-290
mg/dl	9.21	8.01	10.4	0.60	1.20		


SIEMENS DIMENSION RxL/Max/Xpand®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Albumin	g/l	29.5	25.0	34.0	2.25	4.50	Bromocresol Purple
	g/dl	2.95	2.50	3.40	0.23	0.45	
Alkaline Phosphatase	U/l	312	265	359	23.50	47.00	Siemens Dimension AMP buffer 37°C
	U/l	304	258	350	23.00	46.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	157	126	188	15.50	31.00	Tris buffer with P5P 37°C
Amylase Total	U/l	324	276	372	24.00	48.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	190	152	228	19.00	38.00	Tris buffer with P5P 37°C
	U/l	201	161	241	20.00	40.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bilirubin Direct	µmol/l	17.4	13.7	21.1	1.85	3.70	Diazo/Sulphanilic Siemens Dimension
	mg/dl	1.02	0.801	1.24	0.11	0.22	
Bilirubin Total	µmol/l	87.3	68.9	106	9.20	18.40	Diazo with Sulphanilic Acid
	mg/dl	5.11	4.03	6.19	0.54	1.08	
Calcium	mmol/l	3.11	2.80	3.42	0.16	0.31	Cresolphthalein complexone
	mg/dl	12.5	11.2	13.8	0.65	1.30	
Chloride	mmol/l	113	104	122	4.50	9.00	ISE indirect
Cholesterol	mmol/l	7.03	6.12	7.94	0.46	0.91	Dimension-Siemens reagents
	mg/dl	271	236	306	17.50	35.00	
CK Total	U/l	485	398	572	43.50	87.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	377	301	453	38.00	76.00	Alkaline picrate no deproteinization
	mg/dl	4.26	3.40	5.12	0.43	0.86	
	µmol/l	374	299	449	37.50	75.00	IDMS traceable
	mg/dl	4.23	3.38	5.08	0.43	0.85	


SIEMENS DIMENSION RxL/Max/Xpand®
ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
gamma-GT	U/l	195	166	224	14.50	29.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	15.7	13.3	18.1	1.20	2.40	Hexokinase
	mg/dl	283	240	326	21.50	43.00	
HDL - Cholesterol	mmol/l	3.06	2.60	3.52	0.23	0.46	Direct HDL PEGME
	mg/dl	118	100	136	9.00	18.00	
Iron	µmol/l	35.6	29.2	42.0	3.20	6.40	Colorimetric without ppt.
	µg/dl	199	163	235	18.00	36.00	
LD (LDH)	U/l	386	328	444	29.00	58.00	L->P IFCC 37°C
Magnesium	mmol/l	1.61	1.42	1.80	0.10	0.19	Methylthymol blue
	mg/dl	3.91	3.45	4.37	0.23	0.46	
Phosphate Inorganic	mmol/l	2.26	1.92	2.60	0.17	0.34	Phosphomolybdate UV
	mg/dl	7.01	5.95	8.07	0.53	1.06	
Potassium	mmol/l	6.11	5.62	6.60	0.25	0.49	ISE method - indirect
Protein Total	g/l	47.0	37.6	56.4	4.70	9.40	Biuret reaction end point
	g/dl	4.70	3.76	5.64	0.47	0.94	
Sodium	mmol/l	157	149	165	4.00	8.00	ISE method - indirect
Triglycerides	mmol/l	3.04	2.55	3.53	0.25	0.49	Lipase/GPO-PAP no correction
	mg/dl	269	226	312	21.50	43.00	
Urea	mmol/l	20.4	17.3	23.5	1.55	3.10	Urease kinetic
	mg/dl	123	104	142	9.50	19.00	
	mmol/l	20.4	17.3	23.5	1.55	3.10	BUN
Uric Acid (Urate)	mmol/l	0.55	0.48	0.63	0.04	0.07	Uricase peroxidase no ascorbate oxidase
	mg/dl	9.31	8.10	10.5	0.61	1.21	

**SIEMENS DIMENSION RxL/Max/Xpand®**

ASSAYED HUMAN SERA LEVEL 3 (HUM ASY CONTROL 3)

Lot. No. 1157UE Cat. No. HE1532 / HS2611

Size 20 x 5ml / 5 x 5ml Expiry 2024-06-28

Range

Analyte	unit	Target	low	high	1SD	2SD	methods
Uric Acid (Urate)	mmol/l	0.56	0.49	0.63	0.04	0.07	Spectrophotometric at 280-290
	mg/dl	9.36	8.15	10.6	0.61	1.21	