

LIQUID ASSAYED CHEMISTRY CONTROL PREMIUM PLUS - LEVEL 1 (LIQ CHEM ASY PREMIUM PLUS 1)

CAT. NO. LAL 4213 **LOT NO.** 287UL
SIZE: 12 x 5 ml **EXPIRY:** 2020-01-28
GTIN: 05055273209006

INTENDED USE

This product is intended for *in vitro* diagnostic use, in the quality control of diagnostic assays. The Liquid Assayed Chemistry Control Premium Plus is for the control of accuracy.

DEVICE DESCRIPTION

The Liquid Assayed Chemistry Control Premium Plus is supplied at 3 levels, level 1, 2 and 3. Target values and ranges are supplied for the analytes listed in the values section at all three 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). Thawed serum is stable for 7 days at +2°C to +8°C, with the following exceptions: Troponin T is stable for 3 days at +2°C to +8°C. Only the required amount of product should be removed. After use, any residual product should NOT BE RETURNED to the original vial.

UNOPENED: Store frozen at -20°C to -70°C. Stable to expiration date printed on individual vials (see Limitations).

LIMITATIONS

For Total Acid Phosphatase, the material should be stabilised by adding 1 drop (25 µl - 30 µl) of 0.7M Acetic acid solution to 1 ml of the serum after thawing. After stabilisation, Total Acid Phosphatase is stable for 7 days at +2°C to +8°C.

Bilirubin in the serum is light sensitive and it is recommended that the serum is stored in the dark.

ALT, Total Acid Phosphatase, Alkaline Phosphatase, Total and Direct Bilirubin and Lipase values may gradually decrease during the product's shelf life.

Bacterial contamination of the thawed serum will cause reductions in the stability of many components.

The control should not be used as a calibration material.

PREPARATION

1. Allow the frozen control to thaw at room temperature (+15°C to +25°C) until completely thawed. Swirl the contents to ensure homogeneity.
2. Refer to the Control section of the individual analyser application.
3. Refrigerate any unused material. Prior to reuse, mix contents thoroughly.

MATERIALS PROVIDED

Liquid Assayed Chemistry Control Premium Plus - Level 1 12 x 5 ml

MATERIALS REQUIRED BUT NOT PROVIDED

None

ASSIGNED VALUES

Each lot of serum is submitted to a number of external laboratories. Values are assigned from a consensus of results obtained by these laboratories and internal testing conducted at Randox Laboratories Ltd. With each batch, a control range is provided for individual parameters and each parameter method.

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

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Beckman Coulter AU Series® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	23.5	20.0	27.0	1.75	3.50	Bromocresol Green
	g/dl	2.35	2.00	2.70	0.18	0.35	
Alkaline Phosphatase	U/l	22	19	25	1.50	3.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer with P5P 37°C
Amylase Pancreatic	U/l	29	25	33	2.00	4.00	Immuno-inhibition EPS substrate 37°C
Amylase Total	U/l	47	40	54	3.50	7.00	Beckman Coulter - blocked pNPG7 37°C
Apolipoprotein A-1	g/l	0.72	0.59	0.85	0.07	0.13	Immunoturbidimetric
	mg/dl	72.3	59.3	85.3	6.50	13.00	
Apolipoprotein B	g/l	0.44	0.36	0.52	0.04	0.08	Immunoturbidimetric
	mg/dl	44.3	36.3	52.3	4.00	8.00	
AST (GOT)	U/l	50	40	60	5.00	10.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	10.7	8.44	12.9	1.12	2.24	Diazo with Sulphanilic Acid
	mg/dl	0.625	0.494	0.756	0.07	0.13	
Bilirubin Total	µmol/l	20.5	16.2	24.8	2.15	4.30	Diazo with Sulphanilic Acid
	mg/dl	1.20	0.948	1.45	0.13	0.25	
C-Reactive Protein	mg/l	2.98	2.38	3.58	0.30	0.60	Immunoturbidimetric
Calcium	mmol/l	1.57	1.41	1.73	0.08	0.16	Arsenazo III
	mg/dl	6.29	5.65	6.93	0.32	0.64	
Chloride	mmol/l	82.4	75.8	89.0	3.30	6.60	ISE indirect
Cholesterol	mmol/l	3.47	3.02	3.92	0.23	0.45	Cholesterol Oxidase
	mg/dl	134	117	151	8.50	17.00	

Beckman Coulter AU Series® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Cholinesterase	U/l	3275	2620	3930	327.50	655.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	54	44	64	5.00	10.00	CK-NAC (IFCC) 37°C
Complement C3	g/l	0.64	0.51	0.77	0.06	0.13	Immunoturbidimetric
	mg/dl	64.3	51.4	77.2	6.45	12.90	
Complement C4	g/l	0.13	0.10	0.15	0.01	0.03	Immunoturbidimetric
	mg/dl	12.5	10.0	15.0	1.25	2.50	
Creatinine	µmol/l	46.5	37.2	55.8	4.65	9.30	IDMS traceable
	mg/dl	0.525	0.420	0.630	0.05	0.11	
gamma-GT	U/l	30	26	34	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	2.89	2.46	3.32	0.22	0.43	Hexokinase
	mg/dl	52.1	44.3	59.9	3.90	7.80	
HDL - Cholesterol	mmol/l	1.37	1.16	1.58	0.11	0.21	Direct HDL PPD
	mg/dl	52.9	44.8	61.0	4.05	8.10	
Immunoglobulin A	g/l	1.14	0.86	1.43	0.14	0.29	Immunoturbidimetric
	mg/dl	114	85.5	143	14.25	28.50	
Immunoglobulin G	g/l	4.68	3.84	5.52	0.42	0.84	Immunoturbidimetric
	mg/dl	468	384	552	42.00	84.00	
Immunoglobulin M	g/l	0.52	0.42	0.63	0.05	0.10	Immunoturbidimetric
	mg/dl	52.1	41.7	62.5	5.20	10.40	
LD (LDH)	U/l	57	48	66	4.50	9.00	L->P 37°C
LDL - Cholesterol	mmol/l	1.97	1.68	2.26	0.15	0.29	Selective detergent methods
	mg/dl	76.1	64.8	87.4	5.65	11.30	
Lipoprotein(a)	mg/dl	8.40	6.72	10.1	0.84	1.68	Immunoturbidimetric
Magnesium	mmol/l	0.47	0.41	0.52	0.03	0.06	Xylidyl Blue
	mg/dl	1.13	0.994	1.27	0.07	0.14	

Beckman Coulter AU Series® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Phosphate Inorganic	mmol/l	0.72	0.61	0.82	0.05	0.11	Phosphomolybdate UV
	mg/dl	2.22	1.89	2.55	0.17	0.33	
Potassium	mmol/l	2.61	2.40	2.82	0.11	0.21	ISE indirect
Prealbumin	g/l	0.13	0.11	0.16	0.01	0.03	Immunoturbidimetric
	mg/dl	13.1	10.5	15.7	1.30	2.60	
Protein Total	g/l	36.7	29.4	44.0	3.65	7.30	Biuret reaction end point
	g/dl	3.67	2.94	4.40	0.37	0.73	
Sodium	mmol/l	113	107	119	3.00	6.00	ISE indirect
Transferrin	g/l	1.31	1.05	1.57	0.13	0.26	Immunoturbidimetric
	mg/dl	131	105	157	13.00	26.00	
Triglycerides	mmol/l	1.48	1.24	1.72	0.12	0.24	Lipase/GPO-PAP no correction
	mg/dl	131	110	152	10.50	21.00	
Urea	mmol/l	3.03	2.58	3.48	0.23	0.45	Urease kinetic
	mg/dl	18.2	15.5	20.9	1.35	2.70	
	mmol/l	3.03	2.58	3.48	0.23	0.45	BUN
	mg/dl	8.50	7.23	9.77	0.64	1.27	
Uric Acid (Urate)	mmol/l	0.17	0.14	0.19	0.01	0.02	Uricase peroxidase no ascorbate oxidase
	mg/dl	2.79	2.42	3.16	0.19	0.37	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Acid Phosphatase (Total)	U/l	5.34	3.58	7.10	0.88	1.76	1-Naphthyl Phosphate substrate Kinetic 37°C
Albumin	g/l	25.5	21.7	29.3	1.90	3.80	Bromocresol Green
	g/dl	2.55	2.17	2.93	0.19	0.38	
Alkaline Phosphatase	U/l	24	20	28	2.00	4.00	AMP optimised to IFCC 37°C
	U/l	19	16	22	1.50	3.00	AMP optimised to IFCC 30°C
	U/l	15	13	17	1.00	2.00	AMP optimised to IFCC 25°C
	U/l	60	51	69	4.50	9.00	Diethanolamine buffer DEA 37°C
	U/l	47	40	54	3.50	7.00	Diethanolamine buffer DEA 30°C
	U/l	38	33	43	2.50	5.00	Diethanolamine buffer DEA 25°C
Alpha-1-Acid Glycoprotein	g/l	0.28	0.22	0.33	0.03	0.06	Immunoturbidimetric
	mg/dl	27.7	22.2	33.2	2.75	5.50	
Alphafoetoprotein	KIU/l =	0.98	0.78	1.18	0.10	0.20	Roche Cobas E411
	ng/ml	1.19	0.949	1.43	0.12	0.24	
ALT (GPT)	U/l	46	37	55	4.50	9.00	Tris buffer without P5P 37°C
	U/l	34	27	41	3.50	7.00	Tris buffer without P5P 30°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 25°C
	U/l	55	44	66	5.50	11.00	Tris buffer with P5P 37°C
	U/l	41	33	49	4.00	8.00	Tris buffer with P5P 30°C
	U/l	31	25	37	3.00	6.00	Tris buffer with P5P 25°C
Amikacin	µmol/l	6.83	5.46	8.20	0.69	1.37	Gravimetric
	µg/ml	4.00	3.20	4.80	0.40	0.80	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Amylase Pancreatic	U/l	32	27	37	2.50	5.00	Immunoinhibition EPS substrate 37°C
	U/l	33	28	38	2.50	5.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	46	39	53	3.50	7.00	Roche liquid stable pNPG7 37°C
	U/l	47	40	54	3.50	7.00	Beckman Coulter - blocked pNPG7 37°C
	U/l	48	41	55	3.50	7.00	Siemens - blocked pNPG7 37°C
	U/l	51	43	59	4.00	8.00	Siemens 2-chloro-pNPG3 37°C
	U/l	49	42	56	3.50	7.00	Randox Liquid Ethylidene pNPG7 37°C
	U/l	37	31	43	3.00	6.00	Randox Lyo. Ethylidene pNPG7 37°C
Apolipoprotein A-1	g/l	0.70	0.58	0.83	0.06	0.13	Immunoturbidimetric
	mg/dl	70.2	57.6	82.8	6.30	12.60	
Apolipoprotein B	g/l	0.42	0.34	0.49	0.04	0.08	Immunoturbidimetric
	mg/dl	41.8	34.3	49.3	3.75	7.50	
AST (GOT)	U/l	46	37	55	4.50	9.00	Tris buffer without P5P 37°C
	U/l	31	25	37	3.00	6.00	Tris buffer without P5P 30°C
	U/l	22	18	26	2.00	4.00	Tris buffer without P5P 25°C
	U/l	57	46	68	5.50	11.00	Tris buffer with P5P 37°C
	U/l	39	31	47	4.00	8.00	Tris buffer with P5P 30°C
	U/l	27	22	32	2.50	5.00	Tris buffer with P5P 25°C
Beta-2-microglobulin	µg/ml =	1.46	1.17	1.75	0.15	0.29	Immunoturbidimetric
Bicarbonate	mmol/l	15.6	12.4	18.8	1.60	3.20	Enzymatic
Bile Acids	µmol/l	17.2	13.8	20.6	1.70	3.40	5th Generation Colorimetric
Bilirubin Direct	µmol/l	12.3	9.72	14.9	1.29	2.58	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.720	0.569	0.871	0.08	0.15	
	µmol/l	12.3	9.72	14.9	1.29	2.58	Diazo with Sulphanilic Acid
	mg/dl	0.720	0.569	0.871	0.08	0.15	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Bilirubin Direct	µmol/l	11.0	8.69	13.3	1.16	2.31	Oxidation to Biliverdin/Vanadate
	mg/dl	0.644	0.508	0.780	0.07	0.14	
	µmol/l	10.0	7.90	12.1	1.05	2.10	Modified Jendrassik
	mg/dl	0.585	0.462	0.708	0.06	0.12	
Bilirubin Total	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	
	µmol/l	20.2	16.0	24.4	2.10	4.20	Diazo with Sulphanilic Acid
	mg/dl	1.18	0.936	1.42	0.12	0.24	
	µmol/l	21.7	17.1	26.3	2.30	4.60	Oxidation to Biliverdin/Vanadate
	mg/dl	1.27	1.00	1.54	0.14	0.27	
	µmol/l	21.6	17.1	26.1	2.25	4.50	Diazo with Dichloroaniline (DCA)
	mg/dl	1.26	1.00	1.52	0.13	0.26	
	µmol/l	23.1	18.2	28.0	2.45	4.90	Modified Jendrassik
	mg/dl	1.35	1.06	1.64	0.15	0.29	
C-Reactive Protein	mg/l	2.55	2.04	3.06	0.26	0.51	Immunoturbidimetric
Caeruloplasmin	g/l	0.164	0.131	0.197	0.02	0.03	Immunoturbidimetric
	mg/dl	16.4	13.1	19.7	1.65	3.30	
Caffeine	µmol/l	14.9	11.2	18.7	1.87	3.73	Gravimetric
	µg/ml	2.90	2.17	3.63	0.37	0.73	
Calcium	mmol/l	1.66	1.49	1.83	0.09	0.17	NM-BAPTA
	mg/dl	6.65	5.97	7.33	0.34	0.68	
	mmol/l	1.66	1.49	1.83	0.09	0.17	Arsenazo III
	mg/dl	6.65	5.97	7.33	0.34	0.68	
	mmol/l	1.56	1.40	1.72	0.08	0.16	Cresolphthalein complexone
	mg/dl	6.25	5.61	6.89	0.32	0.64	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Carbamazepine	µmol/l	21.2	16.9	25.4	2.13	4.25	Gravimetric
	µg/ml	5.00	4.00	6.00	0.50	1.00	
Carcinoembryonic Antigen (CEA)	ng/ml =	0.85	0.68	1.02	0.09	0.17	Roche Cobas E411
Chloride	mmol/l	80.9	74.4	87.4	3.25	6.50	ISE indirect
	mmol/l	81.4	74.9	87.9	3.25	6.50	ISE direct
	mmol/l	81.4	74.9	87.9	3.25	6.50	Colorimetric
Cholesterol	mmol/l	3.62	3.15	4.09	0.24	0.47	Cholesterol Oxidase
	mg/dl	140	122	158	9.00	18.00	
Cholinesterase	U/l	3807	3046	4568	380.50	761.00	Colorimetric Butyrylthiocholine 37°C
CK Total	U/l	58	48	68	5.00	10.00	CK-NAC (IFCC) 37°C
	U/l	36	30	42	3.00	6.00	CK-NAC (IFCC) 30°C
	U/l	25	20	30	2.50	5.00	CK-NAC (IFCC) 25°C
	U/l	61	50	72	5.50	11.00	CK-NAC substrate start (DGKC) 37°C
	U/l	38	31	45	3.50	7.00	CK-NAC substrate start (DGKC) 30°C
	U/l	26	21	31	2.50	5.00	CK-NAC substrate start (DGKC) 25°C
Complement C3	g/l	0.64	0.51	0.77	0.06	0.13	Immunoturbidimetric
	mg/dl	63.8	51.0	76.6	6.40	12.80	
Complement C4	g/l	0.12	0.10	0.15	0.01	0.02	Immunoturbidimetric
	mg/dl	12.2	9.80	14.6	1.20	2.40	
Copper	µmol/l	15.1	12.1	18.1	1.50	3.00	Colorimetric
	µg/dl	96.0	77.0	115	9.50	19.00	
Cortisol	nmol/l	192	144	240	24.00	48.00	Roche Cobas E411
	µg/dl	6.91	5.18	8.64	0.87	1.73	
Creatinine	µmol/l	49.6	39.7	59.5	4.95	9.90	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	0.560	0.449	0.671	0.06	0.11	

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Cat. No. LAL4213 Lot No. 287UL

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Creatinine	μmol/l	64.2	51.4	77.0	6.40	12.80	Alkaline picrate no deproteinization
	mg/dl	0.725	0.581	0.869	0.07	0.14	
	μmol/l	50.7	40.6	60.8	5.05	10.10	Enzymatic UV method
	mg/dl	0.573	0.459	0.687	0.06	0.11	
D-3-Hydroxybutyrate	mmol/l	0.20	0.17	0.22	0.01	0.03	Tris buffer 100mmol pH 8.5
DHEA-S	μmol/l	2.08	1.66	2.50	0.21	0.42	Siemens Immulite 2000
Digoxin	nmol/l	0.78	0.62	0.93	0.08	0.16	Enzyme Immunoassay
	ng/ml	0.605	0.484	0.726	0.06	0.12	
	nmol/l	1.02	0.82	1.23	0.10	0.21	Gravimetric
	ng/ml	0.800	0.640	0.960	0.08	0.16	
Ferritin	ng/ml =	29.4	23.5	35.3	2.95	5.90	Immunoturbidimetric
Folate	nmol/l	3.74	2.84	4.64	0.45	0.90	Roche Cobas 6000/8000
	ng/ml	1.65	1.25	2.05	0.20	0.40	
Free T3	pmol/l	5.80	4.35	7.25	0.73	1.45	Roche Cobas E411
	ng/dl	0.377	0.283	0.471	0.05	0.09	Roche Cobas E411
	pg/ml	3.78	2.83	4.73	0.48	0.95	Roche Cobas E411
Free T4	pmol/l	15.5	11.6	19.4	1.95	3.90	Roche Cobas E411
	ng/dl	1.21	0.905	1.52	0.15	0.31	Roche Cobas E411
	pg/ml	12.1	9.05	15.2	1.53	3.05	Roche Cobas E411
FSH	mU/ml	9.13	7.30	11.0	0.92	1.83	Roche Cobas E411
Gentamicin	μmol/l	5.00	4.00	6.00	0.50	1.00	Gravimetric
	μg/ml	2.39	1.91	2.87	0.24	0.48	
	μmol/l	3.60	2.88	4.32	0.36	0.72	Enzyme Immunoassay
	μg/ml	1.72	1.38	2.06	0.17	0.34	
gamma-GT	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	24	20	28	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	19	16	22	1.50	3.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C

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Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
gamma-GT	U/l	34	29	39	2.50	5.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 37°C
	U/l	27	23	31	2.00	4.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 30°C
	U/l	21	18	24	1.50	3.00	Randox Gamma glutamyl.-3-carboxy-4-nitroanilide 25°C
GLDH	U/l	16	13	19	1.50	3.00	Triethanolamine buffer 50 mmol 37°C
	U/l	12	10	14	1.00	2.00	Triethanolamine buffer 50 mmol 30°C
	U/l	10	8	12	1.00	2.00	Triethanolamine buffer 50 mmol 25°C
Glucose	mmol/l	2.99	2.54	3.44	0.23	0.45	Hexokinase
	mg/dl	53.9	45.8	62.0	4.05	8.10	
	mmol/l	3.01	2.56	3.46	0.23	0.45	Glucose oxidase
	mg/dl	54.2	46.1	62.3	4.05	8.10	
HDL - Cholesterol	mmol/l	1.73	1.47	1.99	0.13	0.26	Direct HDL Roche 3rd generation
	mg/dl	66.8	56.7	76.9	5.05	10.10	
	mmol/l	1.37	1.16	1.58	0.11	0.21	Direct HDL PPD
	mg/dl	52.9	44.8	61.0	4.05	8.10	
	mmol/l	1.23	1.05	1.41	0.09	0.18	Direct Clearance Method
	mg/dl	47.5	40.5	54.5	3.50	7.00	
	mmol/l	1.73	1.47	1.99	0.13	0.26	Direct HDL PEGME
	mg/dl	66.8	56.7	76.9	5.05	10.10	
Immunoglobulin A	g/l	1.14	0.86	1.43	0.14	0.29	Immunoturbidimetric
	mg/dl	114	85.5	143	14.25	28.50	
Immunoglobulin G	g/l	4.68	3.84	5.52	0.42	0.84	Immunoturbidimetric
	mg/dl	468	384	552	42.00	84.00	
Immunoglobulin M	g/l	0.52	0.42	0.63	0.05	0.10	Immunoturbidimetric
	mg/dl	52.1	41.7	62.5	5.20	10.40	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Iron	µmol/l	14.8	12.1	17.5	1.35	2.70	Colorimetric without ppt.
	µg/dl	82.7	67.6	97.8	7.55	15.10	
Lactate	mmol/l	0.59	0.48	0.69	0.05	0.11	Colorimetric Lactate Oxidase
	mg/dl	5.28	4.33	6.23	0.48	0.95	
	mmol/l	0.53	0.43	0.62	0.05	0.09	UV LDH
	mg/dl	4.73	3.88	5.58	0.43	0.85	
LAP	U/l	11	9	13	1.00	2.00	NAGEL 37°C
LD (LDH)	U/l	105	89	121	8.00	16.00	P->L German methods 37°C
	U/l	76	64	88	6.00	12.00	P->L German methods 30°C
	U/l	53	45	61	4.00	8.00	P->L German methods 25°C
	U/l	57	48	66	4.50	9.00	L->P 37°C
	U/l	41	35	47	3.00	6.00	L->P 30°C
	U/l	29	24	34	2.50	5.00	L->P 25°C
	U/l	58	49	67	4.50	9.00	L->P IFCC 37°C
	U/l	42	35	49	3.50	7.00	L->P IFCC 30°C
	U/l	29	25	33	2.00	4.00	L->P IFCC 25°C
LDL - Cholesterol	mmol/l	1.56	1.33	1.79	0.12	0.23	Direct Clearance Method
	mg/dl	60.2	51.3	69.1	4.45	8.90	
Lipase	U/l	22	18	26	2.00	4.00	Roche Colorimetric 37°C
	U/l	26	21	31	2.50	5.00	Randox Colorimetric 37°C
Lipoprotein(a)	mg/dl	8.40	6.72	10.1	0.84	1.68	Immunoturbidimetric
Lithium	mmol/l	0.50	0.44	0.56	0.03	0.06	Gravimetric
	mg/dl	0.347	0.306	0.388	0.02	0.04	
	mmol/l	0.57	0.50	0.64	0.03	0.07	Spectrophotometric
	mg/dl	0.394	0.347	0.441	0.02	0.05	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Lithium	mmol/l	0.55	0.49	0.62	0.03	0.07	Randox Colorimetric
	mg/dl	0.384	0.338	0.430	0.02	0.05	
Luteinising Hormone (LH)	mU/ml	5.81	4.65	6.97	0.58	1.16	Roche Cobas E411
Magnesium	mmol/l	0.49	0.44	0.55	0.03	0.06	Xylidyl Blue
	mg/dl	1.20	1.06	1.34	0.07	0.14	
	mmol/l	0.45	0.40	0.51	0.03	0.05	Methylthymol blue
	mg/dl	1.10	0.970	1.23	0.07	0.13	
Myoglobin	ng/ml =	47.5	33.3	61.7	7.10	14.20	Immunoturbidimetric
Osmolality	mOsm/kg	552	442	662	55.00	110.00	Freezing point depression
Paracetamol	mmol/l	0.12	0.09	0.14	0.01	0.02	Gravimetric
	mg/l	17.5	14.1	20.9	1.70	3.40	
	mmol/l	0.16	0.13	0.20	0.02	0.03	Enzymatic
	mg/l	24.9	20.0	29.8	2.45	4.90	
Phenobarbital	µmol/l	36.0	28.8	43.2	3.60	7.20	Gravimetric
	µg/ml	8.35	6.68	10.0	0.84	1.67	
Phenytoin	µmol/l	29.7	23.8	35.6	2.95	5.90	Gravimetric
	µg/ml	7.50	6.01	8.99	0.75	1.49	
Phosphate Inorganic	mmol/l	0.73	0.62	0.84	0.05	0.11	Phosphomolybdate UV
	mg/dl	2.26	1.92	2.60	0.17	0.34	
Potassium	mmol/l	2.66	2.45	2.87	0.11	0.21	ISE indirect
	mmol/l	2.76	2.54	2.98	0.11	0.22	ISE direct
Prealbumin	g/l	0.13	0.10	0.15	0.01	0.03	Immunoturbidimetric
	mg/dl	12.8	10.2	15.4	1.30	2.60	
Progesterone	nmol/l	3.80	3.04	4.56	0.38	0.76	Roche Cobas E411
	ng/ml	1.19	0.952	1.43	0.12	0.24	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Prolactin	µU/ml	125	100	150	12.50	25.00	Roche Cobas E411
Protein Total	g/l	37.8	30.2	45.4	3.80	7.60	Biuret reaction end point
	g/dl	3.78	3.02	4.54	0.38	0.76	
PSA Total	ng/ml =	2.84	2.13	3.55	0.36	0.71	Roche Cobas E411
Salicylate	mmol/l	0.30	0.24	0.36	0.03	0.06	Gravimetric
	mg/dl	4.10	3.28	4.92	0.41	0.82	
	mmol/l	0.24	0.19	0.28	0.02	0.05	Colorimetric
	mg/dl	3.27	2.62	3.92	0.33	0.65	
Sodium	mmol/l	114	108	120	3.00	6.00	ISE indirect
	mmol/l	117	111	123	3.00	6.00	ISE direct
	mmol/l	112	106	118	3.00	6.00	Enzymatic
T Uptake	%U	34.0	27.9	40.1	3.05	6.10	Siemens Immulite 2000
Testosterone	nmol/l	2.41	1.93	2.90	0.24	0.48	Roche Cobas E411
	ng/ml	0.695	0.556	0.834	0.07	0.14	Roche Cobas E411
	ng/dl	69.5	55.6	83.4	6.95	13.90	Roche Cobas E411
Theophylline	µmol/l	30.0	24.0	35.9	2.99	5.97	Gravimetric
	µg/ml	5.40	4.32	6.48	0.54	1.08	
	µmol/l	27.0	21.6	32.3	2.69	5.37	Immunoturbidimetric
	µg/ml	4.86	3.89	5.83	0.49	0.97	
Thyroid Stimulating Hormone	µU/ml =	0.90	0.72	1.07	0.09	0.18	Roche Cobas E411
TIBC	µmol/l	38.4	30.3	46.5	4.05	8.10	Randox Direct
	µg/dl	215	169	261	23.00	46.00	
Total Beta hCG	mU/ml=IU	4.86	3.89	5.83	0.49	0.97	Roche Cobas E411
	IU/ml	0.005	0.004	0.006	0.00	0.00	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Total T3	nmol/l	1.80	1.35	2.25	0.23	0.45	Roche Cobas E411
	ng/ml	1.17	0.879	1.46	0.15	0.29	Roche Cobas E411
	ng/dl	117	87.9	146	14.55	29.10	Roche Cobas E411
Total T4	nmol/l	50.6	38.0	63.2	6.30	12.60	Roche Cobas E411
	µg/dl	3.95	2.96	4.94	0.50	0.99	Roche Cobas E411
	ng/ml	39.5	29.6	49.4	4.95	9.90	Roche Cobas E411
Transferrin	g/l	1.31	1.05	1.57	0.13	0.26	Immunoturbidimetric
	mg/dl	131	105	157	13.00	26.00	
Triglycerides	mmol/l	1.54	1.29	1.79	0.13	0.25	Lipase/GPO-PAP no correction
	mg/dl	136	114	158	11.00	22.00	
Troponin T	ng/ml =	0.02	0.01	0.03	0.00	0.01	Roche Cobas E411
	ng/l = p	19.9	14.0	25.8	2.95	5.90	
UIBC	µmol/l	13.9	11.4	16.4	1.25	2.50	Direct Colorimetric
	µg/dl	77.7	63.7	91.7	7.00	14.00	
Urea	mmol/l	3.09	2.63	3.55	0.23	0.46	Urease kinetic
	mg/dl	18.6	15.8	21.4	1.40	2.80	
	mmol/l	3.09	2.63	3.55	0.23	0.46	BUN
	mg/dl	8.67	7.37	9.97	0.65	1.30	
Uric Acid (Urate)	mmol/l	0.16	0.14	0.18	0.01	0.02	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	2.70	2.35	3.05	0.18	0.35	
	mmol/l	0.16	0.14	0.18	0.01	0.02	Uricase peroxidase no ascorbate oxidase
	mg/dl	2.60	2.27	2.93	0.17	0.33	
Valproic Acid	µmol/l	208	166	250	21.00	42.00	Gravimetric
	µg/ml	30.0	24.0	36.0	3.00	6.00	
Vancomycin	µmol/l	3.40	2.72	4.08	0.34	0.68	Gravimetric
	µg/ml	5.05	4.04	6.06	0.51	1.01	

MEAN OF ALL INSTRUMENTS (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Vitamin B12	pmol/l	123	98.0	147	12.25	24.50	Roche Cobas E411
	pg/ml	166	133	199	16.50	33.00	
Zinc	μmol/l	17.2	13.8	20.6	1.70	3.40	Colorimetric with deproteinisation
	μg/dl	112	90.1	134	10.95	21.90	

MEAN OF ALL INSTRUMENTS (Elec.) (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin (electrophoresis)		67.5	60.8	74.2	3.35	6.70	% of total Protein (Beckman Capillary)
alpha-1-globulin		4.9	3.7	6.1	0.59	1.18	% of total Protein (Beckman Capillary)
alpha-2-globulin		6.9	5.2	8.6	0.83	1.66	% of total Protein (Beckman Capillary)
beta-globulin		9.2	7.0	11.4	1.11	2.21	% of total Protein (Beckman Capillary)
gamma-globulin		11.5	8.7	14.3	1.38	2.76	% of total Protein (Beckman Capillary)

ROCHE COBAS SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	26.0	22.1	29.9	1.95	3.90	Bromocresol Green
	g/dl	2.60	2.21	2.99	0.20	0.39	
Alkaline Phosphatase	U/l	21	18	24	1.50	3.00	Roche Integra AMP buffer 37°C
	U/l	16	14	18	1.00	2.00	Roche Integra AMP buffer 30°C
	U/l	13	12	14	0.50	1.00	Roche Integra AMP buffer 25°C
ALT (GPT)	U/l	47	38	56	4.50	9.00	Tris buffer without P5P 37°C
	U/l	35	28	42	3.50	7.00	Tris buffer without P5P 30°C
	U/l	26	21	31	2.50	5.00	Tris buffer without P5P 25°C
Amylase Total	U/l	46	39	53	3.50	7.00	Roche liquid stable pNPG7 37°C
AST (GOT)	U/l	44	35	53	4.50	9.00	Tris buffer without P5P 37°C
	U/l	30	24	36	3.00	6.00	Tris buffer without P5P 30°C
	U/l	21	17	25	2.00	4.00	Tris buffer without P5P 25°C
Bicarbonate	mmol/l	13.9	11.0	16.8	1.45	2.90	Enzymatic
Bile Acids	µmol/l	17.7	14.2	21.2	1.75	3.50	Enzymatic Colorimetric
Bilirubin Direct	µmol/l	12.3	9.72	14.9	1.29	2.58	Dichlorophenyl Diazonium (DPD)
	mg/dl	0.720	0.569	0.871	0.08	0.15	
Bilirubin Total	µmol/l	17.9	14.1	21.7	1.90	3.80	Dichlorophenyl Diazonium (DPD)
	mg/dl	1.05	0.825	1.28	0.11	0.23	
C-Reactive Protein	mg/l	1.23	0.98	1.48	0.12	0.25	Immunoturbidimetric
Calcium	mmol/l	1.66	1.49	1.83	0.09	0.17	NM-BAPTA
	mg/dl	6.65	5.97	7.33	0.34	0.68	

ROCHE COBAS SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Chloride	mmol/l	79.6	73.2	86.0	3.20	6.40	ISE indirect
Cholesterol	mmol/l	3.49	3.04	3.94	0.23	0.45	Cholesterol Oxidase
	mg/dl	135	117	153	9.00	18.00	
CK Total	U/l	60	49	71	5.50	11.00	CK-NAC (IFCC) 37°C
	U/l	38	31	45	3.50	7.00	CK-NAC (IFCC) 30°C
	U/l	26	21	31	2.50	5.00	CK-NAC (IFCC) 25°C
Creatinine	µmol/l	54.3	43.4	65.2	5.45	10.90	Roche Creatinine Plus
	mg/dl	0.614	0.490	0.738	0.06	0.12	
Ferritin	ng/ml =	29.4	23.5	35.3	2.95	5.90	Immunoturbidimetric
gamma-GT	U/l	33	28	38	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
	U/l	26	22	30	2.00	4.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 30°C
	U/l	20	17	23	1.50	3.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 25°C
Glucose	mmol/l	2.97	2.52	3.42	0.23	0.45	Hexokinase
	mg/dl	53.5	45.4	61.6	4.05	8.10	
HDL - Cholesterol	mmol/l	1.73	1.47	1.99	0.13	0.26	Direct HDL Roche 3rd generation
	mg/dl	66.8	56.7	76.9	5.05	10.10	
Iron	µmol/l	15.2	12.5	17.9	1.35	2.70	Colorimetric without ppt.
	µg/dl	85.0	69.9	100	7.55	15.10	
Lactate	mmol/l	0.67	0.55	0.79	0.06	0.12	Colorimetric Lactate Oxidase
	mg/dl	6.04	4.95	7.13	0.55	1.09	
LD (LDH)	U/l	107	91	123	8.00	16.00	P->L German methods 37°C
	U/l	77	66	88	5.50	11.00	P->L German methods 30°C
	U/l	54	46	62	4.00	8.00	P->L German methods 25°C
Lipase	U/l	22	18	26	2.00	4.00	Roche Colorimetric 37°C
Lithium	mmol/l	0.57	0.50	0.64	0.03	0.07	Spectrophotometric
	mg/dl	0.394	0.347	0.441	0.02	0.05	

ROCHE COBAS SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Magnesium	mmol/l	0.51	0.44	0.57	0.03	0.06	Xylidyl Blue
	mg/dl	1.23	1.08	1.38	0.08	0.15	
Phosphate Inorganic	mmol/l	0.70	0.60	0.81	0.05	0.11	Phosphomolybdate UV
	mg/dl	2.18	1.85	2.51	0.17	0.33	
Potassium	mmol/l	2.75	2.53	2.97	0.11	0.22	ISE indirect
Protein Total	g/l	37.1	29.7	44.5	3.70	7.40	Biuret reaction end point
	g/dl	3.71	2.97	4.45	0.37	0.74	
Sodium	mmol/l	115	109	121	3.00	6.00	ISE indirect
Triglycerides	mmol/l	1.60	1.34	1.86	0.13	0.26	Lipase/GPO-PAP no correction
	mg/dl	142	119	165	11.50	23.00	
UIBC	μmol/l	13.9	11.4	16.4	1.25	2.50	Direct Colorimetric
	μg/dl	77.7	63.7	91.7	7.00	14.00	
Urea	mmol/l	2.98	2.53	3.43	0.23	0.45	Urease kinetic
	mg/dl	17.9	15.2	20.6	1.35	2.70	
	mmol/l	2.98	2.53	3.43	0.23	0.45	BUN
	mg/dl	8.36	7.11	9.61	0.63	1.25	
Uric Acid (Urate)	mmol/l	0.16	0.14	0.18	0.01	0.02	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	2.64	2.30	2.98	0.17	0.34	

RX SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	27.5	23.4	31.6	2.05	4.10	Bromocresol Green
	g/dl	2.75	2.34	3.16	0.21	0.41	
Alkaline Phosphatase	U/l	23	20	26	1.50	3.00	AMP optimised to IFCC 37°C
	U/l	60	51	69	4.50	9.00	Diethanolamine buffer DEA 37°C
ALT (GPT)	U/l	43	34	52	4.50	9.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	33	28	38	2.50	5.00	Randox Liquid Ethylidene pNPG7 37°C
Amylase Total	U/l	49	42	56	3.50	7.00	Randox Liquid Ethylidene pNPG7 37°C
AST (GOT)	U/l	44	35	53	4.50	9.00	Tris buffer without P5P 37°C
Bicarbonate	mmol/l	15.4	12.2	18.6	1.60	3.20	Enzymatic
Bile Acids	µmol/l	17.2	13.8	20.6	1.70	3.40	5th Generation Colorimetric
Bilirubin Direct	µmol/l	14.3	11.3	17.3	1.50	3.00	Diazo with Sulphanilic Acid
	mg/dl	0.837	0.661	1.01	0.09	0.18	
	µmol/l	11.2	8.85	13.6	1.18	2.35	Oxidation to Biliverdin/Vanadate
	mg/dl	0.655	0.518	0.792	0.07	0.14	
Bilirubin Total	µmol/l	21.2	16.7	25.7	2.25	4.50	Diazo with Sulphanilic Acid
	mg/dl	1.24	0.977	1.50	0.13	0.26	
	µmol/l	22.2	17.5	26.9	2.35	4.70	Oxidation to Biliverdin/Vanadate
	mg/dl	1.30	1.02	1.58	0.14	0.28	
Calcium	mmol/l	1.76	1.58	1.94	0.09	0.18	Arsenazo III
	mg/dl	7.05	6.33	7.77	0.36	0.72	
Chloride	mmol/l	81.4	74.9	87.9	3.25	6.50	ISE direct

RX SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot. No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Cholesterol	mmol/l	3.87	3.37	4.37	0.25	0.50	Cholesterol Oxidase
	mg/dl	149	130	168	9.50	19.00	
CK Total	U/l	65	53	77	6.00	12.00	CK-NAC (IFCC) 37°C
	U/l	61	50	72	5.50	11.00	CK-NAC substrate start (DGKC) 37°C
Creatinine	µmol/l	66.3	53.0	79.6	6.65	13.30	Alkaline picrate no deproteinization
	mg/dl	0.749	0.599	0.899	0.08	0.15	
	µmol/l	50.7	40.6	60.8	5.05	10.10	Enzymatic UV method
	mg/dl	0.573	0.459	0.687	0.06	0.11	
gamma-GT	U/l	34	29	39	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	3.24	2.75	3.73	0.25	0.49	Hexokinase
	mg/dl	58.4	49.6	67.2	4.40	8.80	
	mmol/l	3.06	2.60	3.52	0.23	0.46	Glucose oxidase
	mg/dl	55.1	46.9	63.3	4.10	8.20	
Iron	µmol/l	15.0	12.3	17.7	1.35	2.70	Colorimetric without ppt.
	µg/dl	83.9	68.8	99.0	7.55	15.10	
Lactate	mmol/l	0.59	0.48	0.69	0.05	0.11	Colorimetric Lactate Oxidase
	mg/dl	5.28	4.33	6.23	0.48	0.95	
LD (LDH)	U/l	58	49	67	4.50	9.00	L->P IFCC 37°C
	U/l	102	87	117	7.50	15.00	P->L German methods 37°C
Lipase	U/l	26	21	31	2.50	5.00	Randox Colorimetric 37°C
Lithium	mmol/l	0.55	0.49	0.62	0.03	0.07	Colorimetric
	mg/dl	0.384	0.338	0.430	0.02	0.05	
Magnesium	mmol/l	0.51	0.45	0.57	0.03	0.06	Xylidyl Blue
	mg/dl	1.23	1.08	1.38	0.08	0.15	
Phosphate Inorganic	mmol/l	0.75	0.63	0.86	0.06	0.11	Phosphomolybdate UV
	mg/dl	2.31	1.97	2.65	0.17	0.34	

RX SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Potassium	mmol/l	2.76	2.54	2.98	0.11	0.22	ISE direct
Protein Total	g/l	38.5	30.8	46.2	3.85	7.70	Biuret reaction end point
	g/dl	3.85	3.08	4.62	0.39	0.77	
Sodium	mmol/l	117	111	123	3.00	6.00	ISE direct
	mmol/l	112	106	118	3.00	6.00	Enzymatic
TIBC	μmol/l	38.4	30.3	46.5	4.05	8.10	Direct Colorimetric
	μg/dl	215	169	261	23.00	46.00	
Triglycerides	mmol/l	1.56	1.31	1.81	0.13	0.25	Lipase/GPO-PAP no correction
	mg/dl	138	116	160	11.00	22.00	
Urea	mmol/l	3.08	2.62	3.54	0.23	0.46	Urease kinetic
	mg/dl	18.5	15.7	21.3	1.40	2.80	
	mmol/l	3.08	2.62	3.54	0.23	0.46	BUN
	mg/dl	8.64	7.34	9.94	0.65	1.30	
Uric Acid (Urate)	mmol/l	0.17	0.14	0.19	0.01	0.02	Uricase Peroxidase with ascorbate oxidase @ 546nm
	mg/dl	2.77	2.42	3.12	0.18	0.35	
	mmol/l	0.13	0.11	0.15	0.01	0.02	Uricase peroxidase no ascorbate oxidase
	mg/dl	2.17	1.88	2.46	0.15	0.29	

SIEMENS ADVIA 1200/1650/1800/2400® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	25.0	21.3	28.7	1.85	3.70	Bromocresol Green
	g/dl	2.50	2.13	2.87	0.19	0.37	
Alkaline Phosphatase	U/l	26	22	30	2.00	4.00	AMP optimised to IFCC 37°C
ALT (GPT)	U/l	49	39	59	5.00	10.00	Tris buffer without P5P 37°C
Amylase Pancreatic	U/l	34	29	39	2.50	5.00	Immunoinhibition EPS substrate 37°C
Amylase Total	U/l	48	41	55	3.50	7.00	Siemens - blocked pNPG7 37°C
AST (GOT)	U/l	51	41	61	5.00	10.00	Tris buffer without P5P 37°C
Bilirubin Direct	µmol/l	10.8	8.53	13.1	1.14	2.27	Oxidation to Biliverdin/Vanadate
	mg/dl	0.632	0.499	0.765	0.07	0.13	
Bilirubin Total	µmol/l	21.1	16.7	25.5	2.20	4.40	Oxidation to Biliverdin/Vanadate
	mg/dl	1.23	0.977	1.48	0.13	0.25	
C-Reactive Protein	mg/l	2.63	2.10	3.16	0.27	0.53	Immunoturbidimetric
Calcium	mmol/l	1.56	1.40	1.72	0.08	0.16	Cresolphthalein complexone
	mg/dl	6.25	5.61	6.89	0.32	0.64	
	mmol/l	1.65	1.49	1.81	0.08	0.16	Arsenazo III
	mg/dl	6.61	5.97	7.25	0.32	0.64	
Cholesterol	mmol/l	3.66	3.18	4.14	0.24	0.48	Cholesterol Oxidase
	mg/dl	141	123	159	9.00	18.00	
CK Total	U/l	55	45	65	5.00	10.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	49.6	39.7	59.5	4.95	9.90	Jaffe rate blanked comp. (-26 µmol/l)
	mg/dl	0.560	0.449	0.671	0.06	0.11	

SIEMENS ADVIA 1200/1650/1800/2400® (LIQ CHEM ASY PREMIUM PLUS 1)
Cat. No. LAL4213 Lot No. 287UL
Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
gamma-GT	U/l	31	26	36	2.50	5.00	Gamma Glutamyl-3-Carboxy-4-nitroanilide (IFCC) 37°C
Glucose	mmol/l	2.96	2.52	3.40	0.22	0.44	Glucose oxidase
	mg/dl	53.3	45.4	61.2	3.95	7.90	
	mmol/l	3.00	2.55	3.45	0.23	0.45	Hexokinase
	mg/dl	54.1	46.0	62.2	4.05	8.10	
HDL - Cholesterol	mmol/l	1.19	1.01	1.37	0.09	0.18	Direct Clearance Method
	mg/dl	45.9	39.0	52.8	3.45	6.90	
Iron	µmol/l	14.9	12.2	17.6	1.35	2.70	Colorimetric without ppt.
	µg/dl	83.3	68.2	98.4	7.55	15.10	
LDL - Cholesterol	mmol/l	1.53	1.30	1.76	0.12	0.23	Direct Clearance Method
	mg/dl	59.1	50.2	68.0	4.45	8.90	
Magnesium	mmol/l	0.50	0.44	0.56	0.03	0.06	Xylidyl Blue
	mg/dl	1.21	1.07	1.35	0.07	0.14	
Phosphate Inorganic	mmol/l	0.73	0.62	0.83	0.05	0.11	Phosphomolybdate UV
	mg/dl	2.25	1.91	2.59	0.17	0.34	
Protein Total	g/l	39.2	31.4	47.0	3.90	7.80	Biuret reaction end point
	g/dl	3.92	3.14	4.70	0.39	0.78	
Triglycerides	mmol/l	1.60	1.34	1.86	0.13	0.26	Lipase/GPO-PAP no correction
	mg/dl	142	119	165	11.50	23.00	
Urea	mmol/l	3.22	2.74	3.70	0.24	0.48	Urease kinetic
	mg/dl	19.4	16.5	22.3	1.45	2.90	
	mmol/l	3.22	2.74	3.70	0.24	0.48	BUN
	mg/dl	9.04	7.68	10.4	0.68	1.36	
Uric Acid (Urate)	mmol/l	0.17	0.14	0.19	0.01	0.02	Uricase peroxidase no ascorbate oxidase
	mg/dl	2.77	2.42	3.12	0.18	0.35	

SIEMENS DIMENSION SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Albumin	g/l	25.6	21.8	29.4	1.90	3.80	Bromocresol Green
	g/dl	2.56	2.18	2.94	0.19	0.38	
Alkaline Phosphatase	U/l	35	30	40	2.50	5.00	Siemens Dimension AMP buffer 37°C
ALT (GPT)	U/l	47	38	56	4.50	9.00	Siemens Dade Standard Non IFCC Correlated 37°C
Amylase Total	U/l	51	43	59	4.00	8.00	Siemens 2-chloro-pNPG3 37°C
AST (GOT)	U/l	55	44	66	5.50	11.00	Siemens Dade Standard Non IFCC Correlated 37°C
Bicarbonate	mmol/l	17.6	14.0	21.2	1.80	3.60	Enzymatic
Bilirubin Direct	µmol/l	8.84	6.98	10.7	0.93	1.86	Diazo with Sulphanilic Acid
	mg/dl	0.517	0.408	0.626	0.05	0.11	
Bilirubin Total	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	
C-Reactive Protein	mg/l	1.82	1.46	2.18	0.18	0.36	Turbidimetric
Calcium	mmol/l	1.56	1.40	1.72	0.08	0.16	Cresolphthalein complexone (CPC)
	mg/dl	6.24	5.61	6.87	0.32	0.63	
Chloride	mmol/l	83.0	76.4	89.6	3.30	6.60	ISE indirect
Cholesterol	mmol/l	3.42	2.98	3.86	0.22	0.44	Dimension-Siemens reagents
	mg/dl	132	115	149	8.50	17.00	
CK Total	U/l	57	47	67	5.00	10.00	CK-NAC (IFCC) 37°C
Creatinine	µmol/l	62.1	49.7	74.5	6.20	12.40	Alkaline picrate no deproteinization
	mg/dl	0.702	0.562	0.842	0.07	0.14	
Digoxin	nmol/l	0.78	0.62	0.93	0.08	0.16	Enzyme Immunoassay
	ng/ml	0.605	0.484	0.726	0.06	0.12	

SIEMENS DIMENSION SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Gentamicin	µmol/l	3.60	2.88	4.32	0.36	0.72	Turbidimetric
	µg/ml	1.72	1.38	2.06	0.17	0.34	
gamma-GT	U/l	47	40	54	3.50	7.00	Siemens Dimension (non IFCC) 37°C
Glucose	mmol/l	2.85	2.42	3.28	0.21	0.43	Hexokinase
	mg/dl	51.3	43.6	59.0	3.85	7.70	
HDL - Cholesterol	mmol/l	1.73	1.47	1.99	0.13	0.26	Direct HDL PEGME
	mg/dl	66.7	56.7	76.7	5.00	10.00	
Iron	µmol/l	14.2	11.7	16.7	1.26	2.52	Colorimetric without ppt.
	µg/dl	79.5	65.4	93.6	7.05	14.10	
Lactate	mmol/l	0.53	0.43	0.62	0.05	0.09	UV LDH
	mg/dl	4.73	3.88	5.58	0.43	0.85	
LD (LDH)	U/l	57	48	66	4.50	9.00	Siemens Dimension L-P Non IFCC 37°C
LDL - Cholesterol	mmol/l	1.65	1.40	1.90	0.13	0.25	Selective detergent methods
	mg/dl	63.8	54.0	73.6	4.90	9.80	
Lipase	U/l	85	68	102	8.50	17.00	Colorimetric Siemens Dimension (LIPL Kit) 37°C
Magnesium	mmol/l	0.45	0.40	0.51	0.03	0.05	Methylthymol blue
	mg/dl	1.10	0.970	1.23	0.07	0.13	
Paracetamol	mmol/l	0.16	0.13	0.20	0.02	0.03	Enzymatic
	mg/l	24.9	20.0	29.8	2.45	4.90	
Phosphate Inorganic	mmol/l	0.75	0.64	0.87	0.06	0.11	Phosphomolybdate UV
	mg/dl	2.33	1.98	2.68	0.18	0.35	
Potassium	mmol/l	2.57	2.36	2.78	0.11	0.21	ISE indirect
Protein Total	g/l	37.6	30.1	45.1	3.75	7.50	Biuret reaction end point
	g/dl	3.76	3.01	4.51	0.38	0.75	

SIEMENS DIMENSION SERIES® (LIQ CHEM ASY PREMIUM PLUS 1)

Cat. No. LAL4213 Lot No. 287UL

Size: 12 x 5 ml Expiry: 2020-01-28

Analyte	unit	Target	Range		1SD	2SD	methods
			low	high			
Salicylate	mmol/l	0.24	0.19	0.29	0.02	0.05	Colorimetric
	mg/dl	3.27	2.62	3.92	0.33	0.65	
Sodium	mmol/l	112	106	118	3.00	6.00	ISE indirect
Theophylline	µmol/l	27.0	21.6	32.3	2.68	5.35	Turbidimetric
	µg/ml	4.86	3.89	5.83	0.49	0.97	
Triglycerides	mmol/l	1.45	1.22	1.68	0.12	0.23	Lipase/GPO-PAP no correction
	mg/dl	128	108	148	10.00	20.00	
Urea	mmol/l	3.16	2.69	3.63	0.24	0.47	BUN
	mg/dl	8.85	7.52	10.2	0.67	1.34	
Uric Acid (Urate)	mmol/l	0.16	0.14	0.18	0.01	0.02	Uricase peroxidase no ascorbate oxidase
	mg/dl	2.68	2.34	3.02	0.17	0.34	