BIO-RAD

Liquid Assayed Multiqual® Premium Levels 1, 2 and 3

REF			
	284	Level 1	6 x 5 mL
	285	Level 2	6 x 5 mL
	286	Level 3	6 x 5 mL
	285X	Trilevel MiniPak	3 x 5 mL

CE IVD EXP 2021-02-28 LOT 15980

Level 1	15981
Level 2	15982
Level 3	15983

Aktualisierte Zielwerte, 14. Mai 2019

Siemens Advia Chemistry Systems

	Units	MW	15981	MW	15982	MW	15983	Units	MW	15981	MW	15982	MW	15983
Acetaminophen (Enzymatic) (ACET)	µg/mL	12.9	9.46 – 16.3	43.0	39.0 – 46.9	133	127 – 139	µmol/L	85.0	62.5 – 107	284	258 – 310	877	838 – 917
Alanine Aminotransferase (ALT/SGPT) (UV with P5P) (ALTP5P, ALTP_c) (3)	U/L	33.6	27.6 – 39.6	97.0	79.5 – 114	200	164 – 236	µmol/L/sec	0.561	0.461 – 0.661	1.62	1.33 – 1.90	3.34	2.74 – 3.94
Alanine Aminotransferase (ALT/SGPT) (UV without P5P) (ALT, ALT_c) (3)	U/L	31.7	26.7 – 36.6	92.4	82.9 – 102	186	170 – 203	µmol/L/sec	0.529	0.446 – 0.612	1.54	1.39 – 1.70	3.11	2.84 – 3.39
Albumin (Bromcresol green) (ALB, ALB_c)	g/dL	2.70	2.05 – 3.35	3.41	2.59 – 4.23	4.50	3.42 – 5.58	g/L	27.0	20.5 – 33.5	34.1	25.9 – 42.3	45.0	34.2 – 55.8
Albumin (Bromcresol purple) (ALBP)	g/dL	2.50	1.90 – 3.10	3.15	2.39 – 3.91	4.15	3.15 – 5.15	g/L	25.0	19.0 – 31.0	31.5	23.9 – 39.1	41.5	31.5 – 51.5
Alkaline Phosphatase (ALP) (PNPP, AMP Buffer) (IFCC) (ALP_2c) (3)	U/L	36.9	30.3 – 43.5	146	120 – 172	292	239 – 345	µmol/L/sec	0.616	0.506 – 0.726	2.44	2.00 – 2.87	4.87	3.99 – 5.76
Alkaline Phosphatase (ALP) (PNPP, DEA Buffer) (ALPDEA) (3)(6)	U/L	82.0	67.2 – 96.8	241	198 – 284	452	371 – 533	µmol/L/sec	1.37	1.12 – 1.62	4.02	3.31 – 4.74	7.55	6.20 – 8.90
Amylase (Ethylidene blocked–pNPG7) (AMYLAS) (3)	U/L	44.0	38.7 – 49.3	133	118 – 149	282	250 – 315	µmol/L/sec	0.735	0.646 – 0.823	2.22	1.97 – 2.48	4.71	4.17 – 5.25
Amylase, Pancreatic (PAMY) (3)	U/L	23.5	21.3 – 25.6	104	97.9 – 110	234	221 – 247	µmol/L/sec	0.392	0.356 – 0.428	1.74	1.64 – 1.85	3.91	3.69 – 4.13
ASO (Antistreptolysin–O) (ASO_2) (1)	IU/mL	86.7	75.9 – 97.4	105	93.1 – 117	153	138 – 169	IU/mL	86.7	75.9 – 97.4	105	93.1 – 117	153	138 – 169
Aspartate Aminotransferase (AST/SGOT) (UV with P5P) (ASTP5P, ASTP_c) (3)	U/L	39.1	30.9 – 47.3	105	86.1 – 124	255	209 – 301	µmol/L/sec	0.653	0.516 – 0.790	1.75	1.44 – 2.07	4.26	3.49 – 5.03
Aspartate Aminotransferase (AST/SGOT) (UV without P5P) (AST, AST_c) (3)	U/L	43.1	38.7 – 47.4	111	102 – 121	208	191 – 226	µmol/L/sec	0.719	0.647 – 0.791	1.86	1.70 – 2.02	3.48	3.18 – 3.77
Bilirubin, Direct (Vanadate Oxidation) (DBIL_2)	mg/dL	0.367	0.223 – 0.510	1.47	1.26 – 1.68	2.89	2.59 – 3.20	µmol/L	6.27	3.81 – 8.73	25.1	21.5 – 28.7	49.4	44.2 – 54.7
Bilirubin, Total (Vanadate Oxidation) (TBIL_2)	mg/dL	0.671	0.513 – 0.828	3.28	2.69 – 3.87	7.95	6.52 – 9.38	µmol/L	11.5	8.77 – 14.2	56.0	46.0 – 66.2	136	111 – 160
Calcium, Total (Arsenazo III) (CA_2, CA_2c)	mg/dL	6.41	5.64 – 7.18	10.4	9.15 – 11.6	13.1	11.5 – 14.7	mmol/L	1.60	1.41 – 1.80	2.61	2.29 – 2.90	3.28	2.88 – 3.68
Calcium, Total (o–cresolphthalein complexone) (CA, CA_c)	mg/dL	6.05	5.32 – 6.78	10.3	9.06 – 11.5	13.3	11.7 – 14.9	mmol/L	1.51	1.33 – 1.70	2.59	2.27 – 2.88	3.32	2.93 – 3.73
Carbamazepine (EIA) (CARB_2)	µg/mL	3.94	2.76 – 5.13	10.0	7.52 – 12.5	13.9	10.5 – 17.4	µmol/L	16.7	11.7 – 21.7	42.4	31.8 – 53.0	58.9	44.4 – 73.5
Carbon Dioxide (CO2) (Enzymatic) (CO2_L, CO2_c)	mEq/L	14.8	11.0 – 18.6	20.4	15.4 – 25.3	24.8	18.8 – 30.7	mmol/L	14.8	11.0 – 18.6	20.4	15.4 – 25.3	24.8	18.8 – 30.7
Chloride (ISE Indirect) (CL)	mEq/L	76.9	72.4 – 81.4	100	94.6 – 105	121	115 – 127	mmol/L	76.9	72.4 – 81.4	100	94.6 – 105	121	115 – 127
Cholesterol, High Density Lipoprotein (HDL) (Direct measure, polymer–polyanion) (D–HDL)	mg/dL	23.4	19.3 – 27.4	38.8	31.5 – 46.0	60.1	48.4 – 71.7	mmol/L	0.605	0.501 – 0.709	1.00	0.817 – 1.19	1.56	1.25 – 1.86
Cholesterol, Low Density Lipoprotein (LDL) (Direct measure) (DLDL)	mg/dL	62.6	46.2 – 79.0	98.4	75.3 – 122	159	125 – 194	mmol/L	1.62	1.20 – 2.04	2.55	1.95 – 3.15	4.13	3.24 – 5.01
Cholesterol, Total (Cholesterol oxidase, esterase, peroxidase) (CHOL_2, CHOL_c)	mg/dL	113	102 – 124	185	167 – 204	281	253 – 309	mmol/L	2.93	2.64 – 3.21	4.79	4.33 – 5.28	7.27	6.55 – 8.00

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CE IVD EXP 2021-02-28 LOT 15980

Level 1	15981
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Level 3	15983

Aktualisierte Zielwerte, 14. Mai 2019

Siemens Advia Chemistry Systems

	Units	MW	15981	MW	15982	MW	15983	Units	MW	15981	MW	15982	MW	15983
Cholinesterase (Butyrylthiocholine (Trinder)) (DGKC94) (CHE) (1)(3)	U/L	5886	4429 – 7342	7310	5464 – 9157	8989	6683 – 11296	µmol/L/sec	98.3	74.0 – 123	122	91.3 – 153	150	112 – 189
Creatine Kinase (CK) (CK_L) (3)(6)	U/L	78.0	64.0 – 92.0	269	221 – 317	636	522 – 750	µmol/L/sec	1.30	1.07 – 1.54	4.49	3.69 – 5.29	10.6	8.72 – 12.5
Creatine Kinase (CK) (NAC activated) (CKNAC) (IFCC) (3)	U/L	§		§		§		µmol/L/sec	§		§	§	§	
Creatinine (Alkaline picrate–kinetic rate blanked) (CREA, CREA_2, CRE_2c)	mg/dL	0.682	0.461 – 0.903	1.82	1.49 – 2.15	6.02	4.94 – 7.10	µmol/L	60.3	40.8 – 79.8	161	132 – 190	532	437 – 628
Creatinine (Enzymatic) (ECRE_2)	mg/dL	0.827	0.678 – 0.976	1.94	1.59 – 2.29	6.52	5.35 – 7.69	µmol/L	73.1	59.9 – 86.3	172	141 – 202	577	473 – 680
CRP (C–Reactive Protein) (CRP_2)	mg/dL	0.841	0.611 – 1.07	3.65	2.88 – 4.42	5.81	4.59 – 7.03	mg/L	8.41	6.11 – 10.7	36.5	28.8 – 44.2	58.1	45.9 – 70.3
Cystatin C (CYSC) (1)	mg/L	0.452	0.397 – 0.507	0.536	0.486 – 0.585	0.765	0.730 – 0.800	mg/L	0.452	0.397 – 0.507	0.536	0.486 – 0.585	0.765	0.730 – 0.800
Cystatin C (CYSC) (IFCC Standardized) (1)	mg/L	0.502	0.441 – 0.563	0.595	0.539 – 0.649	0.849	0.810 – 0.888	mg/L	0.502	0.441 – 0.563	0.595	0.539 – 0.649	0.849	0.810 – 0.888
Digoxin (DIG)	ng/mL	0.442	0.152 – 0.733	1.51	1.14 – 1.87	2.75	2.09 – 3.41	nmol/L	0.566	0.194 – 0.939	1.93	1.46 – 2.40	3.52	2.68 – 4.36
Ethanol (Enzymatic UV) (ETOH_2)	mg/dL	22.0	18.9 – 25.0	83.5	74.1 – 92.9	221	200 – 242	mmol/L	4.76	4.10 – 5.43	18.1	16.1 – 20.2	47.9	43.3 – 52.5
Gamma Glutamyltransferase (GGT) (IFCC) (3)	U/L	26.0	19.3 – 32.7	84.2	69.0 – 99.4	134	110 – 158	µmol/L/sec	0.434	0.322 – 0.546	1.41	1.15 – 1.66	2.24	1.84 – 2.64
Gentamicin (EIA) (GENT_2)	µg/mL	1.89	1.52 – 2.25	4.65	3.80 – 5.51	7.15	5.82 – 8.47	µmol/L	3.94	3.17 – 4.70	9.73	7.94 – 11.5	14.9	12.2 – 17.7
Glucose (Glucose oxidase, hydrogen peroxide (Trinder)) (GLUO, GLUO_2)	mg/dL	56.0	48.5 – 63.5	112	99.7 – 124	347	309 – 385	mmol/L	3.11	2.69 – 3.53	6.23	5.53 – 6.88	19.2	17.1 – 21.4
Glucose (Hexokinase) (GLUH, GLUH_3, GLUH_c)	mg/dL	57.1	50.8 – 63.4	115	102 – 128	352	313 – 391	mmol/L	3.17	2.82 – 3.52	6.37	5.66 – 7.10	19.5	17.4 – 21.7
Immunoglobulin A (IgA) (IGA_2) (1)	mg/dL	139	104 – 174	173	130 – 216	230	173 – 288	g/L	1.39	1.04 – 1.74	1.73	1.30 – 2.16	2.30	1.73 – 2.88
Immunoglobulin G (IgG) (IGG_2) (1)	mg/dL	599	449 – 749	703	527 – 879	906	680 – 1130	g/L	5.99	4.49 – 7.49	7.03	5.27 – 8.79	9.06	6.80 – 11.3
Immunoglobulin M (IgM) (IGM_2) (1)	mg/dL	51.7	33.9 – 69.4	62.7	42.7 – 82.7	71.6	47.0 – 96.1	g/L	0.517	0.339 – 0.694	0.627	0.427 – 0.827	0.716	0.470 – 0.961
Iron (Ferrozine–no deproteinization) (IRON_2)	µg/dL	69.7	61.1 – 78.3	158	146 – 169	230	215 – 245	µmol/L	12.5	10.9 – 14.0	28.2	26.1 – 30.3	41.2	38.5 – 43.8
Iron Binding Capacity, Total (TIBC) (Ferric chloride, alumina) (1)	µg/dL	251	219 – 283	324	289 – 358	391	356 – 426	µmol/L	44.9	39.2 – 50.6	58.0	51.8 – 64.1	70.1	63.8 – 76.3
Lactate (Lactic Acid) (Lactate to Pyruvate) (LAC)	mg/dL	11.2	9.18 – 13.2	26.1	21.4 – 30.8	48.6	39.9 – 57.3	mmol/L	1.25	1.02 – 1.47	2.89	2.38 – 3.42	5.39	4.43 – 6.36
Lactate Dehydrogenase (LDH) (LDLP) (3)	U/L	111	91.0 – 131	167	137 – 197	389	319 – 459	µmol/L/sec	1.85	1.52 – 2.19	2.80	2.29 – 3.29	6.49	5.33 – 7.67
Lactate Dehydrogenase (LDH) (LDPL) (3)	U/L	213	161 – 266	325	258 – 391	784	643 – 925	µmol/L/sec	3.56	2.68 – 4.43	5.42	4.31 – 6.53	13.1	10.7 – 15.4
Lipase (Enzymatic, colorimetric) (LIP) (3)	U/L	41.8	35.9 – 47.7	55.6	47.4 – 63.8	227	190 – 264	µmol/L/sec	0.699	0.600 – 0.797	0.928	0.791 – 1.07	3.79	3.17 – 4.41
Lithium (Colorimetric) (LITH)	mEq/L	0.578	0.402 – 0.753	0.957	0.772 – 1.14	1.90	1.67 – 2.12	mmol/L	0.578	0.402 – 0.753	0.957	0.772 – 1.14	1.90	1.67 – 2.12
Magnesium (Xylidyl blue) (MG, MG_c)	mg/dL	1.08	0.950 – 1.21	2.60	2.29 – 2.91	4.11	3.62 – 4.60	mmol/L	0.444	0.391 – 0.498	1.07	0.942 – 1.20	1.69	1.49 – 1.89
Phenobarbital (EIA) (PHNB_2)	µg/mL	8.28	7.09 – 9.48	30.7	25.2 – 36.3	56.7	45.8 – 67.6	µmol/L	35.7	30.6 – 40.8	132	108 – 156	244	197 – 291
Phenytoin (EIA) (PHNY_2)	µg/mL	2.97	2.38 – 3.56	9.02	7.47 – 10.6	15.8	12.9 – 18.6	µmol/L	11.7	9.42 – 14.1	35.7	29.6 – 41.8	62.4	51.0 – 73.8

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	Units	MW	15981	MW	15982	MW	15983	Units	MW	15981	MW	15982	MW	15983
Phosphorus (Phosphomolybdate–UV) (IP, IP_c)	mg/dL	1.71	1.46 – 1.95	3.98	3.66 – 4.31	6.76	6.32 – 7.20	mmol/L	0.551	0.472 – 0.629	1.29	1.18 – 1.39	2.18	2.04 – 2.32
Potassium (ISE Indirect) (K)	mEq/L	2.60	2.41 – 2.79	4.13	3.86 – 4.40	7.42	6.97 – 7.87	mmol/L	2.60	2.41 – 2.79	4.13	3.86 – 4.40	7.42	6.97 – 7.87
Protein, Total (Biuret, no serum blank, end point) (TP, TP_c)	g/dL	4.35	3.83 – 4.87	5.47	4.81 – 6.13	7.24	6.37 – 8.11	g/L	43.5	38.3 – 48.7	54.7	48.1 – 61.3	72.4	63.7 – 81.1
Salicylate (Enzymatic) (SAL)	mg/dL	6.33	5.15 – 7.51	13.9	12.4 – 15.3	18.6	16.9 – 20.2	mmol/L	0.459	0.373 – 0.544	1.00	0.898 – 1.11	1.35	1.23 – 1.46
Sodium (ISE Indirect) (NA)	mEq/L	113	106 – 120	142	133 – 151	156	147 – 165	mmol/L	113	106 – 120	142	133 – 151	156	147 – 165
Theophylline (EIA) (THEO_2)	µg/mL	4.76	3.15 – 6.37	16.2	11.5 – 20.9	25.4	18.1 – 32.8	µmol/L	26.4	17.5 – 35.3	89.7	63.7 – 116	141	100 – 182
Tobramycin (EIA) (TOB_2)	µg/mL	5.63	4.93 – 6.34	3.90	3.35 – 4.45	1.65	1.31 – 1.99	µmol/L	12.1	10.5 – 13.6	8.35	7.18 – 9.51	3.53	2.81 – 4.25
Transferrin (TRF) (1)	mg/dL	173	138 – 208	226	181 – 271	290	232 – 348	g/L	1.73	1.38 – 2.08	2.26	1.81 – 2.71	2.90	2.32 – 3.48
Triglycerides (Enzymatic, Endpoint) (TRIG)	mg/dL	93.5	76.7 – 110	139	114 – 164	211	173 – 249	mmol/L	1.06	0.867 – 1.24	1.57	1.29 – 1.85	2.38	1.95 – 2.81
Urea Nitrogen (BUN) (Urease, UV) (UN, UN_c) (5)	mg/dL	14.8	12.6 – 17.0	39.3	33.4 – 45.2	68.4	58.1 – 78.7	mmol/L	5.27	4.50 – 6.07	14.0	11.9 – 16.1	24.4	20.7 – 28.1
Uric Acid (Uricase, UV) (UA, UA_c)	mg/dL	3.35	2.95 – 3.75	6.03	5.31 – 6.75	10.4	9.15 – 11.6	µmol/L	200	175 – 223	358	316 – 401	616	544 – 690
Valproic Acid (EIA) (VPA_2)	µg/mL	29.4	22.2 – 36.6	63.3	51.8 – 74.7	111	94.4 – 128	µmol/L	204	154 – 254	438	359 – 518	771	655 – 888
Vancomycin (EIA) (VANC_2)	µg/mL	7.03	4.96 – 9.09	19.0	14.6 – 23.4	32.4	25.3 – 39.4	µmol/L	4.85	3.42 – 6.27	13.1	10.1 – 16.1	22.3	17.5 – 27.2