

## EQA round: ABR2/24 - Acid-base Status and Electrolytes

Deadline: 26.7.2024

Setup: groups - S (measuring system); minimal size of the groups n = 5

RoM = robust average	AV = assigned value	D <sub>max</sub> = acceptable difference
SD = standard deviation	CVP = consensus of all participants	LL = lower limit
CV = coefficient of variation	U <sub>AV</sub> = expanded uncertainty of the assigned value (k = 2)	UL = upper limit
N <sub>tot</sub> = total number of the results		N <sub>eva</sub> = number of the results assessed
N <sub>out</sub> = number of the results removed before calculation		N <sub>suc</sub> = number of successful results
		S <sub>rel</sub> = relative success

Test Sample Group	[unit]	RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	Comparability					N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]	
							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
<b>(135) Potassium cation (ISE)</b>	[mmol/L]				67							67	67	100	
<b>Sample A</b>		3,31	0,067	2	67		CVP	3,31	0,02	8%	3,04	3,58	67	67	100
(433) Radiometer ABL (series 700 and 800)		3,34	0,059	1,8	29	0							29		
(452) Radiometer ABL 90		3,3	0	0	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		3,27	0,015	0,45	5	0							5		
Other					11	0							11		
								1x 410, 3x 448, 3x 449, 1x 451, 2x 455, 1x 999							
<b>Sample B</b>		4,06	0,072	1,8	67		CVP	4,06	0,022	8%	3,73	4,39	67	67	100
(433) Radiometer ABL (series 700 and 800)		4,1	0,014	0,35	29	0							29		
(452) Radiometer ABL 90		4,03	0,06	1,5	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		4,01	0,03	0,74	5	0							5		
Other					11	0							11		
								1x 410, 3x 448, 3x 449, 1x 451, 2x 455, 1x 999							
<b>(139) Glucose</b>	[mmol/L]				60							60	60	100	
<b>Sample A</b>		12,2	0,32	2,6	60		CVP	12,2	0,1	15%	10,3	14,1	60	60	100
(433) Radiometer ABL (series 700 and 800)		12,2	0,4	3,3	27	0							27		
(452) Radiometer ABL 90		12,1	0,13	1,1	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		12,4	0,15	1,2	5	0							5		
Other					6	0							6		
								1x 448, 2x 449, 1x 451, 2x 455							
<b>Sample B</b>		8,95	0,24	2,6	60		CVP	8,95	0,074	15%	7,6	10,3	60	60	100
(433) Radiometer ABL (series 700 and 800)		9,09	0,33	3,6	27	0							27		
(452) Radiometer ABL 90		8,84	0,11	1,2	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		9	0,15	1,6	5	0							5		
Other					6	0							6		
								1x 448, 2x 449, 1x 451, 2x 455							
<b>(136) Chloride anion (ISE)</b>	[mmol/L]				65							65	63	97	
<b>Sample A</b>		93,4	1,7	1,8	65		CVP	93,4	0,52	7%	86,8	100	65	63	97
(433) Radiometer ABL (series 700 and 800)		94,3	1,2	1,3	28	0							28		
(452) Radiometer ABL 90		92	0	0	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		93,5	0,74	0,79	5	0							5		
Other					10	0							10		
								1x 410, 3x 448, 3x 449, 1x 451, 2x 999							
<b>Sample B</b>		102	2	1,9	65		CVP	102	0,59	7%	94,8	110	65	65	100
(433) Radiometer ABL (series 700 and 800)		103	1,2	1,2	28	0							28		
(452) Radiometer ABL 90		101	0,58	0,57	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		101	0,74	0,74	5	0							5		
Other					10	0							10		
								1x 410, 3x 448, 3x 449, 1x 451, 2x 999							
<b>(169) Lactate</b>	[mmol/L]				60							60	59	98	
<b>Sample A</b>		4,08	0,22	5,5	60		CVP	4,08	0,071	18%	3,34	4,82	60	59	98
(433) Radiometer ABL (series 700 and 800)		3,98	0,2	4,9	28	0							28		
(452) Radiometer ABL 90		4,2	0	0	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		3,88	0,16	4	5	0							5		
Other					5	0							5		
								1x 410, 1x 448, 2x 449, 1x 451							
<b>Sample B</b>		2,82	0,13	4,5	60		CVP	2,82	0,04	18%	2,31	3,33	60	60	100
(433) Radiometer ABL (series 700 and 800)		2,78	0,17	6,1	28	0							28		
(452) Radiometer ABL 90		2,86	0,057	2	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		2,74	0,059	2,2	5	0							5		
Other					5	0							5		
								1x 410, 1x 448, 2x 449, 1x 451							
<b>(132) pCO<sub>2</sub></b>	[kPa]				90							90	89	99	
<b>Sample A</b>		6,24	0,22	3,5	90		CVP	6,24	0,056	12%	5,49	6,99	90	90	100
(433) Radiometer ABL (series 700 and 800)		6,18	0,19	3,1	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		6,55	0,15	2,3	9	0							9		
(452) Radiometer ABL 90		6,22	0,12	2	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		6,14	0,22	3,5	5	0							5		
Other					12	0							12		
								2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455							
<b>Sample B</b>		5,08	0,15	2,9	90		CVP	5,08	0,038	12%	4,47	5,69	90	89	99
(433) Radiometer ABL (series 700 and 800)		5,05	0,096	1,9	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		5,29	0,089	1,7	9	0							9		
(452) Radiometer ABL 90		5,1	0,09	1,8	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		4,96	0,16	3,1	5	0							5		

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Setup: groups - S (measuring system); minimal size of the groups n = 5

Test Sample Group	[unit]	RoM	SD	CV [%]	N <sub>tot</sub>	N <sub>out</sub>	Comparability					N <sub>eva</sub>	N <sub>suc</sub>	S <sub>rel</sub> [%]	
							AV	U <sub>AV</sub>	D <sub>max</sub>	LL	UL				
Other					12	0	2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455					12			
<b>(131) pH</b>	<b>[-]</b>				90							90	88	98	
<b>Sample A</b>		7,35	0,011	0,14	90		CVP	7,35	0,003	0,8%	7,29	7,41	90	89	99
(433) Radiometer ABL (series 700 and 800)		7,35	0,008	0,11	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		7,36	0,007	0,09	9	0							9		
(452) Radiometer ABL 90		7,35	0,005	0,07	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		7,34	0,004	0,06	5	0							5		
Other					12	0							12		
							2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455								
<b>Sample B</b>		7,43	0,01	0,13	90		CVP	7,43	0,003	0,8%	7,37	7,49	90	89	99
(433) Radiometer ABL (series 700 and 800)		7,42	0,006	0,08	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		7,44	0,004	0,05	9	0							9		
(452) Radiometer ABL 90		7,43	0,003	0,04	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		7,43	0,004	0,06	5	0							5		
Other					12	0							12		
							2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455								
<b>(133) pO<sub>2</sub></b>	<b>[kPa]</b>				90							90	88	98	
<b>Sample A</b>		15,4	1,2	7,7	90		CVP	15,4	0,31	17%	12,7	18,1	90	88	98
(433) Radiometer ABL (series 700 and 800)		15,6	0,63	4	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		16,2	2,1	13	9	0							9		
(452) Radiometer ABL 90		14,5	0,77	5,3	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		16,3	1,1	6,6	5	0							5		
Other					12	0							12		
							2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455								
<b>Sample B</b>		16,8	0,98	5,8	90		CVP	16,8	0,25	17%	13,9	19,7	90	88	98
(433) Radiometer ABL (series 700 and 800)		16,9	0,66	3,9	41	0							41		
(449) Roche OMNI S1-6 / cobas b221		17,4	1,2	7,1	9	0							9		
(452) Radiometer ABL 90		16	0,71	4,4	23	0							23		
(454) Siemens RapidPoint (series 400, 500)		17,2	0,79	4,6	5	0							5		
Other					12	0							12		
							2x 405, 1x 410, 1x 414, 3x 448, 2x 451, 3x 455								
<b>(134) Sodium cation (ISE)</b>	<b>[mmol/L]</b>				66							66	66	100	
<b>Sample A</b>		136	2,1	1,5	66		CVP	136	0,62	5%	129	143	66	66	100
(433) Radiometer ABL (series 700 and 800)		135	1,2	0,92	28	0							28		
(452) Radiometer ABL 90		138	0,61	0,45	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		133	1	0,78	5	0							5		
Other					11	0							11		
							1x 410, 3x 448, 3x 449, 1x 451, 2x 455, 1x 999								
<b>Sample B</b>		144	2,3	1,6	66		CVP	144	0,71	5%	136	152	66	66	100
(433) Radiometer ABL (series 700 and 800)		143	1,4	0,95	28	0							28		
(452) Radiometer ABL 90		147	0,58	0,4	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		141	0,3	0,21	5	0							5		
Other					11	0							11		
							1x 410, 3x 448, 3x 449, 1x 451, 2x 455, 1x 999								
<b>(137) Calcium cation (ISE)</b>	<b>[mmol/L]</b>				78							78	77	99	
<b>Sample A</b>		1,19	0,029	2,4	78		CVP	1,19	0,008	10%	1,07	1,31	78	78	100
(433) Radiometer ABL (series 700 and 800)		1,2	0,019	1,5	34	0							34		
(449) Roche OMNI S1-6 / cobas b221		1,14	0,03	2,6	8	0							8		
(452) Radiometer ABL 90		1,2	0,012	1	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		1,15	0,007	0,65	5	0							5		
Other					9	0							9		
							1x 405, 1x 410, 3x 448, 1x 451, 2x 455, 1x 999								
<b>Sample B</b>		0,957	0,026	2,7	78		CVP	0,957	0,007	±0,1	0,857	1,06	78	77	99
(433) Radiometer ABL (series 700 and 800)		0,97	0,019	2	34	0							34		
(449) Roche OMNI S1-6 / cobas b221		0,909	0,028	3,1	8	0							8		
(452) Radiometer ABL 90		0,965	0,011	1,2	22	0							22		
(454) Siemens RapidPoint (series 400, 500)		0,925	0,007	0,8	5	0							5		
Other					9	0							9		
							1x 405, 1x 410, 3x 448, 1x 451, 2x 455, 1x 999								