

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

AV = assigned value

N_{tot} = total number of the resultsN_{eva} = number of the results assessed

RV = reference value

N_{rel} = relative number of the resultsN_{suc} = number of successful results

>>> ... expected result

S_{rel} = relative success

> ... acceptable result

± ... result not assessed

Test Sample Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
Set 1 and 2							
(700) ABO blood group		189			189	189	100
Samples E1 and S1		189			189	189	100
(6) APR	RV >>>	1	0,5	Blood group: A			
(14) Bio-Rad	RV >>>	62	33	Blood group: A			
(40) Ortho Clinical Diagnostics	RV >>>	1	0,5	Blood group: A			
(52) Dynex	RV >>>	2	1,1	Blood group: A			
(64) Exbio Olomouc	RV >>>	6	3,2	Blood group: A			
(80) DiaMed	RV >>>	9	4,8	Blood group: A			
(159) Grifols	RV >>>	67	35	Blood group: A			
(171) Diagast	RV >>>	2	1,1	Blood group: A			
(172) Immucor	RV >>>	23	12	Blood group: A			
(173) Sanguin	RV >>>	4	2,1	Blood group: A			
(174) IVT Imuno	RV >>>	4	2,1	Blood group: A			
(183) Immunodiagnostic Systems	RV >>>	2	1,1	Blood group: A			
(203) ANTITOXIN	RV >>>	1	0,5	Blood group: A			
(999) another manufacturer	RV >>>	5	2,6	Blood group: A			
Samples E2 and S2		189			189	189	100
(6) APR	RV >>>	1	0,5	Blood group: 0			
(14) Bio-Rad	RV >>>	62	33	Blood group: 0			
(40) Ortho Clinical Diagnostics	RV >>>	1	0,5	Blood group: 0			
(52) Dynex	RV >>>	2	1,1	Blood group: 0			
(64) Exbio Olomouc	RV >>>	6	3,2	Blood group: 0			
(80) DiaMed	RV >>>	9	4,8	Blood group: 0			
(159) Grifols	RV >>>	67	35	Blood group: 0			
(171) Diagast	RV >>>	2	1,1	Blood group: 0			
(172) Immucor	RV >>>	23	12	Blood group: 0			
(173) Sanguin	RV >>>	4	2,1	Blood group: 0			
(174) IVT Imuno	RV >>>	4	2,1	Blood group: 0			
(183) Immunodiagnostic Systems	RV >>>	2	1,1	Blood group: 0			
(203) ANTITOXIN	RV >>>	1	0,5	Blood group: 0			
(999) another manufacturer	RV >>>	5	2,6	Blood group: 0			
(703) A subgroup		49			49	48	98
Samples E1 and S1		49			49	48	98
(0) not specified	RV >>>	48	98	A subgroup A1			
		1	2	A subgroup A2			
Samples E2 and S2		49			49	49	100
(0) not specified	RV >>>	49	100	Not specified			
(705) Rh D antigen (blood-donor)		113			113	111	98
Samples E1 and S1		113			113	111	98
(0) not specified		1	0,9	Not specified			
(14) Bio-Rad	RV >>>	41	36	Negative (RhD-)			
(52) Dynex	RV >>>	3	2,7	Negative (RhD-)			
(64) Exbio Olomouc	RV >>>	2	1,8	Negative (RhD-)			
(80) DiaMed	RV >>>	3	2,7	Negative (RhD-)			
(159) Grifols		1	0,9	Not specified			
	RV >>>	32	28	Negative (RhD-)			
(171) Diagast	RV >>>	2	1,8	Negative (RhD-)			
(172) Immucor	RV >>>	20	18	Negative (RhD-)			
(173) Sanguin	RV >>>	1	0,9	Negative (RhD-)			
(174) IVT Imuno	RV >>>	1	0,9	Negative (RhD-)			
(183) Immunodiagnostic Systems	RV >>>	1	0,9	Negative (RhD-)			
(203) ANTITOXIN	RV >>>	3	2,7	Negative (RhD-)			
(999) another manufacturer	RV >>>	2	1,8	Negative (RhD-)			
Samples E2 and S2		113			113	113	100
(0) not specified	RV >>>	1	0,9	Positive (RhD+)			
(14) Bio-Rad	RV >>>	41	36	Positive (RhD+)			
(52) Dynex	RV >>>	3	2,7	Positive (RhD+)			
(64) Exbio Olomouc	RV >>>	2	1,8	Positive (RhD+)			
(80) DiaMed	RV >>>	3	2,7	Positive (RhD+)			
(159) Grifols	RV >>>	33	29	Positive (RhD+)			
(171) Diagast	RV >>>	2	1,8	Positive (RhD+)			
(172) Immucor	RV >>>	20	18	Positive (RhD+)			
(173) Sanguin	RV >>>	1	0,9	Positive (RhD+)			

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Test Sample Group					Frequency of the results Result	Success		
	AV	N _{tot}	N _{rel} [%]			N _{eva}	N _{suc}	S _{rel} [%]
(174) IVT Imuno	RV	>>>	1	0,9	Positive (RhD+)			
(183) Immunodiagnostic Systems	RV	>>>	1	0,9	Positive (RhD+)			
(203) ANTITOXIN	RV	>>>	3	2,7	Positive (RhD+)			
(999) another manufacturer	RV	>>>	2	1,8	Positive (RhD+)			
(709) Rh D antigen (recipient/ pregnant/ newborn)			182			182	181	99
Samples E1 and S1			182			182	182	100
(14) Bio-Rad	RV	>>>	60	33	Negative (RhD-)			
(40) Ortho Clinical Diagnostics	RV	>>>	1	0,5	Negative (RhD-)			
(52) Dynex	RV	>>>	1	0,5	Negative (RhD-)			
(64) Exbio Olomouc	RV	>>>	6	3,3	Negative (RhD-)			
(80) DiaMed	RV	>>>	7	3,8	Negative (RhD-)			
(159) Grifols	RV	>>>	64	35	Negative (RhD-)			
(170) Biotest	RV	>>>	1	0,5	Negative (RhD-)			
(171) Diagast	RV	>>>	2	1,1	Negative (RhD-)			
(172) Immucor	RV	>>>	26	14	Negative (RhD-)			
(173) Sanguin	RV	>>>	4	2,2	Negative (RhD-)			
(174) IVT Imuno	RV	>>>	2	1,1	Negative (RhD-)			
(183) Immunodiagnostic Systems	RV	>>>	1	0,5	Negative (RhD-)			
(203) ANTITOXIN	RV	>>>	3	1,6	Negative (RhD-)			
(999) another manufacturer	RV	>>>	4	2,2	Negative (RhD-)			
Samples E2 and S2			182			182	181	99
(14) Bio-Rad			1	0,5	Negative (RhD-)			
	RV	>>>	59	32	Positive (RhD+)			
(40) Ortho Clinical Diagnostics	RV	>>>	1	0,5	Positive (RhD+)			
(52) Dynex	RV	>>>	1	0,5	Positive (RhD+)			
(64) Exbio Olomouc	RV	>>>	6	3,3	Positive (RhD+)			
(80) DiaMed	RV	>>>	7	3,8	Positive (RhD+)			
(159) Grifols	RV	>>>	64	35	Positive (RhD+)			
(170) Biotest	RV	>>>	1	0,5	Positive (RhD+)			
(171) Diagast	RV	>>>	2	1,1	Positive (RhD+)			
(172) Immucor	RV	>>>	26	14	Positive (RhD+)			
(173) Sanguin	RV	>>>	4	2,2	Positive (RhD+)			
(174) IVT Imuno	RV	>>>	2	1,1	Positive (RhD+)			
(183) Immunodiagnostic Systems	RV	>>>	1	0,5	Positive (RhD+)			
(203) ANTITOXIN	RV	>>>	3	1,6	Positive (RhD+)			
(999) another manufacturer	RV	>>>	4	2,2	Positive (RhD+)			
(715) Antigen C			95			95	95	100
Samples E1 and S1			95			95	95	100
(14) Bio-Rad	RV	>>>	40	42	Negative			
(50) Merck	RV	>>>	1	1,1	Negative			
(80) DiaMed	RV	>>>	6	6,3	Negative			
(159) Grifols	RV	>>>	33	35	Negative			
(171) Diagast	RV	>>>	1	1,1	Negative			
(172) Immucor	RV	>>>	8	8,4	Negative			
(174) IVT Imuno	RV	>>>	1	1,1	Negative			
(183) Immunodiagnostic Systems	RV	>>>	1	1,1	Negative			
(203) ANTITOXIN	RV	>>>	3	3,2	Negative			
(999) another manufacturer	RV	>>>	1	1,1	Negative			
Samples E2 and S2			95			95	95	100
(14) Bio-Rad	RV	>>>	40	42	Positive			
(50) Merck	RV	>>>	1	1,1	Positive			
(80) DiaMed	RV	>>>	6	6,3	Positive			
(159) Grifols	RV	>>>	33	35	Positive			
(171) Diagast	RV	>>>	1	1,1	Positive			
(172) Immucor	RV	>>>	8	8,4	Positive			
(174) IVT Imuno	RV	>>>	1	1,1	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	1,1	Positive			
(203) ANTITOXIN	RV	>>>	3	3,2	Positive			
(999) another manufacturer	RV	>>>	1	1,1	Positive			
(716) Antigen c			95			95	94	99
Samples E1 and S1			95			95	94	99
(14) Bio-Rad	RV	>>>	40	42	Positive			
(50) Merck	RV	>>>	1	1,1	Positive			
(80) DiaMed	RV	>>>	6	6,3	Positive			
(159) Grifols			1	1,1	Negative			
	RV	>>>	32	34	Positive			
(171) Diagast	RV	>>>	1	1,1	Positive			
(172) Immucor	RV	>>>	8	8,4	Positive			

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	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(174) IVT Imuno	RV >>>	1	1,1	Positive				
(183) Immunodiagnostic Systems	RV >>>	1	1,1	Positive				
(203) ANTITOXIN	RV >>>	3	3,2	Positive				
(999) another manufacturer	RV >>>	1	1,1	Positive				
Samples E2 and S2		95			95	95	100	
(14) Bio-Rad	RV >>>	40	42	Negative				
(50) Merck	RV >>>	1	1,1	Negative				
(80) DiaMed	RV >>>	6	6,3	Negative				
(159) Grifols	RV >>>	33	35	Negative				
(171) Diagast	RV >>>	1	1,1	Negative				
(172) Immucor	RV >>>	8	8,4	Negative				
(174) IVT Imuno	RV >>>	1	1,1	Negative				
(183) Immunodiagnostic Systems	RV >>>	1	1,1	Negative				
(203) ANTITOXIN	RV >>>	3	3,2	Negative				
(999) another manufacturer	RV >>>	1	1,1	Negative				
(718) Antigen E		96			96	96	100	
Samples E1 and S1		96			96	96	100	
(14) Bio-Rad	RV >>>	41	43	Negative				
(50) Merck	RV >>>	1	1	Negative				
(80) DiaMed	RV >>>	6	6,3	Negative				
(159) Grifols	RV >>>	33	34	Negative				
(171) Diagast	RV >>>	1	1	Negative				
(172) Immucor	RV >>>	8	8,3	Negative				
(174) IVT Imuno	RV >>>	1	1	Negative				
(183) Immunodiagnostic Systems	RV >>>	1	1	Negative				
(203) ANTITOXIN	RV >>>	3	3,1	Negative				
(999) another manufacturer	RV >>>	1	1	Negative				
Samples E2 and S2		96			96	96	100	
(14) Bio-Rad	RV >>>	41	43	Negative				
(50) Merck	RV >>>	1	1	Negative				
(80) DiaMed	RV >>>	6	6,3	Negative				
(159) Grifols	RV >>>	33	34	Negative				
(171) Diagast	RV >>>	1	1	Negative				
(172) Immucor	RV >>>	8	8,3	Negative				
(174) IVT Imuno	RV >>>	1	1	Negative				
(183) Immunodiagnostic Systems	RV >>>	1	1	Negative				
(203) ANTITOXIN	RV >>>	3	3,1	Negative				
(999) another manufacturer	RV >>>	1	1	Negative				
(719) Antigen e		95			95	95	100	
Samples E1 and S1		95			95	95	100	
(14) Bio-Rad	RV >>>	39	41	Positive				
(17) Biogema	RV >>>	1	1,1	Positive				
(50) Merck	RV >>>	1	1,1	Positive				
(80) DiaMed	RV >>>	6	6,3	Positive				
(159) Grifols	RV >>>	33	35	Positive				
(171) Diagast	RV >>>	1	1,1	Positive				
(172) Immucor	RV >>>	8	8,4	Positive				
(174) IVT Imuno	RV >>>	1	1,1	Positive				
(183) Immunodiagnostic Systems	RV >>>	1	1,1	Positive				
(203) ANTITOXIN	RV >>>	3	3,2	Positive				
(999) another manufacturer	RV >>>	1	1,1	Positive				
Samples E2 and S2		95			95	95	100	
(14) Bio-Rad	RV >>>	39	41	Positive				
(17) Biogema	RV >>>	1	1,1	Positive				
(50) Merck	RV >>>	1	1,1	Positive				
(80) DiaMed	RV >>>	6	6,3	Positive				
(159) Grifols	RV >>>	33	35	Positive				
(171) Diagast	RV >>>	1	1,1	Positive				
(172) Immucor	RV >>>	8	8,4	Positive				
(174) IVT Imuno	RV >>>	1	1,1	Positive				
(183) Immunodiagnostic Systems	RV >>>	1	1,1	Positive				
(203) ANTITOXIN	RV >>>	3	3,2	Positive				
(999) another manufacturer	RV >>>	1	1,1	Positive				
(717) Antigen C^w		79			79	79	100	
Samples E1 and S1		79			79	79	100	
(14) Bio-Rad	RV >>>	28	35	Negative				
(50) Merck	RV >>>	1	1,3	Negative				
(80) DiaMed	RV >>>	2	2,5	Negative				
(159) Grifols	RV >>>	34	43	Negative				

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Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
(170) Biotest	RV	>>>	1	1,3	Negative		
(172) Immucor	RV	>>>	7	8,9	Negative		
(173) Sanguin	RV	>>>	2	2,5	Negative		
(174) IVT Imuno	RV	>>>	2	2,5	Negative		
(203) ANTITOXIN	RV	>>>	1	1,3	Negative		
(999) another manufacturer	RV	>>>	1	1,3	Negative		
Samples E2 and S2			79			79	79 100
(14) Bio-Rad	RV	>>>	28	35	Negative		
(50) Merck	RV	>>>	1	1,3	Negative		
(80) DiaMed	RV	>>>	2	2,5	Negative		
(159) Grifols	RV	>>>	34	43	Negative		
(170) Biotest	RV	>>>	1	1,3	Negative		
(172) Immucor	RV	>>>	7	8,9	Negative		
(173) Sanguin	RV	>>>	2	2,5	Negative		
(174) IVT Imuno	RV	>>>	2	2,5	Negative		
(203) ANTITOXIN	RV	>>>	1	1,3	Negative		
(999) another manufacturer	RV	>>>	1	1,3	Negative		
(720) Antigen K			103			103	103 100
Samples E1 and S1			103			103	103 100
(14) Bio-Rad	RV	>>>	41	40	Negative		
(50) Merck	RV	>>>	1	1	Negative		
(80) DiaMed	RV	>>>	7	6,8	Negative		
(159) Grifols	RV	>>>	40	39	Negative		
(171) Diagast	RV	>>>	1	1	Negative		
(172) Immucor	RV	>>>	8	7,8	Negative		
(174) IVT Imuno	RV	>>>	1	1	Negative		
(183) Immunodiagnostic Systems	RV	>>>	1	1	Negative		
(203) ANTITOXIN	RV	>>>	2	1,9	Negative		
(999) another manufacturer	RV	>>>	1	1	Negative		
Samples E2 and S2			103			103	103 100
(14) Bio-Rad	RV	>>>	41	40	Negative		
(50) Merck	RV	>>>	1	1	Negative		
(80) DiaMed	RV	>>>	7	6,8	Negative		
(159) Grifols	RV	>>>	40	39	Negative		
(171) Diagast	RV	>>>	1	1	Negative		
(172) Immucor	RV	>>>	8	7,8	Negative		
(174) IVT Imuno	RV	>>>	1	1	Negative		
(183) Immunodiagnostic Systems	RV	>>>	1	1	Negative		
(203) ANTITOXIN	RV	>>>	2	1,9	Negative		
(999) another manufacturer	RV	>>>	1	1	Negative		
(721) Antigen k			43			43	43 100
Samples E1 and S1			43			43	43 100
(14) Bio-Rad	RV	>>>	10	23	Positive		
(64) Exbio Olomouc	RV	>>>	2	4,7	Positive		
(80) DiaMed	RV	>>>	2	4,7	Positive		
(159) Grifols	RV	>>>	11	26	Positive		
(172) Immucor	RV	>>>	9	21	Positive		
(173) Sanguin	RV	>>>	7	16	Positive		
(174) IVT Imuno	RV	>>>	1	2,3	Positive		
(999) another manufacturer	RV	>>>	1	2,3	Positive		
Samples E2 and S2			43			43	43 100
(14) Bio-Rad	RV	>>>	10	23	Positive		
(64) Exbio Olomouc	RV	>>>	2	4,7	Positive		
(80) DiaMed	RV	>>>	2	4,7	Positive		
(159) Grifols	RV	>>>	11	26	Positive		
(172) Immucor	RV	>>>	9	21	Positive		
(173) Sanguin	RV	>>>	7	16	Positive		
(174) IVT Imuno	RV	>>>	1	2,3	Positive		
(999) another manufacturer	RV	>>>	1	2,3	Positive		
(738) Antigen Kp^a			19			19	17 89
Samples E1 and S1			19			19	19 100
(0) not specified	RV	>>>	3	16	Negative		
(14) Bio-Rad	RV	>>>	5	26	Negative		
(80) DiaMed	RV	>>>	1	5,3	Negative		
(159) Grifols	RV	>>>	9	47	Negative		
(183) Immunodiagnostic Systems	RV	>>>	1	5,3	Negative		
Samples E2 and S2			19			19	17 89
(0) not specified			1	5,3	Not specified		
	RV	>>>	2	11	Negative		

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	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(14) Bio-Rad			1	5,3	Not specified			
	RV >>>	4	21	Negative				
(80) DiaMed	RV >>>	1	5,3	Negative				
(159) Grifols	RV >>>	9	47	Negative				
(183) Immunodiagnostic Systems	RV >>>	1	5,3	Negative				
(739) Antigen Kp^b		10			10	8	80	
Samples E1 and S1		10			10	10	100	
(0) not specified	RV >>>	2	20	Positive				
(14) Bio-Rad	RV >>>	2	20	Positive				
(80) DiaMed	RV >>>	1	10	Positive				
(159) Grifols	RV >>>	4	40	Positive				
(183) Immunodiagnostic Systems	RV >>>	1	10	Positive				
Samples E2 and S2		10			10	8	80	
(0) not specified		1	10	Not specified				
	RV >>>	1	10	Positive				
(14) Bio-Rad		1	10	Not specified				
	RV >>>	1	10	Positive				
(80) DiaMed	RV >>>	1	10	Positive				
(159) Grifols	RV >>>	4	40	Positive				
(183) Immunodiagnostic Systems	RV >>>	1	10	Positive				
(729) Antigen Jk^a		48			48	47	98	
Samples E1 and S1		48			48	47	98	
(0) not specified	RV >>>	1	2,1	Positive				
(6) APR	RV >>>	1	2,1	Positive				
(14) Bio-Rad	RV >>>	13	27	Positive				
(52) Dynex	RV >>>	1	2,1	Positive				
(64) Exbio Olomouc	RV >>>	2	4,2	Positive				
(80) DiaMed	RV >>>	2	4,2	Positive				
(159) Grifols	RV >>>	16	33	Positive				
(172) Immucor	RV >>>	6	13	Positive				
(173) Sanguin	RV >>>	5	10	Positive				
(203) ANTITOXIN	RV >>>	1	2,1	Negative				
Samples E2 and S2		48			48	48	100	
(0) not specified	RV >>>	1	2,1	Positive				
(6) APR	RV >>>	1	2,1	Positive				
(14) Bio-Rad	RV >>>	13	27	Positive				
(52) Dynex	RV >>>	1	2,1	Positive				
(64) Exbio Olomouc	RV >>>	2	4,2	Positive				
(80) DiaMed	RV >>>	2	4,2	Positive				
(159) Grifols	RV >>>	16	33	Positive				
(172) Immucor	RV >>>	6	13	Positive				
(173) Sanguin	RV >>>	5	10	Positive				
(203) ANTITOXIN	RV >>>	1	2,1	Positive				
(730) Antigen Jk^b		47			47	47	100	
Samples E1 and S1		47			47	47	100	
(0) not specified	RV >>>	1	2,1	Negative				
(6) APR	RV >>>	1	2,1	Negative				
(14) Bio-Rad	RV >>>	12	26	Negative				
(52) Dynex	RV >>>	1	2,1	Negative				
(64) Exbio Olomouc	RV >>>	2	4,3	Negative				
(80) DiaMed	RV >>>	2	4,3	Negative				
(159) Grifols	RV >>>	16	34	Negative				
(172) Immucor	RV >>>	6	13	Negative				
(173) Sanguin	RV >>>	5	11	Negative				
(203) ANTITOXIN	RV >>>	1	2,1	Negative				
Samples E2 and S2		47			47	47	100	
(0) not specified	RV >>>	1	2,1	Negative				
(6) APR	RV >>>	1	2,1	Negative				
(14) Bio-Rad	RV >>>	12	26	Negative				
(52) Dynex	RV >>>	1	2,1	Negative				
(64) Exbio Olomouc	RV >>>	2	4,3	Negative				
(80) DiaMed	RV >>>	2	4,3	Negative				
(159) Grifols	RV >>>	16	34	Negative				
(172) Immucor	RV >>>	6	13	Negative				
(173) Sanguin	RV >>>	5	11	Negative				
(203) ANTITOXIN	RV >>>	1	2,1	Negative				
(727) Antigen Fy^a		48			48	47	98	
Samples E1 and S1		48			48	47	98	
(0) not specified		1	2,1	Not specified				

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	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(14) Bio-Rad	RV	>>>	13	27	Positive			
(64) Exbio Olomouc	RV	>>>	2	4,2	Positive			
(80) DiaMed	RV	>>>	2	4,2	Positive			
(159) Grifols	RV	>>>	19	40	Positive			
(172) Immucor	RV	>>>	5	10	Positive			
(173) Sanguin	RV	>>>	4	8,3	Positive			
(174) IVT Imuno	RV	>>>	1	2,1	Positive			
(203) ANTITOXIN	RV	>>>	1	2,1	Positive			
Samples E2 and S2			48			48	48	100
(0) not specified	RV	>>>	1	2,1	Negative			
(14) Bio-Rad	RV	>>>	13	27	Negative			
(64) Exbio Olomouc	RV	>>>	2	4,2	Negative			
(80) DiaMed	RV	>>>	2	4,2	Negative			
(159) Grifols	RV	>>>	19	40	Negative			
(172) Immucor	RV	>>>	5	10	Negative			
(173) Sanguin	RV	>>>	4	8,3	Negative			
(174) IVT Imuno	RV	>>>	1	2,1	Negative			
(203) ANTITOXIN	RV	>>>	1	2,1	Negative			
(728) Antigen Fy^b			48			48	47	98
Samples E1 and S1			48			48	47	98
(0) not specified			1	2,1	Not specified			
(14) Bio-Rad	RV	>>>	13	27	Positive			
(64) Exbio Olomouc	RV	>>>	2	4,2	Positive			
(80) DiaMed	RV	>>>	2	4,2	Positive			
(159) Grifols	RV	>>>	18	38	Positive			
(172) Immucor	RV	>>>	5	10	Positive			
(173) Sanguin	RV	>>>	4	8,3	Positive			
(174) IVT Imuno	RV	>>>	1	2,1	Positive			
(203) ANTITOXIN	RV	>>>	2	4,2	Positive			
Samples E2 and S2			48			48	48	100
(0) not specified	RV	>>>	1	2,1	Positive			
(14) Bio-Rad	RV	>>>	13	27	Positive			
(64) Exbio Olomouc	RV	>>>	2	4,2	Positive			
(80) DiaMed	RV	>>>	2	4,2	Positive			
(159) Grifols	RV	>>>	18	38	Positive			
(172) Immucor	RV	>>>	5	10	Positive			
(173) Sanguin	RV	>>>	4	8,3	Positive			
(174) IVT Imuno	RV	>>>	1	2,1	Positive			
(203) ANTITOXIN	RV	>>>	2	4,2	Positive			
(722) Antigen M			46			46	46	100
Samples E1 and S1			46			46	46	100
(6) APR	RV	>>>	1	2,2	Positive			
(14) Bio-Rad	RV	>>>	12	26	Positive			
(52) Dynex	RV	>>>	1	2,2	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,2	Positive			
(80) DiaMed	RV	>>>	3	6,5	Positive			
(159) Grifols	RV	>>>	14	30	Positive			
(172) Immucor	RV	>>>	7	15	Positive			
(173) Sanguin	RV	>>>	3	6,5	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,2	Positive			
(203) ANTITOXIN	RV	>>>	3	6,5	Positive			
Samples E2 and S2			46			46	46	100
(6) APR	RV	>>>	1	2,2	Positive			
(14) Bio-Rad	RV	>>>	12	26	Positive			
(52) Dynex	RV	>>>	1	2,2	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,2	Positive			
(80) DiaMed	RV	>>>	3	6,5	Positive			
(159) Grifols	RV	>>>	14	30	Positive			
(172) Immucor	RV	>>>	7	15	Positive			
(173) Sanguin	RV	>>>	3	6,5	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,2	Positive			
(203) ANTITOXIN	RV	>>>	3	6,5	Positive			
(723) Antigen N			44			44	43	98
Samples E1 and S1			44			44	43	98
(6) APR	RV	>>>	1	2,3	Positive			
(14) Bio-Rad			1	2,3	Negative			
(52) Dynex	RV	>>>	11	25	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,3	Positive			

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results					Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(80) DiaMed	RV	>>>	3	6,8	Positive			
(159) Grifols	RV	>>>	14	32	Positive			
(171) Diagast	RV	>>>	1	2,3	Positive			
(172) Immucor	RV	>>>	6	14	Positive			
(173) Sanguin	RV	>>>	2	4,5	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,3	Positive			
(203) ANTITOXIN	RV	>>>	2	4,5	Positive			
Samples E2 and S2			44			44	43	98
(6) APR	RV	>>>	1	2,3	Positive			
(14) Bio-Rad			1	2,3	Negative			
	RV	>>>	11	25	Positive			
(52) Dynex	RV	>>>	1	2,3	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,3	Positive			
(80) DiaMed	RV	>>>	3	6,8	Positive			
(159) Grifols	RV	>>>	14	32	Positive			
(171) Diagast	RV	>>>	1	2,3	Positive			
(172) Immucor	RV	>>>	6	14	Positive			
(173) Sanguin	RV	>>>	2	4,5	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,3	Positive			
(203) ANTITOXIN	RV	>>>	2	4,5	Positive			
(724) Antigen S			47			47	47	100
Samples E1 and S1			47			47	47	100
(6) APR	RV	>>>	1	2,1	Negative			
(14) Bio-Rad	RV	>>>	12	26	Negative			
(64) Exbio Olomouc	RV	>>>	2	4,3	Negative			
(80) DiaMed	RV	>>>	3	6,4	Negative			
(159) Grifols	RV	>>>	17	36	Negative			
(172) Immucor	RV	>>>	6	13	Negative			
(173) Sanguin	RV	>>>	3	6,4	Negative			
(203) ANTITOXIN	RV	>>>	3	6,4	Negative			
Samples E2 and S2			47			47	47	100
(6) APR	RV	>>>	1	2,1	Negative			
(14) Bio-Rad	RV	>>>	12	26	Negative			
(64) Exbio Olomouc	RV	>>>	2	4,3	Negative			
(80) DiaMed	RV	>>>	3	6,4	Negative			
(159) Grifols	RV	>>>	17	36	Negative			
(172) Immucor	RV	>>>	6	13	Negative			
(173) Sanguin	RV	>>>	3	6,4	Negative			
(203) ANTITOXIN	RV	>>>	3	6,4	Negative			
(725) Antigen s			47			47	47	100
Samples E1 and S1			47			47	47	100
(6) APR	RV	>>>	1	2,1	Positive			
(14) Bio-Rad	RV	>>>	12	26	Positive			
(64) Exbio Olomouc	RV	>>>	2	4,3	Positive			
(80) DiaMed	RV	>>>	3	6,4	Positive			
(159) Grifols	RV	>>>	17	36	Positive			
(172) Immucor	RV	>>>	5	11	Positive			
(173) Sanguin	RV	>>>	4	8,5	Positive			
(203) ANTITOXIN	RV	>>>	2	4,3	Positive			
(999) another manufacturer	RV	>>>	1	2,1	Positive			
Samples E2 and S2			47			47	47	100
(6) APR	RV	>>>	1	2,1	Positive			
(14) Bio-Rad	RV	>>>	12	26	Positive			
(64) Exbio Olomouc	RV	>>>	2	4,3	Positive			
(80) DiaMed	RV	>>>	3	6,4	Positive			
(159) Grifols	RV	>>>	17	36	Positive			
(172) Immucor	RV	>>>	5	11	Positive			
(173) Sanguin	RV	>>>	4	8,5	Positive			
(203) ANTITOXIN	RV	>>>	2	4,3	Positive			
(999) another manufacturer	RV	>>>	1	2,1	Positive			
(733) Antigen Le^a			37			37	37	100
Samples E1 and S1			37			37	37	100
(0) not specified	RV	>>>	1	2,7	Negative			
(14) Bio-Rad	RV	>>>	12	32	Negative			
(52) Dynex	RV	>>>	2	5,4	Negative			
(64) Exbio Olomouc	RV	>>>	1	2,7	Negative			
(80) DiaMed	RV	>>>	1	2,7	Negative			
(159) Grifols	RV	>>>	10	27	Negative			
(172) Immucor	RV	>>>	4	11	Negative			

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results					Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(173) Sanguin	RV	>>>	1	2,7	Negative			
(174) IVT Imuno	RV	>>>	1	2,7	Negative			
(183) Immunodiagnostic Systems	RV	>>>	1	2,7	Negative			
(203) ANTITOXIN	RV	>>>	3	8,1	Negative			
Samples E2 and S2			37			37	37	100
(0) not specified	RV	>>>	1	2,7	Negative			
(14) Bio-Rad	RV	>>>	12	32	Negative			
(52) Dynex	RV	>>>	2	5,4	Negative			
(64) Exbio Olomouc	RV	>>>	1	2,7	Negative			
(80) DiaMed	RV	>>>	1	2,7	Negative			
(159) Grifols	RV	>>>	10	27	Negative			
(172) Immucor	RV	>>>	4	11	Negative			
(173) Sanguin	RV	>>>	1	2,7	Negative			
(174) IVT Imuno	RV	>>>	1	2,7	Negative			
(183) Immunodiagnostic Systems	RV	>>>	1	2,7	Negative			
(203) ANTITOXIN	RV	>>>	3	8,1	Negative			
(734) Antigen Le^p			37			37	32	86
Samples E1 and S1			37			37	32	86
(0) not specified			1	2,7	Negative			
(14) Bio-Rad	RV	>>>	12	32	Positive			
(52) Dynex	RV	>>>	2	5,4	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,7	Positive			
(80) DiaMed	RV	>>>	1	2,7	Positive			
(159) Grifols			2	5,4	Negative			
	RV	>>>	9	24	Positive			
(172) Immucor			1	2,7	Negative			
	RV	>>>	3	8,1	Positive			
(173) Sanguin	RV	>>>	1	2,7	Positive			
(174) IVT Imuno			1	2,7	Negative			
(183) Immunodiagnostic Systems	RV	>>>	1	2,7	Positive			
(203) ANTITOXIN	RV	>>>	2	5,4	Positive			
Samples E2 and S2			37			37	37	100
(0) not specified	RV	>>>	1	2,7	Positive			
(14) Bio-Rad	RV	>>>	12	32	Positive			
(52) Dynex	RV	>>>	2	5,4	Positive			
(64) Exbio Olomouc	RV	>>>	1	2,7	Positive			
(80) DiaMed	RV	>>>	1	2,7	Positive			
(159) Grifols	RV	>>>	11	30	Positive			
(172) Immucor	RV	>>>	4	11	Positive			
(173) Sanguin	RV	>>>	1	2,7	Positive			
(174) IVT Imuno	RV	>>>	1	2,7	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,7	Positive			
(203) ANTITOXIN	RV	>>>	2	5,4	Positive			
(731) Antigen Lu^a			33			33	32	97
Samples E1 and S1			33			33	33	100
(14) Bio-Rad	RV	>>>	9	27	Negative			
(64) Exbio Olomouc	RV	>>>	2	6,1	Negative			
(80) DiaMed	RV	>>>	1	3	Negative			
(159) Grifols	RV	>>>	16	48	Negative			
(172) Immucor	RV	>>>	2	6,1	Negative			
(183) Immunodiagnostic Systems	RV	>>>	2	6,1	Negative			
(999) another manufacturer	RV	>>>	1	3	Negative			
Samples E2 and S2			33			33	32	97
(14) Bio-Rad			1	3	Negative			
	RV	>>>	8	24	Positive			
(64) Exbio Olomouc	RV	>>>	2	6,1	Positive			
(80) DiaMed	RV	>>>	1	3	Positive			
(159) Grifols	RV	>>>	16	48	Positive			
(172) Immucor	RV	>>>	2	6,1	Positive			
(183) Immunodiagnostic Systems	RV	>>>	2	6,1	Positive			
(999) another manufacturer	RV	>>>	1	3	Positive			
(732) Antigen Lu^b			31			31	30	97
Samples E1 and S1			31			31	30	97
(14) Bio-Rad	RV	>>>	7	23	Positive			
(64) Exbio Olomouc	RV	>>>	2	6,5	Positive			
(80) DiaMed	RV	>>>	1	3,2	Positive			
(159) Grifols			1	3,2	Negative			
	RV	>>>	13	42	Positive			
(172) Immucor	RV	>>>	2	6,5	Positive			

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results					Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(173) Sanguin	RV	>>>	1	3,2	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	3,2	Positive			
(203) ANTITOXIN	RV	>>>	2	6,5	Positive			
(999) another manufacturer	RV	>>>	1	3,2	Positive			
Samples E2 and S2			31			31	31	100
(14) Bio-Rad	RV	>>>	7	23	Positive			
(64) Exbio Olomouc	RV	>>>	2	6,5	Positive			
(80) DiaMed	RV	>>>	1	3,2	Positive			
(159) Grifols	RV	>>>	14	45	Positive			
(172) Immucor	RV	>>>	2	6,5	Positive			
(173) Sanguin	RV	>>>	1	3,2	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	3,2	Positive			
(203) ANTITOXIN	RV	>>>	2	6,5	Positive			
(999) another manufacturer	RV	>>>	1	3,2	Positive			
(726) Antigen P1			35			35	34	97
Samples E1 and S1			35			35	34	97
(6) APR	RV	>>>	1	2,9	Positive			
(14) Bio-Rad	RV	>>>	10	29	Positive			
(64) Exbio Olomouc	RV	>>>	2	5,7	Positive			
(80) DiaMed	RV	>>>	2	5,7	Positive			
(159) Grifols			1	2,9	Negative			
	RV	>>>	8	23	Positive			
(172) Immucor	RV	>>>	4	11	Positive			
(173) Sanguin	RV	>>>	4	11	Positive			
(174) IVT Imuno	RV	>>>	1	2,9	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,9	Positive			
(203) ANTITOXIN	RV	>>>	1	2,9	Positive			
Samples E2 and S2			35			35	35	100
(6) APR	RV	>>>	1	2,9	Positive			
(14) Bio-Rad	RV	>>>	10	29	Positive			
(64) Exbio Olomouc	RV	>>>	2	5,7	Positive			
(80) DiaMed	RV	>>>	2	5,7	Positive			
(159) Grifols	RV	>>>	9	26	Positive			
(172) Immucor	RV	>>>	4	11	Positive			
(173) Sanguin	RV	>>>	4	11	Positive			
(174) IVT Imuno	RV	>>>	1	2,9	Positive			
(183) Immunodiagnostic Systems	RV	>>>	1	2,9	Positive			
(203) ANTITOXIN	RV	>>>	1	2,9	Positive			
(740) Antigen Wr^a			5			5	5	100
Samples E1 and S1			5			5	5	100
(159) Grifols	RV	>>>	1	20	Negative			
(172) Immucor	RV	>>>	1	20	Negative			
(173) Sanguin	RV	>>>	3	60	Negative			
Samples E2 and S2			5			5	5	100
(159) Grifols	RV	>>>	1	20	Negative			
(172) Immucor	RV	>>>	1	20	Negative			
(173) Sanguin	RV	>>>	3	60	Negative			
(737) Direct Coombs (antiglobulin) test			147			147	144	98
Samples E1 and S1			147			147	144	98
(14) Bio-Rad	RV	>>>	69	47	Negative			
(40) Ortho Clinical Diagnostics	RV	>>>	1	0,7	Negative			
(64) Exbio Olomouc	RV	>>>	2	1,4	Negative			
(80) DiaMed	RV	>>>	17	12	Negative			
(159) Grifols	RV	>>>	52	35	Negative			
			3	2	Positive			
(172) Immucor	RV	>>>	2	1,4	Negative			
(203) ANTITOXIN	RV	>>>	1	0,7	Negative			
Samples E2 and S2			147			147	146	99
(14) Bio-Rad	RV	>>>	69	47	Negative			
(40) Ortho Clinical Diagnostics	RV	>>>	1	0,7	Negative			
(64) Exbio Olomouc	RV	>>>	2	1,4	Negative			
(80) DiaMed	RV	>>>	17	12	Negative			
(159) Grifols	RV	>>>	54	37	Negative			
			1	0,7	Positive			
(172) Immucor	RV	>>>	2	1,4	Negative			
(203) ANTITOXIN	RV	>>>	1	0,7	Negative			
(741) Antibody screening (IAT, blood donor)			93			93	92	99
Samples E1 and S1			93			93	92	99
(0) not specified			1	1,1	Not specified			

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results					Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]	
(14) Bio-Rad	RV >>>	43	46	Positive				
(64) Exbio Olomouc	RV >>>	1	1,1	Positive				
(80) DiaMed	RV >>>	10	11	Positive				
(159) Grifols	RV >>>	28	30	Positive				
(171) Diagast	RV >>>	2	2,2	Positive				
(172) Immucor	RV >>>	8	8,6	Positive				
Samples E2 and S2		93			93	93	100	
(0) not specified	RV >>>	1	1,1	Positive				
(14) Bio-Rad	>	33	35	Negative				
	RV >>>	10	11	Positive				
(64) Exbio Olomouc	RV >>>	1	1,1	Positive				
(80) DiaMed	>	5	5,4	Negative				
	RV >>>	5	5,4	Positive				
(159) Grifols	>	1	1,1	Negative				
	RV >>>	27	29	Positive				
(171) Diagast	RV >>>	2	2,2	Positive				
(172) Immucor	>	1	1,1	Negative				
	RV >>>	7	7,5	Positive				
(743) Antibody screening (IAT, recipient)		166			166	166	100	
Samples E1 and S1		166			166	166	100	
(14) Bio-Rad	RV >>>	75	45	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	0,6	Positive				
(80) DiaMed	RV >>>	18	11	Positive				
(159) Grifols	RV >>>	66	40	Positive				
(172) Immucor	RV >>>	6	3,6	Positive				
Samples E2 and S2		166			166	166	100	
(14) Bio-Rad	>	43	26	Negative				
	RV >>>	32	19	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	0,6	Positive				
(80) DiaMed	>	9	5,4	Negative				
	RV >>>	9	5,4	Positive				
(159) Grifols	>	2	1,2	Negative				
	RV >>>	64	39	Positive				
(172) Immucor	RV >>>	6	3,6	Positive				
(745) Antibody screening (IAT, pregnant)		135			135	135	100	
Samples E1 and S1		135			135	135	100	
(0) not specified	RV >>>	1	0,7	Positive				
(14) Bio-Rad	RV >>>	56	41	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	0,7	Positive				
(64) Exbio Olomouc	RV >>>	1	0,7	Positive				
(80) DiaMed	RV >>>	14	10	Positive				
(159) Grifols	RV >>>	58	43	Positive				
(172) Immucor	RV >>>	4	3	Positive				
Samples E2 and S2		135			135	135	100	
(0) not specified	RV >>>	1	0,7	Positive				
(14) Bio-Rad	>	30	22	Negative				
	RV >>>	26	19	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	0,7	Positive				
(64) Exbio Olomouc	RV >>>	1	0,7	Positive				
(80) DiaMed	>	7	5,2	Negative				
	RV >>>	7	5,2	Positive				
(159) Grifols	>	2	1,5	Negative				
	RV >>>	56	41	Positive				
(172) Immucor	RV >>>	4	3	Positive				
(747) Antibody screening (enzyme test)		104			104	103	99	
Samples E1 and S1		104			104	103	99	
(0) not specified	RV >>>	1	1	Positive				
(14) Bio-Rad		1	1	Negative				
	RV >>>	48	46	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	1	Positive				
(80) DiaMed	RV >>>	11	11	Positive				
(159) Grifols	RV >>>	41	39	Positive				
(172) Immucor	RV >>>	1	1	Positive				
Samples E2 and S2		104			104	104	100	
(0) not specified	>	1	1	Negative				
(14) Bio-Rad	>	22	21	Negative				
	RV >>>	27	26	Positive				
(40) Ortho Clinical Diagnostics	RV >>>	1	1	Positive				
(80) DiaMed	>	3	2,9	Negative				

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results				Success		
	AV	N _{tot}	N _{rel} [%]	Result	N _{eva}	N _{suc}	S _{rel} [%]
	RV >>>	8	7,7	Positive			
(159) Grifols	RV >>>	41	39	Positive			
(172) Immucor	>	1	1	Negative			
(750) Antibody identification		51			51	48	94
Samples E1 and S1		51			51	51	100
(0) not specified	>	12	24	anti-D			
	RV >>>	39	76	anti-D; anti-Kpa			
Samples E2 and S2		51			51	48	94
(0) not specified		2	3,9	Not specified			
	RV >>>	48	94	anti-Jkb			
		1	2	anti-Lua			
(752) Antibody titre, Sample 1: 1st antibody		43			0		
Samples E1 and S1		43			0		
(0) not specified	±	1	2,3	titre 8			
	±	13	30	titre 16			
	±	10	23	titre 32			
	±	15	35	titre 64			
	±	4	9,3	titre 128			
(753) Antibody titre, Sample 1: 2nd antibody		30			0		
Samples E1 and S1		30			0		
(0) not specified	±	4	13	titre 0 (not measurable)			
	±	23	77	titre 1			
	±	3	10	titre 2			
(756) Antibody titre, Sample 2: 1st antibody		37			0		
Samples E2 and S2		37			0		
(0) not specified	±	10	27	titre 0 (not measurable)			
	±	19	51	titre 1			
	±	7	19	titre 2			
	±	1	2,7	titre 4			
Set 3							
(760) Crossmatch		137			137	117	85
Sample S1		137			137	117	85
All results		20	15	Crossmatch not successful			
	RV >>>	117	85	Crossmatch successful			
Sample S2		137			137	137	100
All results	RV >>>	137	100	Crossmatch successful			
(761) Crossmatch (segment K1)		137			137	117	85
Sample S1		137			137	117	85
(0) not specified		20	15	Negative test			
	RV >>>	117	85	Positive test			
Sample S2		137			137	137	100
(0) not specified	RV >>>	122	89	Negative test			
	RV >>>	15	11	Positive test			
(762) Serve transfusion product? (segment K1) (transfusion in non-emergency mode)		137			0		
Sample S1		137			0		
(0) not specified	±	114	83	Impossible, risk of haemolysis			
	±	11	8	Decision depends on results of other tests not performed in our laboratory			
	±	6	4,4	Only if more suitable products are not available			
	±	6	4,4	Possible			
Sample S2		137			0		
(0) not specified	±	45	33	Impossible, risk of haemolysis			
	±	52	38	Decision depends on results of other tests not performed in our laboratory			
	±	6	4,4	Only if more suitable products are not available			
	±	34	25	Possible			
(764) Crossmatch (segment K2)		137			137	137	100
Sample S1		137			137	137	100
(0) not specified	RV >>>	137	100	Positive test			
Sample S2		137			137	137	100
(0) not specified	RV >>>	137	100	Negative test			
(765) Serve transfusion product? (segment K2) (transfusion in non-emergency mode)		137			0		
Sample S1		137			0		
(0) not specified	±	136	99	Impossible, risk of haemolysis			

EQA round: IH1/23 - Blood Group Serology

Deadline: 10.3.2023

Setup: groups - manufacturer of kit

Test Sample Group	Frequency of the results			Result	Success		
	AV	N _{tot}	N _{rel} [%]		N _{eva}	N _{suc}	S _{rel} [%]
	±	1	0,7	Decision depends on results of other tests not performed in our laboratory			
Sample S2		137				0	
(0) not specified	±	3	2,2	Impossible, risk of haemolysis			
	±	54	39	Decision depends on results of other tests not performed in our laboratory			
	±	17	12	Only if more suitable products are not available			
	±	63	46	Possible			