

External Quality Assessment Scheme

ABO and Rh grouping Round 1, 2023

Specimens

Please find enclosed 2 human whole blood samples S001 and S002, each 4 mL. The red cell concentration is 15%.

If you have ordered also scheme 4460 Antibody Screening and Compatibility testing, do not discard these samples. These samples should be used also in that scheme.

Caution

Quality control specimens derived from human blood must be handled with the same care as patient samples, i.e. as potential transmitters of serious diseases. The specimens are found to be HBsAg, HCVAb and HIVAgAb negative when tested with licensed reagents, but no known test method can offer complete assurance that the specimens will not transmit these or other infectious diseases.

Examinations

See page 2. Please report only results of the analytes that are in use in your laboratory.

Storage and use

Analyse samples on the arrival day, if possible. Otherwise store in a refrigerator (+2 ... +8 °C) until the tests can be performed. The specimens are stable for 4 weeks from the date of this letter when stored at +2 ... +8 °C.

The cells should be centrifuged to the bottom of the tube and the laboratory should prepare a suspension appropriate to the method.

ABO blood grouping will be performed using cells and serum derived from specimens. Rh determination will be performed using red cells.

Result reporting

Please enter the results and methods via LabScala (www.labscala.com). If you cannot find your reagent from the registry, please contact the EQA Coordinator. If applicable, please give also the result obtained with Rh control solution (it is often used in order to differentiate autoagglutination from real agglutination, e.g. 0.9% NaCl, control cuvette in cassette/ card). There is possibility to answer confirmation group and newborn group with own result forms. Interpret these as separate sections. All reported examinations will be scored except Rh-control.

S001



S002



2023-02-27

INSTRUCTIONS

Product no. 4420
LQ714323011-012/BE

If the kit is incomplete or contains damaged specimens, please report immediately to info@labquality.fi.

The results should be reported no later than **March 20, 2023.**

Inquiries

EQA Coordinator
Iida Silvo
iida.silvo@labquality.fi

Labquality Oy

Kumpulantie 15
FI-00520 HELSINKI
Finland

Tel. + 358 9 8566 8200
Fax + 358 9 8566 8280

info@labquality.fi
www.labquality.com



ABO and Rh grouping

Examinations

Anti-A

Anti-B

Anti-AB

Anti-D, VI+

Anti-D, VI-

A1- cells

B- cells

O- cells

Rh- control

ABO interpretation

Rh interpretation

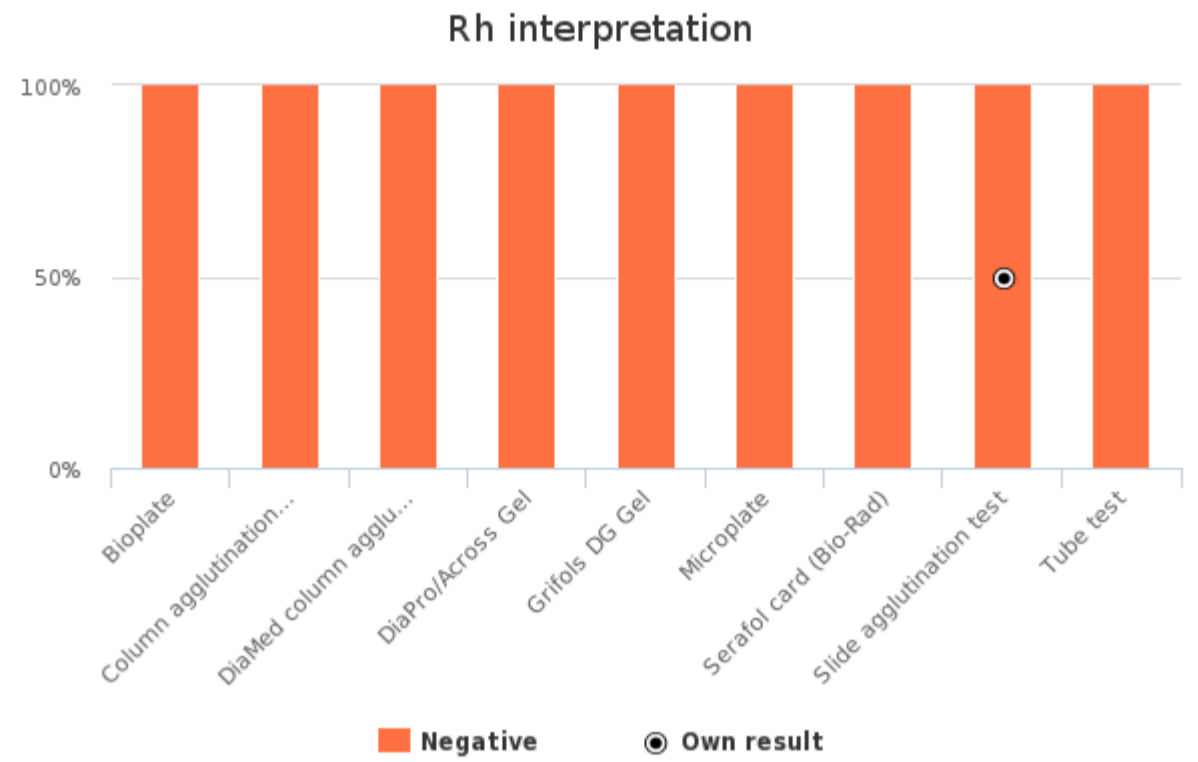
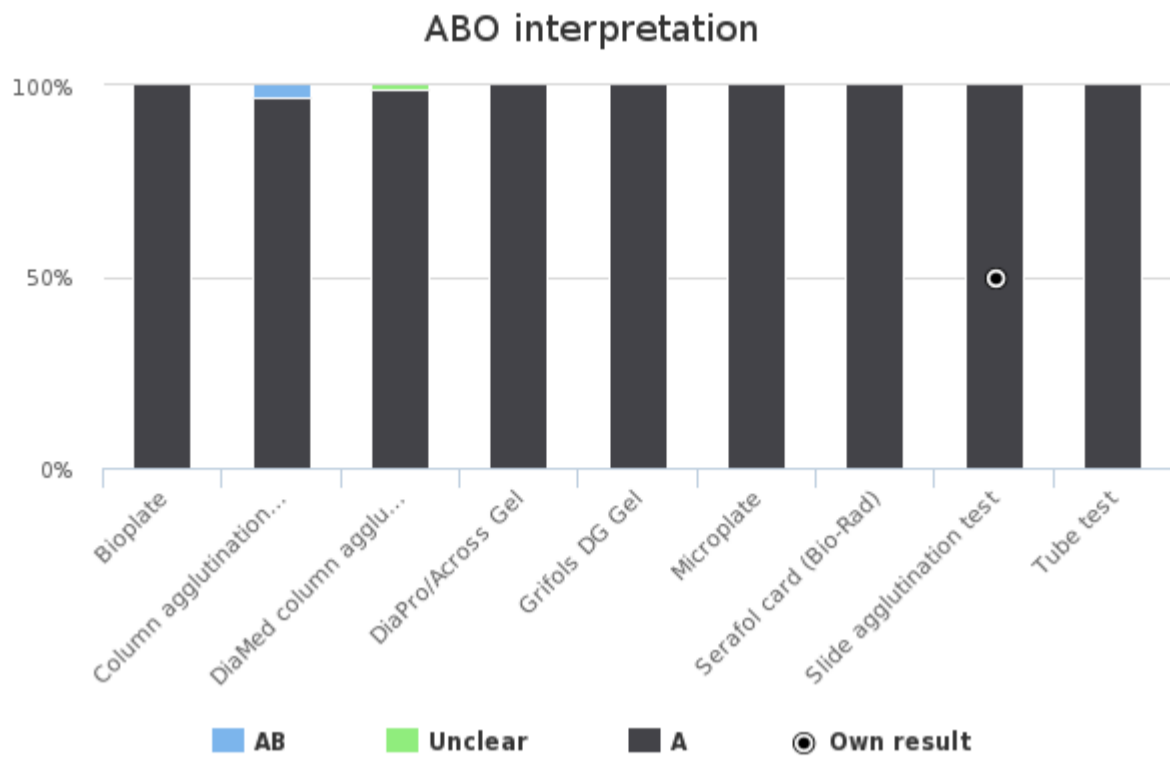
Client report

	No of participants	No of responded participants	Response percentage
ABO and Rh grouping, February, 1-2023	161	158	98.1 %

Summary

Summary	Own score	Max score	Own success rate
Sample S001	13	13	100 %
Sample S002	12	12	100 %
Average:			100 %

Sample S001 | A RhD neg

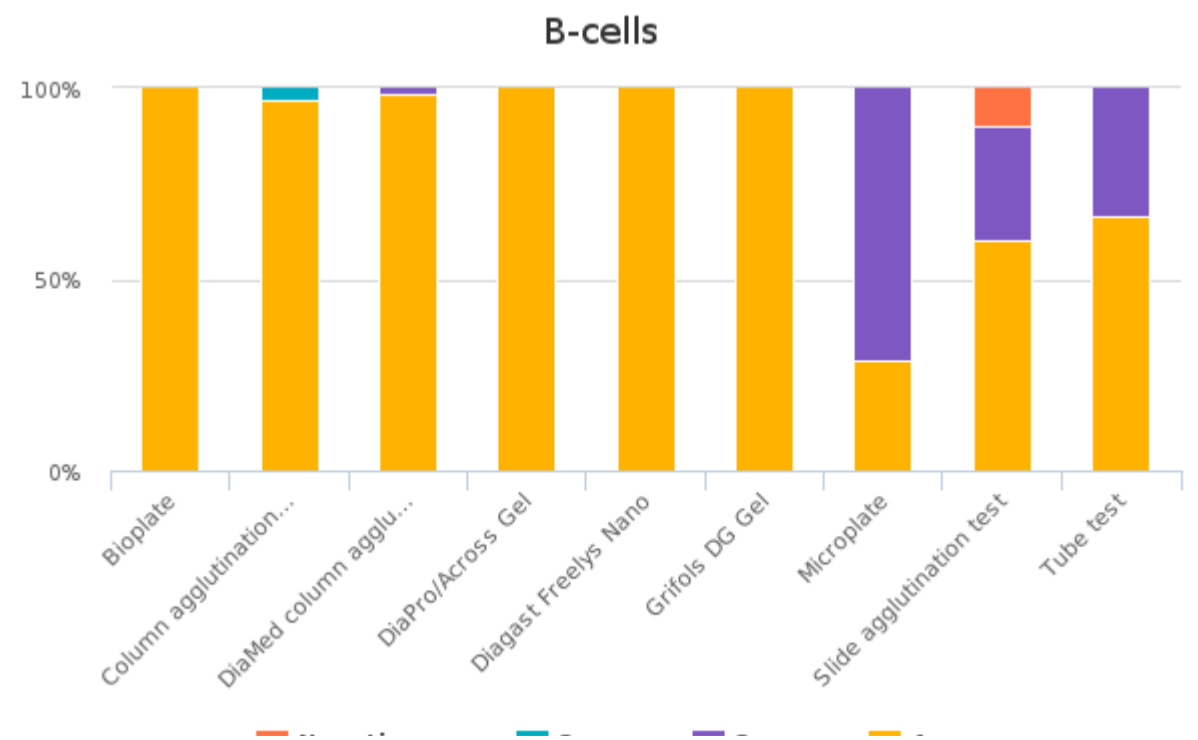
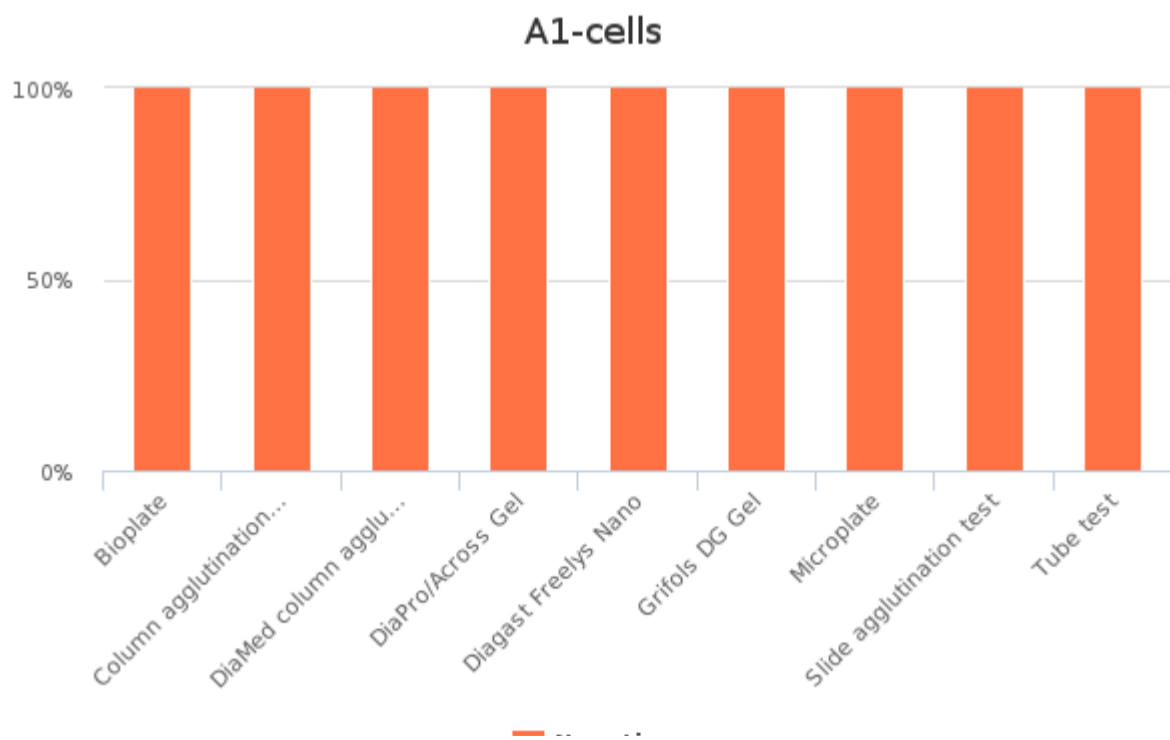
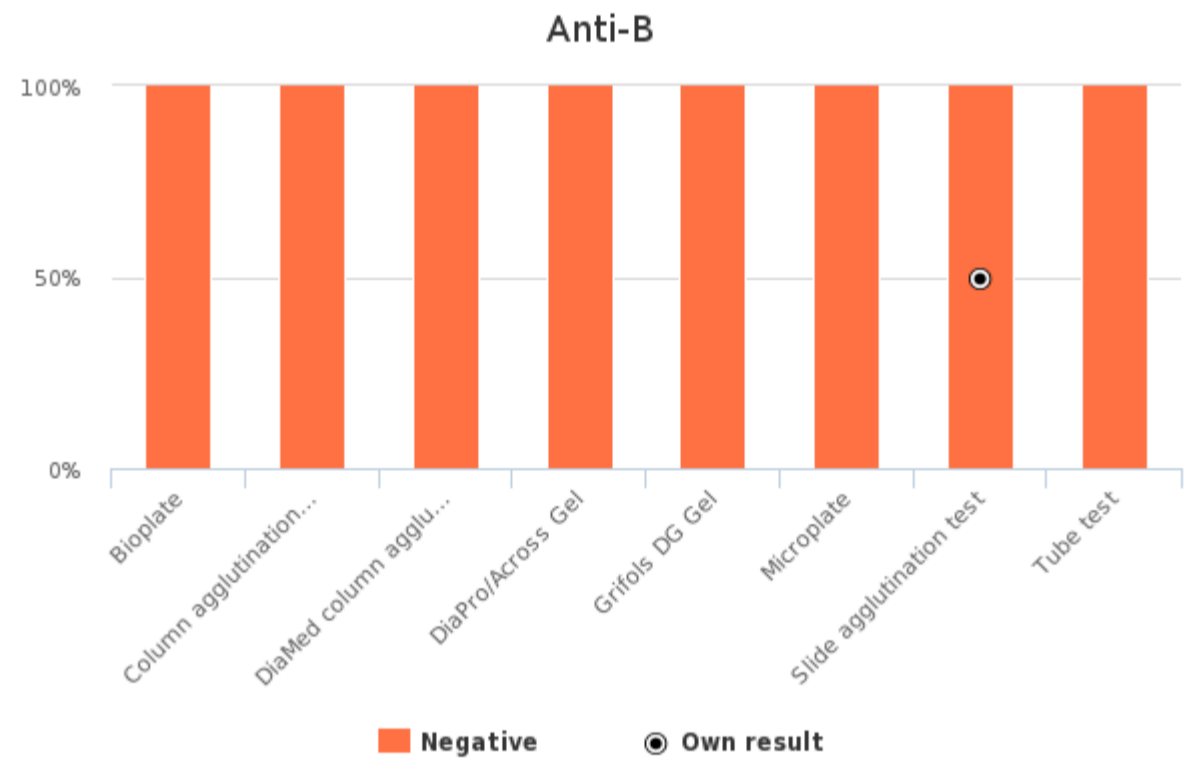
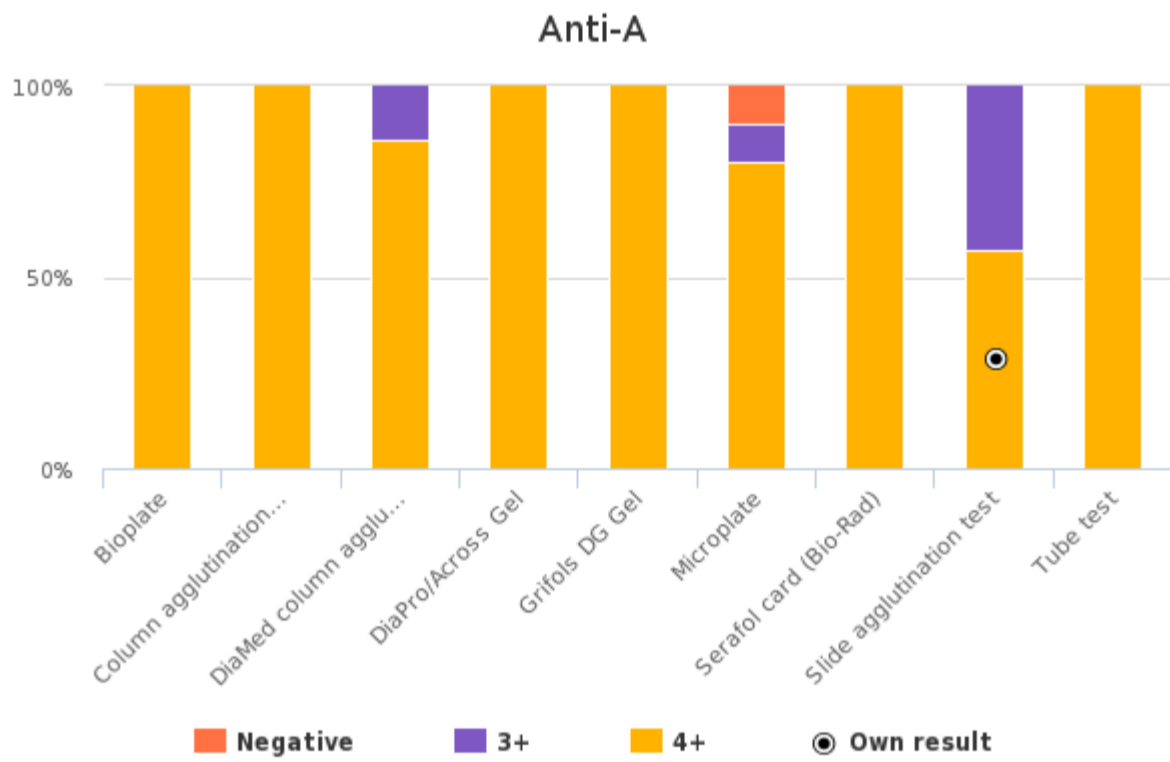


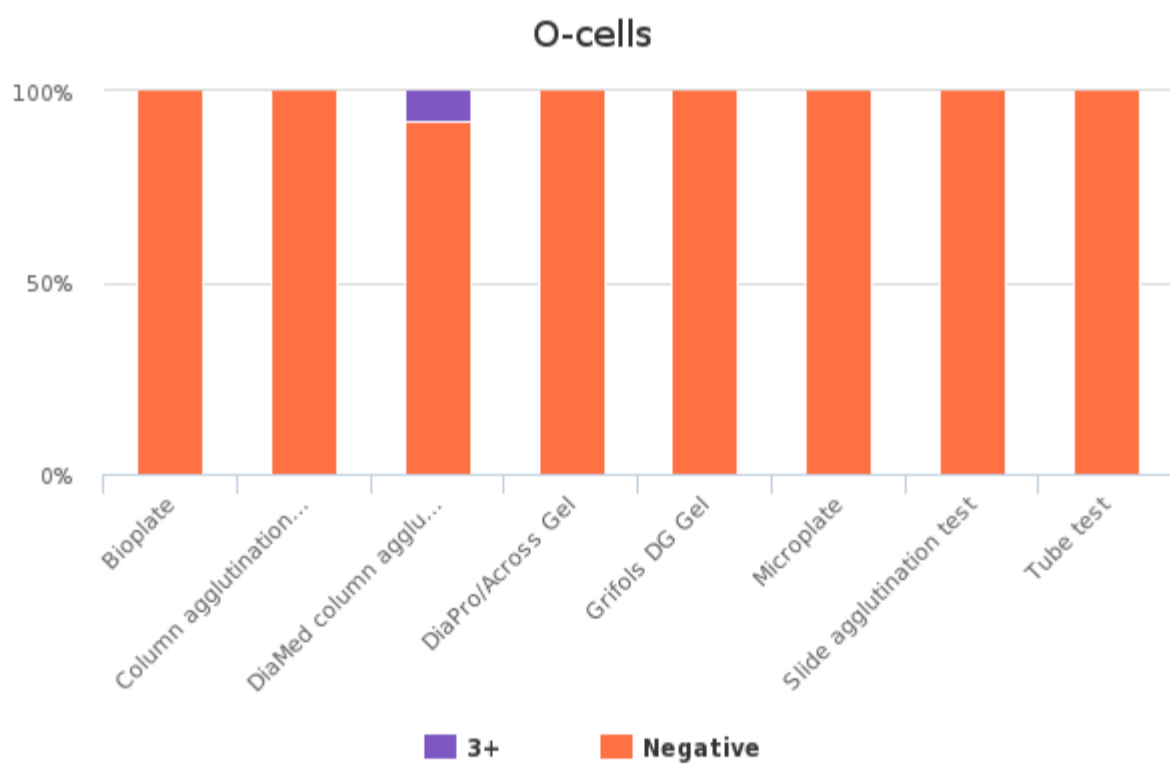
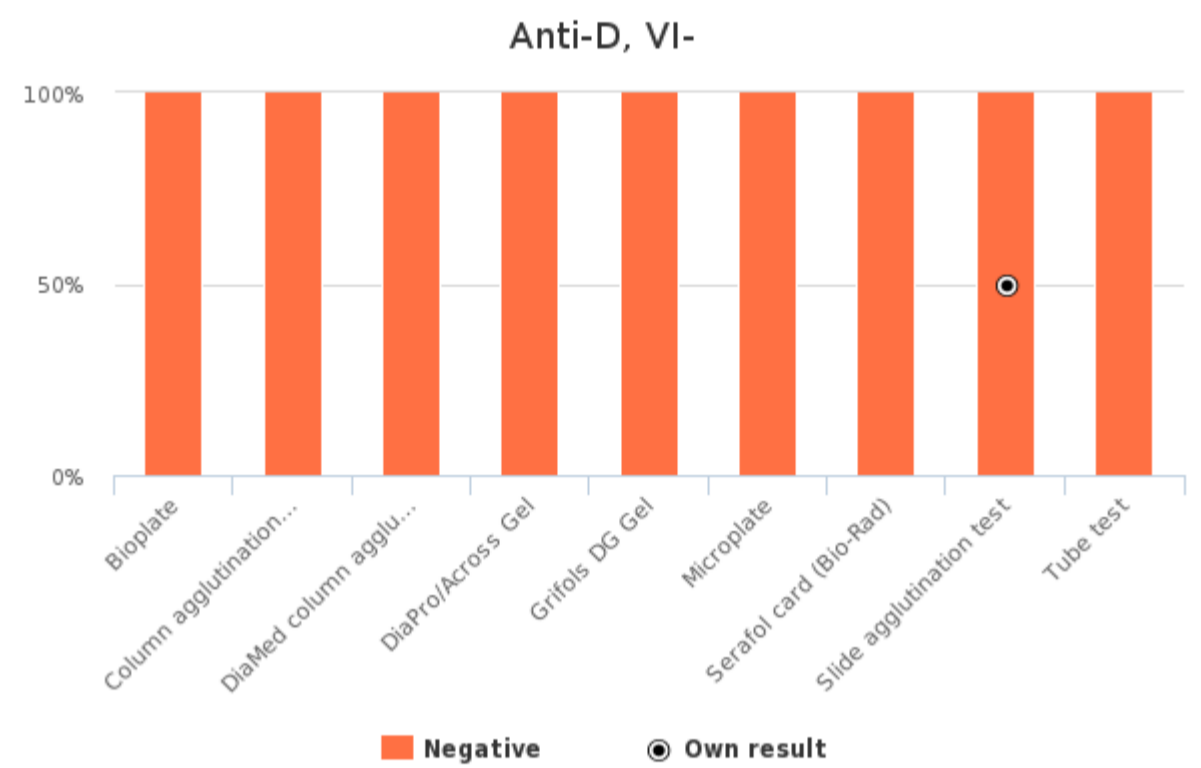
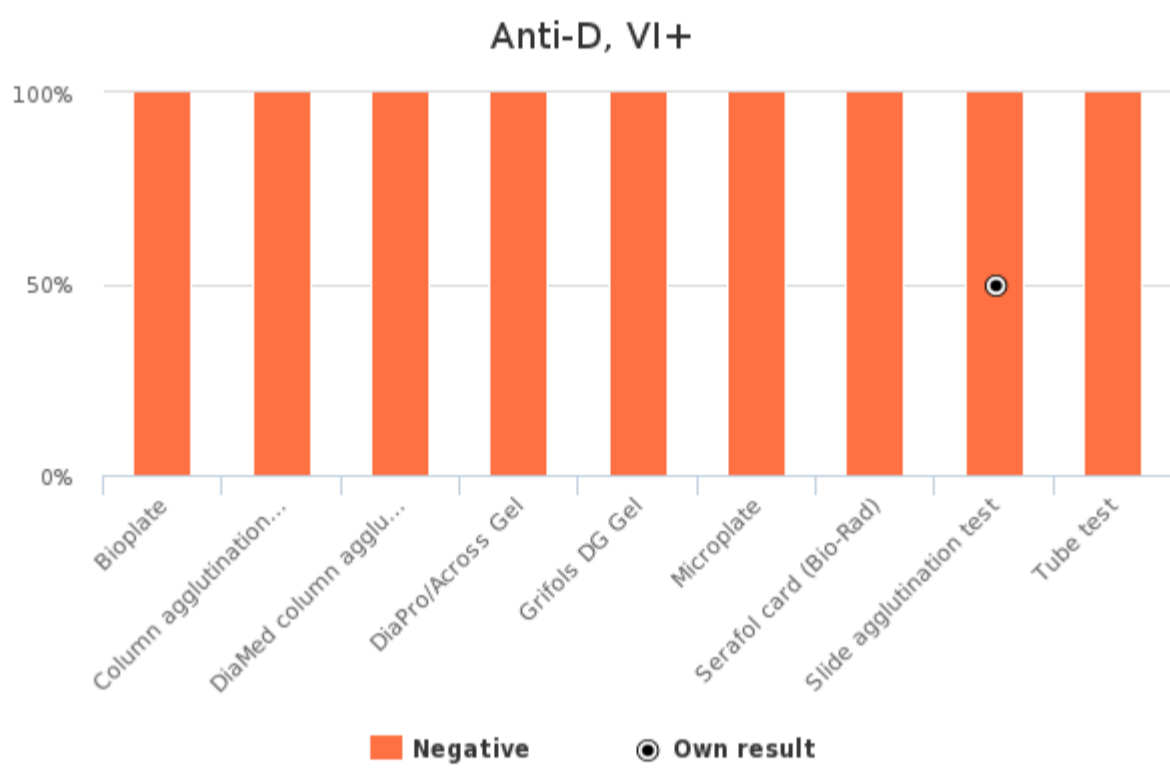
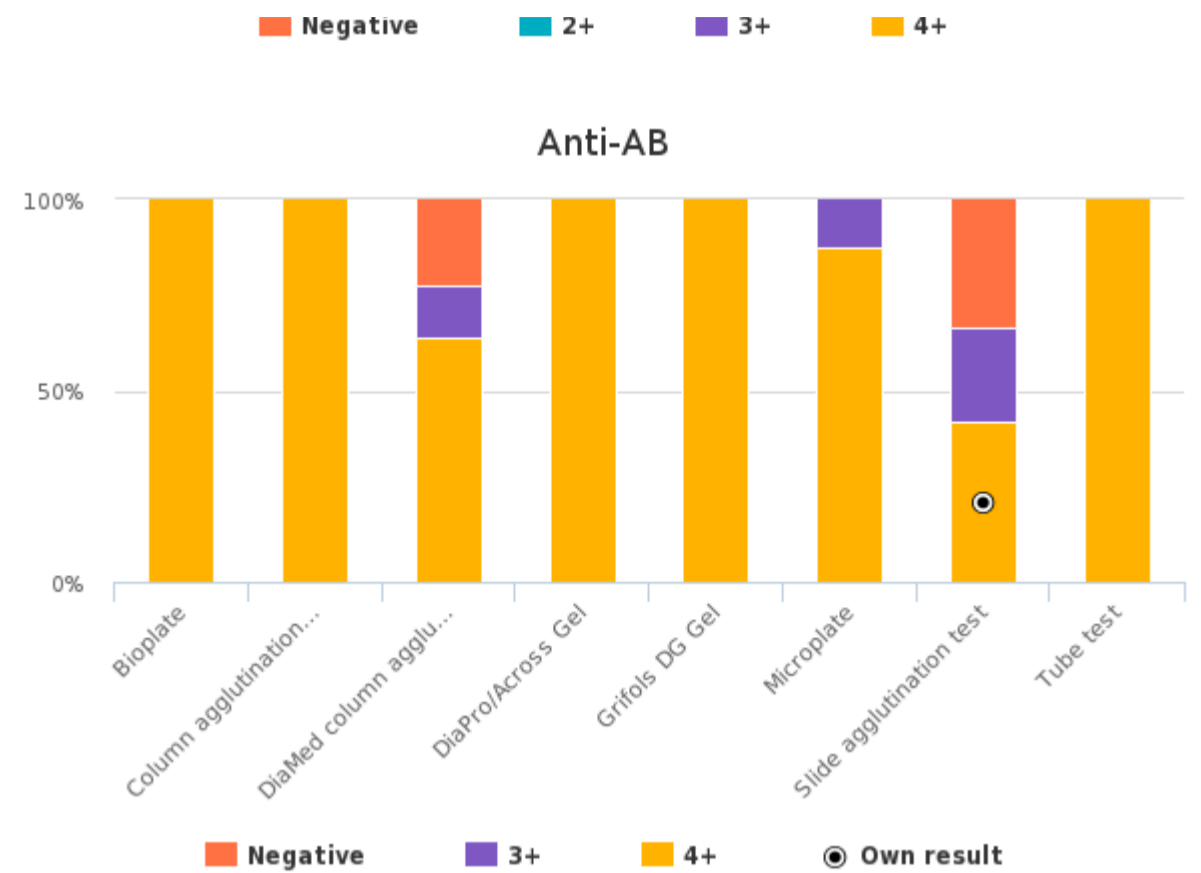
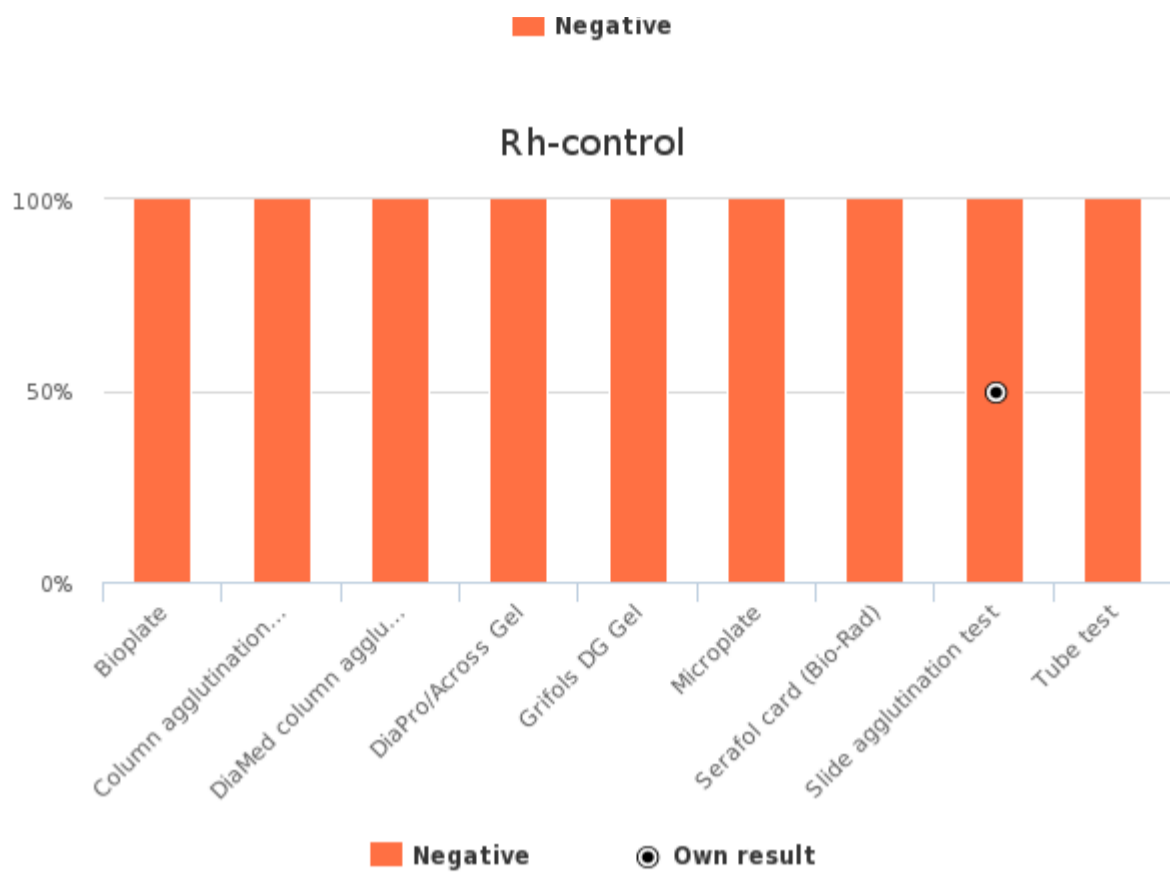
WHOLE ABO GROUP

ABO interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Slide agglutination test	⊙ A	15	100 %	6
	Total:		15	100 %	

WHOLE ABO GROUP

Rh interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Slide agglutination test	⊙ Negative	15	100 %	2
	Total:		15	100 %	





WHOLE ABO GROUP

Anti-A	Method	Reaction strength	n	%	Score
	Slide agglutination test	3+	6	43 %	1
		● 4+	8	57 %	1
	Total:		14	100 %	

WHOLE ABO GROUP

Anti-B	Method	Reaction strength	n	%	Score
	Slide agglutination test	● Negative	14	100 %	1

Total:		14	100 %
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WHOLE ABO GROUP

Rh-control	Method	Reaction strength	n	%	Score
	Slide agglutination test	<input checked="" type="radio"/> Negative	7	100 %	-
Total:			7	100 %	

WHOLE ABO GROUP

Anti-AB	Method	Reaction strength	n	%	Score
	Slide agglutination test	3+	3	25 %	1
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		Negative	4	33 %	0
Total:			12	100 %	

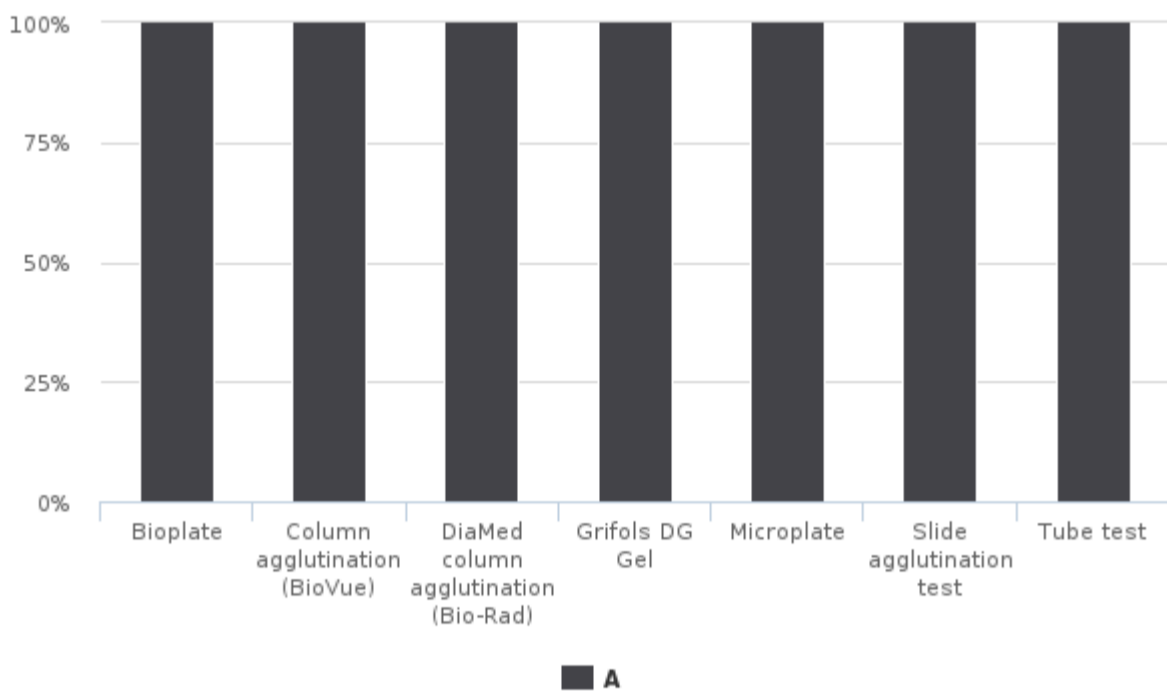
WHOLE ABO GROUP

Anti-D, VI+	Method	Reaction strength	n	%	Score
	Slide agglutination test	<input checked="" type="radio"/> Negative	10	100 %	1
Total:			10	100 %	

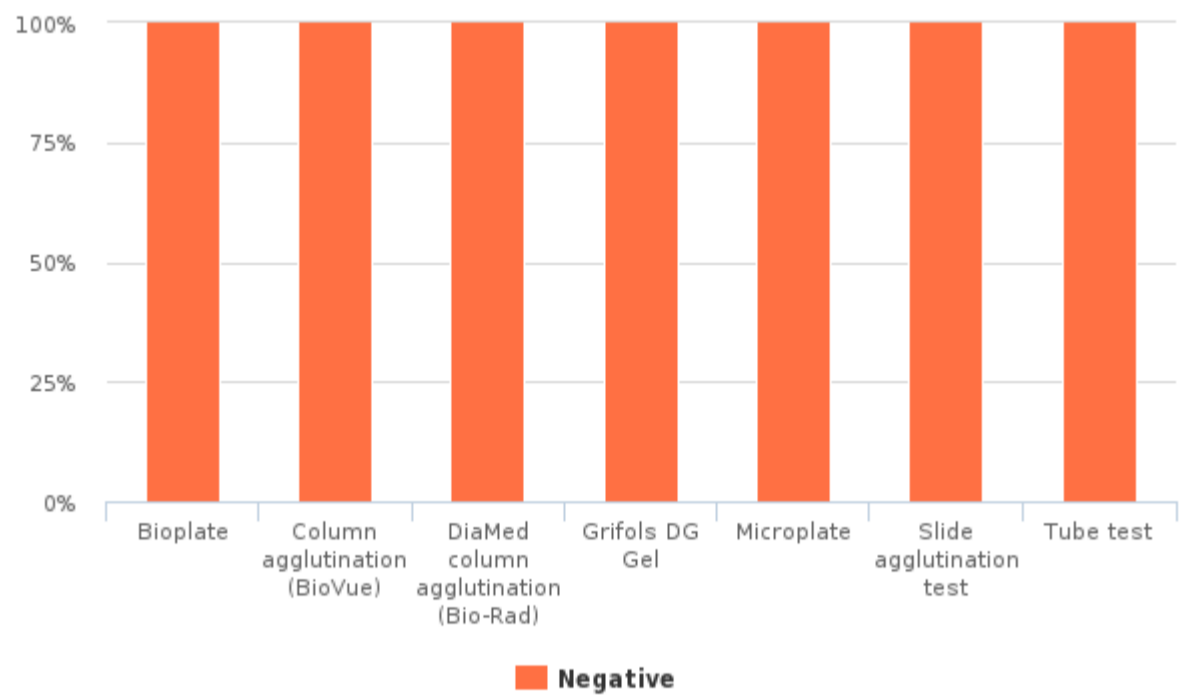
WHOLE ABO GROUP

Anti-D, VI-	Method	Reaction strength	n	%	Score
	Slide agglutination test	<input checked="" type="radio"/> Negative	9	100 %	1
Total:			9	100 %	

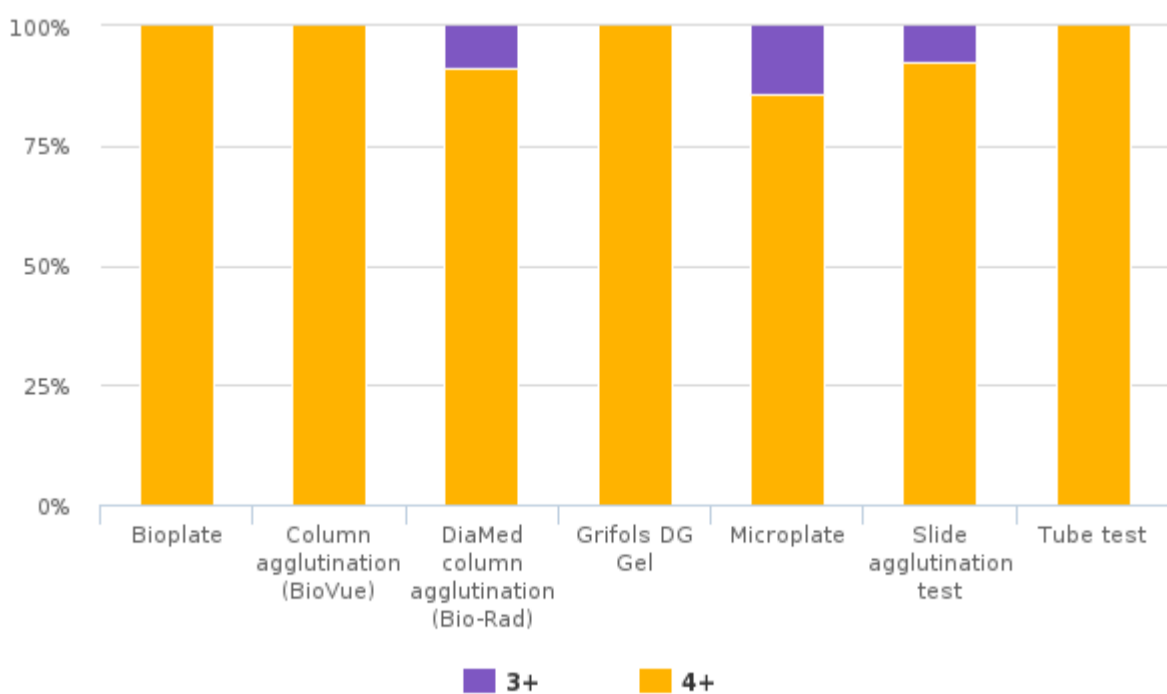
ABO interpretation (confirmation)



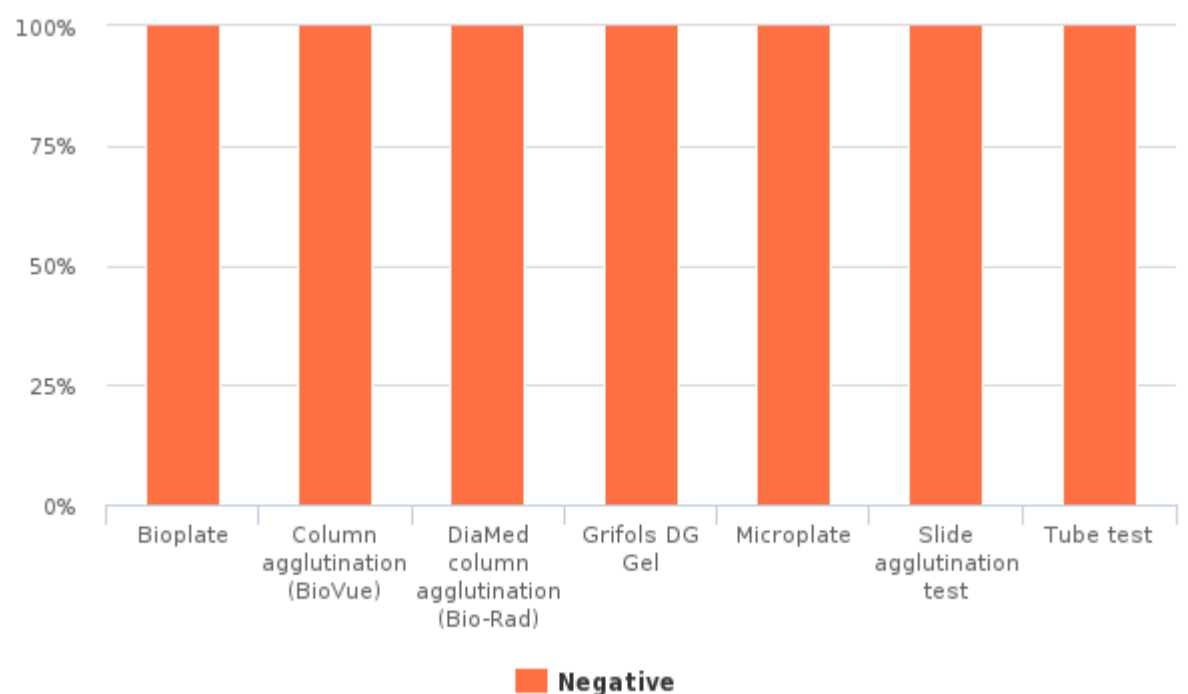
Rh interpretation (confirmation)



Anti-A (confirmation)

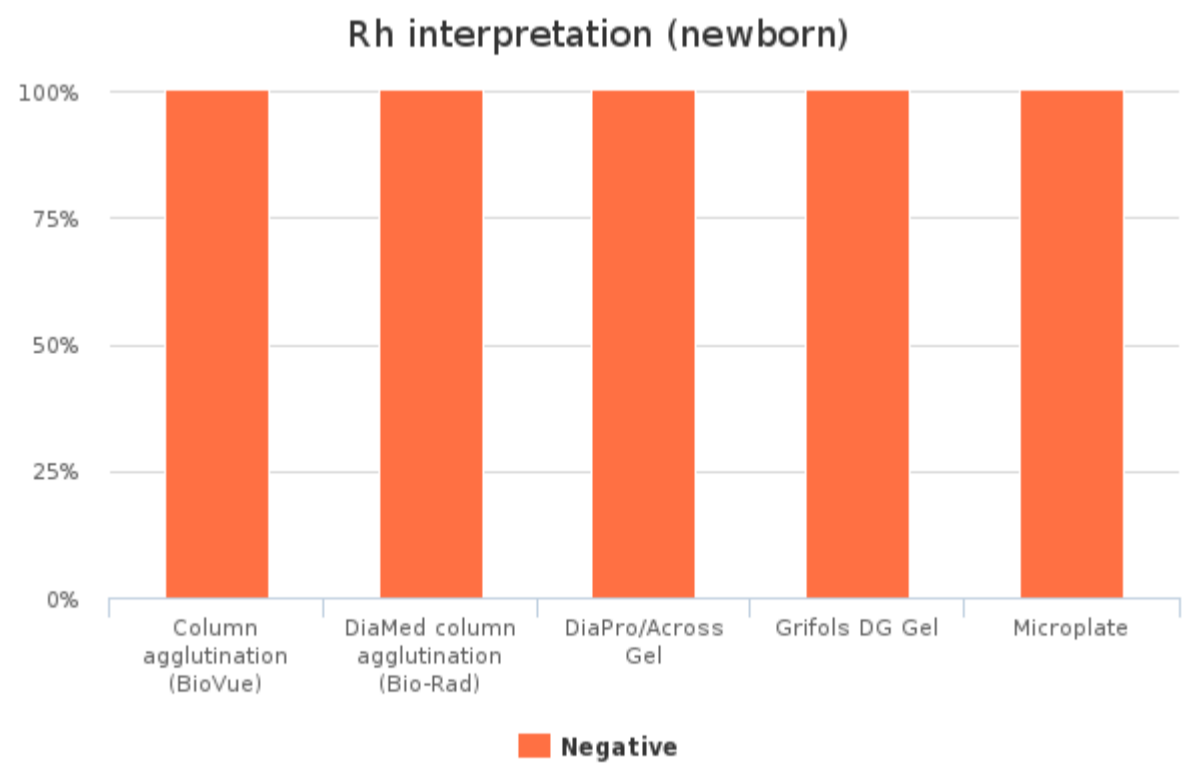
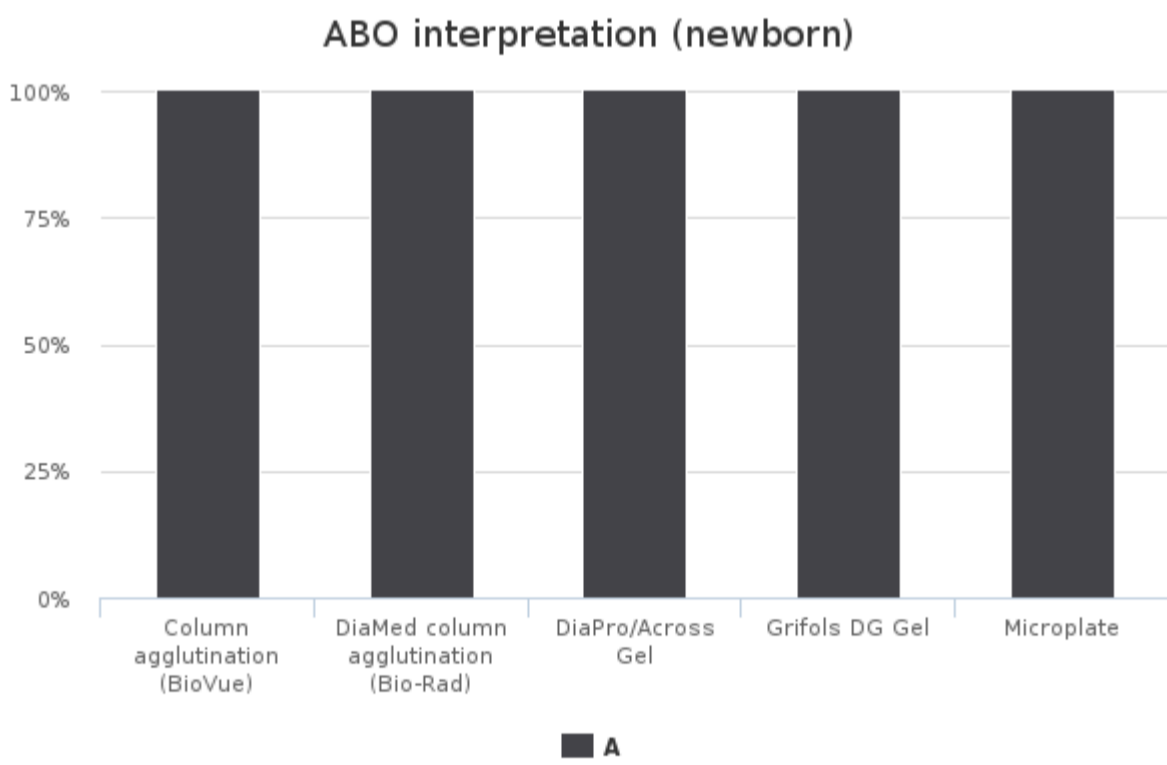
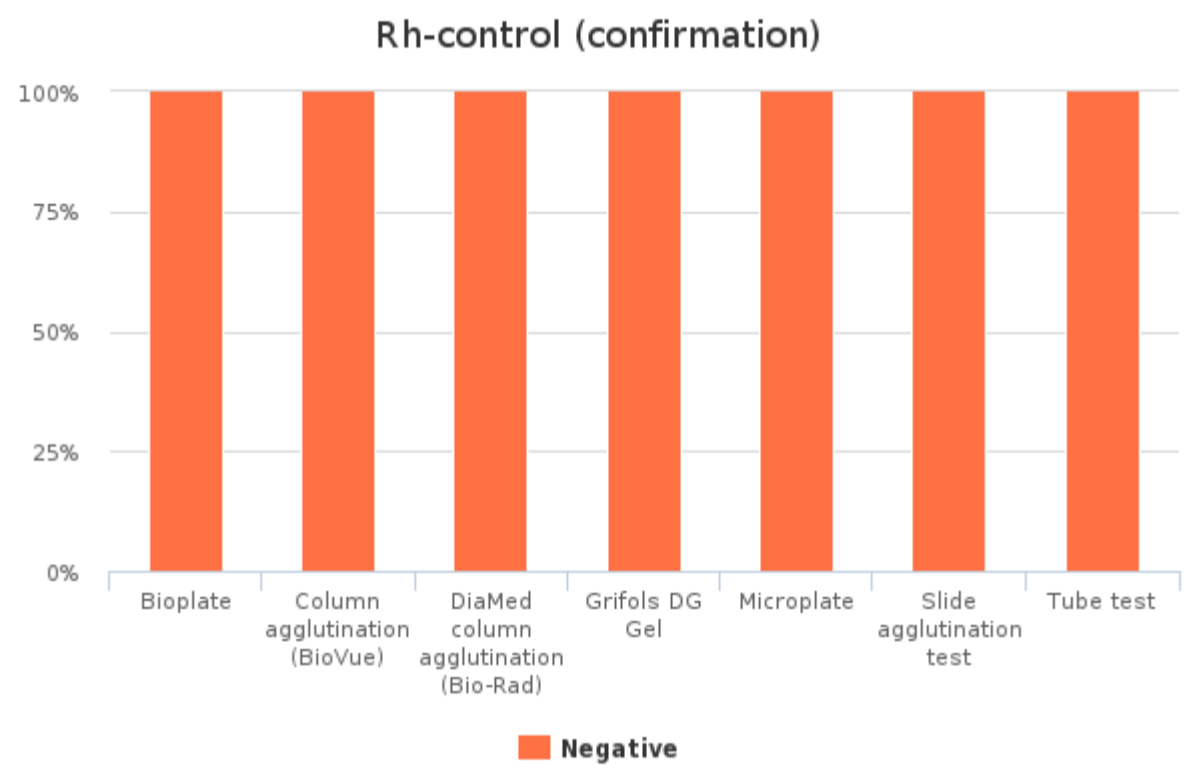
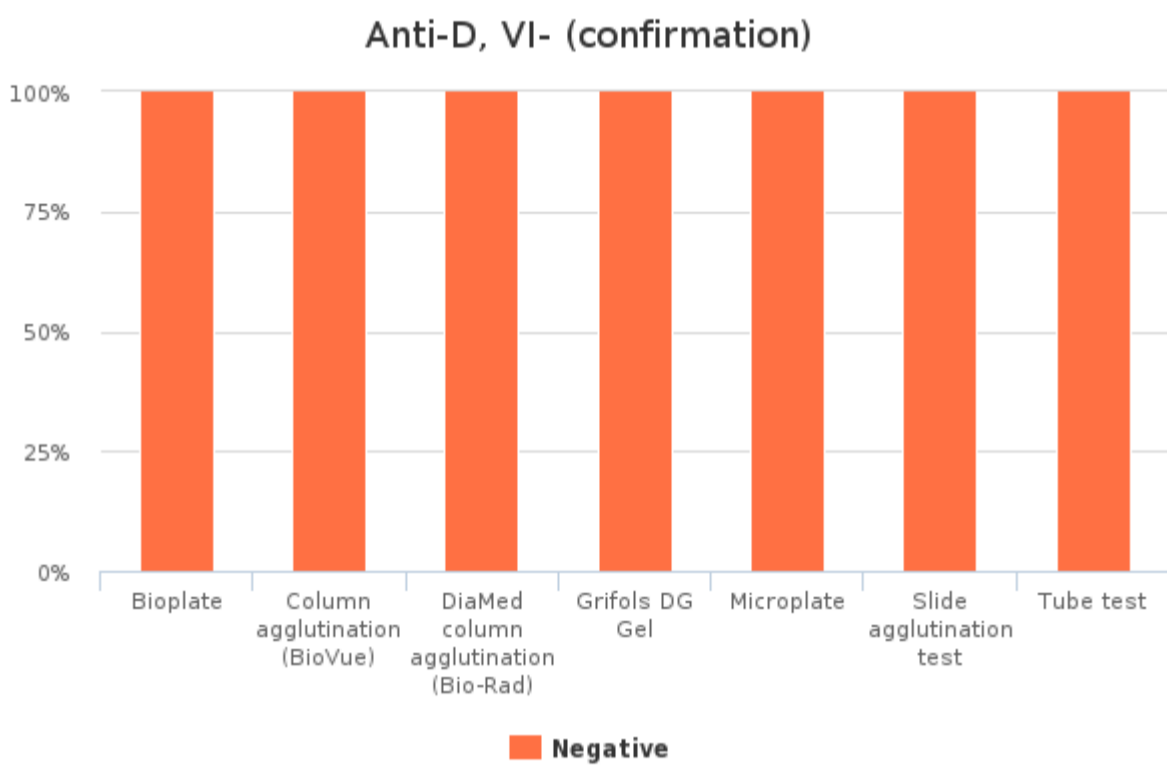
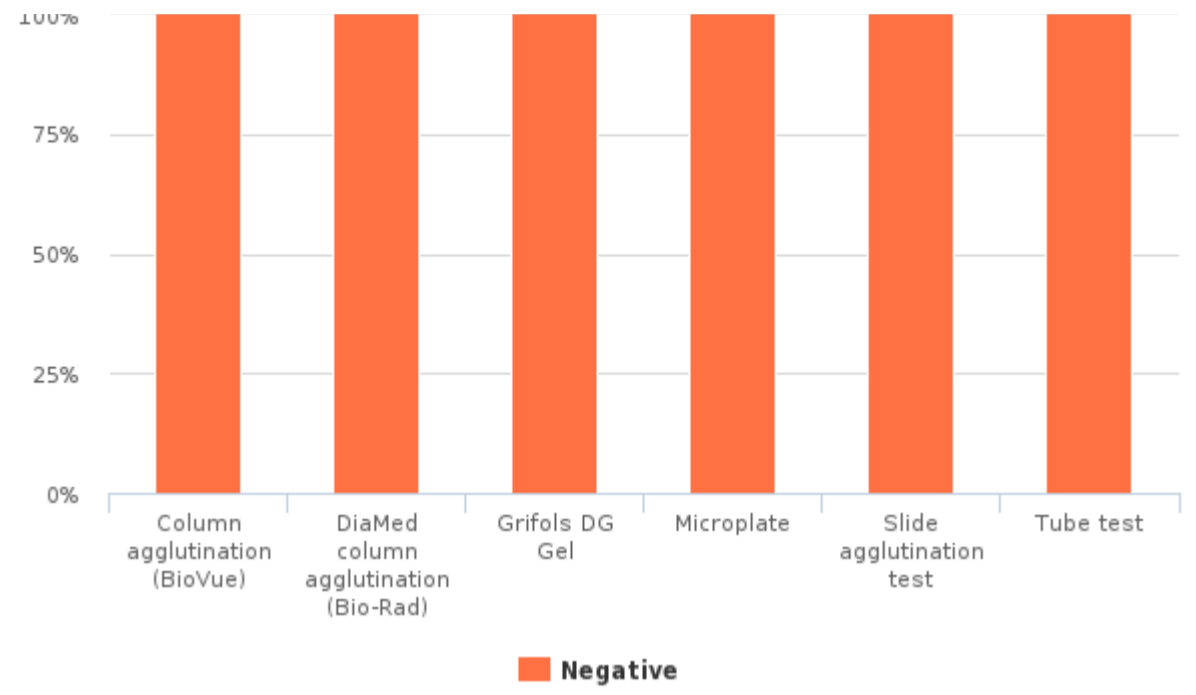
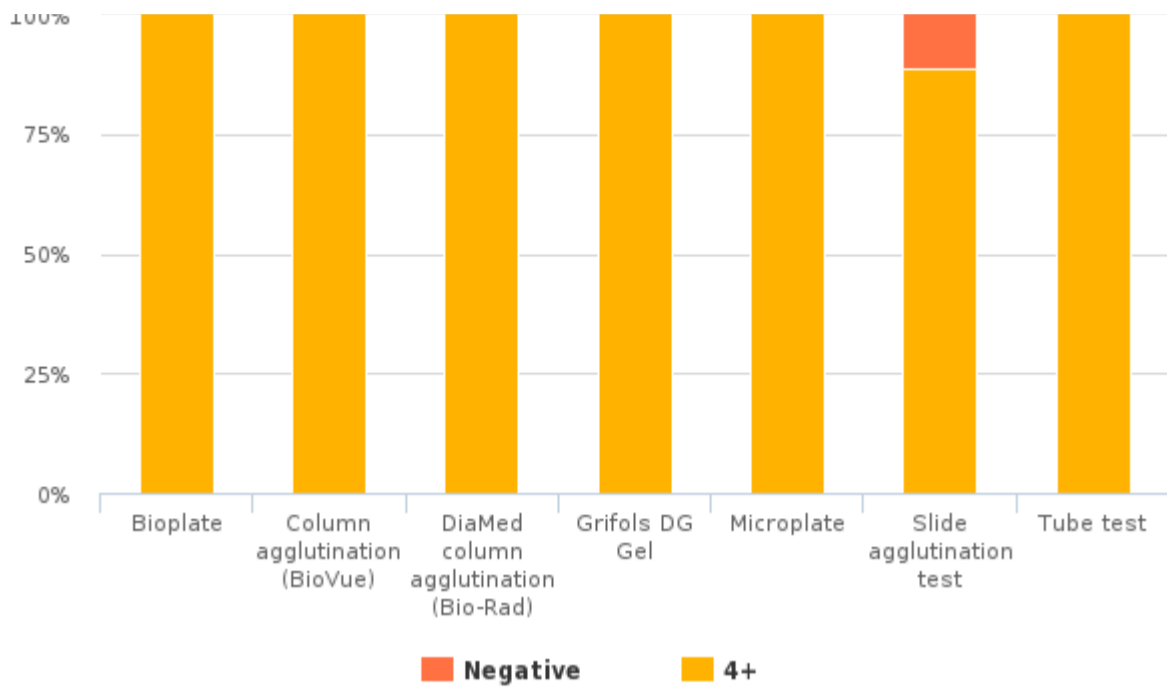


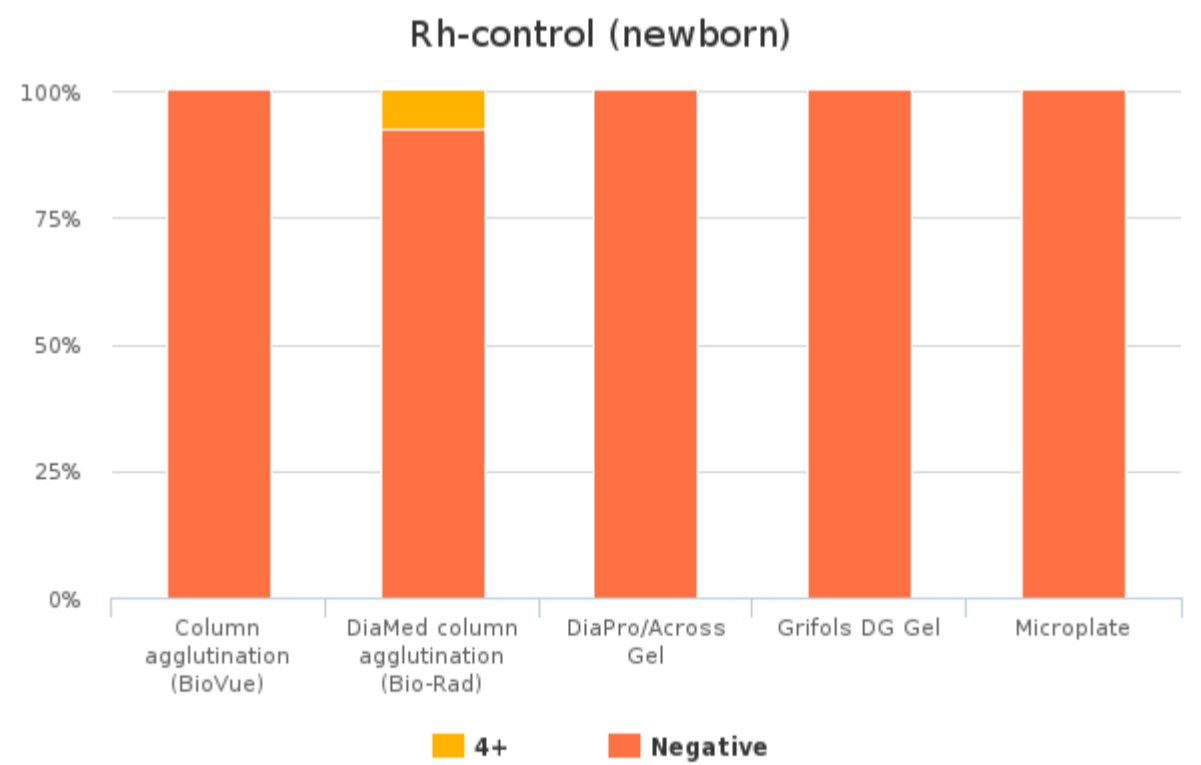
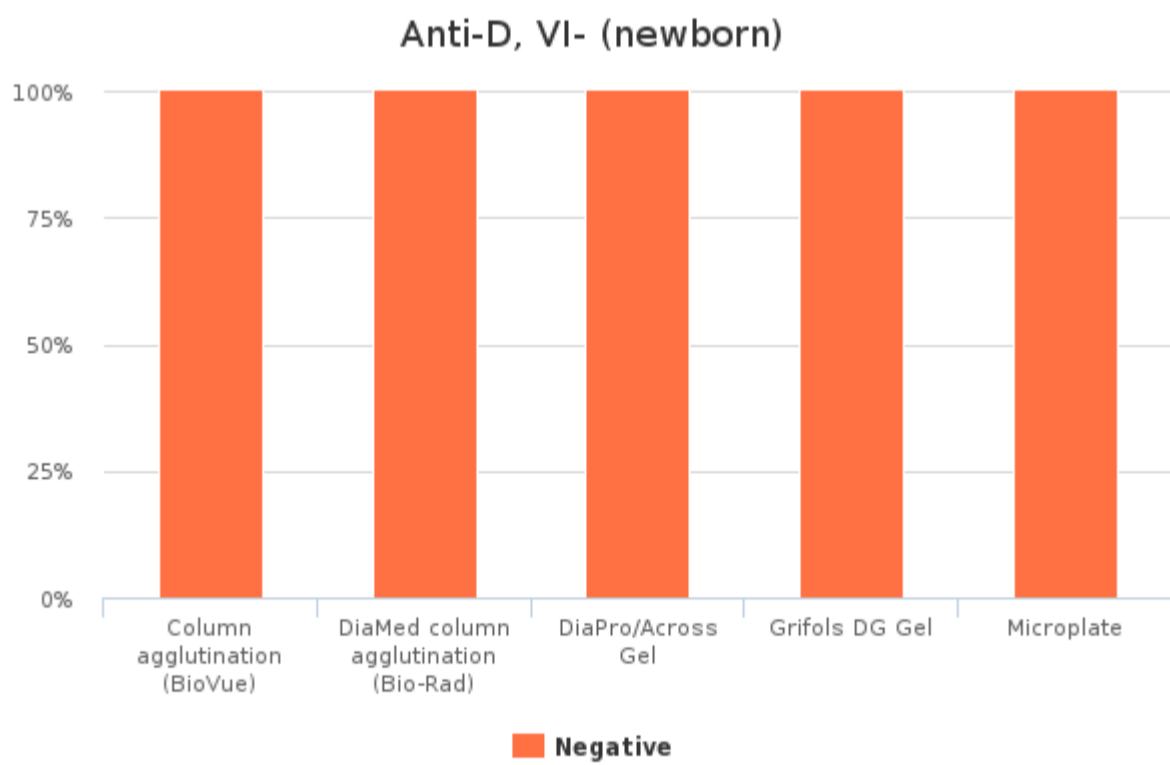
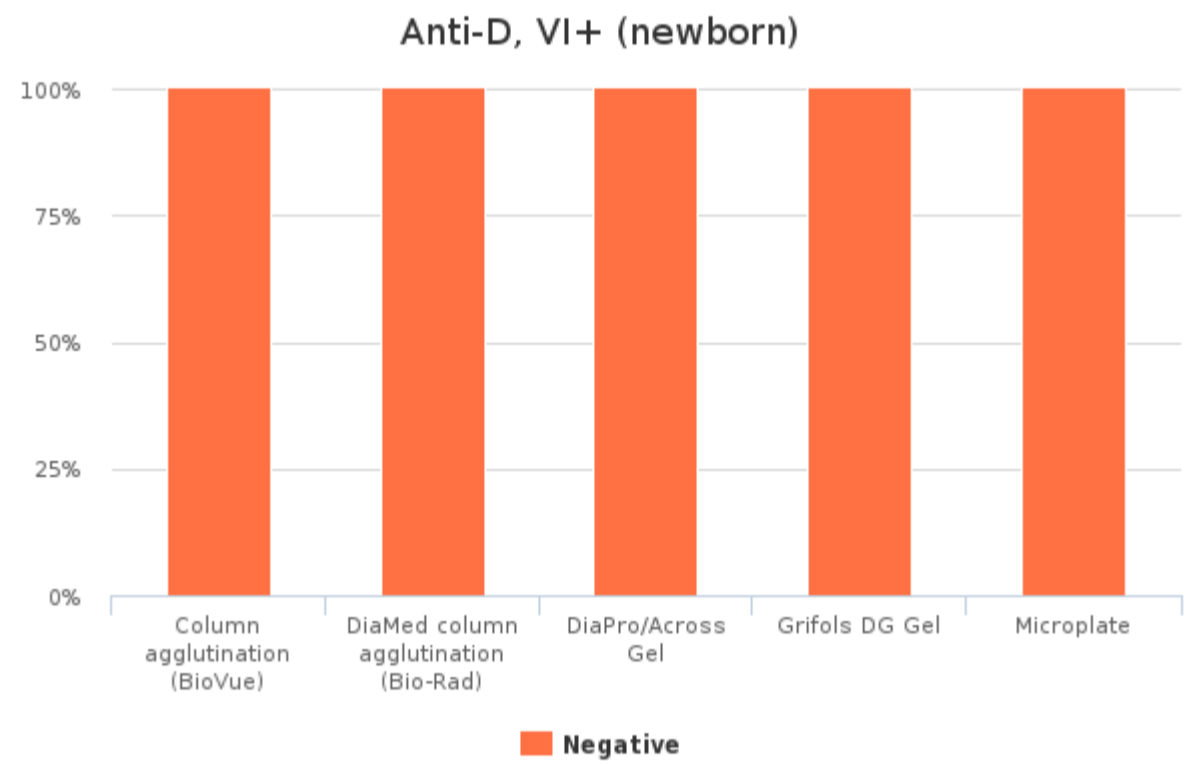
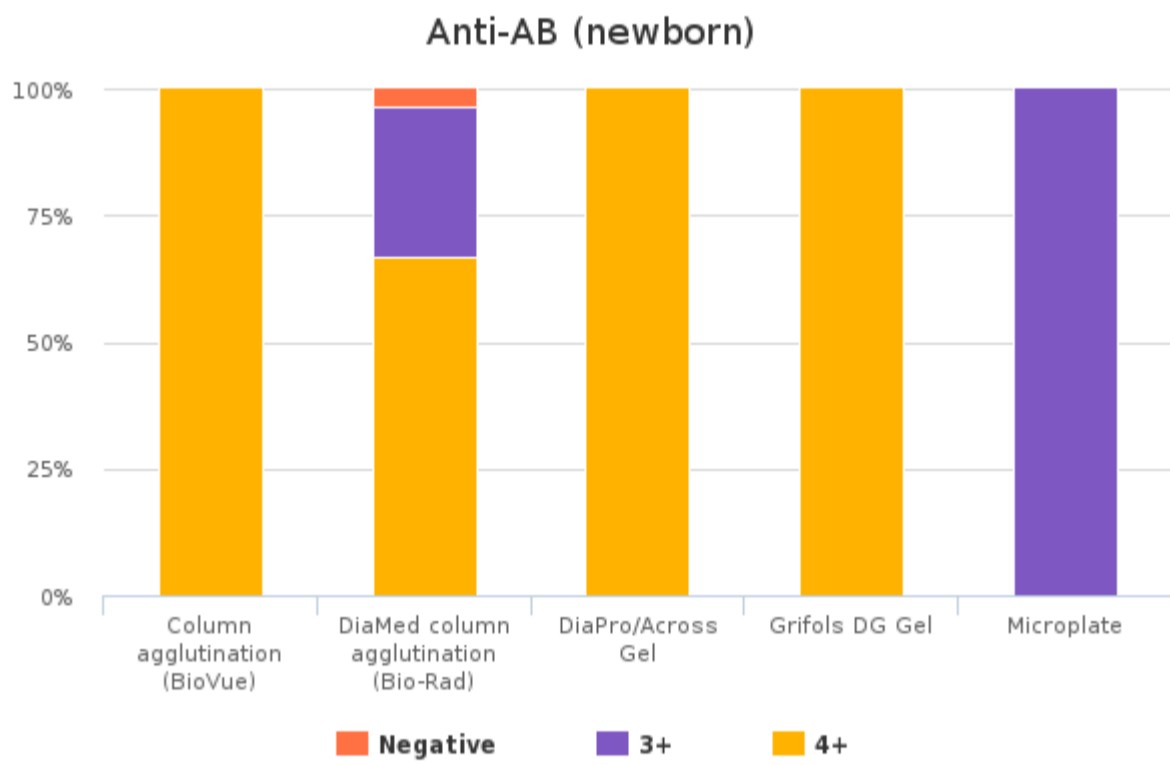
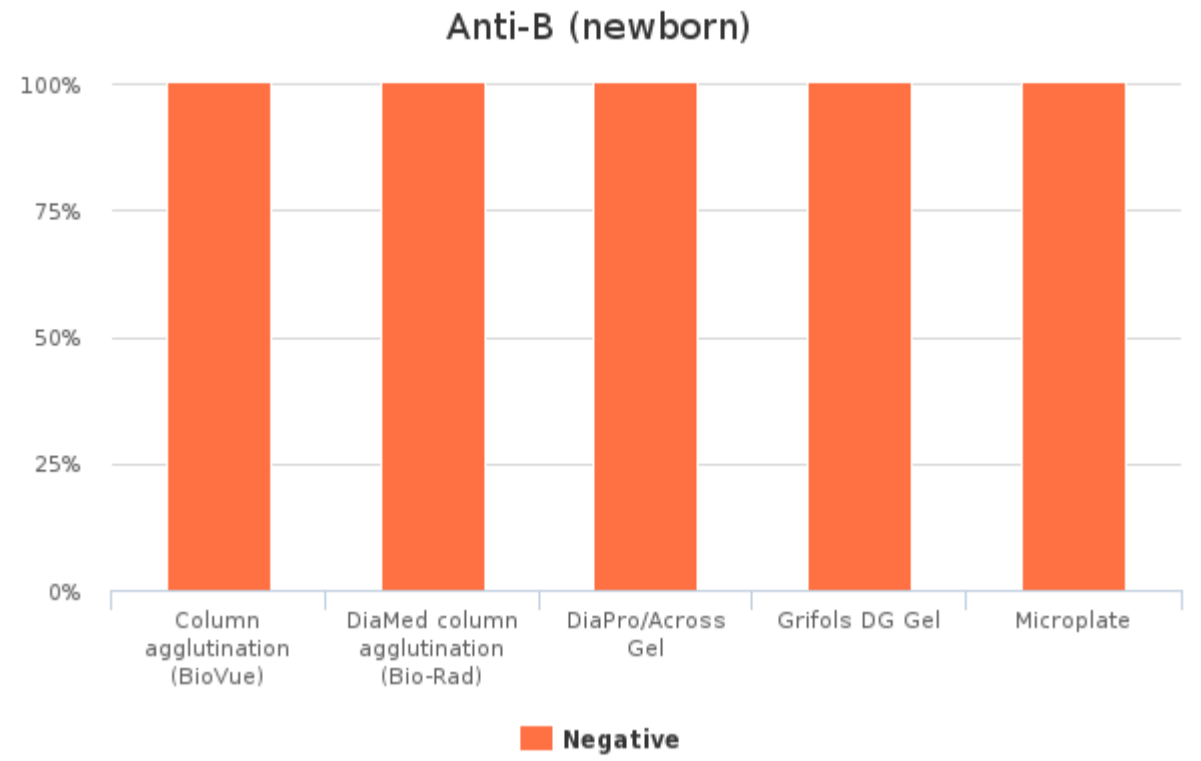
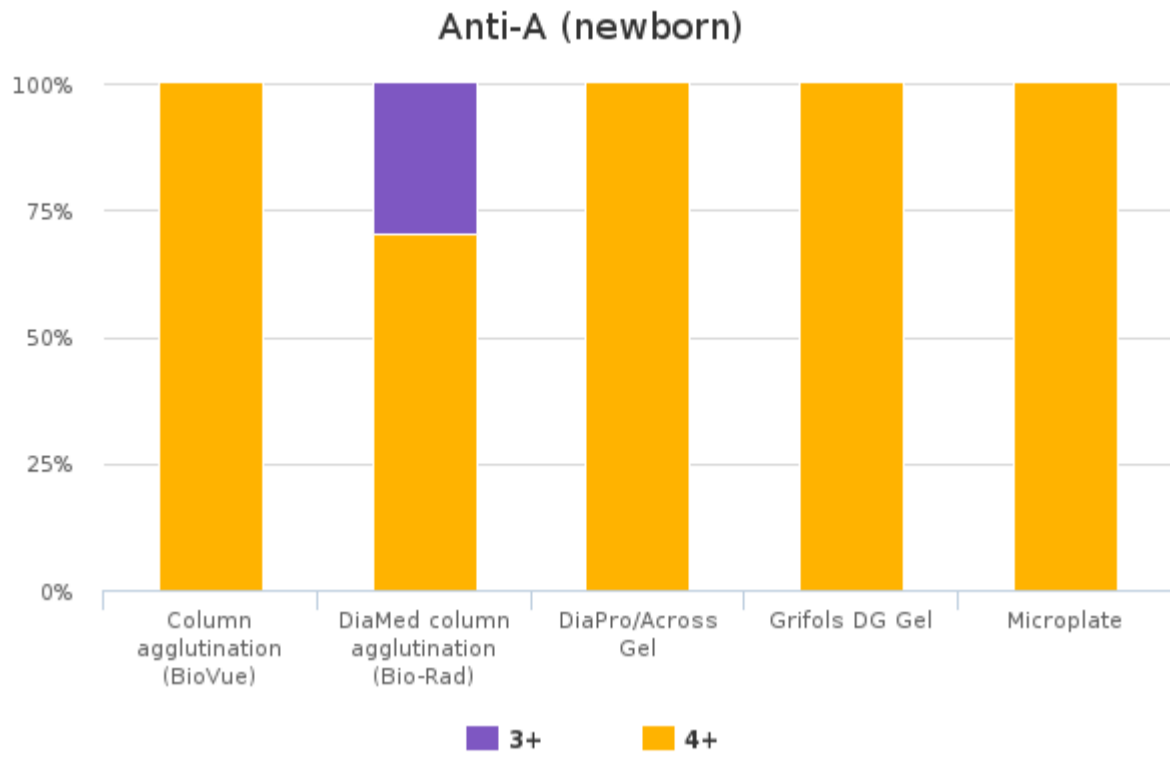
Anti-B (confirmation)



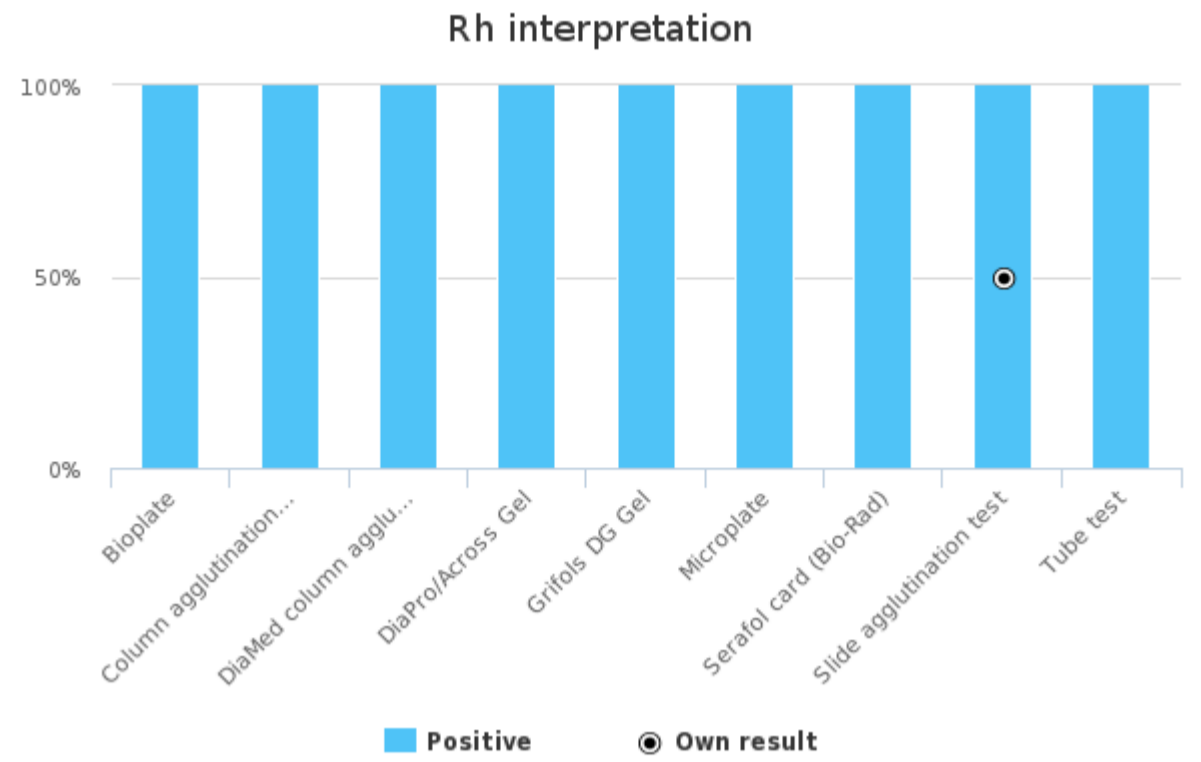
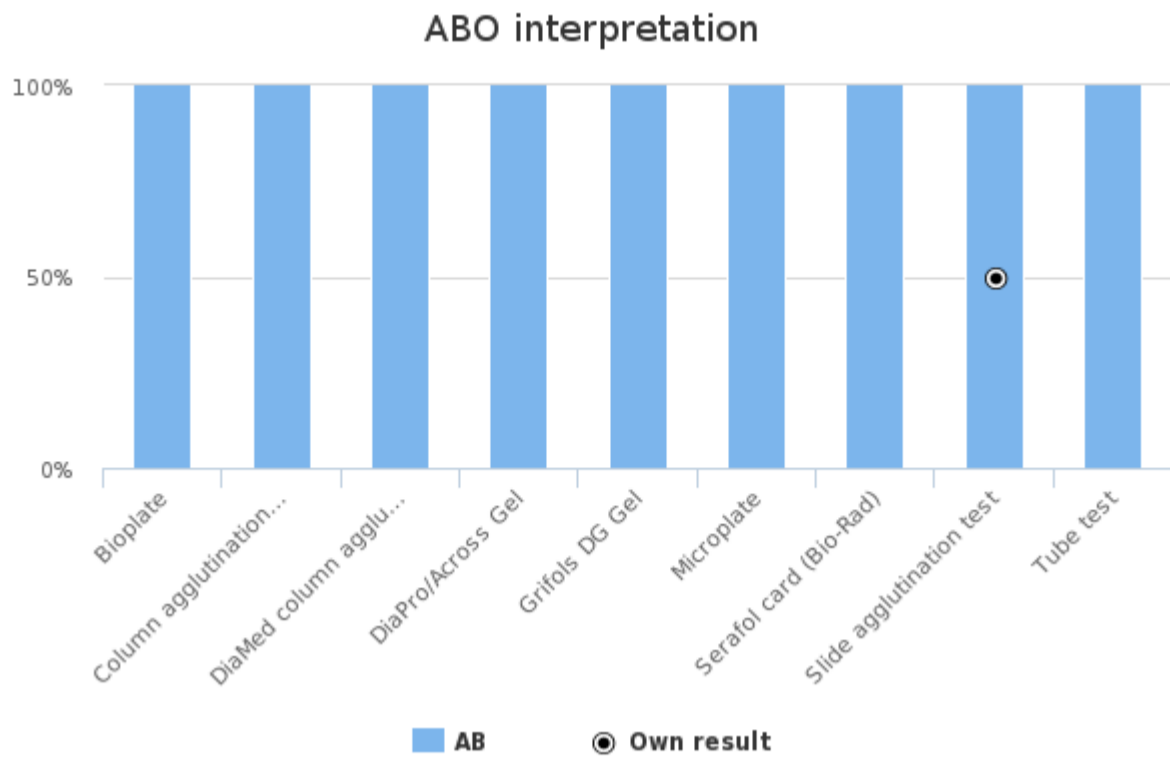
Anti-AB (confirmation)

Anti-D, VI+ (confirmation)





Sample S002 | AB RhD pos

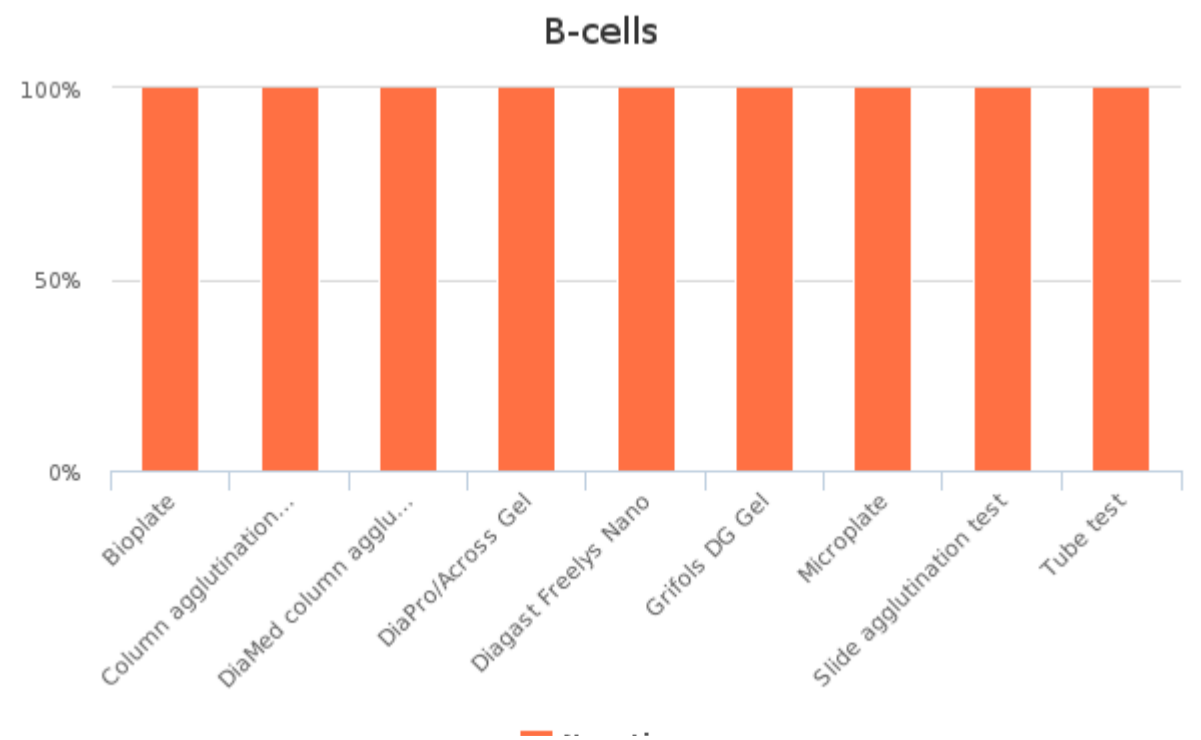
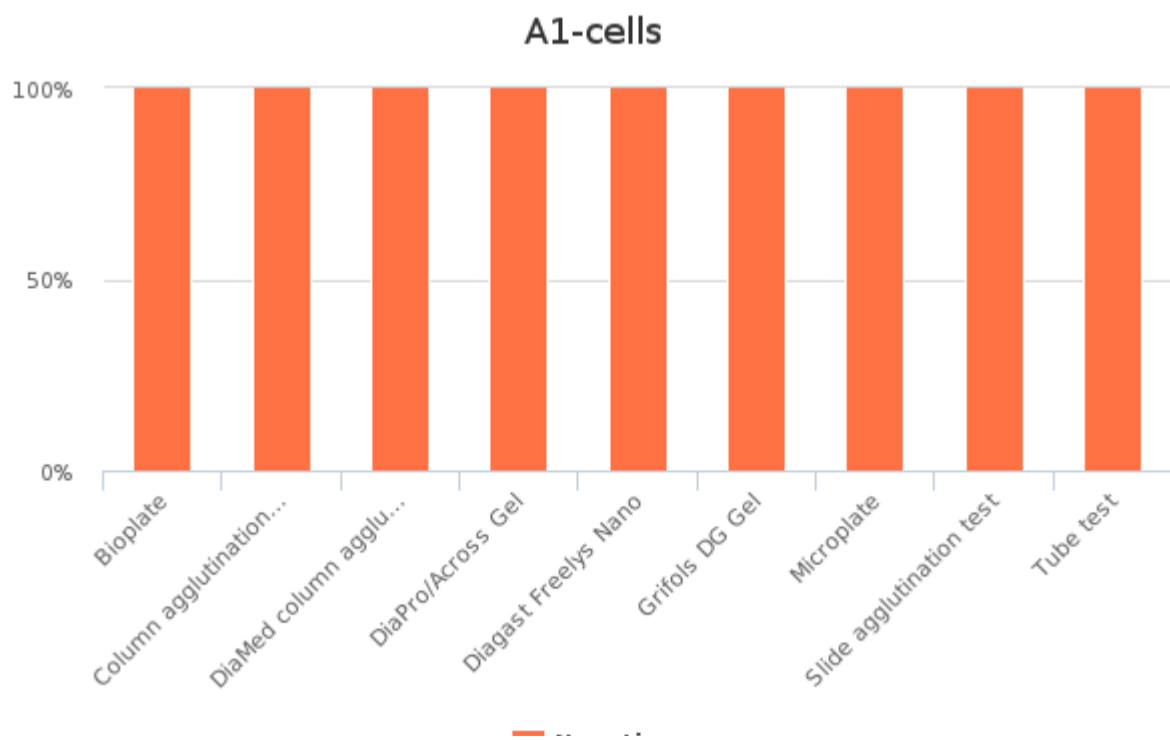
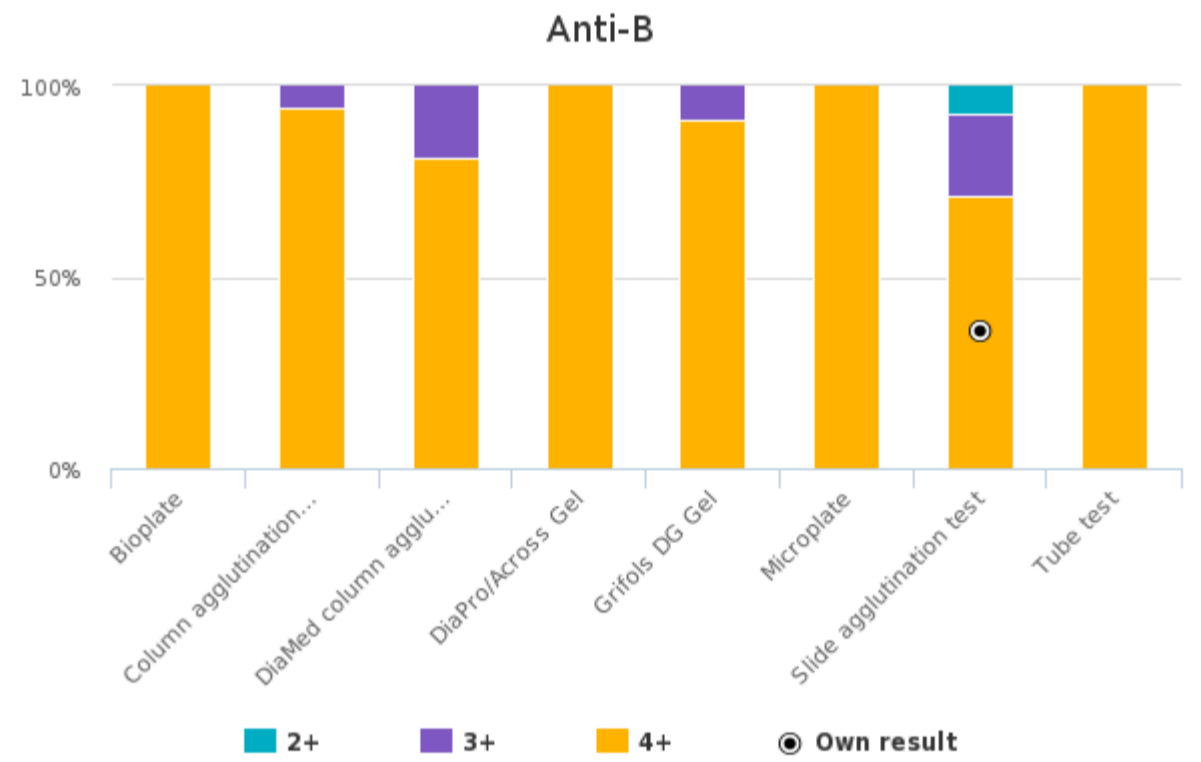
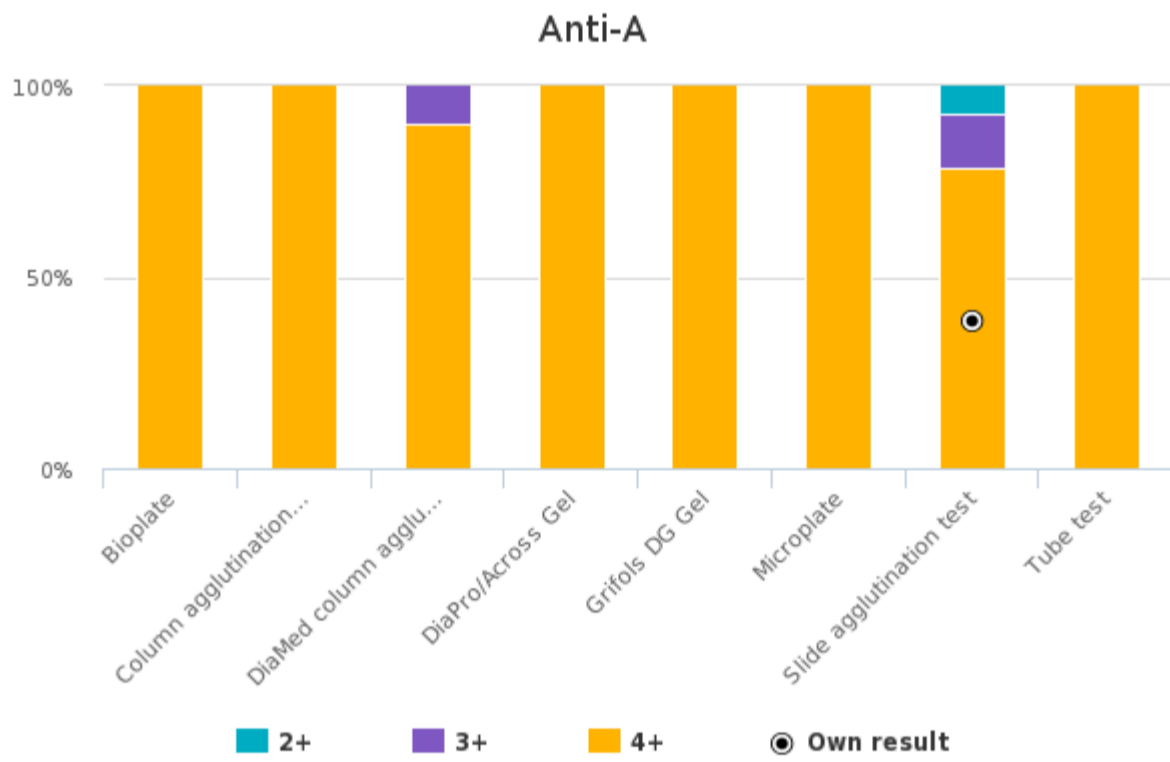


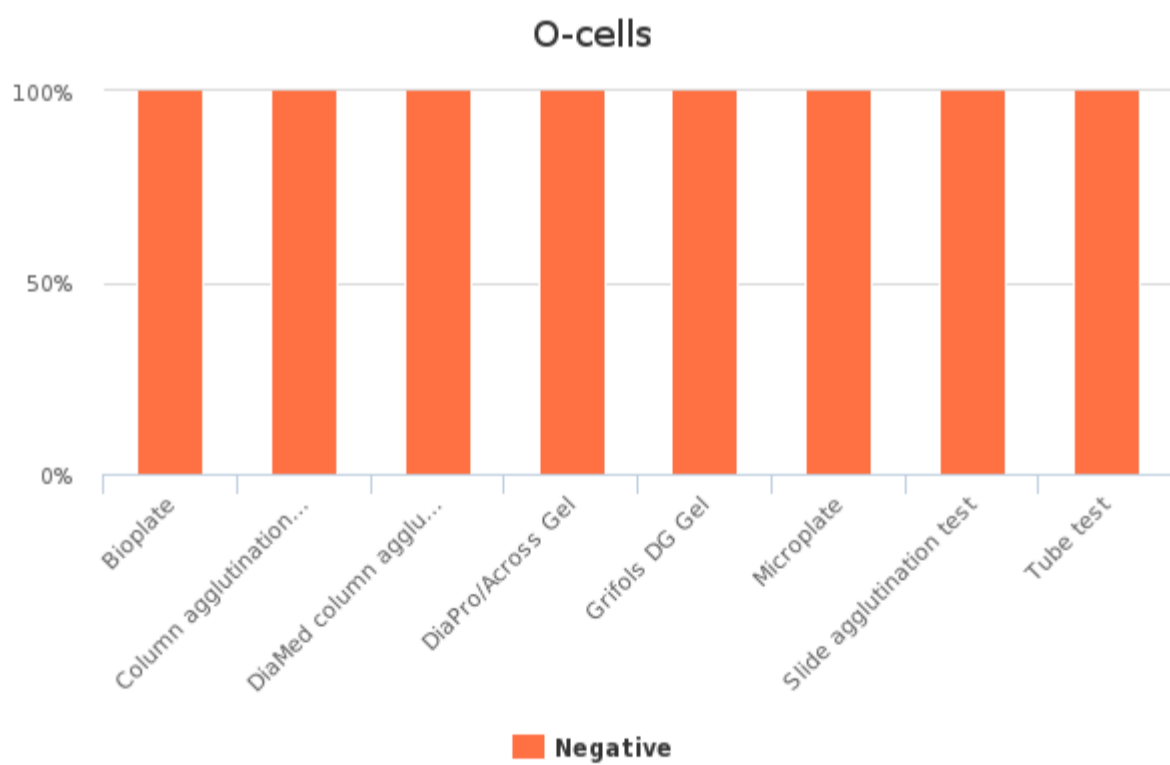
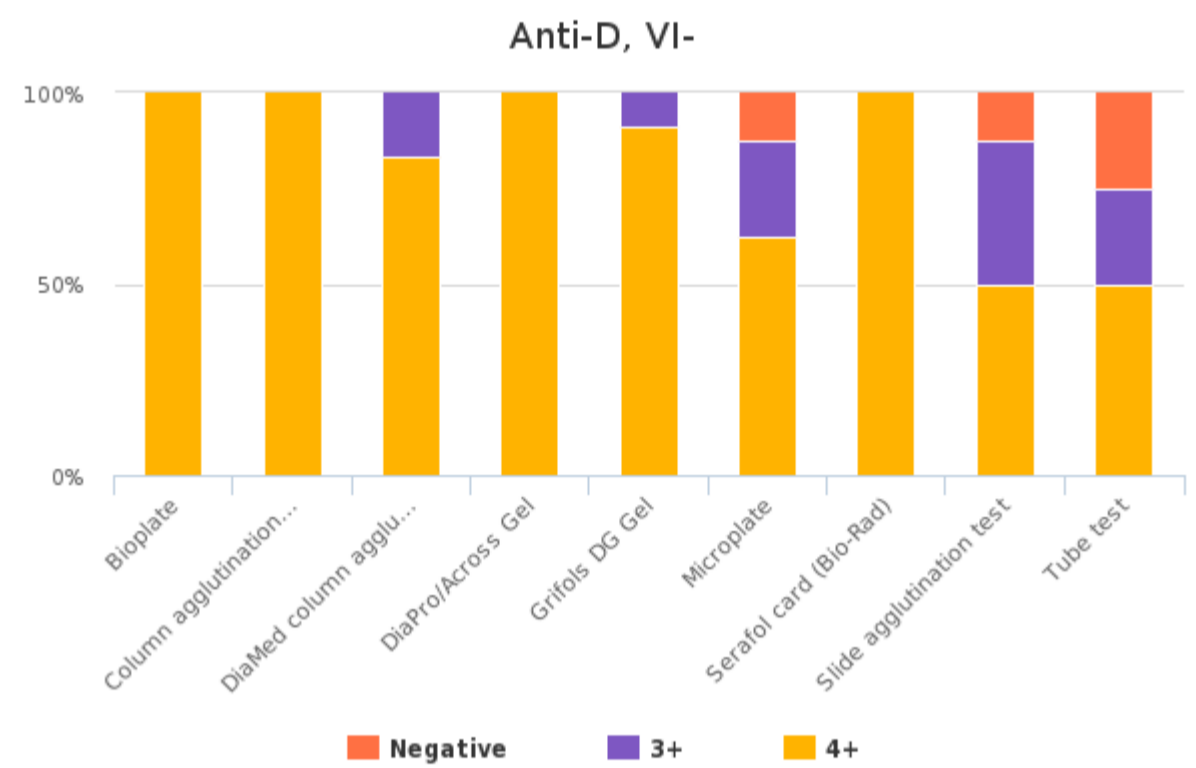
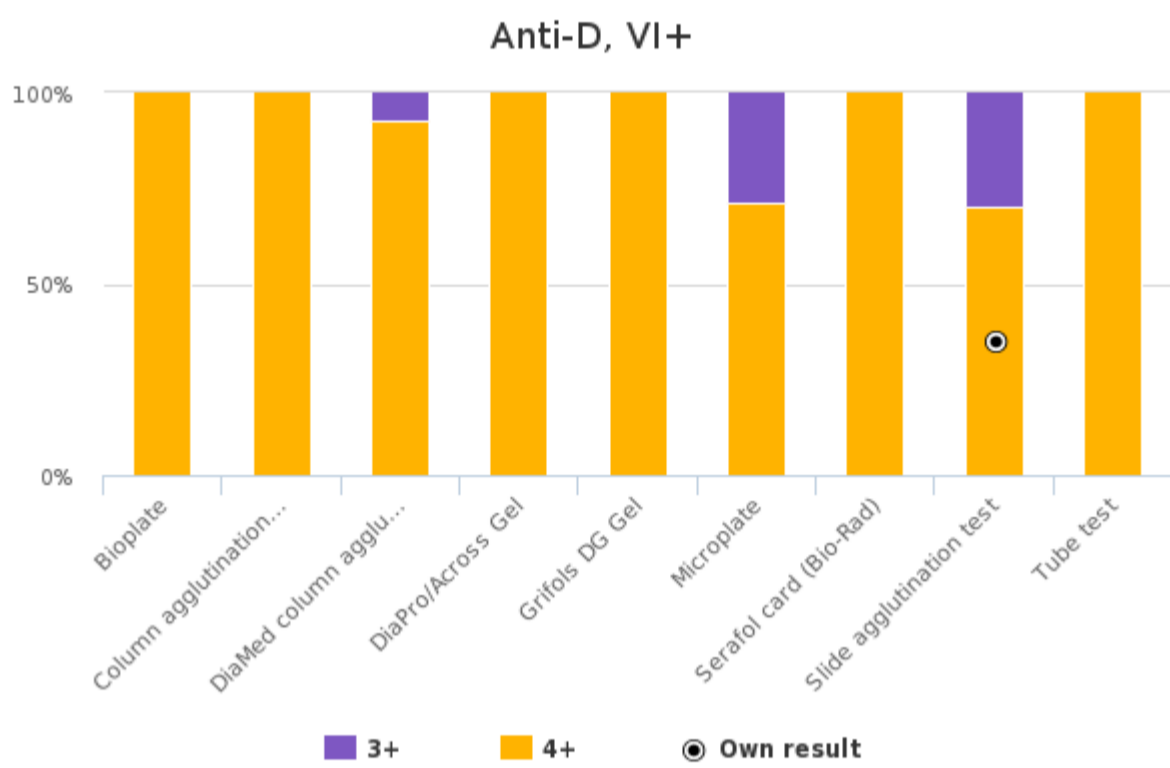
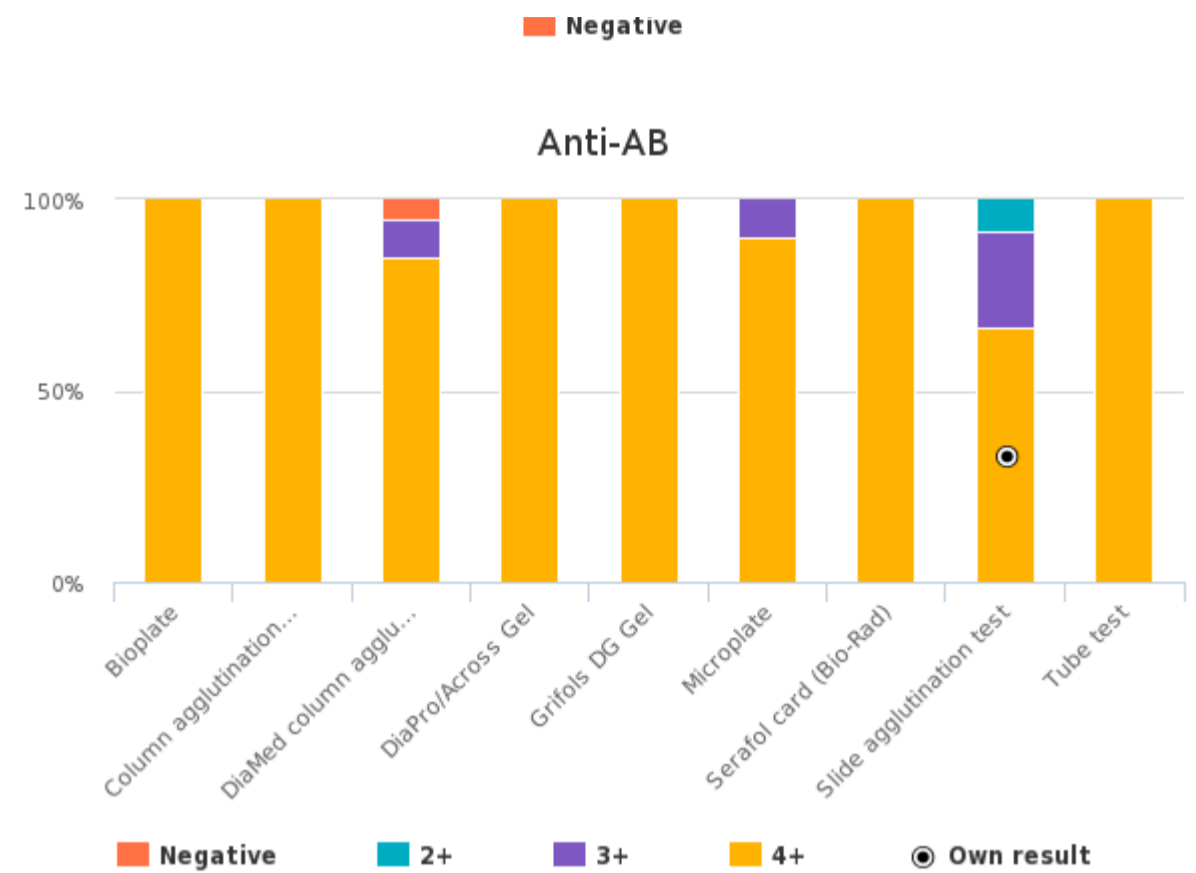
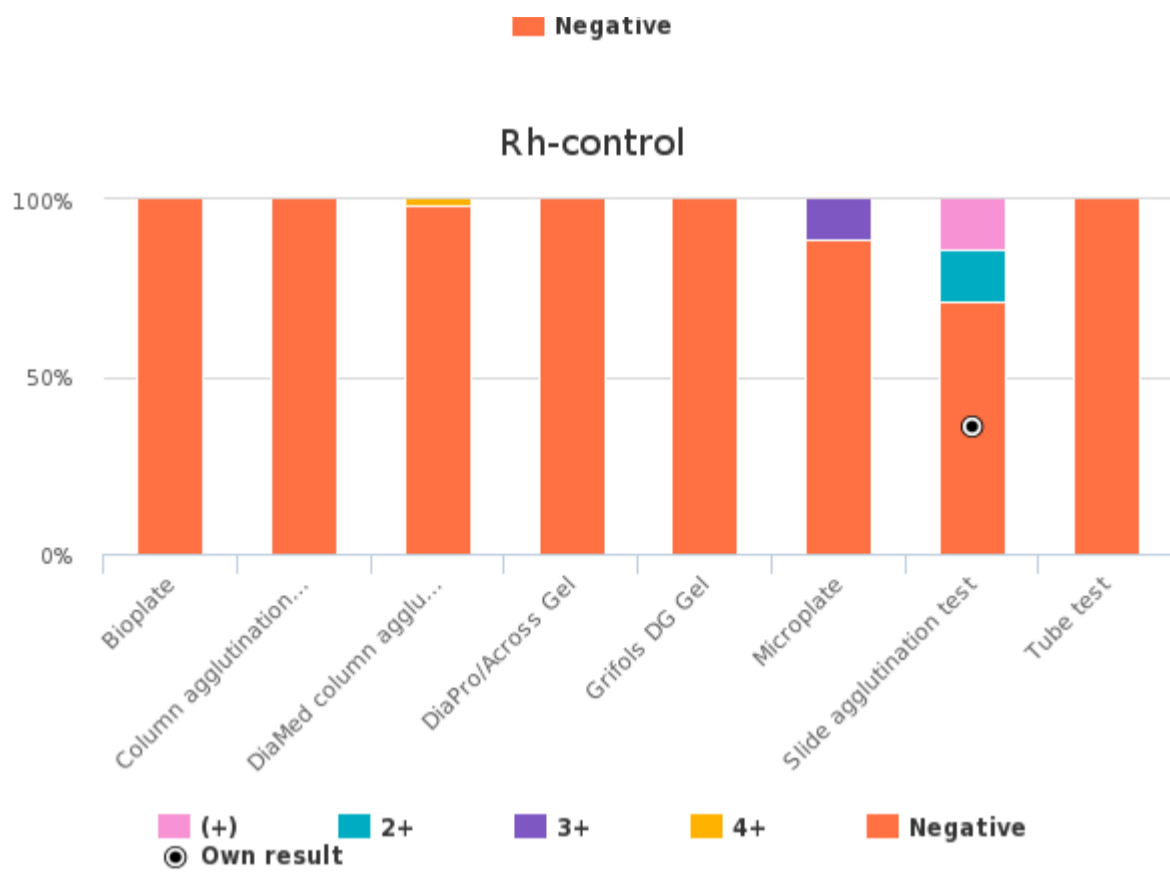
WHOLE ABO GROUP

ABO interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Slide agglutination test	⊙ AB	16	100 %	6
	Total:		16	100 %	

WHOLE ABO GROUP

Rh interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Slide agglutination test	⊙ Positive	16	100 %	2
	Total:		16	100 %	





WHOLE ABO GROUP

Anti-A	Method	Reaction strength	n	%	Score
	Slide agglutination test	2+	1	7 %	0.5
		3+	2	14 %	1
		⊙ 4+	11	79 %	1
	Total:		14	100 %	

WHOLE ABO GROUP

Anti-B	Method	Reaction strength	n	%	Score
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	Slide agglutination test	2+	1	7 %	0.5
		3+	3	21 %	1
		4+	10	71 %	1
	Total:		14	100 %	

WHOLE ABO GROUP

Rh-control	Method	Reaction strength	n	%	Score
	Slide agglutination test	(+)	1	14 %	-
		2+	1	14 %	-
		Negative	5	71 %	-
	Total:		7	100 %	

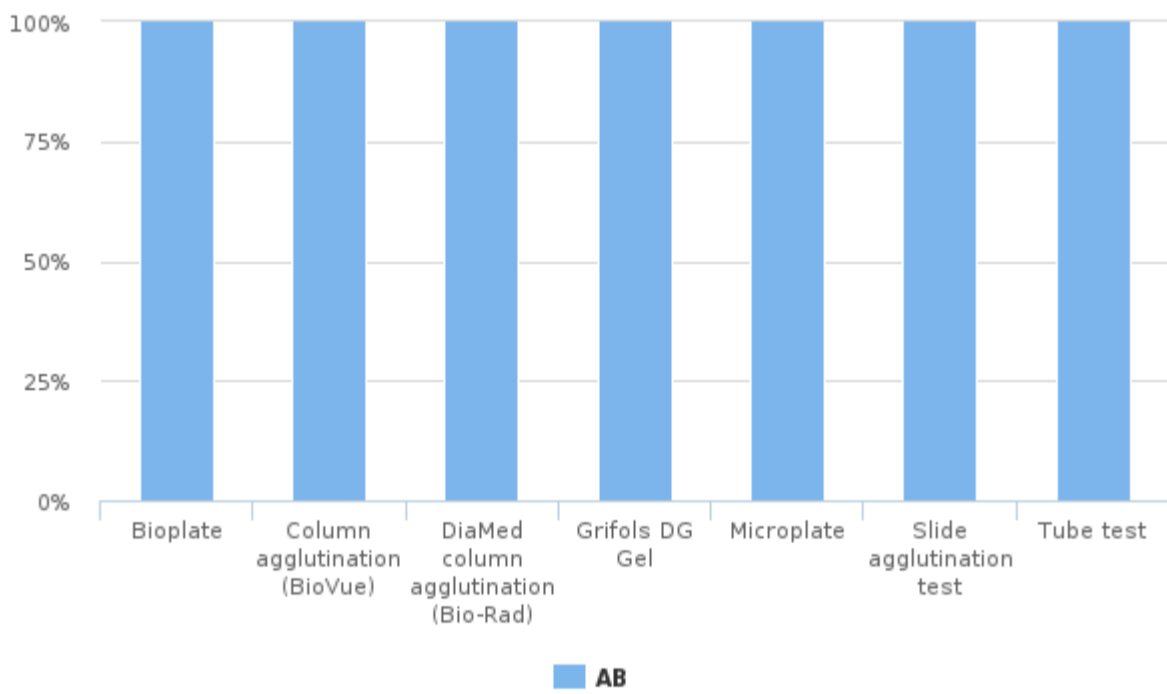
WHOLE ABO GROUP

Anti-AB	Method	Reaction strength	n	%	Score
	Slide agglutination test	2+	1	8 %	0.5
		3+	3	25 %	1
		4+	8	67 %	1
	Total:		12	100 %	

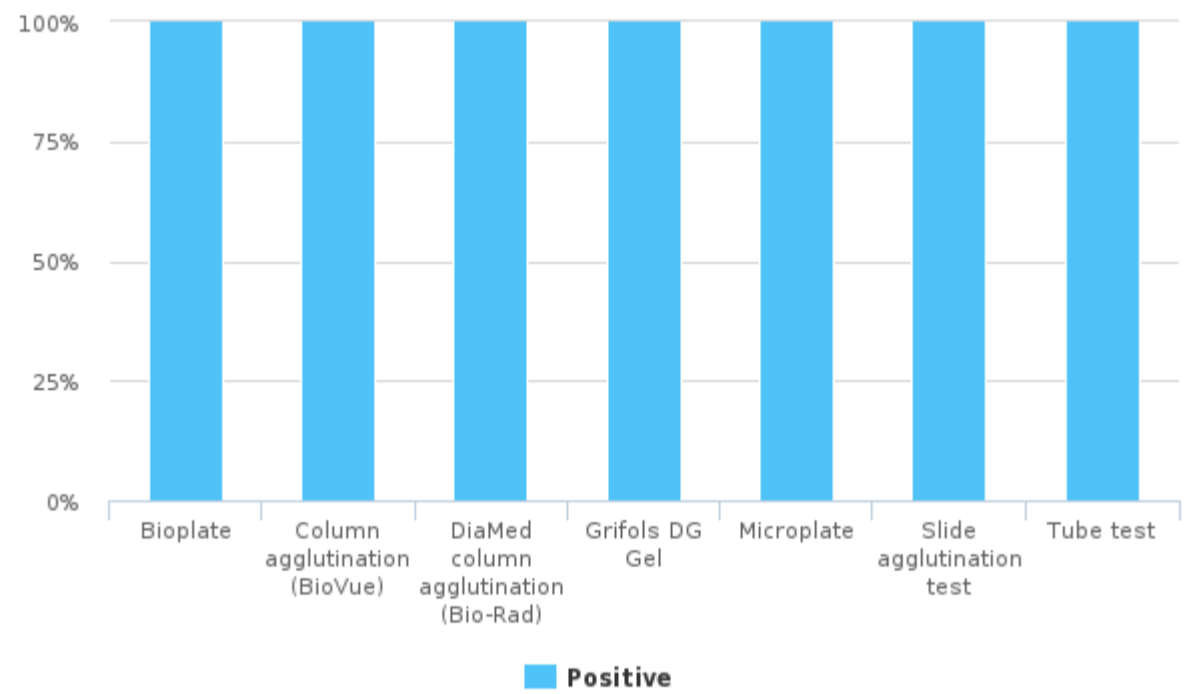
WHOLE ABO GROUP

Anti-D, VI+	Method	Reaction strength	n	%	Score
	Slide agglutination test	3+	3	30 %	1
		4+	7	70 %	1
	Total:		10	100 %	

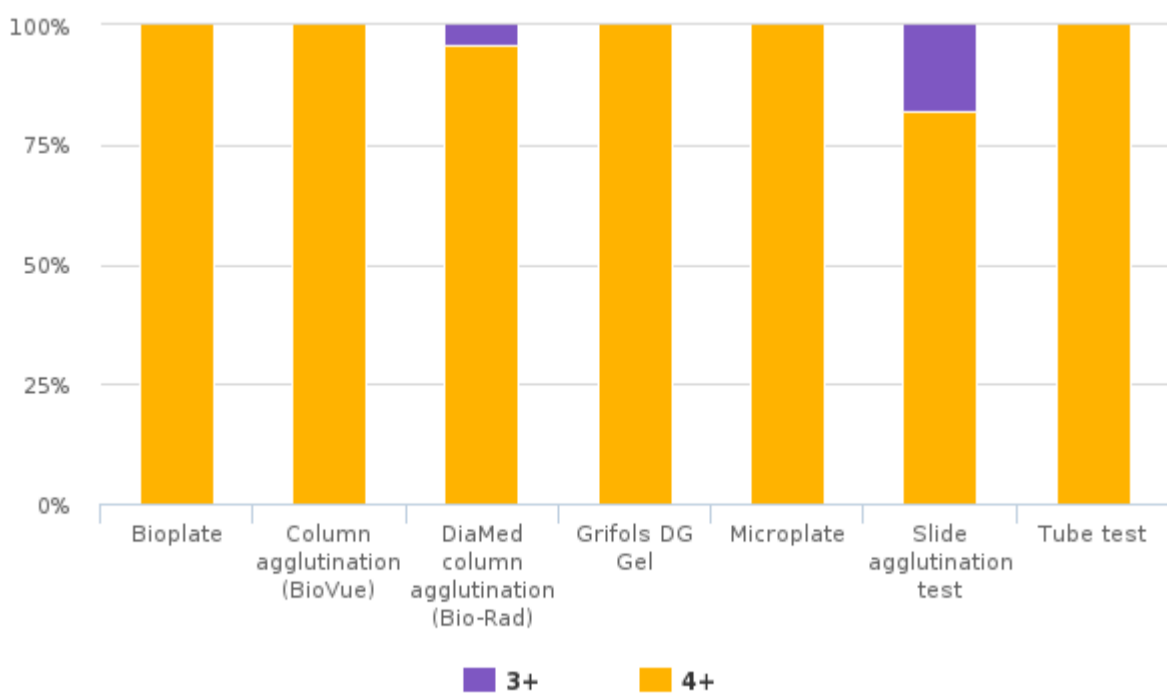
ABO interpretation (confirmation)



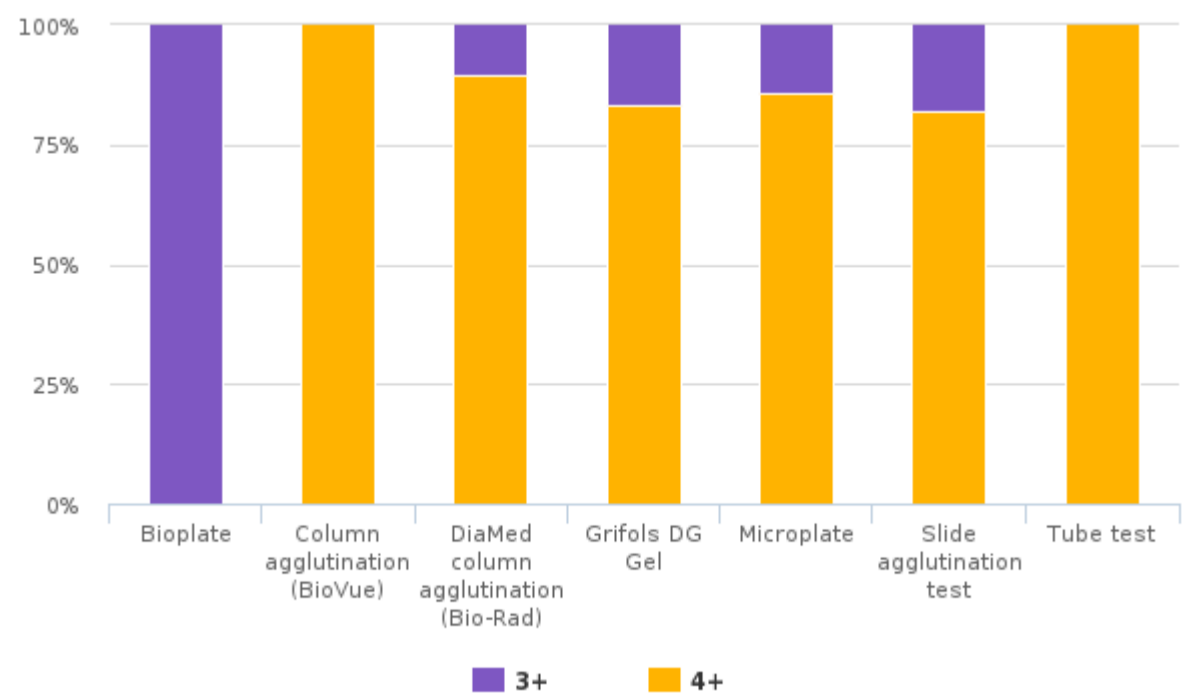
Rh interpretation (confirmation)



Anti-A (confirmation)

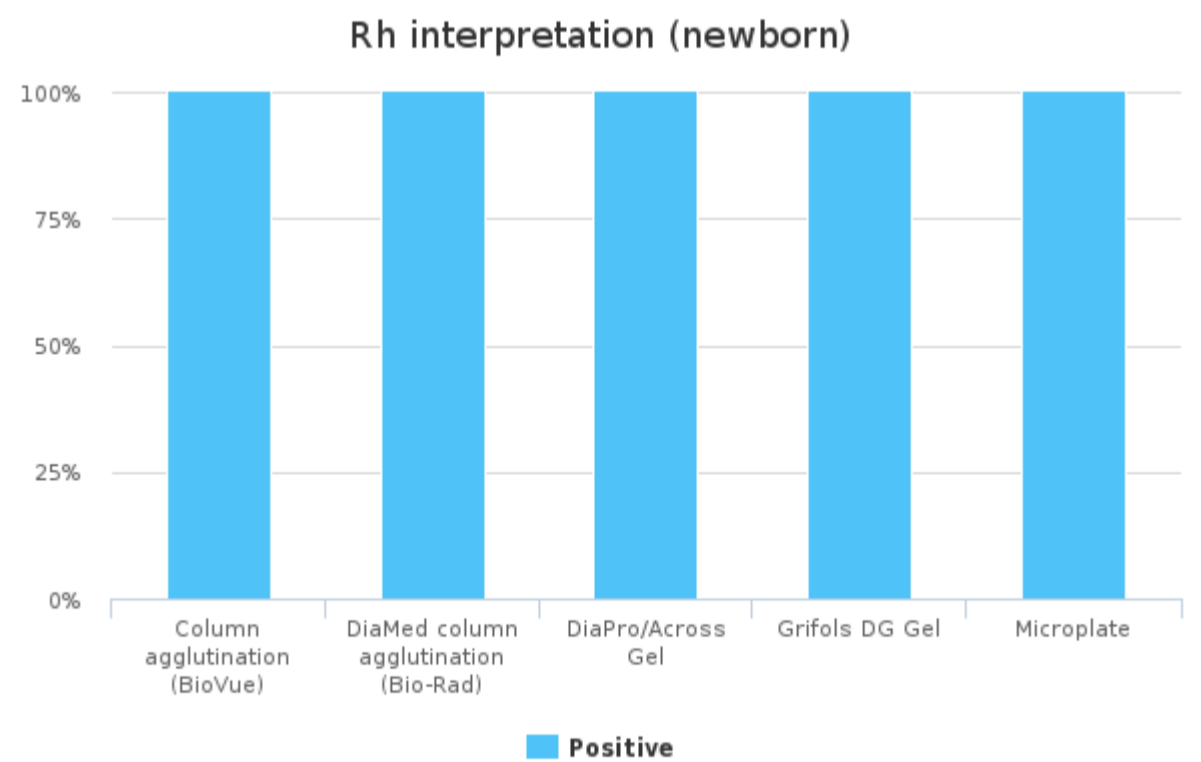
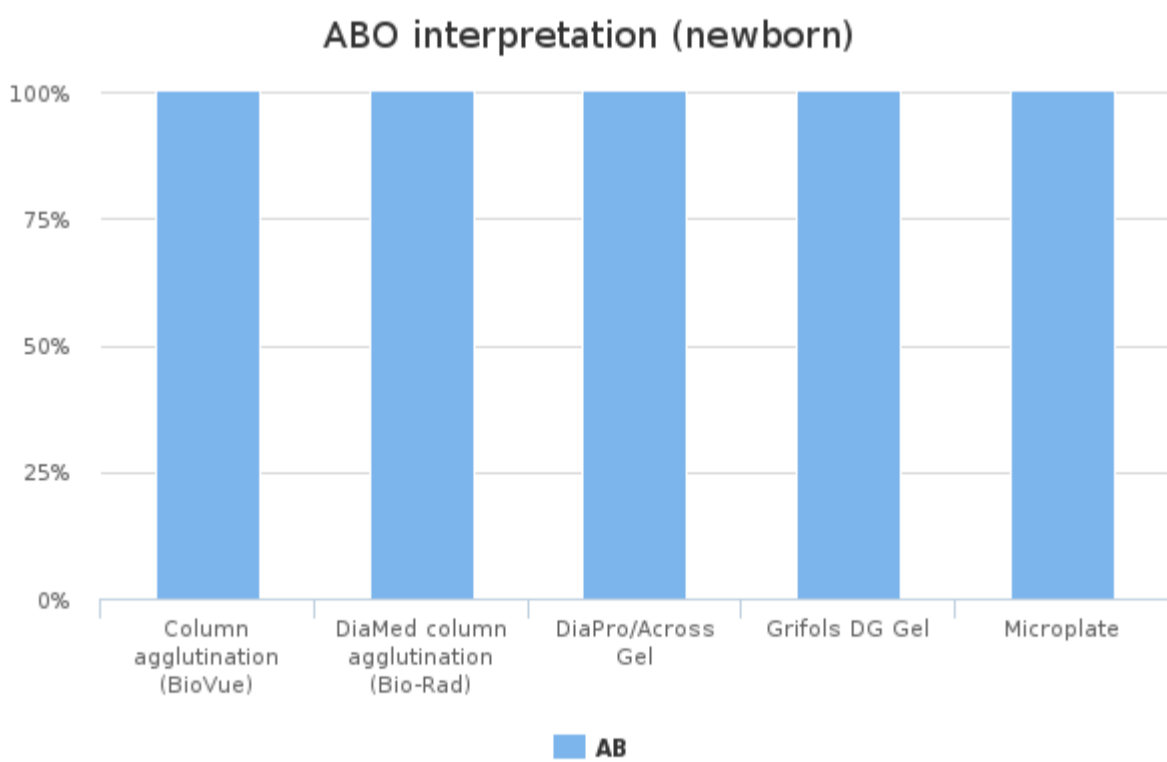
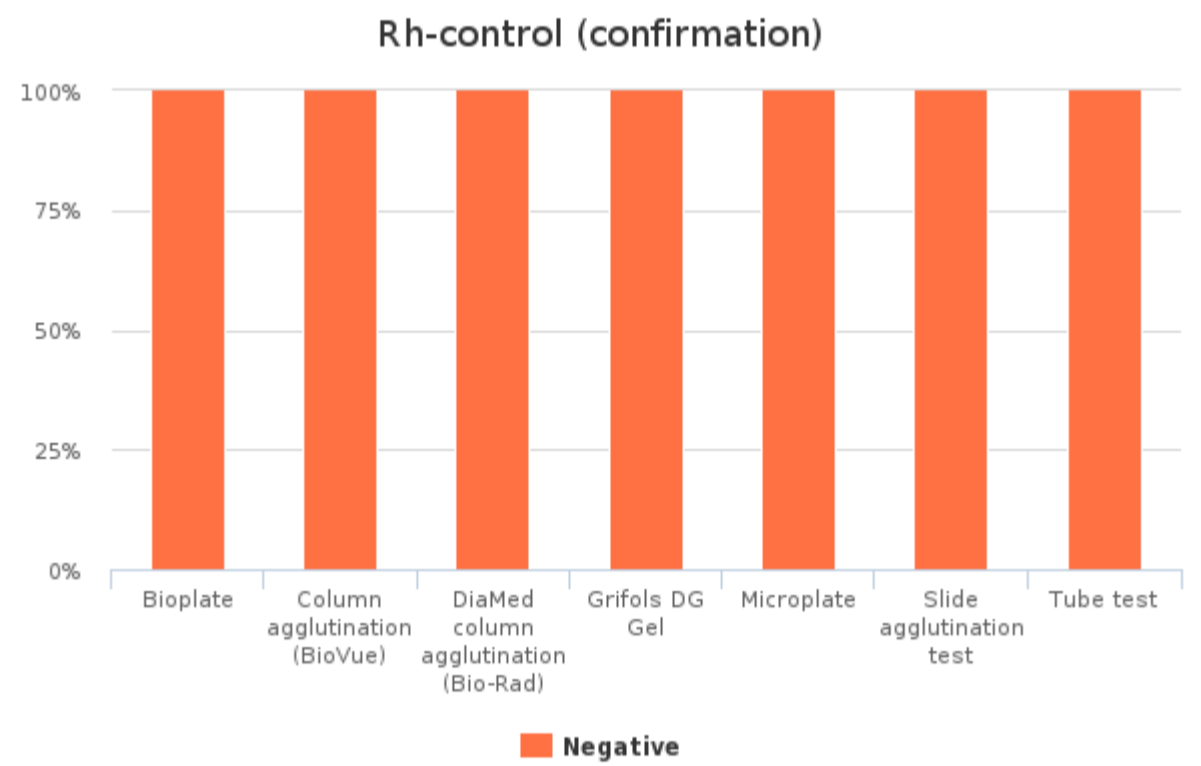
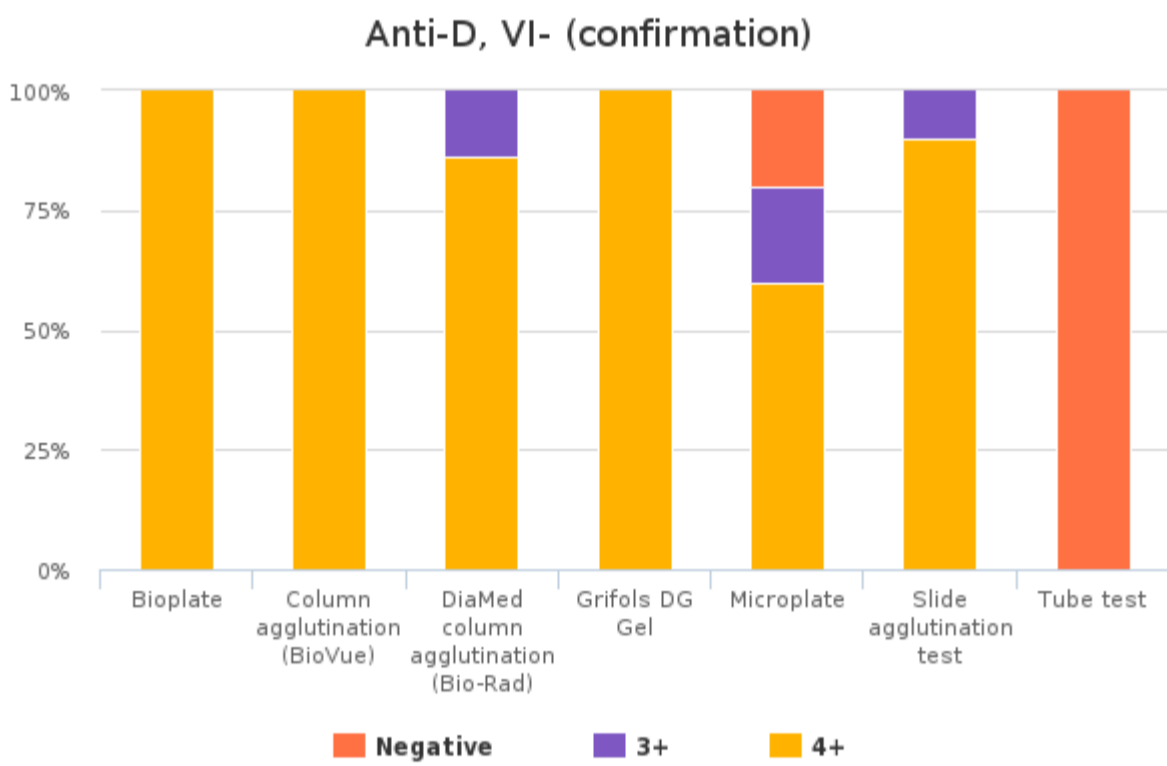
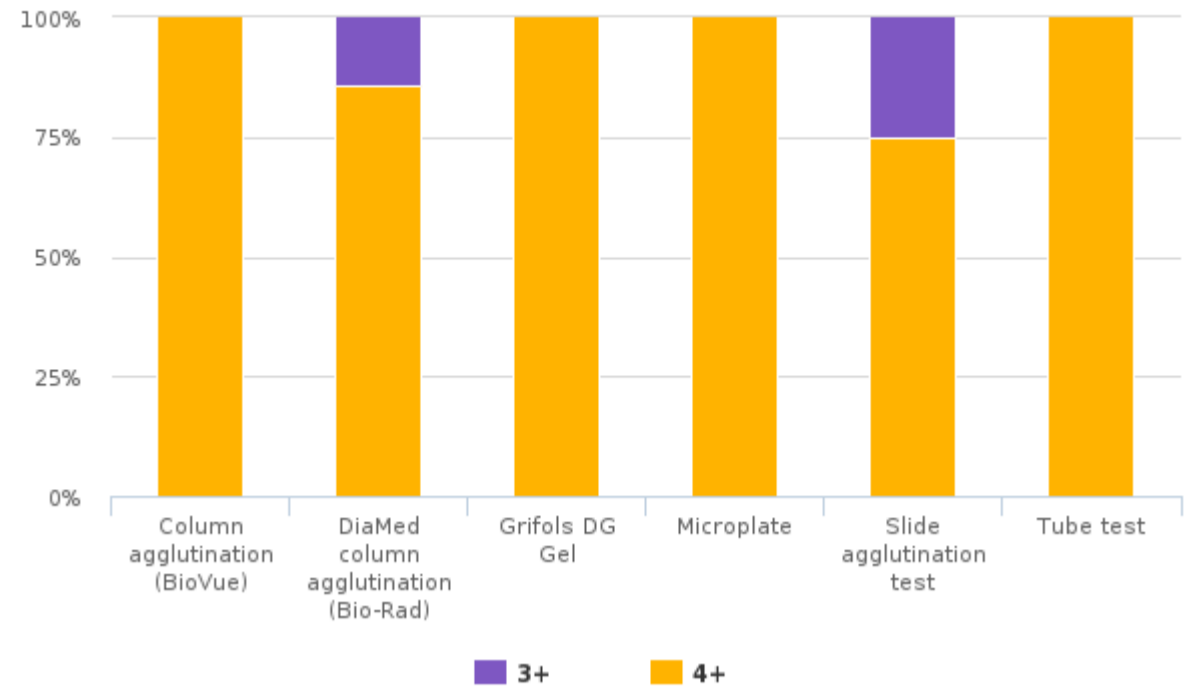
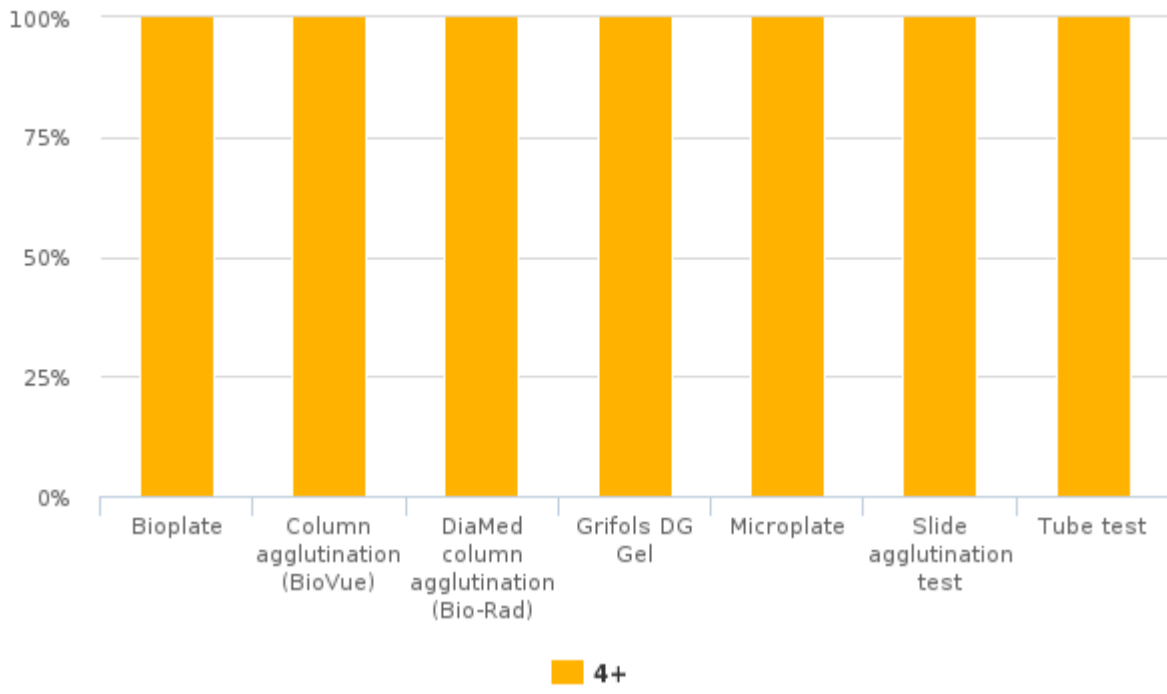


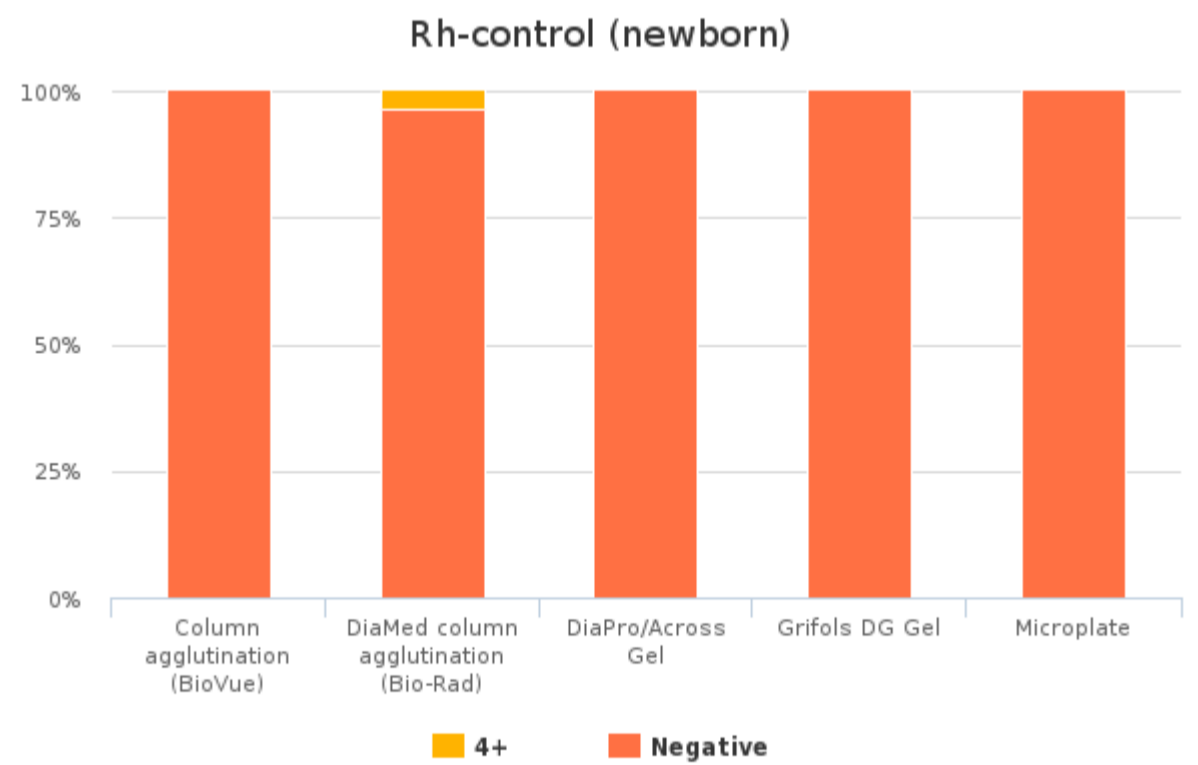
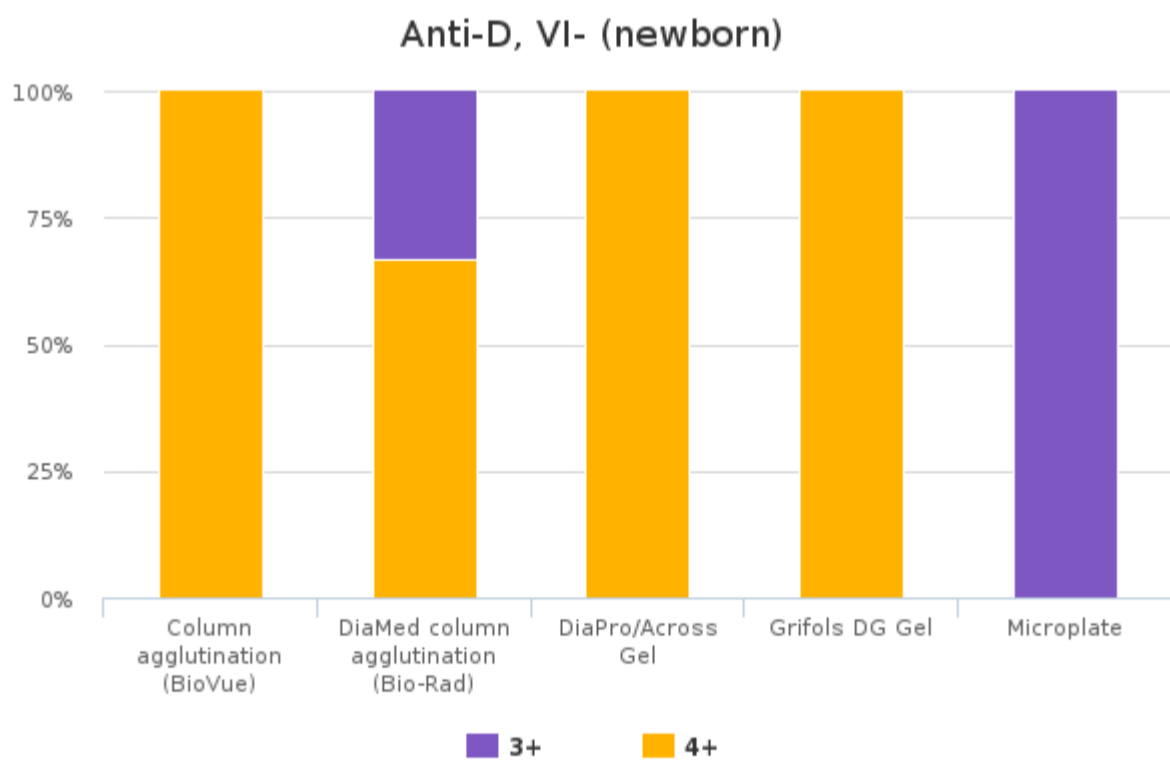
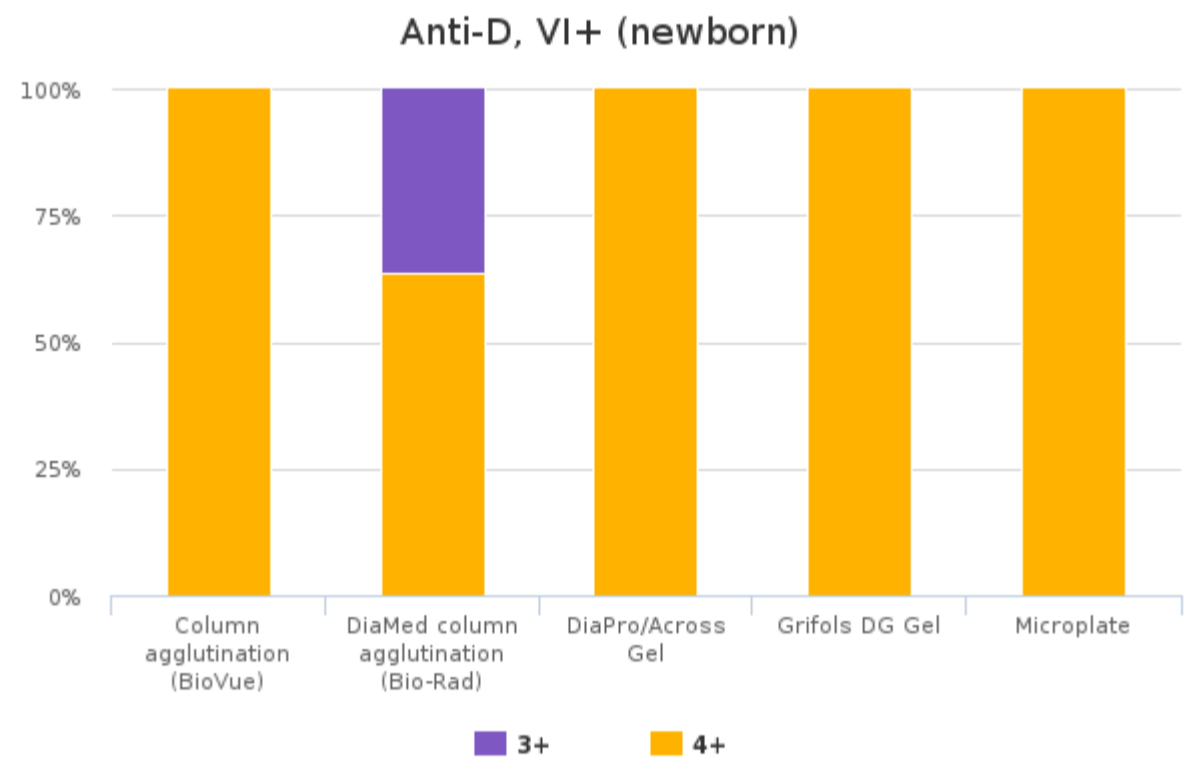
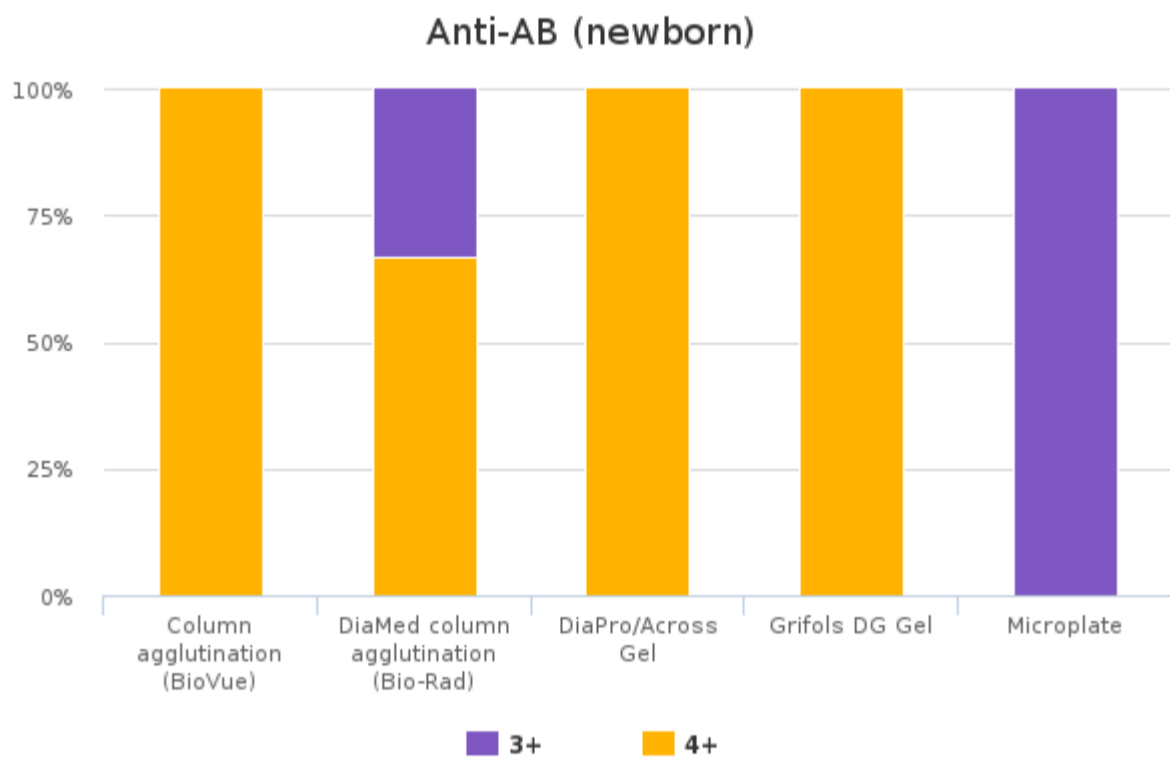
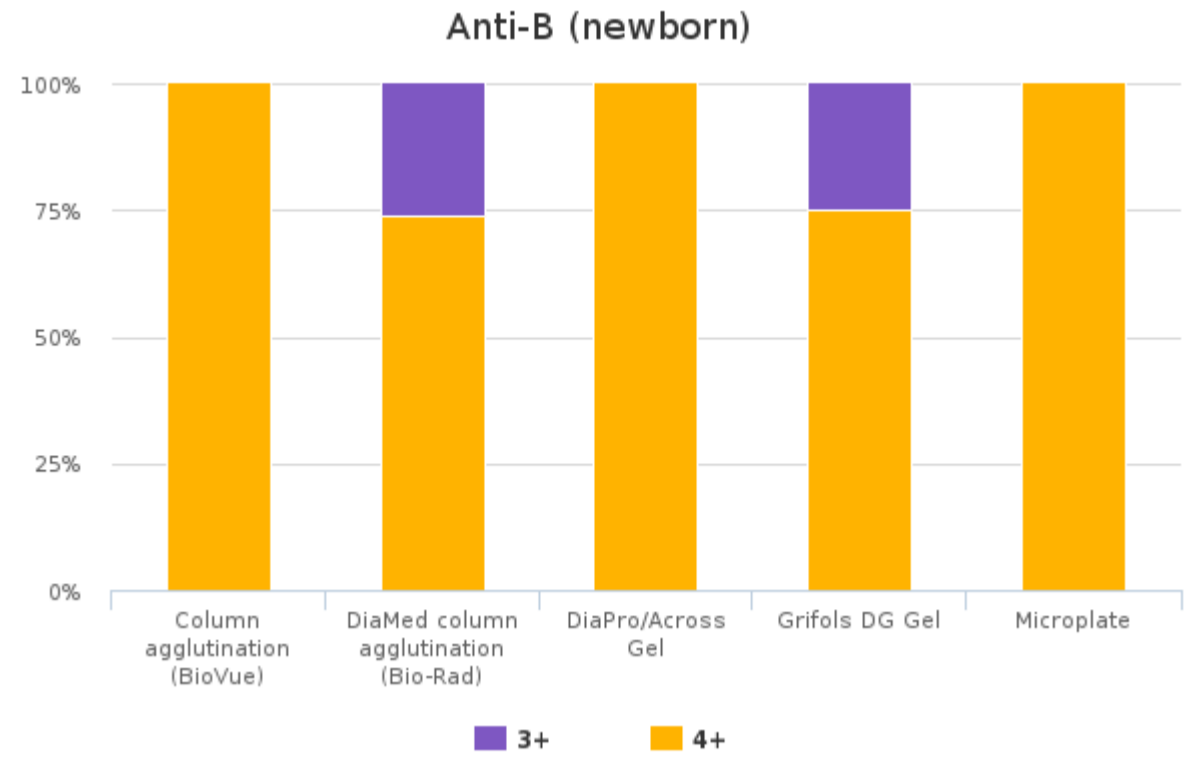
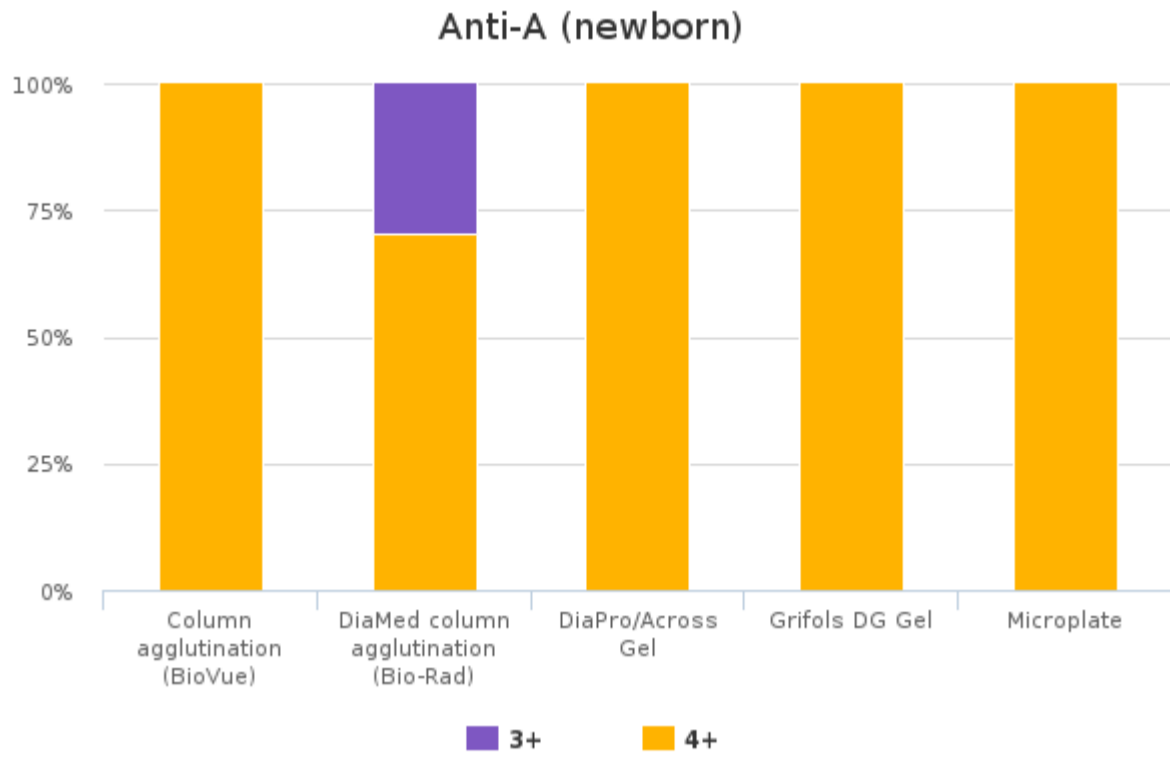
Anti-B (confirmation)



Anti-AB (confirmation)

Anti-D, VI+ (confirmation)





Report Info**PARTICIPANTS**

Altogether 161 laboratories from 15 countries participated in this EQA round.

REPORT INFO

The principles of the scoring will be as follows:

ABO**1. Reaction strengths**

Correct agglutination reaction and grade: 1 point/reaction, altogether 6 points /specimen

Correct reaction, but large difference in reaction grade from the expected: 0.5 points /reaction (eg. 2+ for an expected 4+)

Wrong agglutination reaction: 0 points

2. Interpretation

Correct interpretation: 6 points/specimen, maximum points / specimen = 12

Rh(D)**1. Reaction strengths**

Correct agglutination reaction and grade: 1 point/reaction, altogether 2 points /specimen

Correct reaction, but large difference in reaction grade from the expected: 0.5 points /reaction (eg. 2+ for an expected 4+)

Wrong agglutination reaction: 0 points

2. Interpretation

Correct interpretation: 2 points/specimen, maximum points / specimen = 4

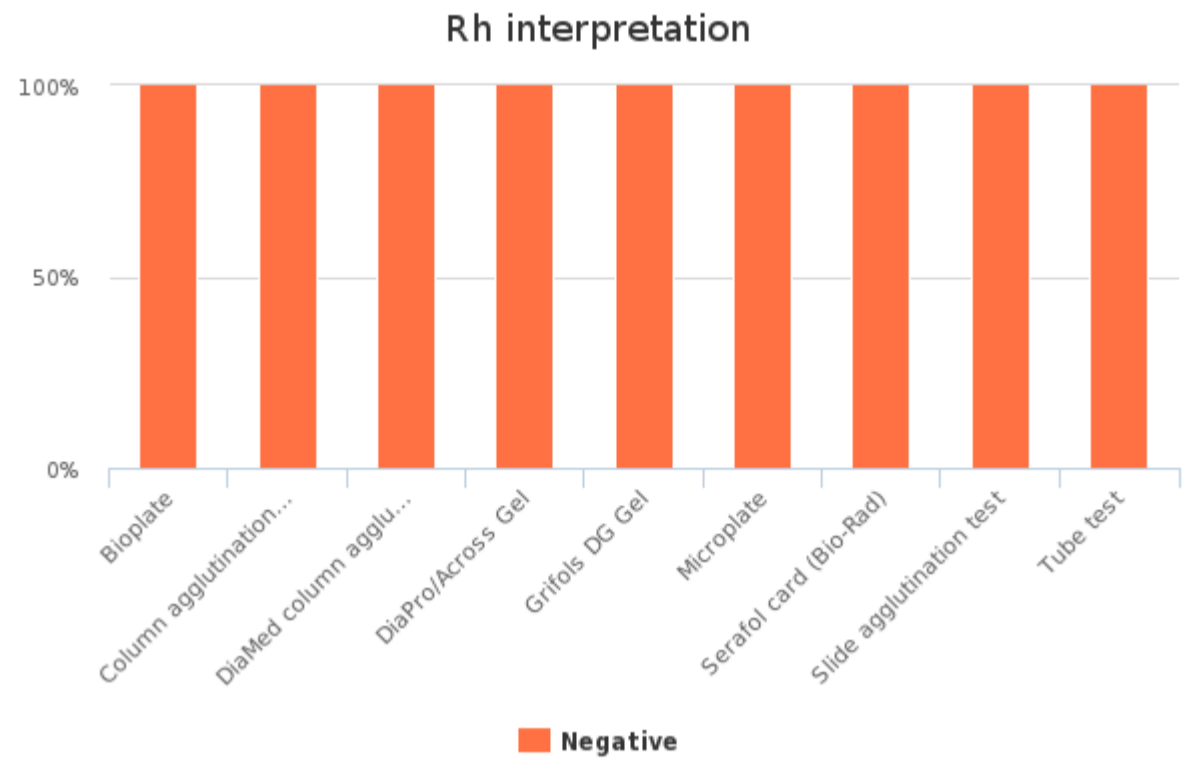
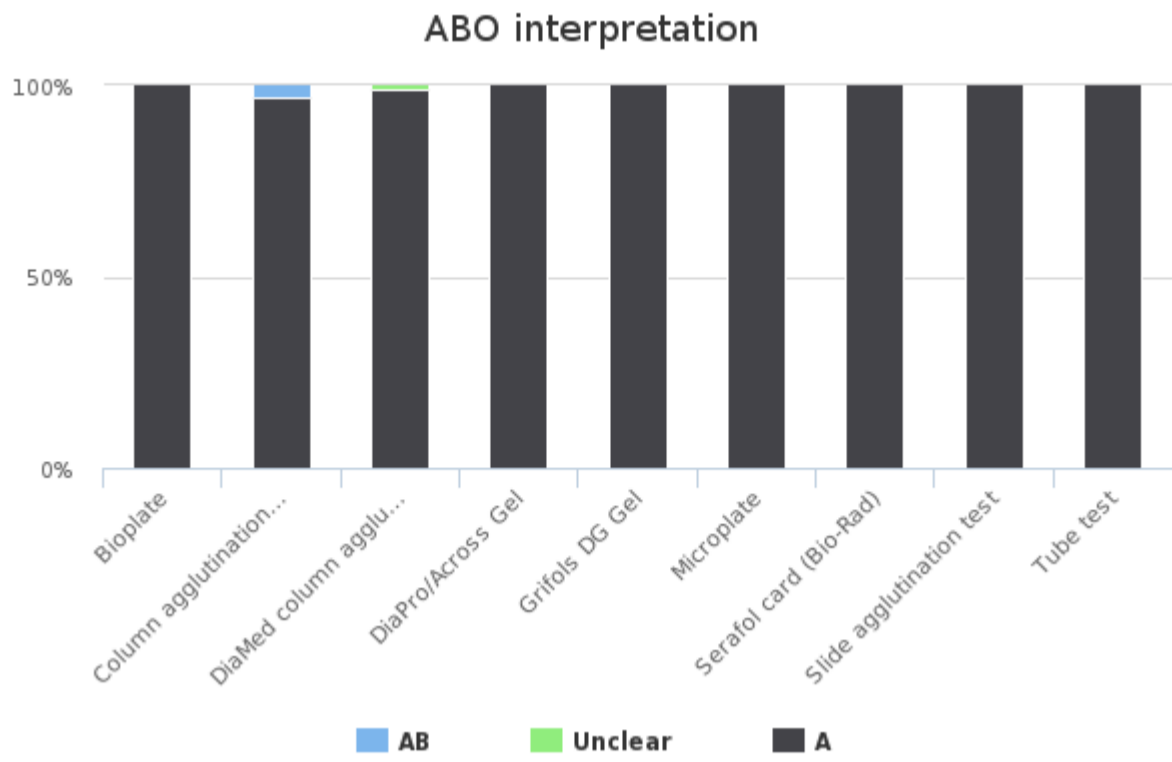
GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
ABO and Rh grouping, February, 1-2023	161	158	98.1 %

Summary

Summary	AVR success rate
Sample S001	99.3 %
Sample S002	99.8 %
Average:	99.5 %

Sample S001 | A RhD neg

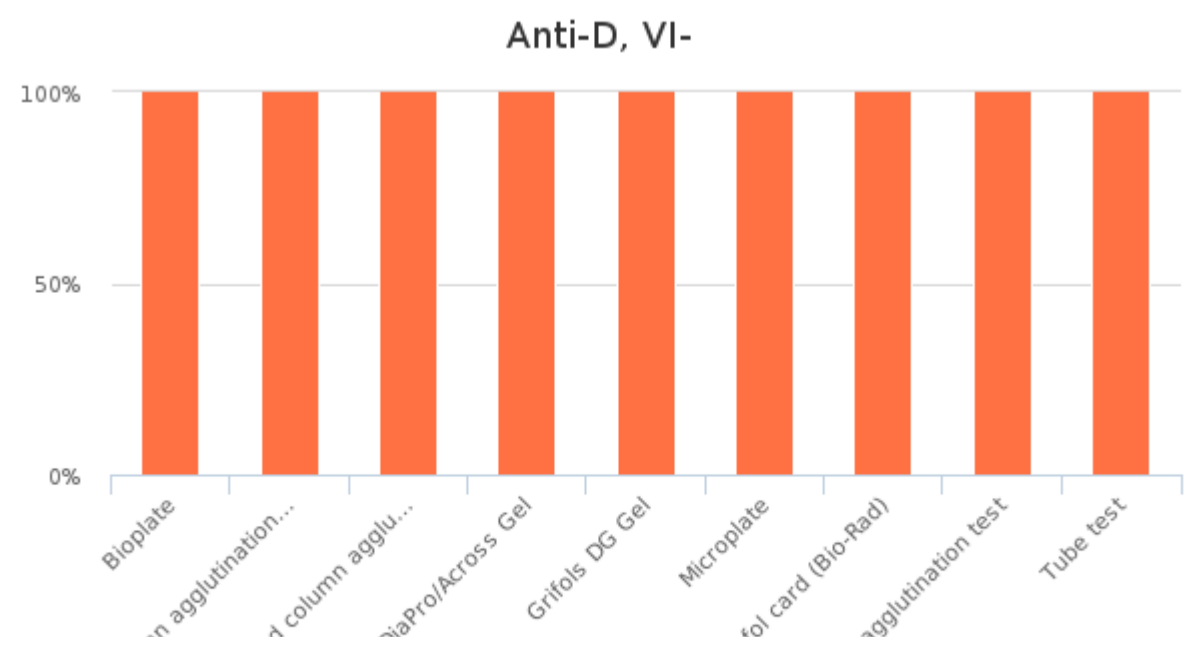
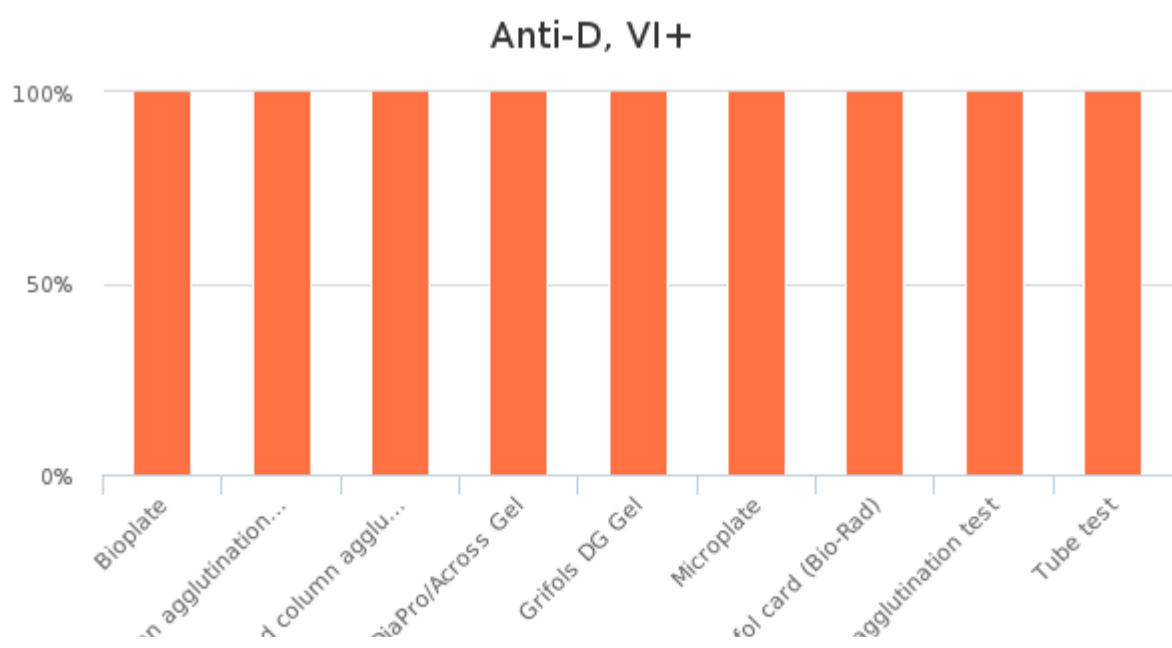
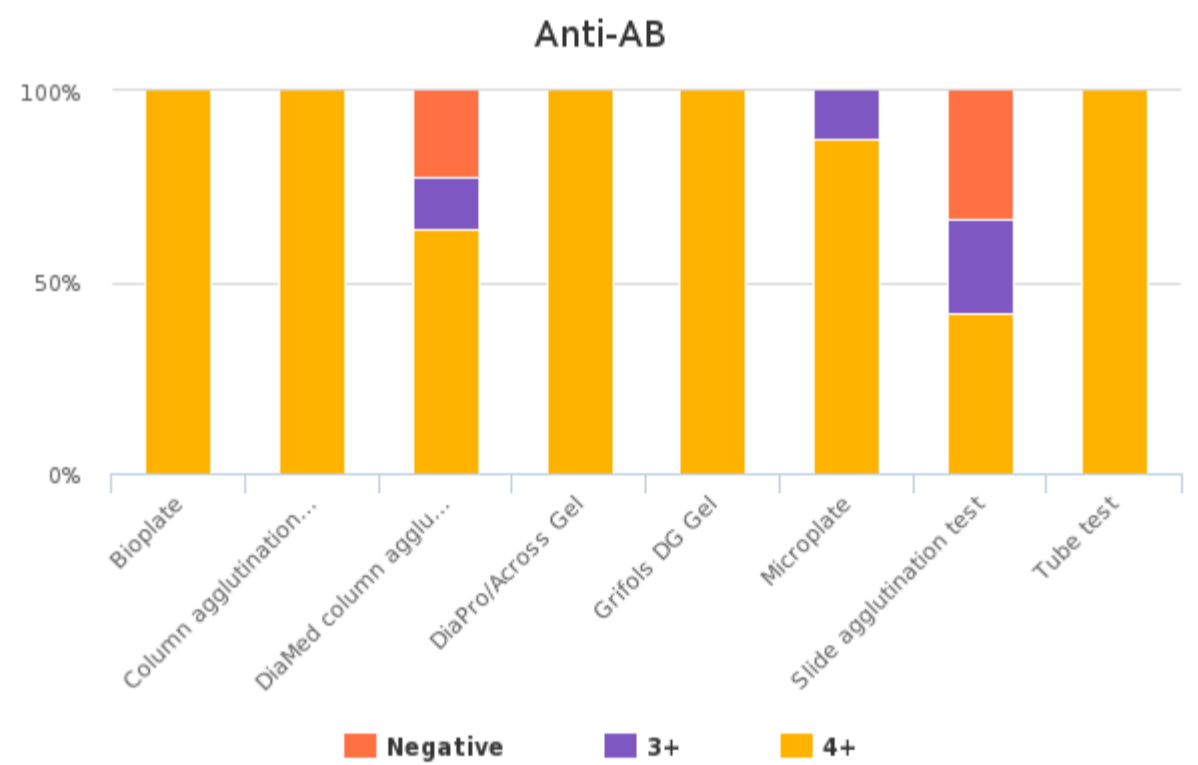
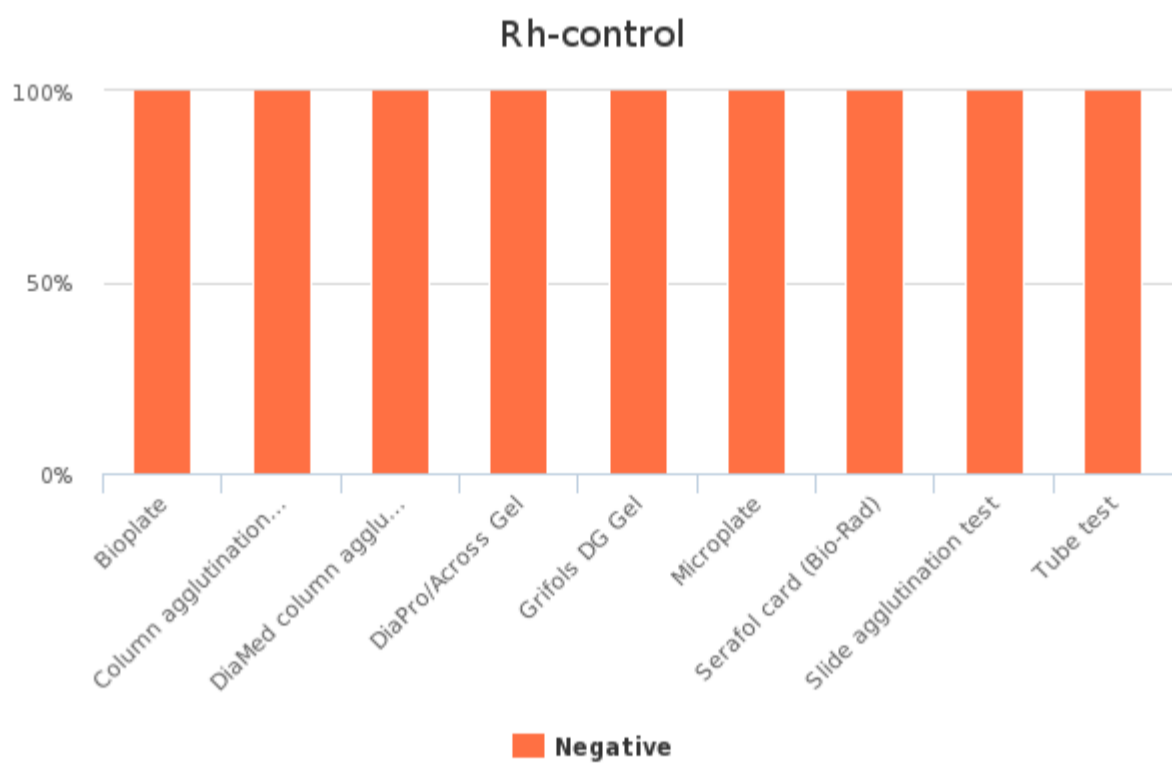
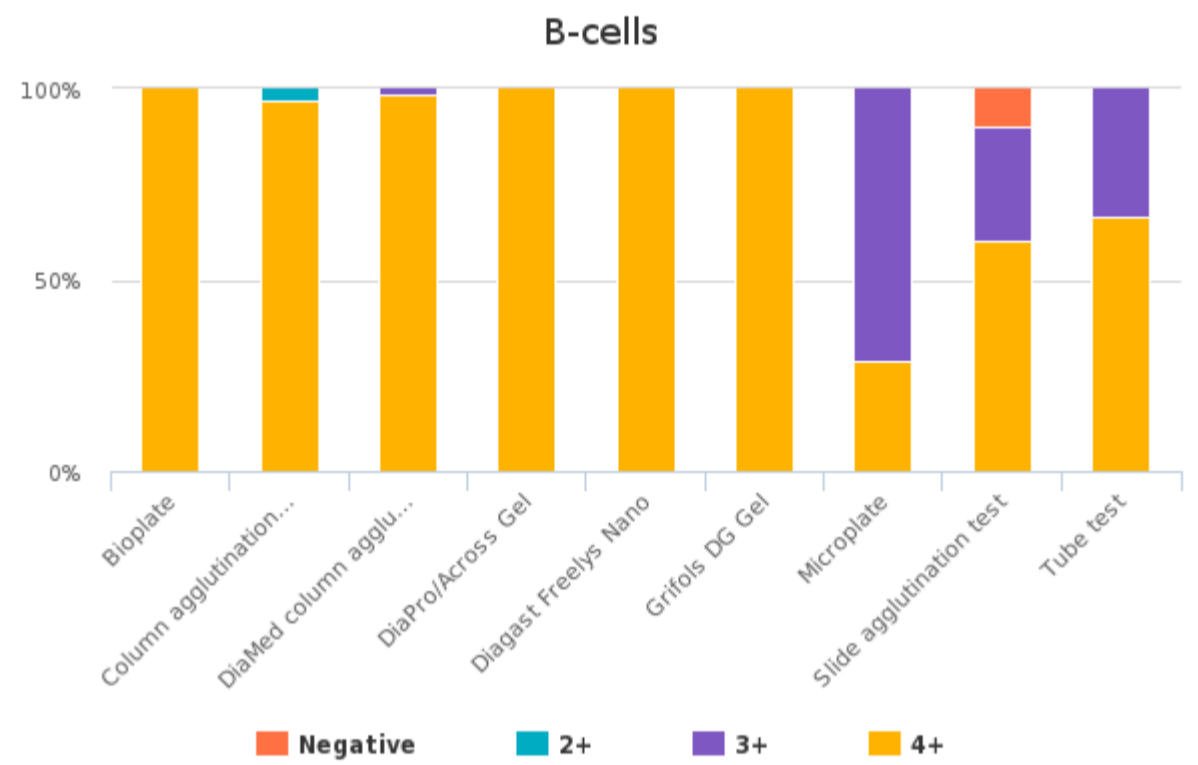
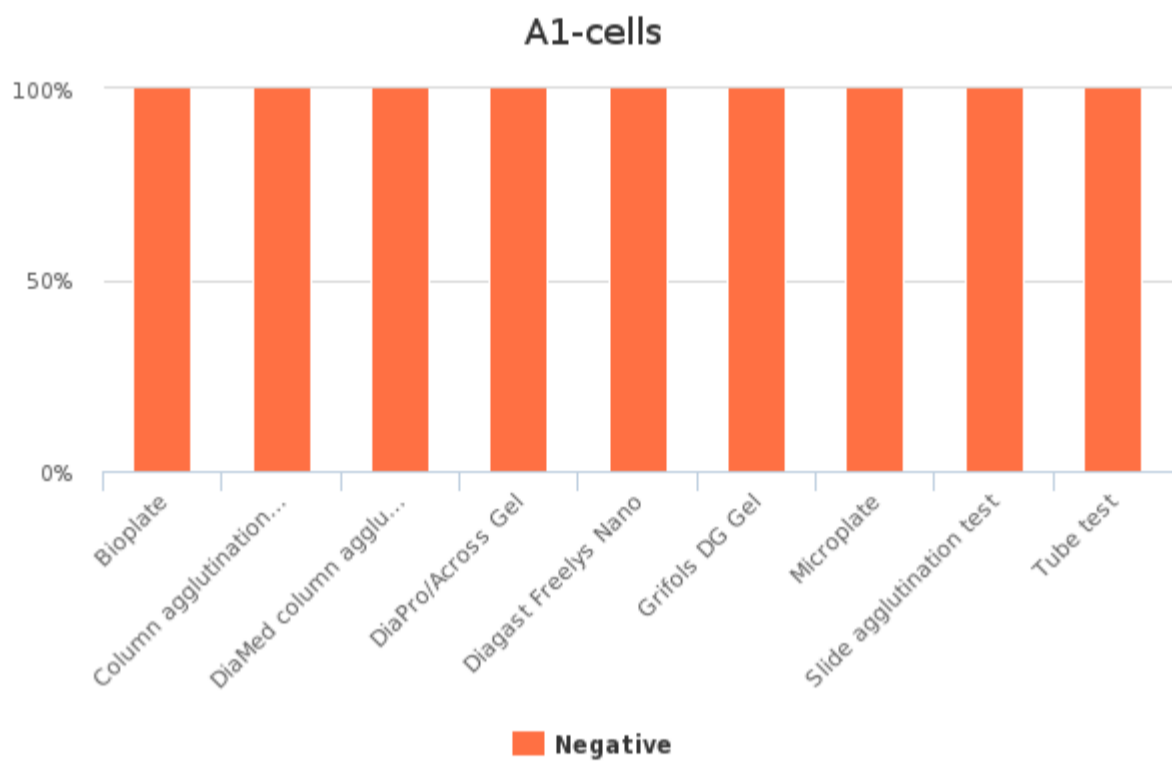
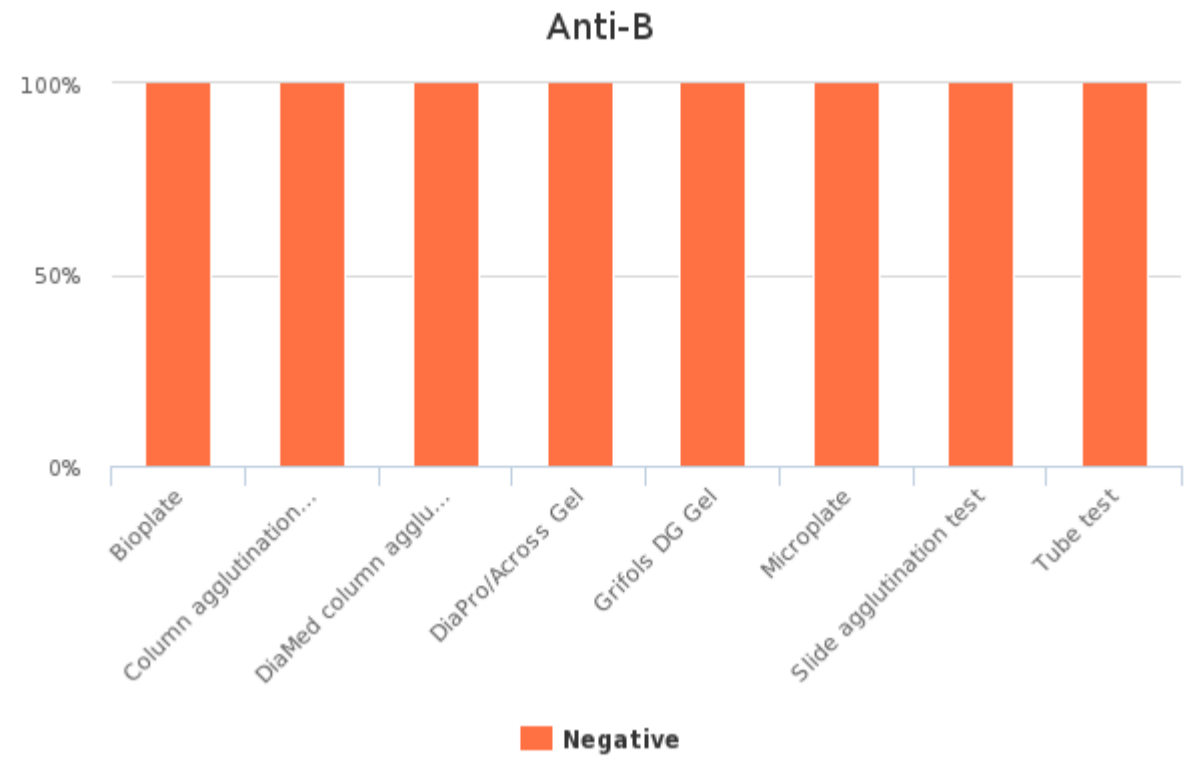
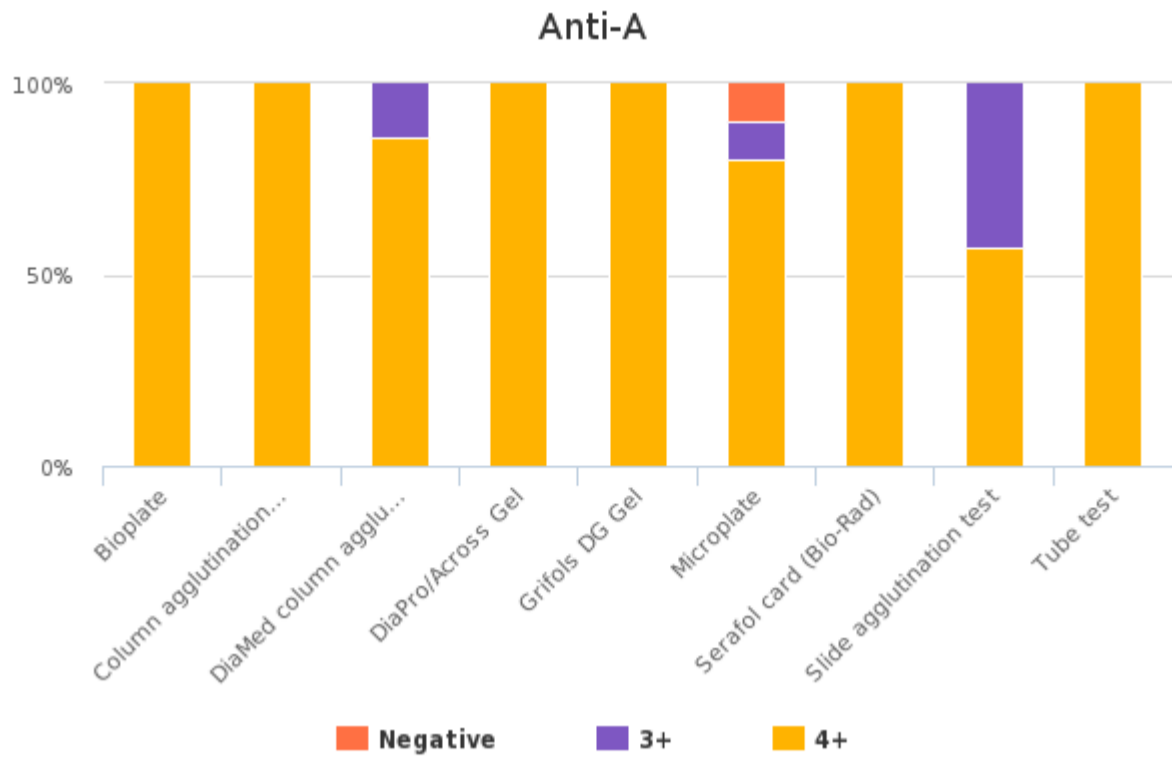


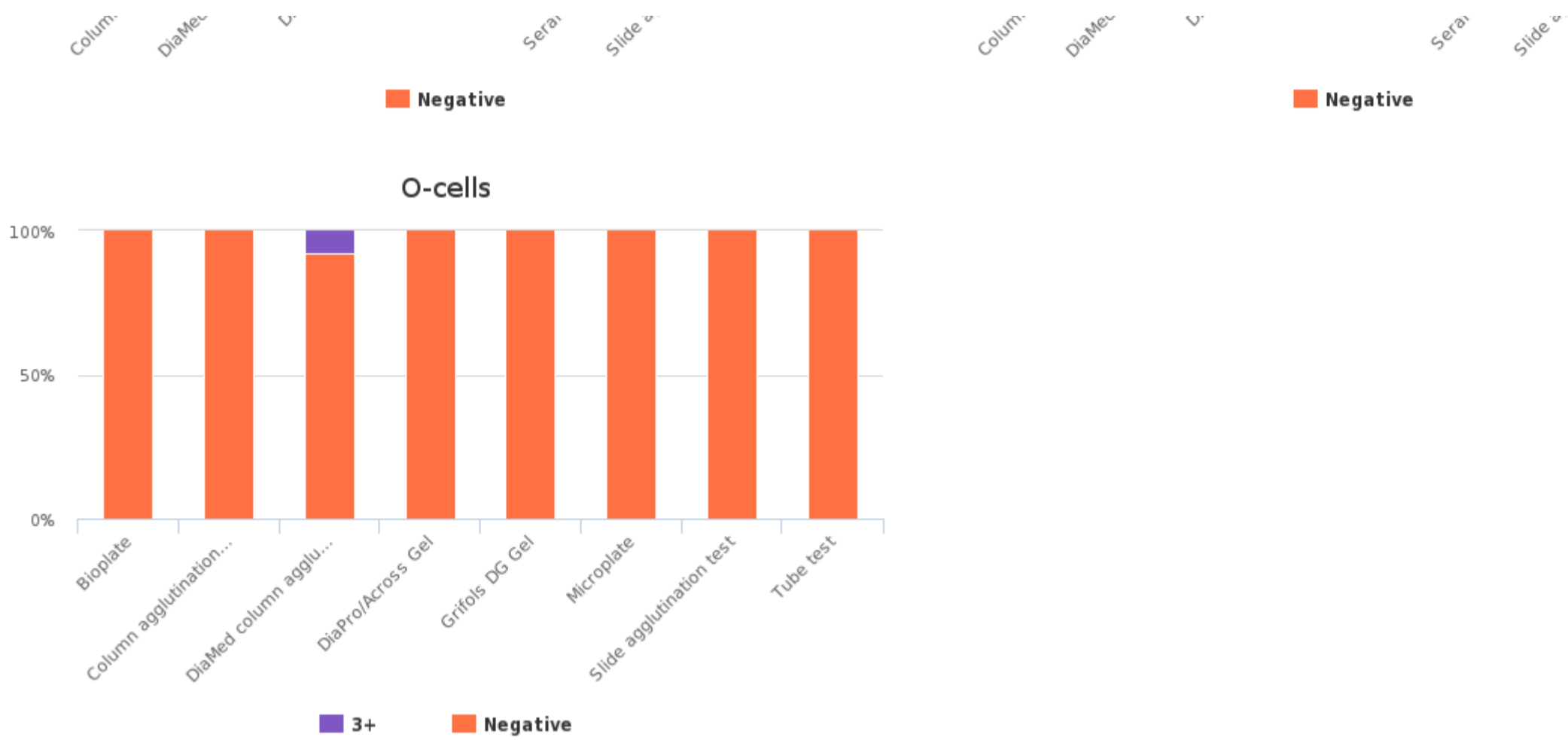
WHOLE ABO GROUP

ABO interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	A	2	100 %	6
	Column agglutination (BioVue)	A	33	97 %	6
		AB	1	3 %	0
	DiaMed column agglutination (Bio-Rad)	A	79	99 %	6
		Unclear	1	1 %	0
	DiaPro/Across Gel	A	4	100 %	6
	Grifols DG Gel	A	10	100 %	6
	Microplate	A	10	100 %	6
	Serafol card (Bio-Rad)	A	1	100 %	6
	Slide agglutination test	A	15	100 %	6
	Tube test	A	4	100 %	6
	Total:		160	100 %	

WHOLE ABO GROUP

Rh interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	Negative	2	100 %	2
	Column agglutination (BioVue)	Negative	34	100 %	2
	DiaMed column agglutination (Bio-Rad)	Negative	80	100 %	2
	DiaPro/Across Gel	Negative	4	100 %	2
	Grifols DG Gel	Negative	10	100 %	2
	Microplate	Negative	10	100 %	2
	Serafol card (Bio-Rad)	Negative	1	100 %	2
	Slide agglutination test	Negative	15	100 %	2
	Tube test	Negative	4	100 %	2
	Total:		160	100 %	





WHOLE ABO GROUP

Anti-A	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	4+	34	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	11	14 %	1
		4+	68	86 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	11	100 %	1
	Microplate	3+	1	10 %	1
		4+	8	80 %	1
		Negative	1	10 %	0
	Serafol card (Bio-Rad)	4+	1	100 %	1
	Slide agglutination test	3+	6	43 %	1
		4+	8	57 %	1
	Tube test	4+	5	100 %	1
	Total:		160	100 %	

WHOLE ABO GROUP

Anti-B	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	1
	Column agglutination (BioVue)	Negative	35	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	79	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	11	100 %	1
	Microplate	Negative	9	100 %	1
	Slide agglutination test	Negative	14	100 %	1
	Tube test	Negative	5	100 %	1
	Total:		159	100 %	

WHOLE ABO GROUP

A1-cells	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	1
	Column agglutination (BioVue)	Negative	31	100 %	1
	Diagast Freelys Nano	Negative	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	74	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	11	100 %	1
	Microplate	Negative	7	100 %	1
	Slide agglutination test	Negative	10	100 %	1
	Tube test	Negative	6	100 %	1
	Total:		146	100 %	

WHOLE ABO GROUP

B-cells	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	2+	1	3 %	0.5
		4+	31	97 %	1
	Diagast Freelys Nano	4+	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	1	1 %	1
		4+	73	99 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	11	100 %	1
	Microplate	3+	5	71 %	1
		4+	2	29 %	1
	Slide agglutination test	3+	3	30 %	1
		4+	6	60 %	1
		Negative	1	10 %	0
	Tube test	3+	2	33 %	1
		4+	4	67 %	1
	Total:		147	100 %	

WHOLE ABO GROUP

Rh-control	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	-
	Column agglutination (BioVue)	Negative	32	100 %	-
	DiaMed column agglutination (Bio-Rad)	Negative	66	100 %	-
	DiaPro/Across Gel	Negative	4	100 %	-
	Grifols DG Gel	Negative	10	100 %	-
	Microplate	Negative	9	100 %	-
	Serafol card (Bio-Rad)	Negative	1	100 %	-
	Slide agglutination test	Negative	7	100 %	-
	Tube test	Negative	5	100 %	-
	Total:		136	100 %	

WHOLE ABO GROUP

Anti-AB	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	4+	25	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	3	14 %	1
		4+	14	64 %	1
		Negative	5	23 %	0
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	11	100 %	1
	Microplate	3+	1	13 %	1
		4+	7	88 %	1
	Slide agglutination test	3+	3	25 %	1
		4+	5	42 %	1
		Negative	4	33 %	0
	Tube test	4+	4	100 %	1
	Total:		88	100 %	

WHOLE ABO GROUP

Anti-D, VI+	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	1
	Column agglutination (BioVue)	Negative	20	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	26	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	7	100 %	1
	Microplate	Negative	7	100 %	1
	Serafol card (Bio-Rad)	Negative	1	100 %	1
	Slide agglutination test	Negative	10	100 %	1
	Tube test	Negative	3	100 %	1
	Total:		80	100 %	

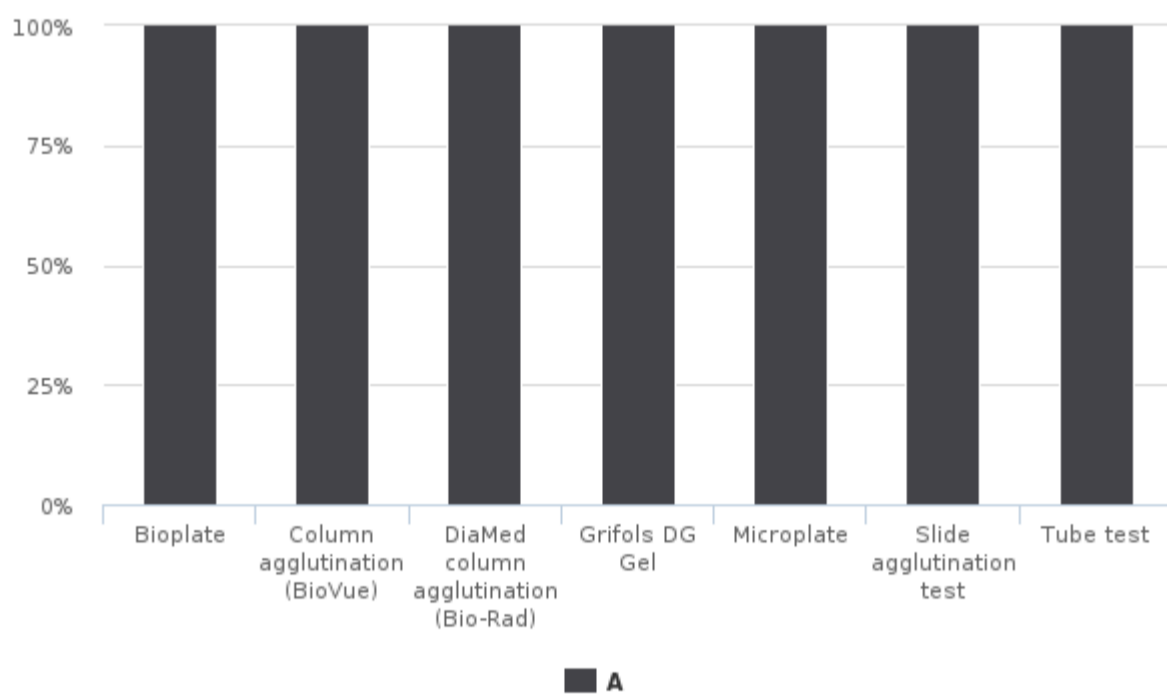
WHOLE ABO GROUP

Anti-D, VI-	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	1
	Column agglutination (BioVue)	Negative	26	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	76	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	11	100 %	1
	Microplate	Negative	8	100 %	1
	Serafol card (Bio-Rad)	Negative	1	100 %	1
	Slide agglutination test	Negative	9	100 %	1
	Tube test	Negative	5	100 %	1
	Total:		141	100 %	

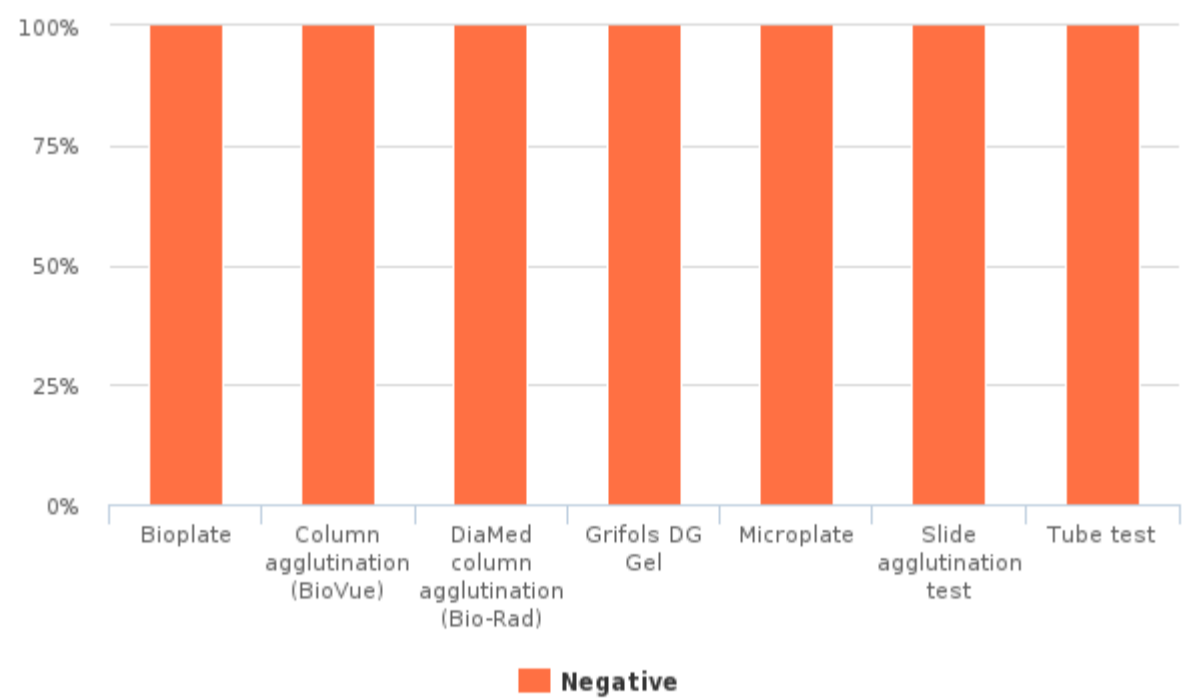
WHOLE ABO GROUP

O-cells	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	1
	Column agglutination (BioVue)	Negative	8	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	1	8 %	0
		Negative	12	92 %	1
	DiaPro/Across Gel	Negative	2	100 %	1
	Grifols DG Gel	Negative	2	100 %	1
	Microplate	Negative	6	100 %	1
	Slide agglutination test	Negative	4	100 %	1
	Tube test	Negative	4	100 %	1
	Total:		40	100 %	

ABO interpretation (confirmation)



Rh interpretation (confirmation)



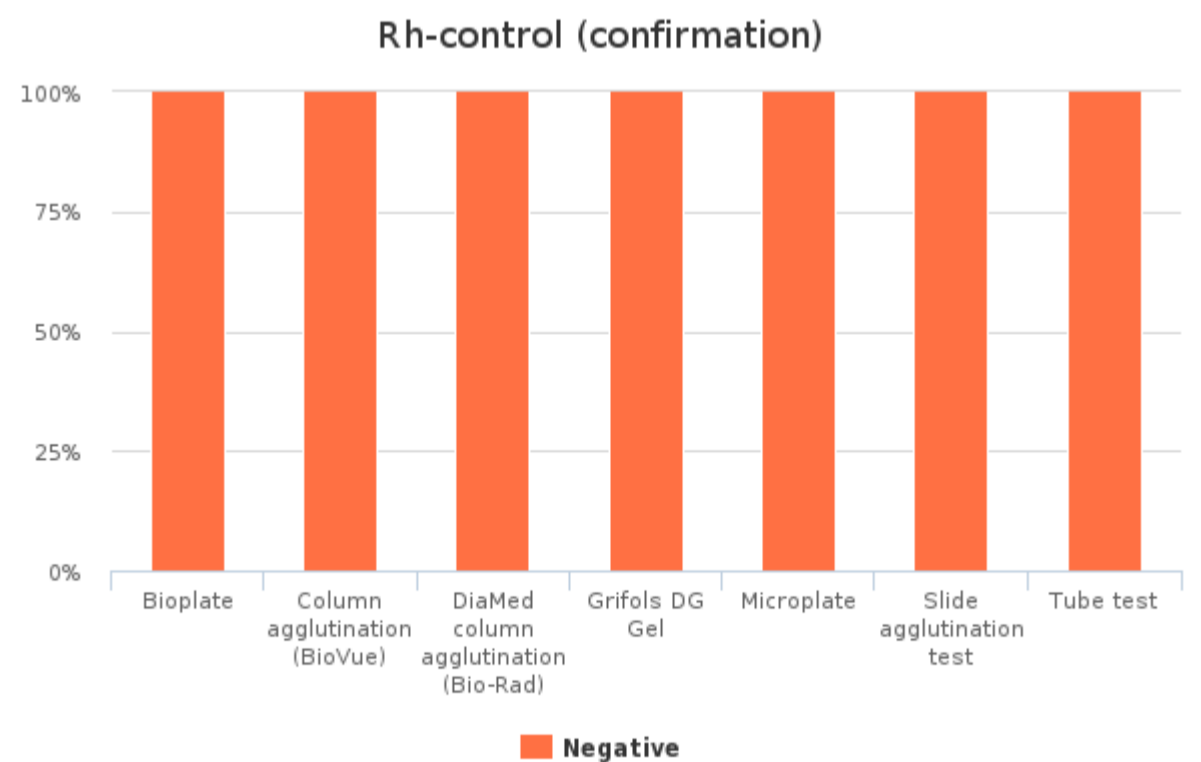
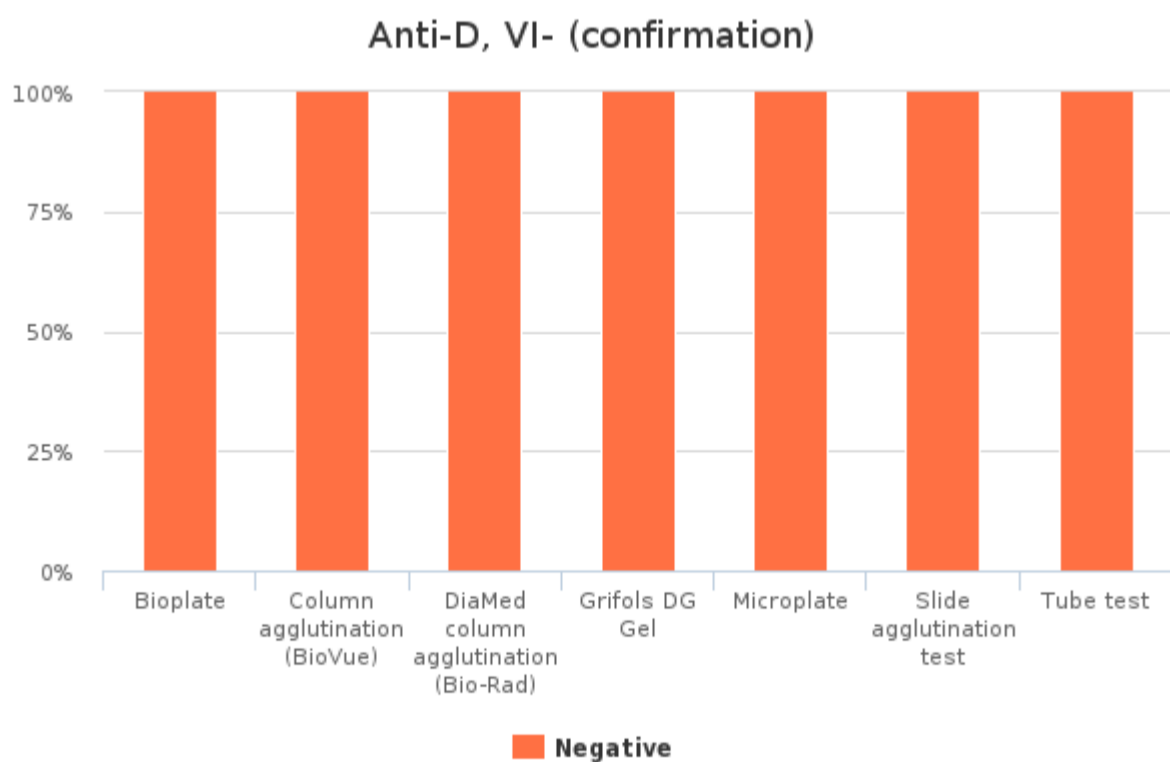
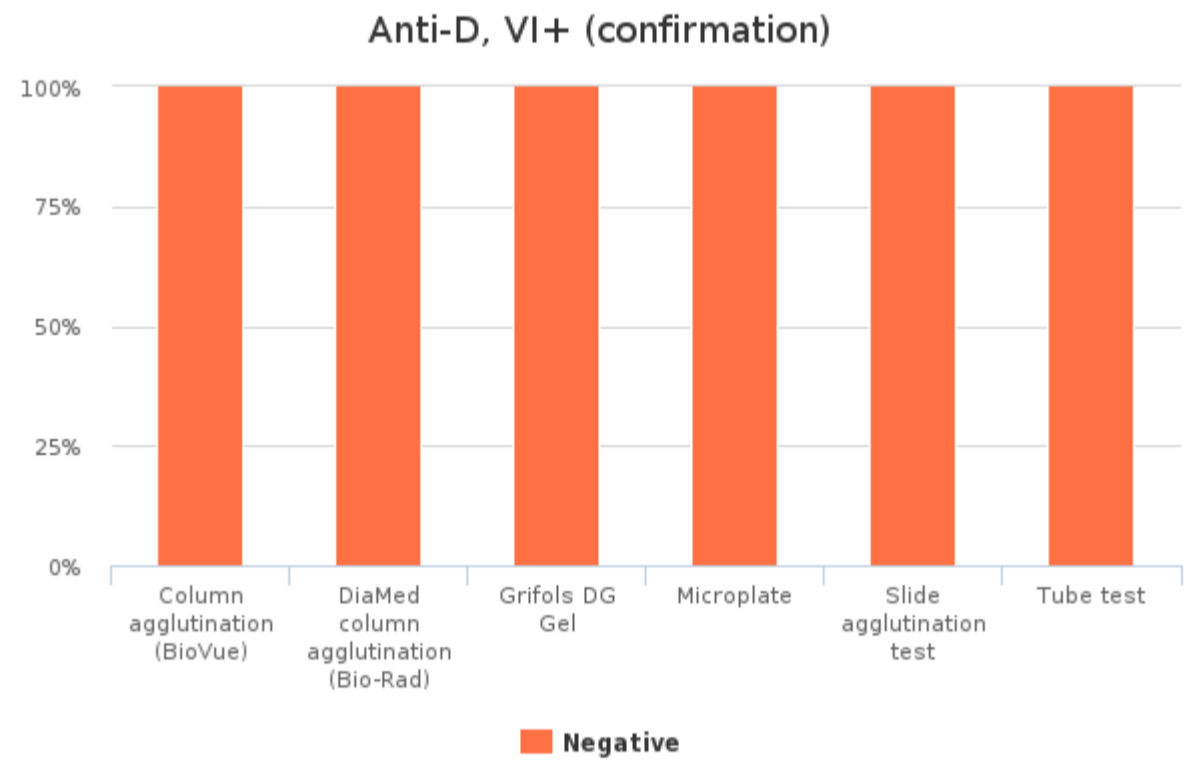
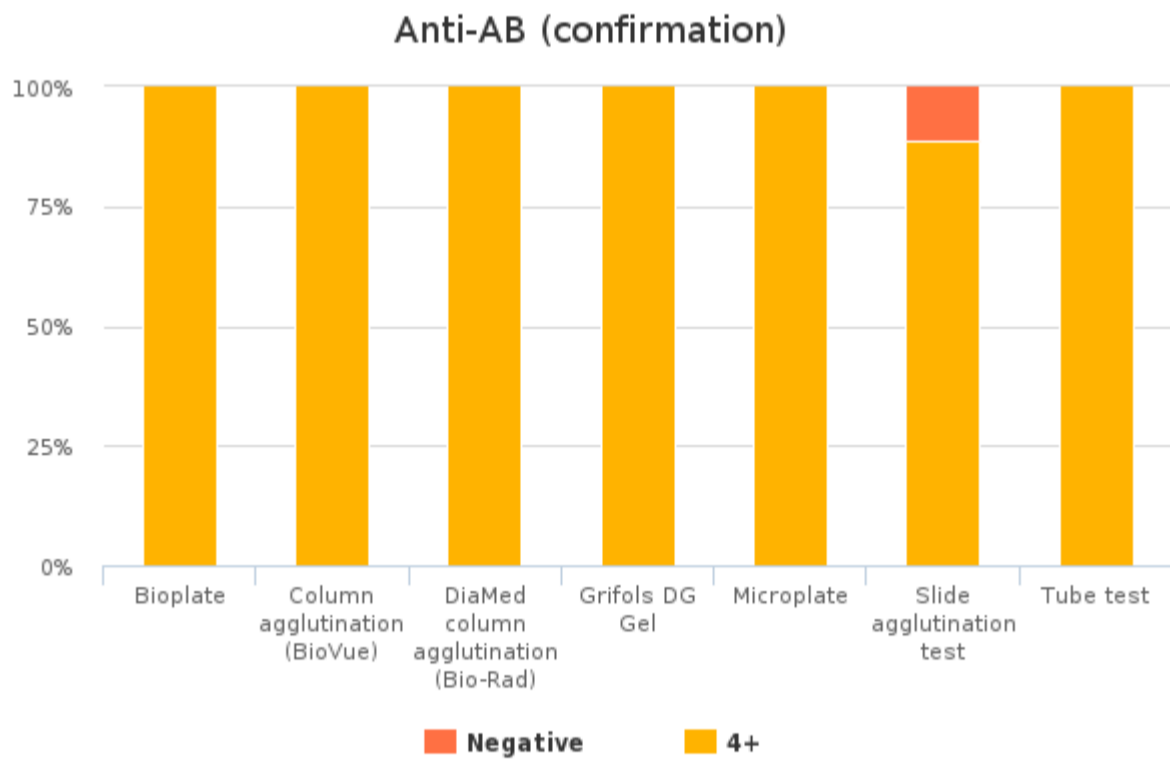
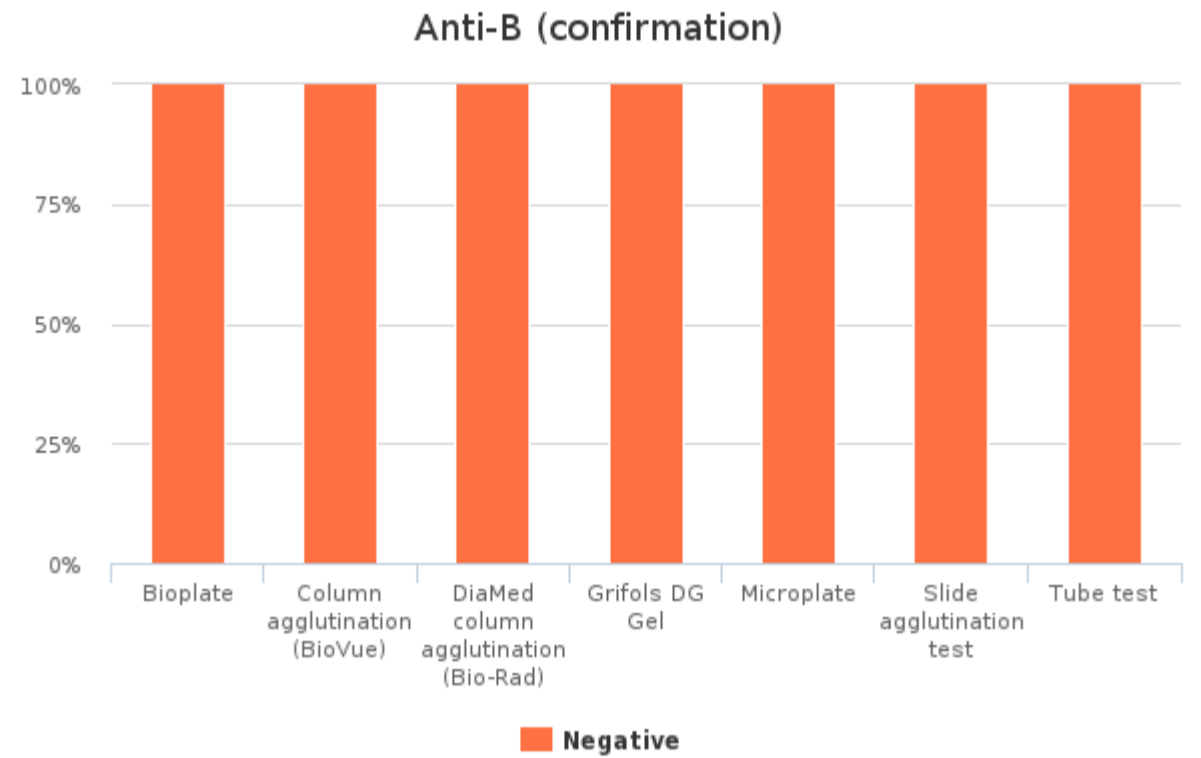
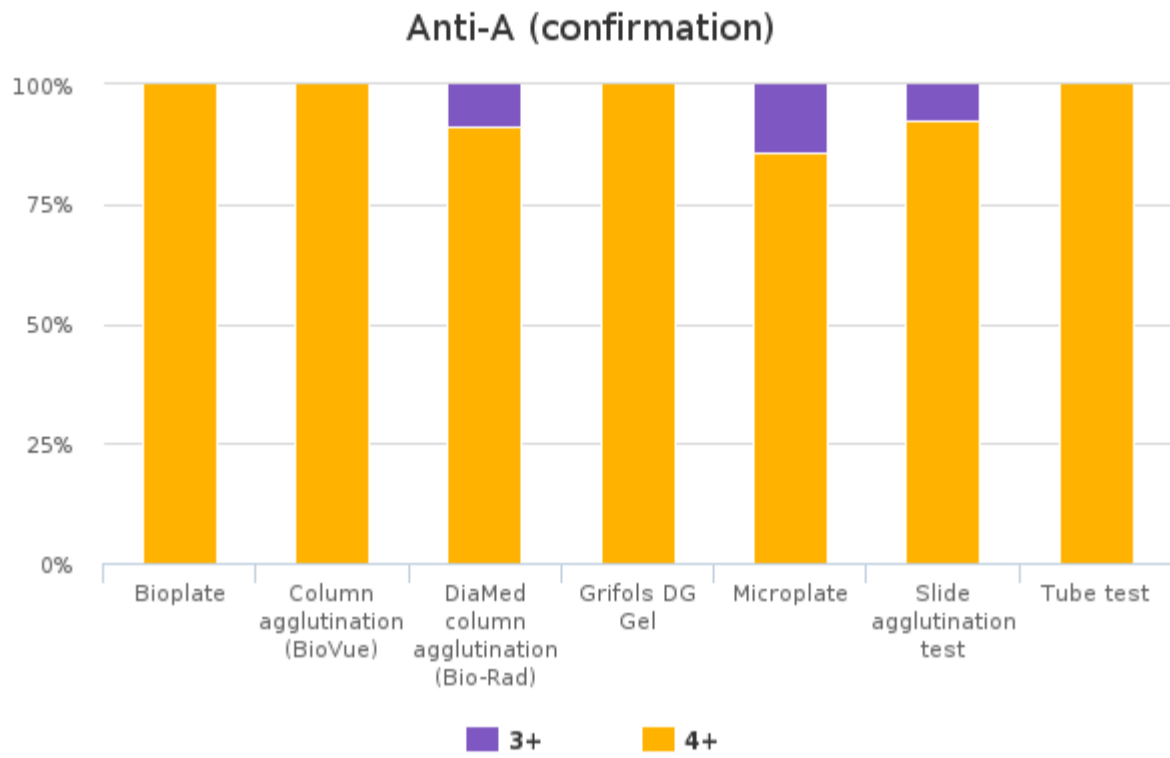
CONFIRMATION ABO GROUP

ABO interpretation (confirmation)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	A	1	100 %	6
	Column agglutination (BioVue)	A	6	100 %	6
	DiaMed column agglutination (Bio-Rad)	A	46	100 %	6
	Grifols DG Gel	A	6	100 %	6
	Microplate	A	7	100 %	6
	Slide agglutination test	A	13	100 %	6
	Tube test	A	1	100 %	6
	Total:		80	100 %	

CONFIRMATION ABO GROUP

Rh interpretation (confirmation)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	Negative	1	100 %	2
	Column agglutination (BioVue)	Negative	6	100 %	2
	DiaMed column agglutination (Bio-Rad)	Negative	47	100 %	2
	Grifols DG Gel	Negative	6	100 %	2

	Microplate	Negative	7	100 %	2
	Slide agglutination test	Negative	13	100 %	2
	Tube test	Negative	1	100 %	2
	Total:		81	100 %	



CONFIRMATION ABO GROUP

Anti-A (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	6	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	4	9 %	1
		4+	42	91 %	1

	Grifols DG Gel	4+	6	100 %	1
	Microplate	3+	1	14 %	1
		4+	6	86 %	1
	Slide agglutination test	3+	1	8 %	1
		4+	12	92 %	1
	Tube test	4+	1	100 %	1
	Total:		80	100 %	

CONFIRMATION ABO GROUP

Anti-B (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	1
	Column agglutination (BioVue)	Negative	6	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	46	100 %	1
	Grifols DG Gel	Negative	6	100 %	1
	Microplate	Negative	7	100 %	1
	Slide agglutination test	Negative	12	100 %	1
	Tube test	Negative	1	100 %	1
	Total:		79	100 %	

CONFIRMATION ABO GROUP

Anti-AB (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	4+	8	100 %	1
	Grifols DG Gel	4+	1	100 %	1
	Microplate	4+	6	100 %	1
	Slide agglutination test	4+	8	89 %	1
		Negative	1	11 %	0
	Tube test	4+	1	100 %	1
	Total:		30	100 %	

CONFIRMATION ABO GROUP

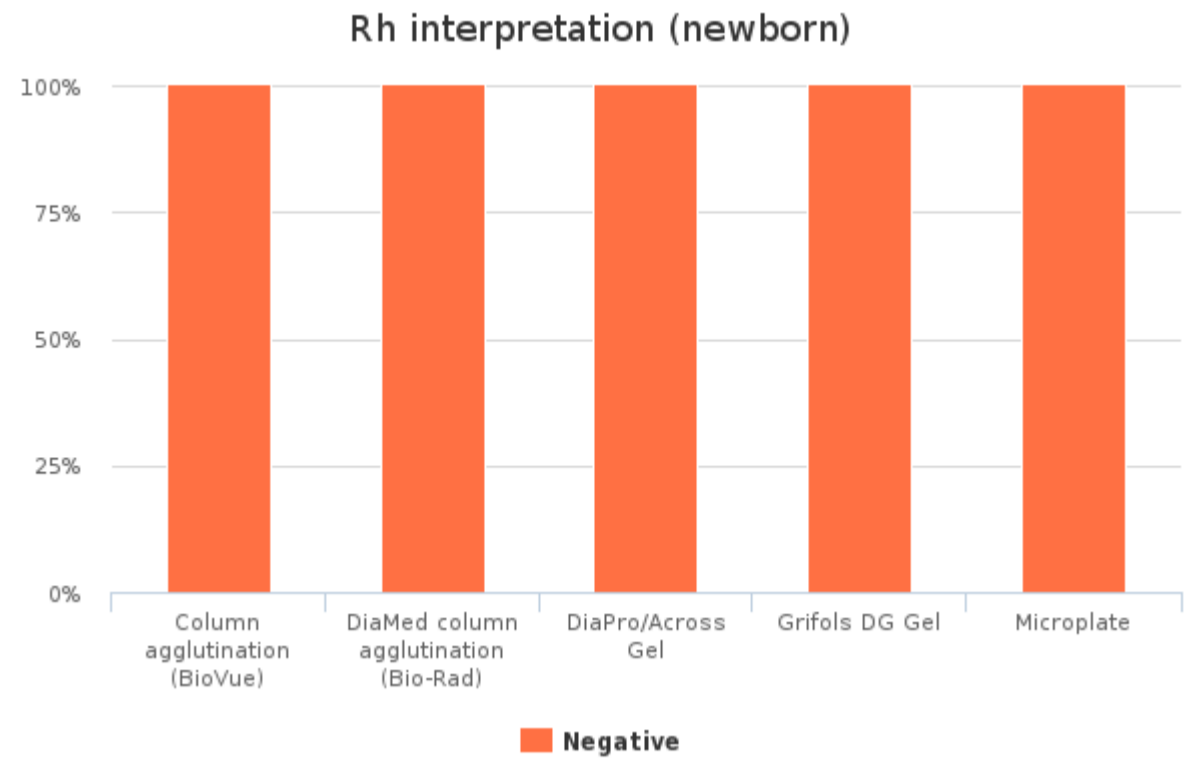
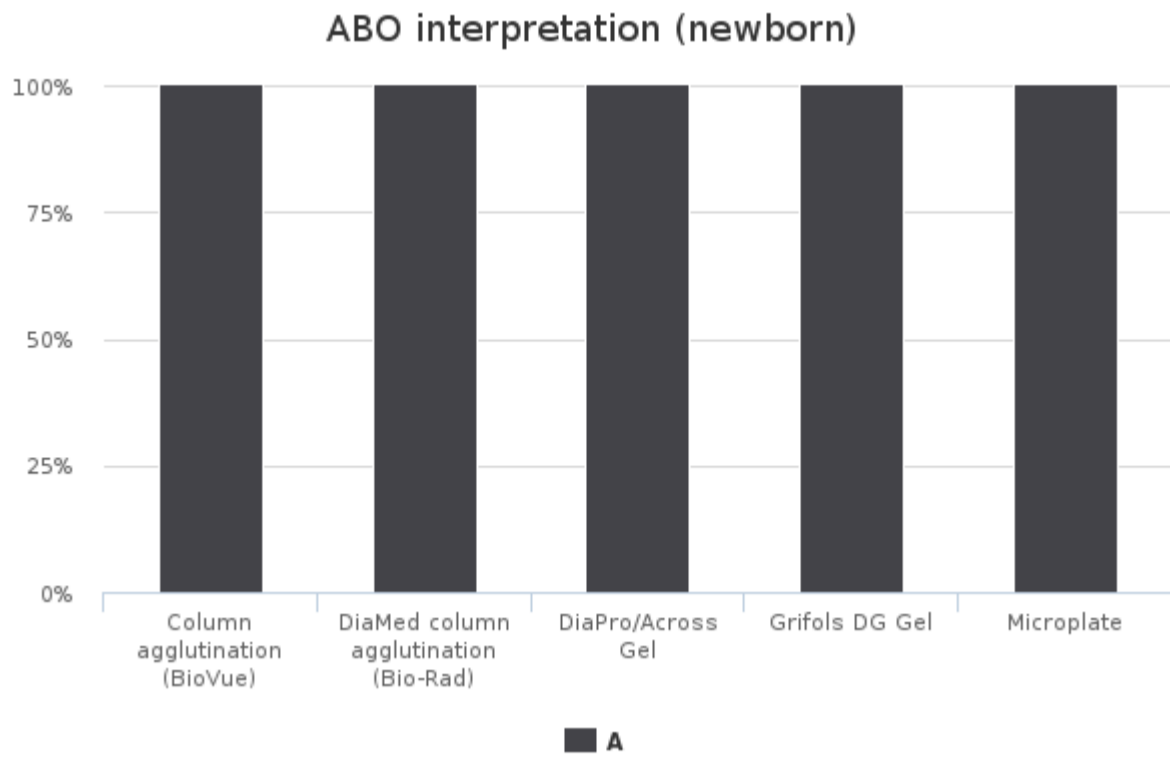
Anti-D, VI+ (confirmation)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	12	100 %	1
	Grifols DG Gel	Negative	2	100 %	1
	Microplate	Negative	4	100 %	1
	Slide agglutination test	Negative	3	100 %	1
	Tube test	Negative	1	100 %	1
	Total:		25	100 %	

CONFIRMATION ABO GROUP

Anti-D, VI- (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	1
	Column agglutination (BioVue)	Negative	5	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	45	100 %	1
	Grifols DG Gel	Negative	5	100 %	1
	Microplate	Negative	5	100 %	1
	Slide agglutination test	Negative	9	100 %	1
	Tube test	Negative	1	100 %	1
	Total:		71	100 %	

CONFIRMATION ABO GROUP

Rh-control (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	-
	Column agglutination (BioVue)	Negative	5	100 %	-
	DiaMed column agglutination (Bio-Rad)	Negative	14	100 %	-
	Grifols DG Gel	Negative	5	100 %	-
	Microplate	Negative	4	100 %	-
	Slide agglutination test	Negative	7	100 %	-
	Tube test	Negative	1	100 %	-
	Total:		37	100 %	

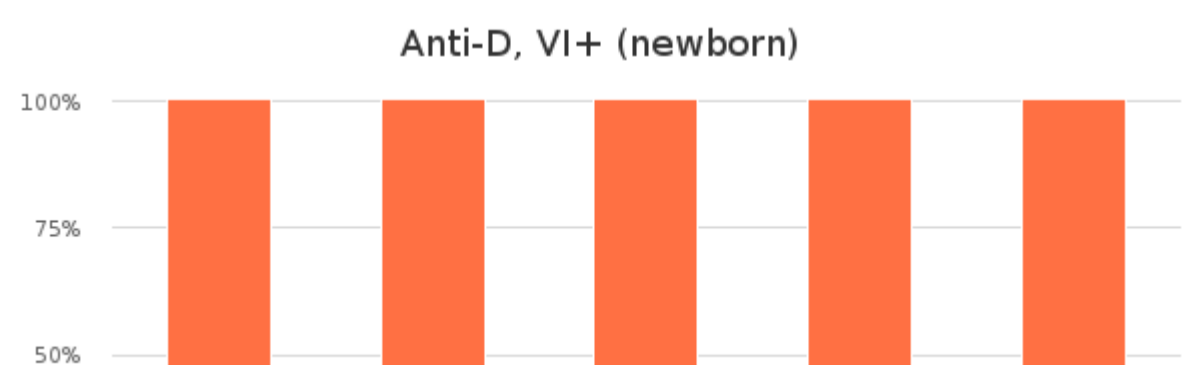
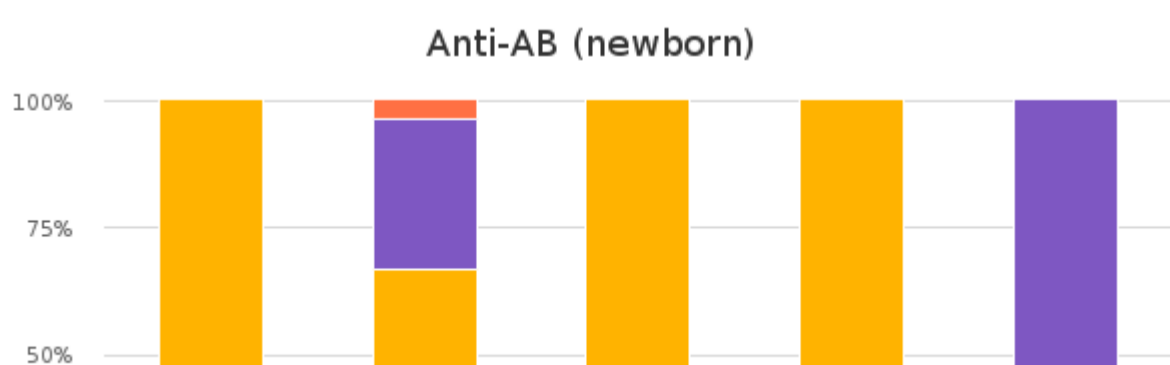
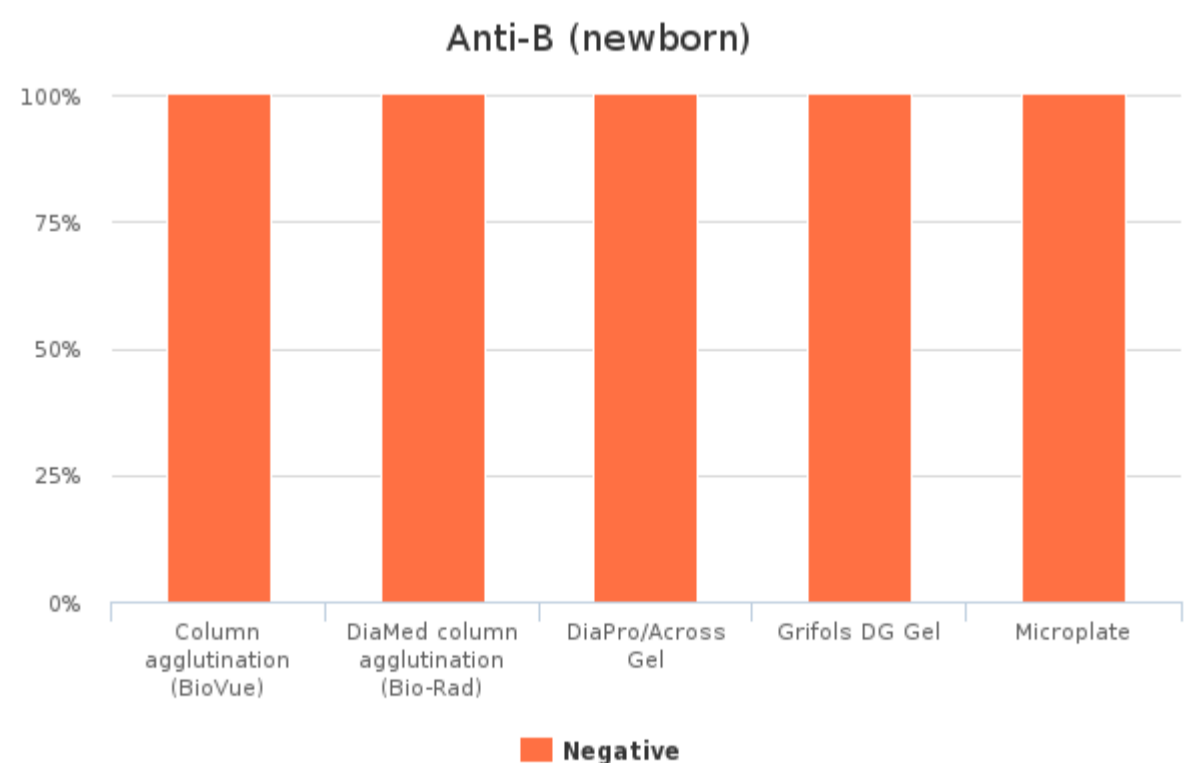
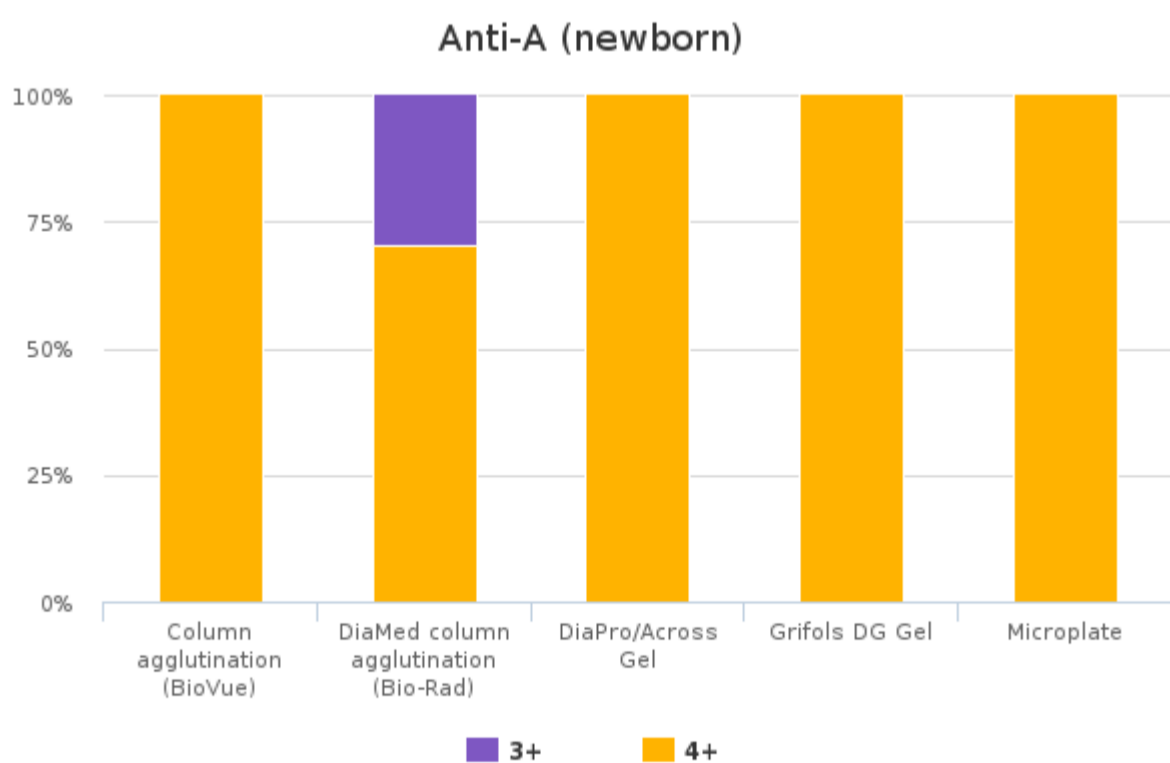


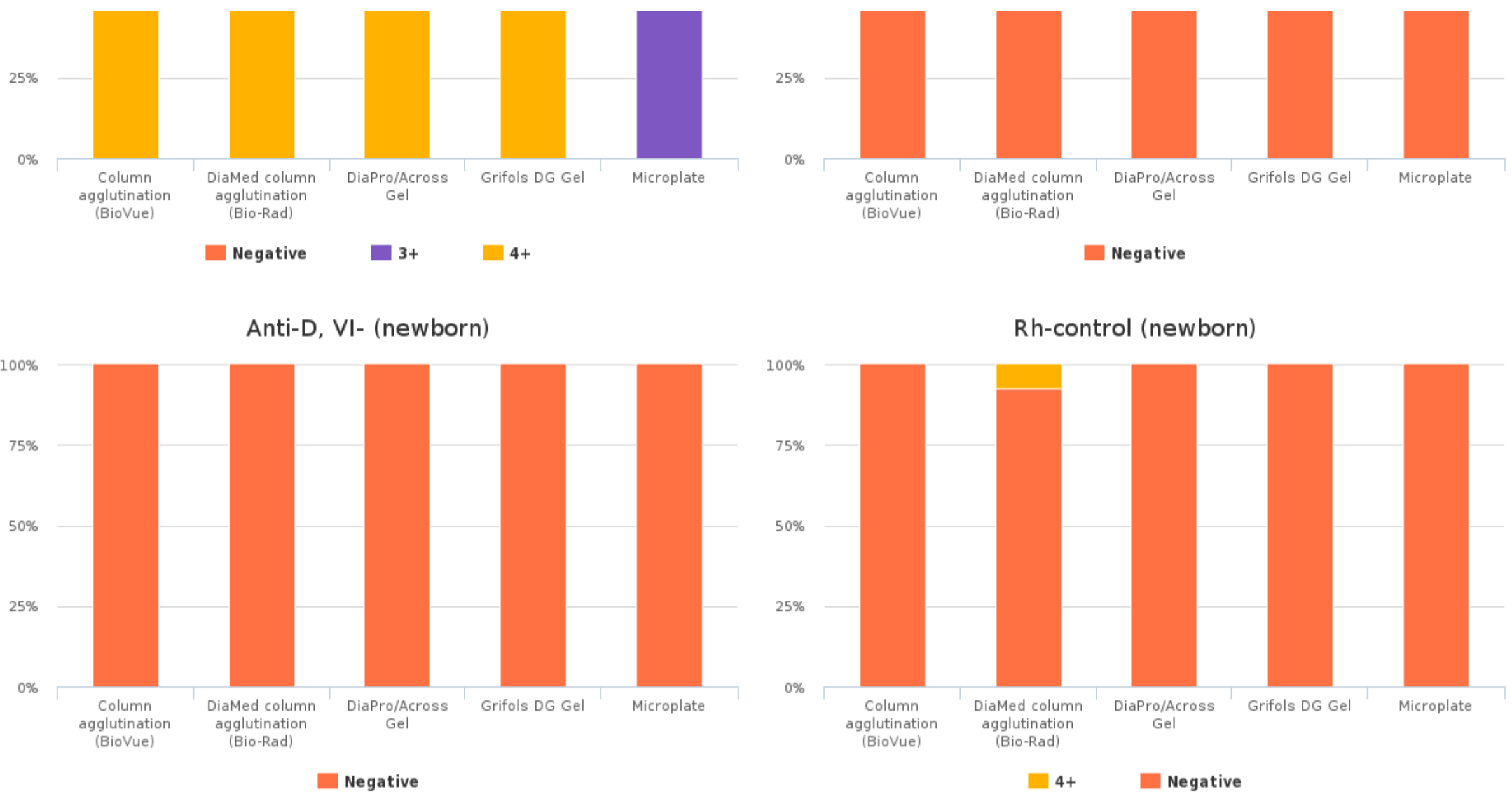
ABO GROUP FOR NEWBORN

ABO interpretation (newborn)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Column agglutination (BioVue)	A	4	100 %	6
	DiaMed column agglutination (Bio-Rad)	A	27	100 %	6
	DiaPro/Across Gel	A	1	100 %	6
	Grifols DG Gel	A	3	100 %	6
	Microplate	A	1	100 %	6
	Total:		36	100 %	

ABO GROUP FOR NEWBORN

Rh interpretation (newborn)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Column agglutination (BioVue)	Negative	4	100 %	2
	DiaMed column agglutination (Bio-Rad)	Negative	27	100 %	2
	DiaPro/Across Gel	Negative	1	100 %	2
	Grifols DG Gel	Negative	3	100 %	2
	Microplate	Negative	1	100 %	2
	Total:		36	100 %	





ABO GROUP FOR NEWBORN

Anti-A (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	8	30 %	1
		4+	19	70 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	4+	1	100 %	1
	Total:		37	100 %	

ABO GROUP FOR NEWBORN

Anti-B (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	27	100 %	1
	DiaPro/Across Gel	Negative	1	100 %	1
	Grifols DG Gel	Negative	4	100 %	1
	Microplate	Negative	1	100 %	1
	Total:		37	100 %	

ABO GROUP FOR NEWBORN

Anti-AB (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	8	30 %	1
		4+	18	67 %	1
		Negative	1	4 %	0
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	3+	1	100 %	1
	Total:		36	100 %	

ABO GROUP FOR NEWBORN

Anti-D, VI+ (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	22	100 %	1
	DiaPro/Across Gel	Negative	1	100 %	1

	Grifols DG Gel	Negative	4	100 %	1
	Microplate	Negative	1	100 %	1
	Total:		29	100 %	

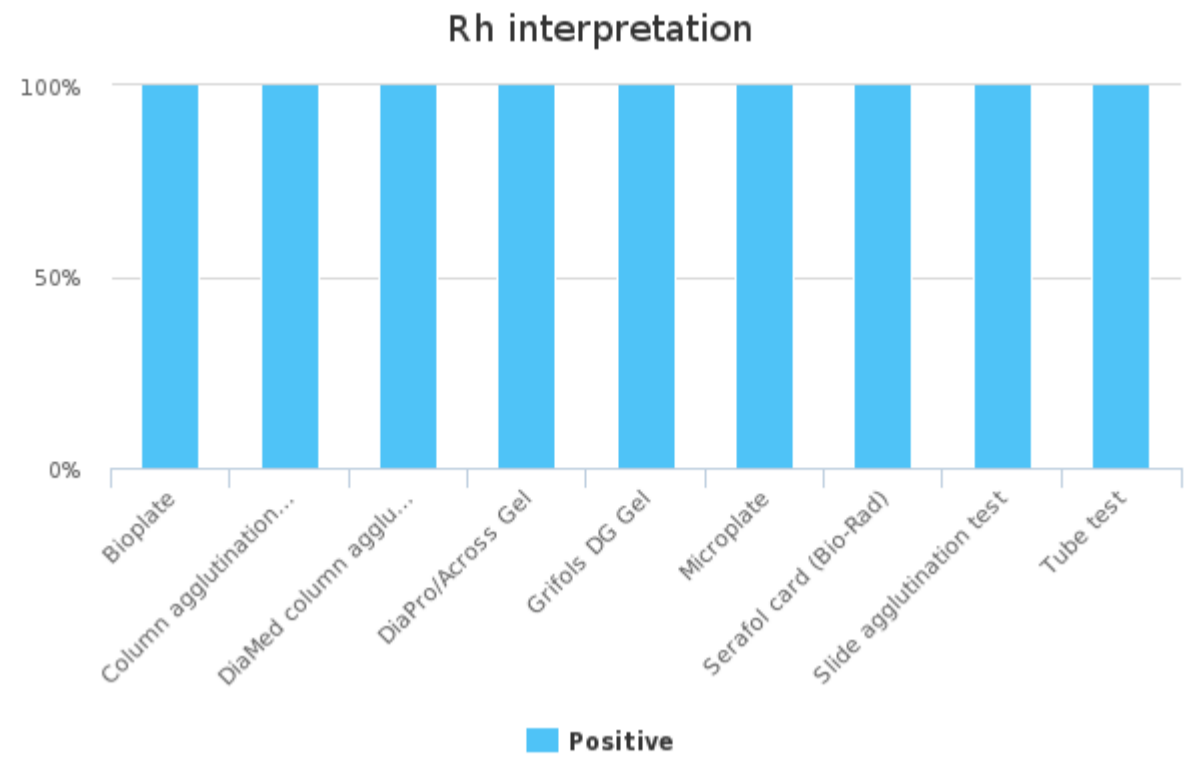
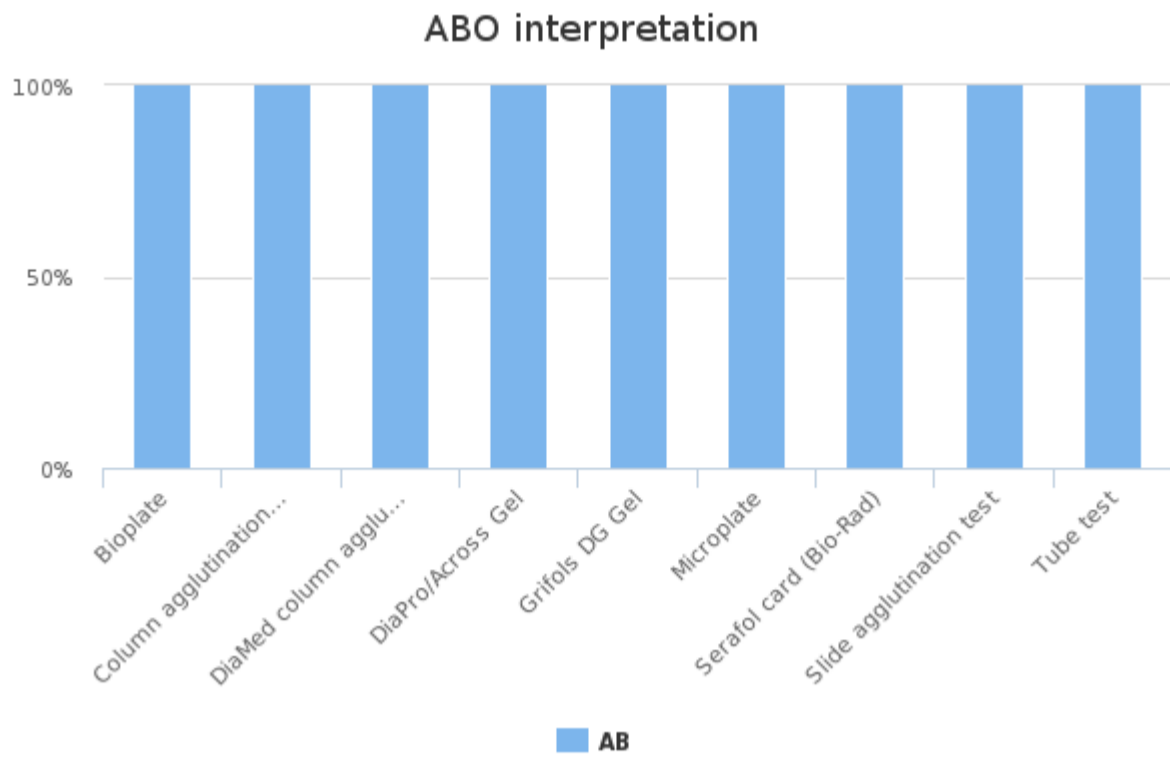
ABO GROUP FOR NEWBORN

Anti-D, VI- (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	21	100 %	1
	DiaPro/Across Gel	Negative	1	100 %	1
	Grifols DG Gel	Negative	4	100 %	1
	Microplate	Negative	1	100 %	1
	Total:		30	100 %	

ABO GROUP FOR NEWBORN

Rh-control (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	2	100 %	-
	DiaMed column agglutination (Bio-Rad)	4+	2	7 %	-
		Negative	25	93 %	-
	DiaPro/Across Gel	Negative	1	100 %	-
	Grifols DG Gel	Negative	3	100 %	-
	Microplate	Negative	1	100 %	-
	Total:		34	100 %	

Sample S002 | AB RhD pos

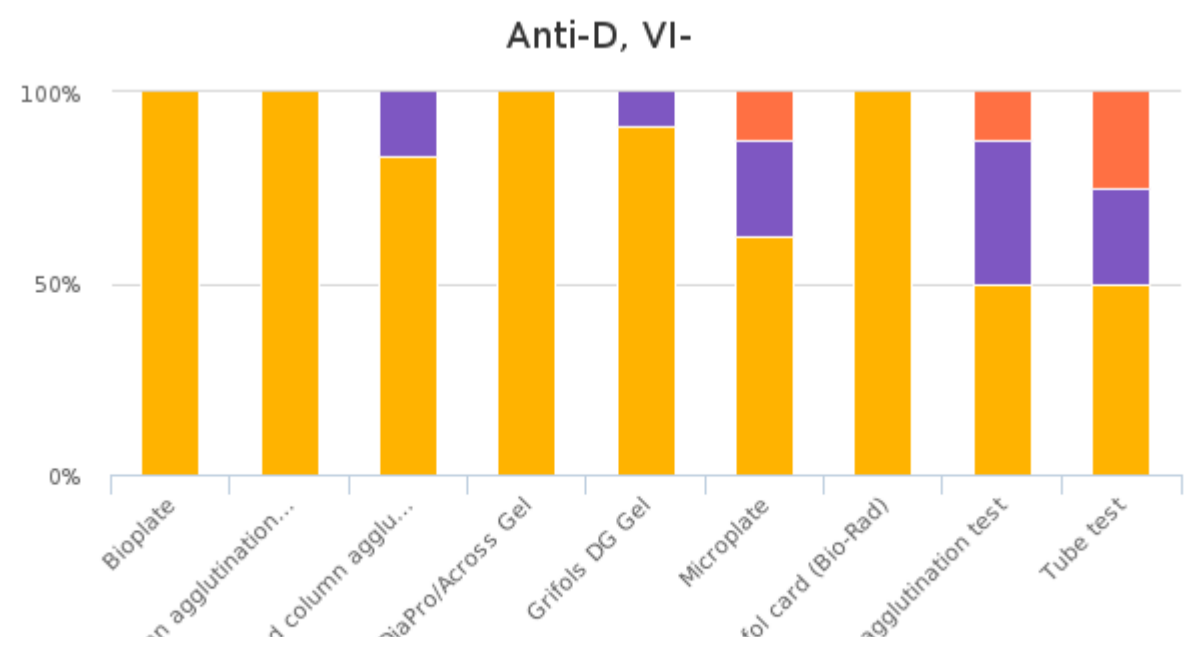
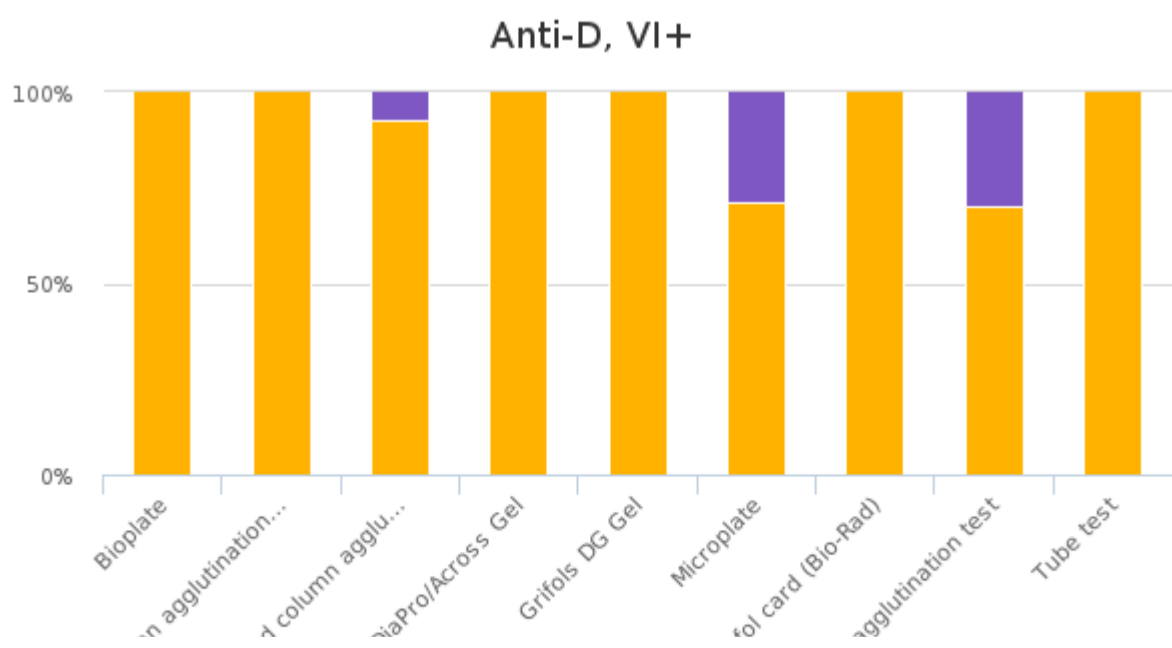
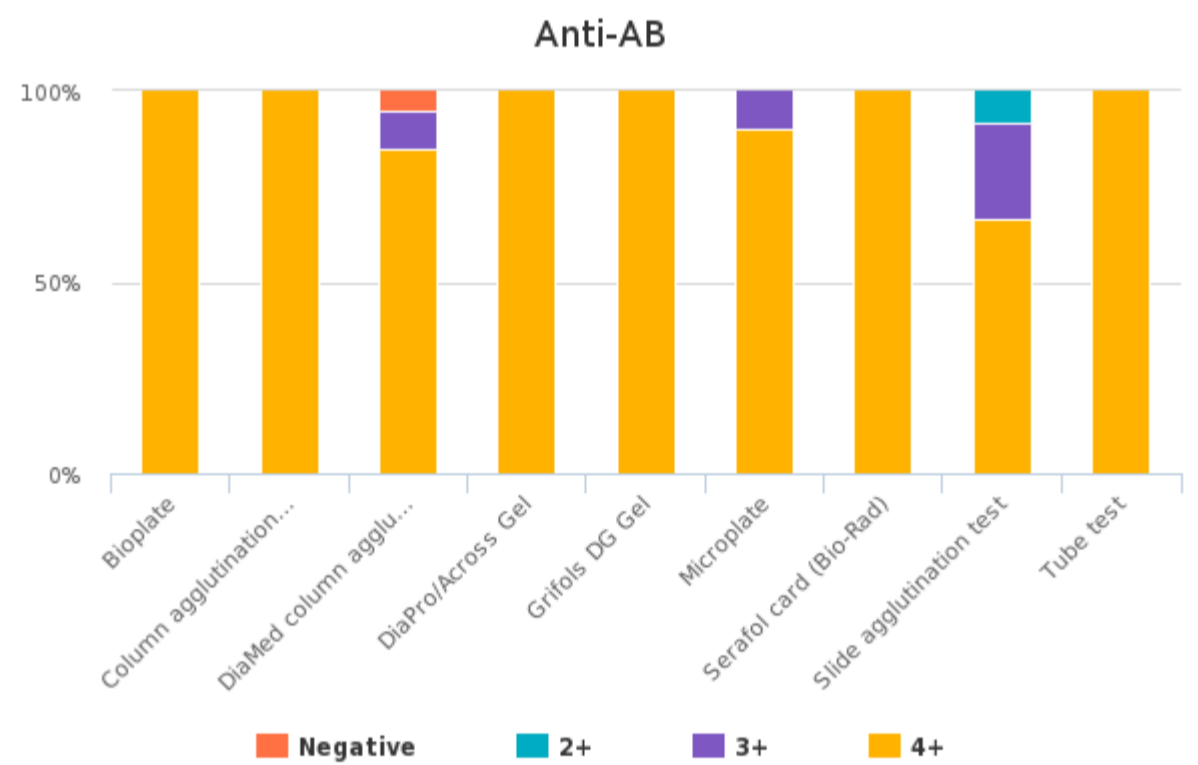
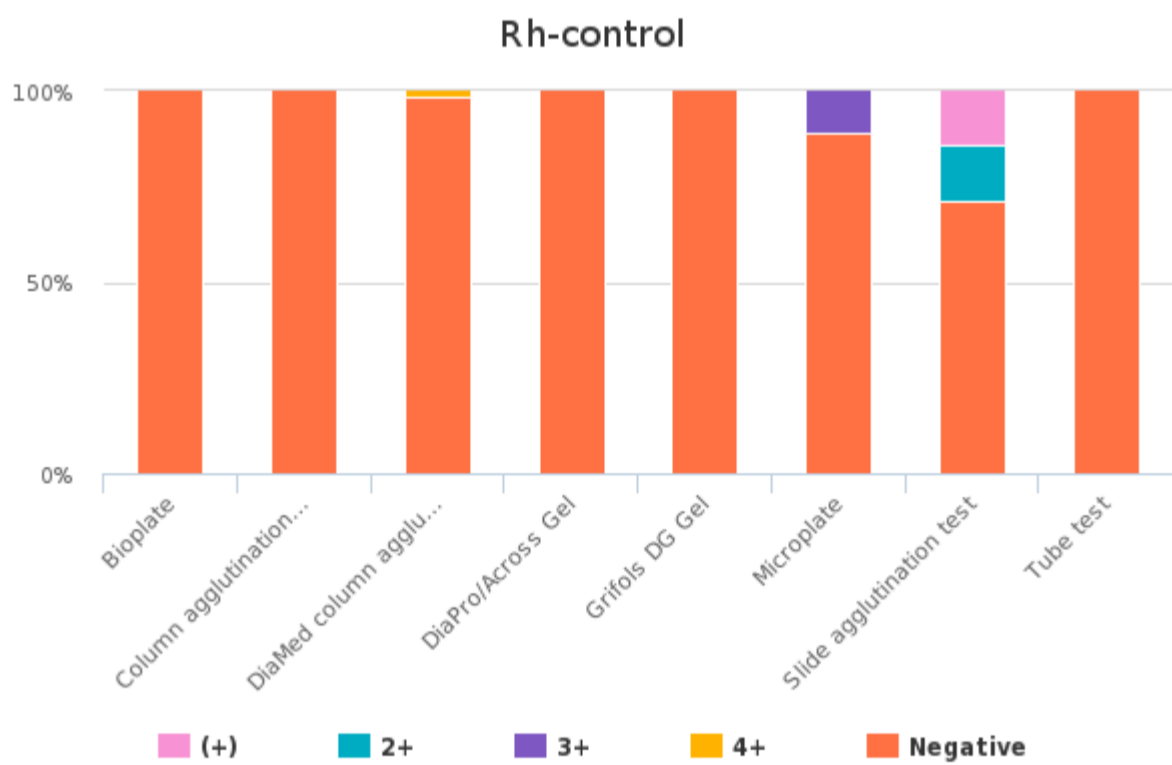
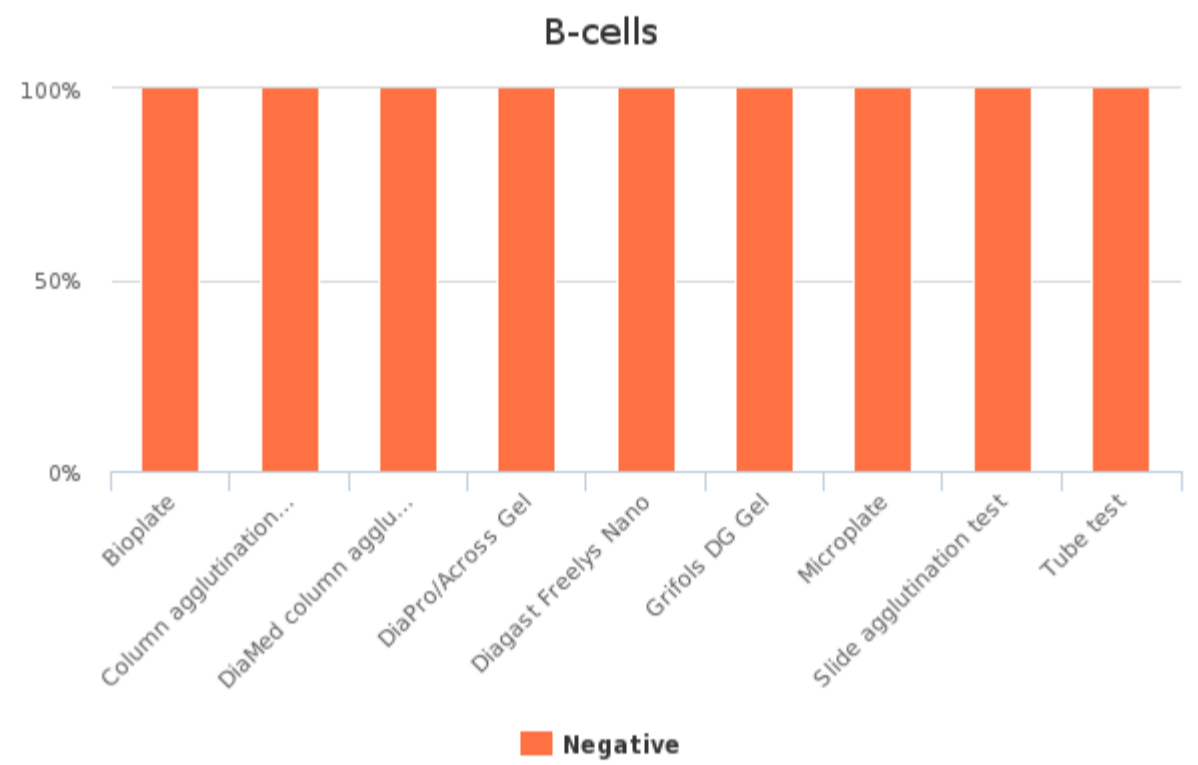
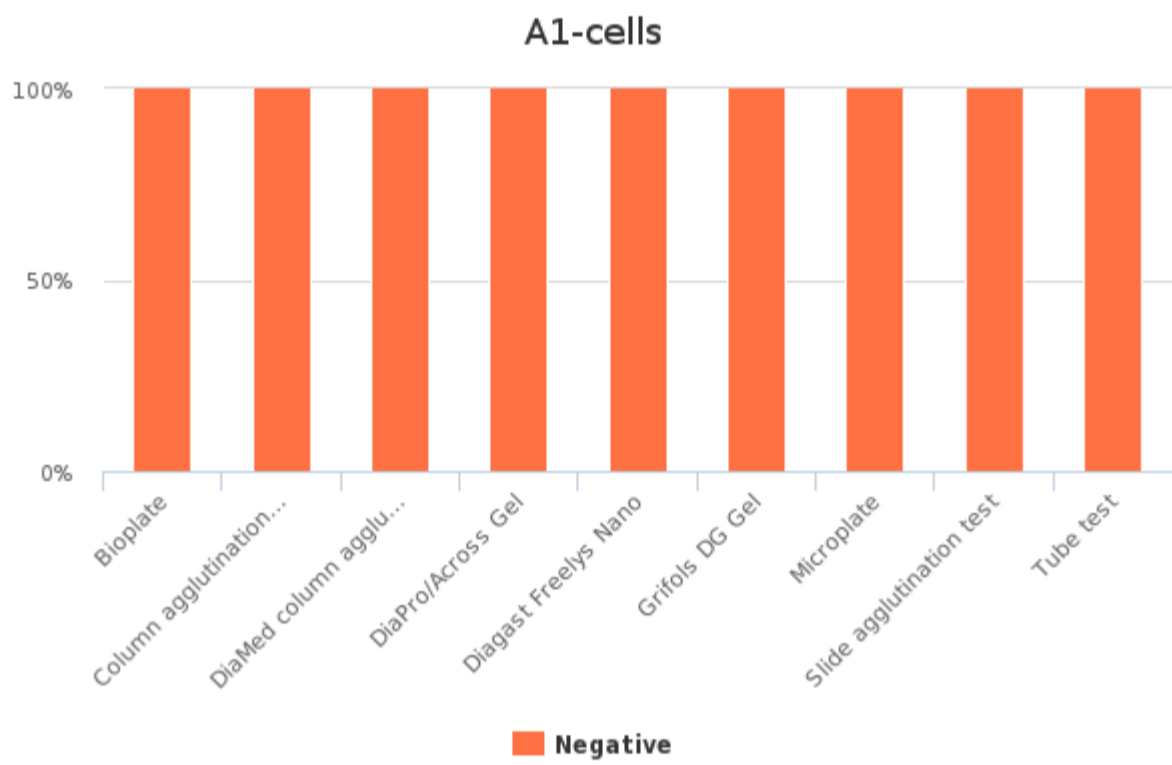
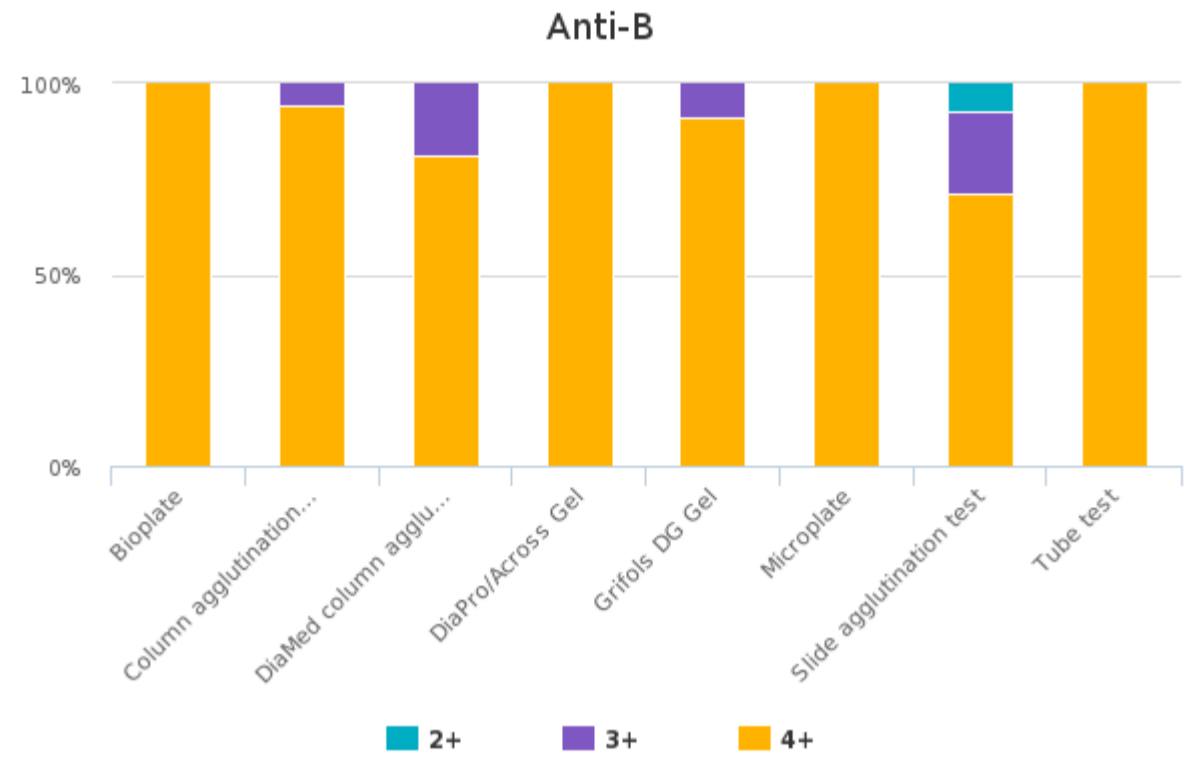
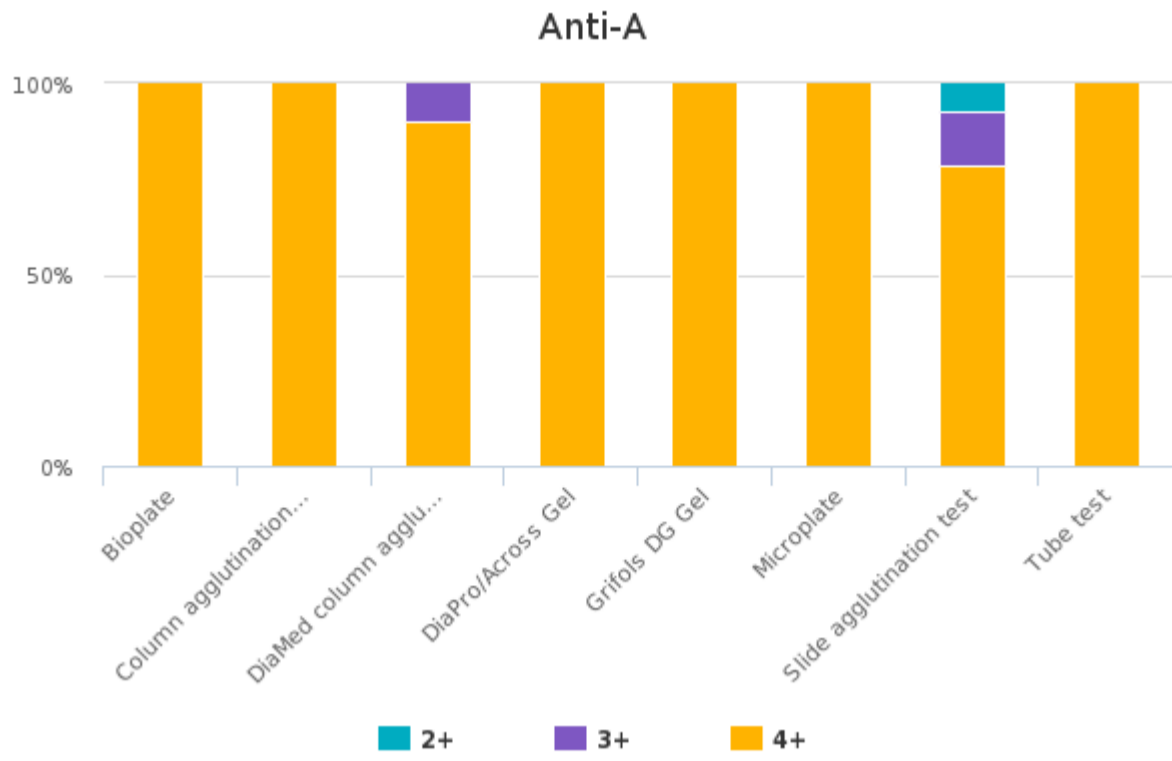


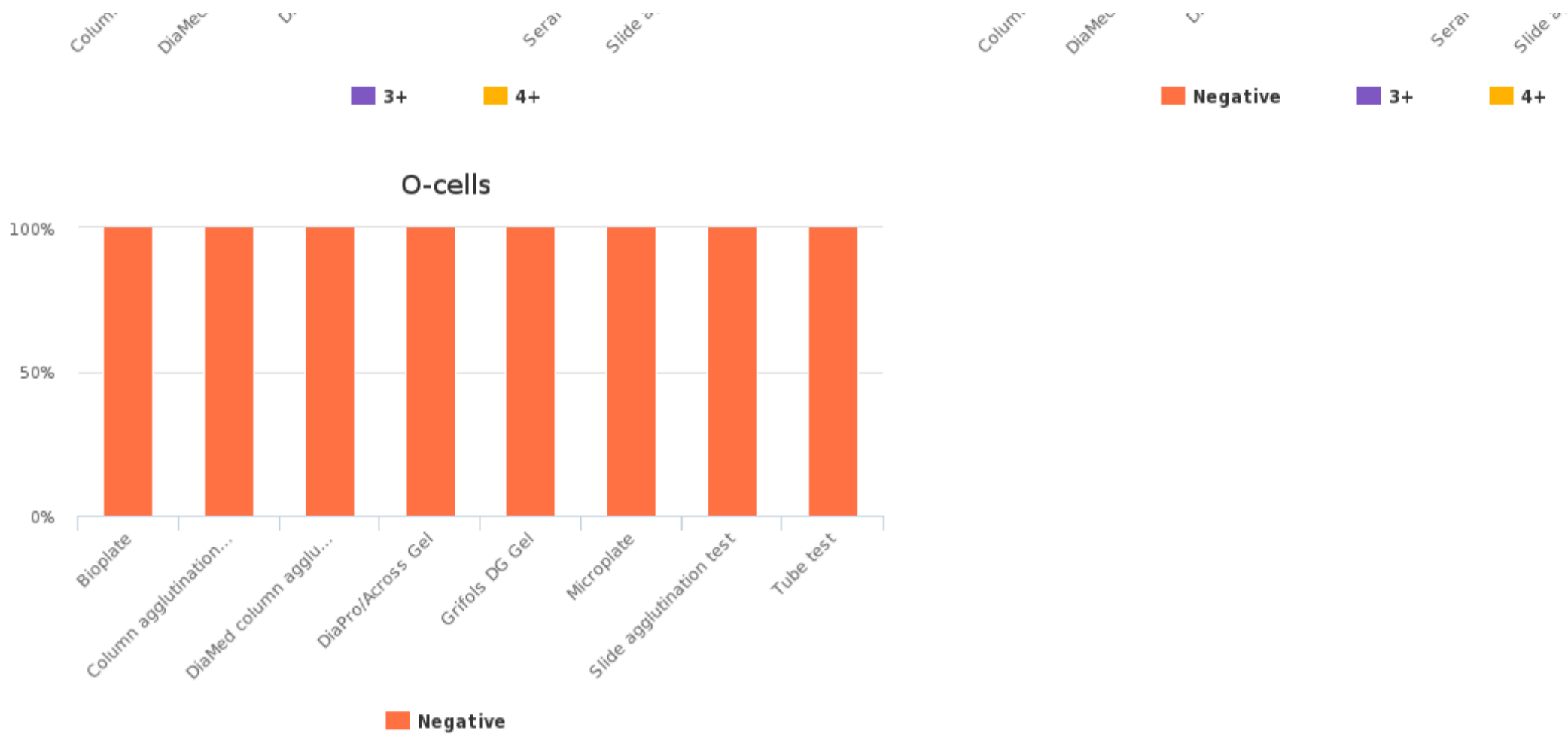
WHOLE ABO GROUP

ABO interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	AB	2	100 %	6
	Column agglutination (BioVue)	AB	34	100 %	6
	DiaMed column agglutination (Bio-Rad)	AB	77	100 %	6
	DiaPro/Across Gel	AB	4	100 %	6
	Grifols DG Gel	AB	10	100 %	6
	Microplate	AB	10	100 %	6
	Serafol card (Bio-Rad)	AB	1	100 %	6
	Slide agglutination test	AB	16	100 %	6
	Tube test	AB	4	100 %	6
	Total:		158	100 %	

WHOLE ABO GROUP

Rh interpretation	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	Positive	2	100 %	2
	Column agglutination (BioVue)	Positive	34	100 %	2
	DiaMed column agglutination (Bio-Rad)	Positive	77	100 %	2
	DiaPro/Across Gel	Positive	4	100 %	2
	Grifols DG Gel	Positive	10	100 %	2
	Microplate	Positive	10	100 %	2
	Serafol card (Bio-Rad)	Positive	1	100 %	2
	Slide agglutination test	Positive	16	100 %	2
	Tube test	Positive	4	100 %	2
	Total:		158	100 %	





WHOLE ABO GROUP

Anti-A	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	4+	35	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	8	10 %	1
		4+	71	90 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	11	100 %	1
	Microplate	4+	9	100 %	1
	Slide agglutination test	2+	1	7 %	0.5
		3+	2	14 %	1
		4+	11	79 %	1
	Tube test	4+	4	100 %	1
	Total:		158	100 %	

WHOLE ABO GROUP

Anti-B	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	3+	2	6 %	1
		4+	33	94 %	1
	DiaMed column agglutination (Bio-Rad)	3+	15	19 %	1
		4+	64	81 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	3+	1	9 %	1
		4+	10	91 %	1
	Microplate	4+	9	100 %	1
	Slide agglutination test	2+	1	7 %	0.5
		3+	3	21 %	1
		4+	10	71 %	1
	Tube test	4+	4	100 %	1
	Total:		158	100 %	

WHOLE ABO GROUP

A1-cells	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	1
	Column agglutination (BioVue)	Negative	32	100 %	1
	Diagast Freelys Nano	Negative	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	75	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	11	100 %	1
	Microplate	Negative	7	100 %	1

	Slide agglutination test	Negative	10	100 %	1
	Tube test	Negative	5	100 %	1
	Total:		147	100 %	

WHOLE ABO GROUP

B-cells	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	1
	Column agglutination (BioVue)	Negative	32	100 %	1
	Diagast Freelys Nano	Negative	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	75	100 %	1
	DiaPro/Across Gel	Negative	4	100 %	1
	Grifols DG Gel	Negative	11	100 %	1
	Microplate	Negative	7	100 %	1
	Slide agglutination test	Negative	10	100 %	1
	Tube test	Negative	5	100 %	1
	Total:		147	100 %	

WHOLE ABO GROUP

Rh-control	Method	Reaction strength	n	%	Score
	Bioplate	Negative	2	100 %	-
	Column agglutination (BioVue)	Negative	33	100 %	-
	DiaMed column agglutination (Bio-Rad)	4+	1	2 %	-
		Negative	64	98 %	-
	DiaPro/Across Gel	Negative	4	100 %	-
	Grifols DG Gel	Negative	10	100 %	-
	Microplate	3+	1	11 %	-
		Negative	8	89 %	-
	Slide agglutination test	(+)	1	14 %	-
		2+	1	14 %	-
		Negative	5	71 %	-
	Tube test	Negative	4	100 %	-
	Total:		134	100 %	

WHOLE ABO GROUP

Anti-AB	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	4+	25	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	2	10 %	1
		4+	17	85 %	1
		Negative	1	5 %	0
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	11	100 %	1
	Microplate	3+	1	10 %	1
		4+	9	90 %	1
	Serafol card (Bio-Rad)	4+	1	100 %	1
	Slide agglutination test	2+	1	8 %	0.5
		3+	3	25 %	1
		4+	8	67 %	1
	Tube test	4+	3	100 %	1
	Total:		88	100 %	

WHOLE ABO GROUP

Anti-D, VI+	Method	Reaction strength	n	%	Score
	Bioplate	4+	2	100 %	1
	Column agglutination (BioVue)	4+	19	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	2	7 %	1
		4+	25	93 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	4+	7	100 %	1
	Microplate	3+	2	29 %	1
		4+	5	71 %	1
	Serafol card (Bio-Rad)	4+	1	100 %	1
	Slide agglutination test	3+	3	30 %	1

		4+	7	70 %	1
	Tube test	4+	2	100 %	1
	Total:		79	100 %	

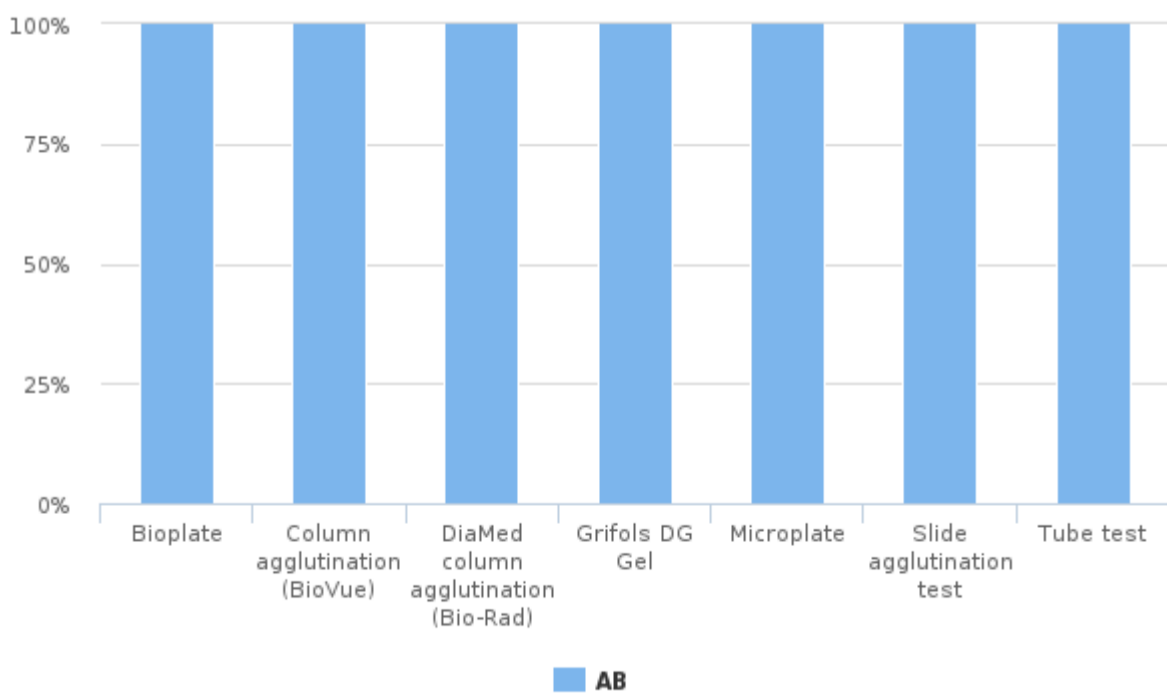
WHOLE ABO GROUP

Anti-D, VI-	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	26	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	13	17 %	1
		4+	64	83 %	1
	DiaPro/Across Gel	4+	4	100 %	1
	Grifols DG Gel	3+	1	9 %	1
		4+	10	91 %	1
	Microplate	3+	2	25 %	1
		4+	5	63 %	1
		Negative	1	13 %	0
	Serafol card (Bio-Rad)	4+	1	100 %	1
	Slide agglutination test	3+	3	38 %	1
		4+	4	50 %	1
		Negative	1	13 %	0
	Tube test	3+	1	25 %	1
		4+	2	50 %	1
		Negative	1	25 %	0
	Total:		140	100 %	

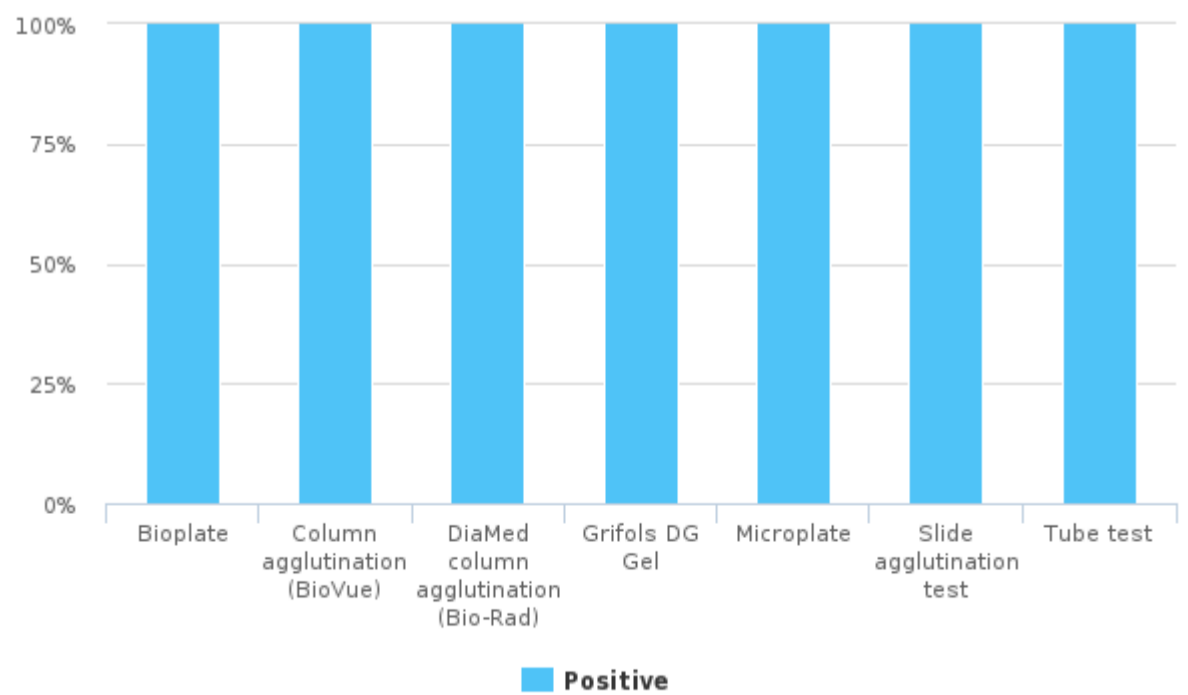
WHOLE ABO GROUP

O-cells	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	1
	Column agglutination (BioVue)	Negative	7	100 %	1
	DiaMed column agglutination (Bio-Rad)	Negative	14	100 %	1
	DiaPro/Across Gel	Negative	2	100 %	1
	Grifols DG Gel	Negative	2	100 %	1
	Microplate	Negative	6	100 %	1
	Slide agglutination test	Negative	4	100 %	1
	Tube test	Negative	3	100 %	1
	Total:		39	100 %	

ABO interpretation (confirmation)



Rh interpretation (confirmation)



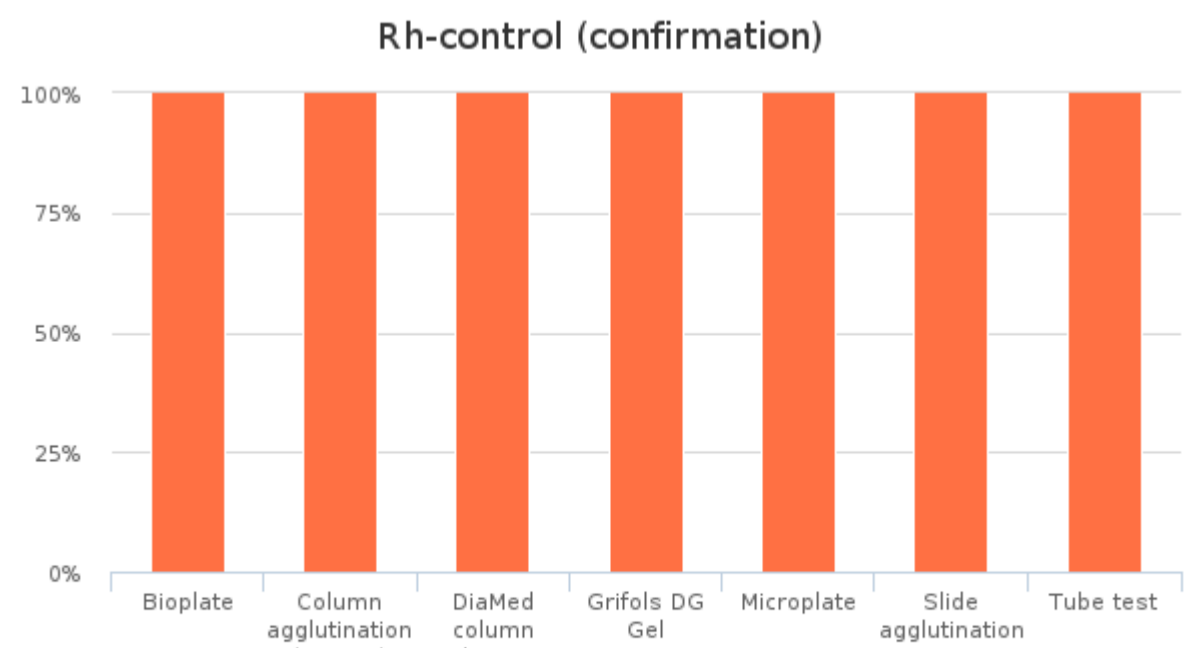
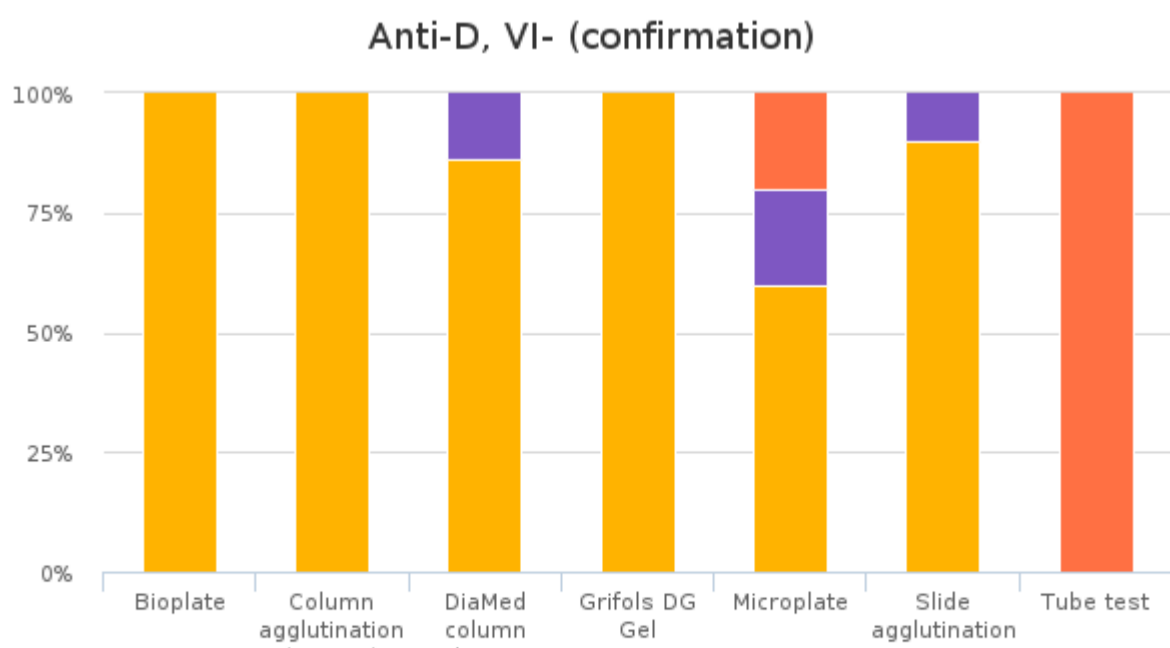
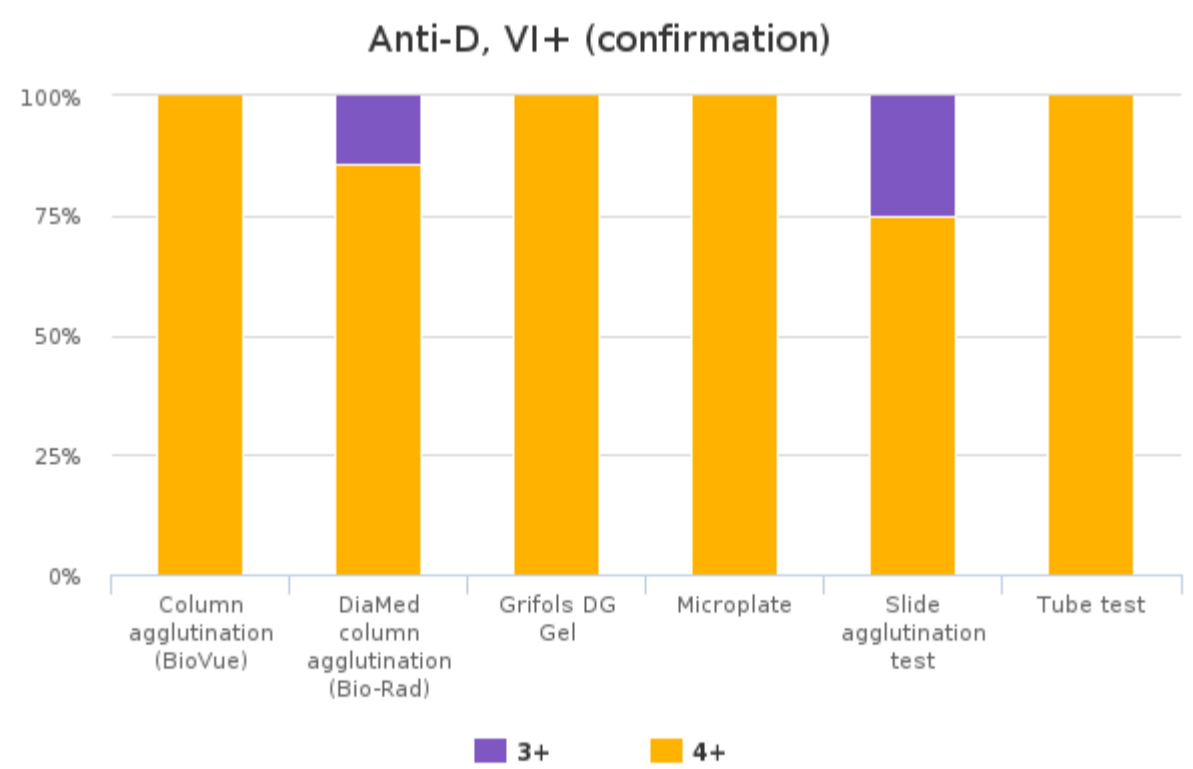
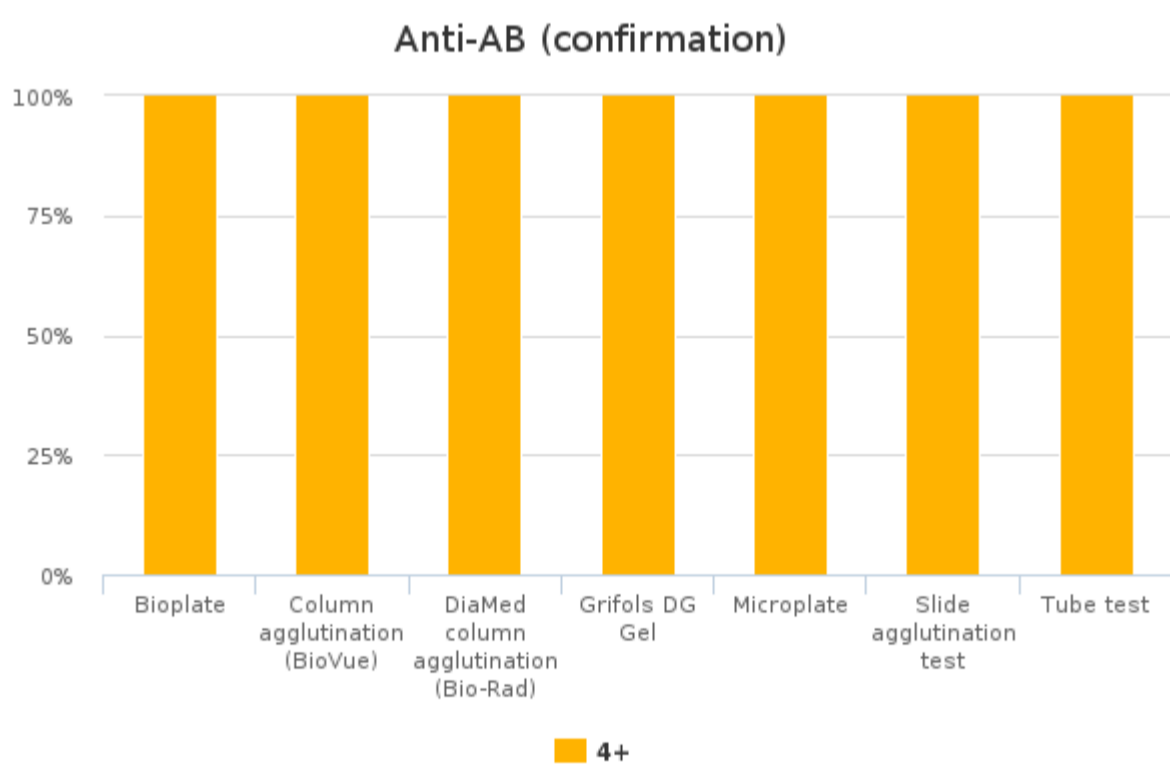
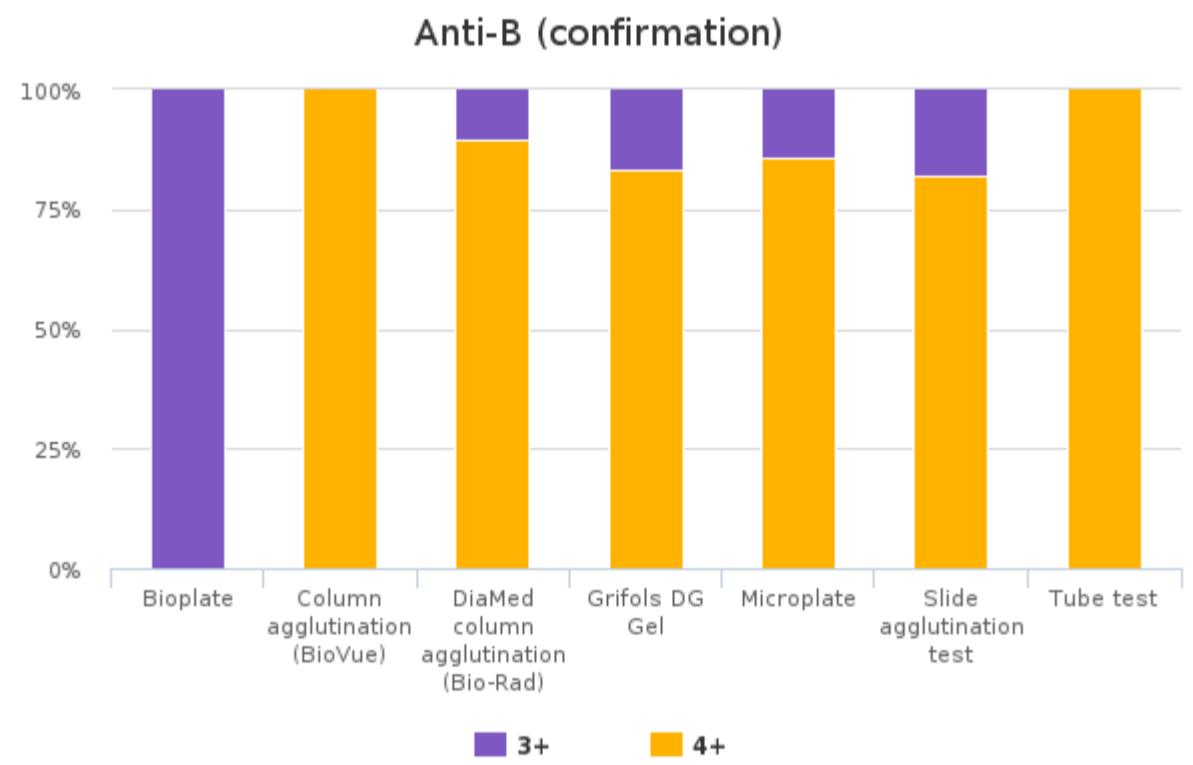
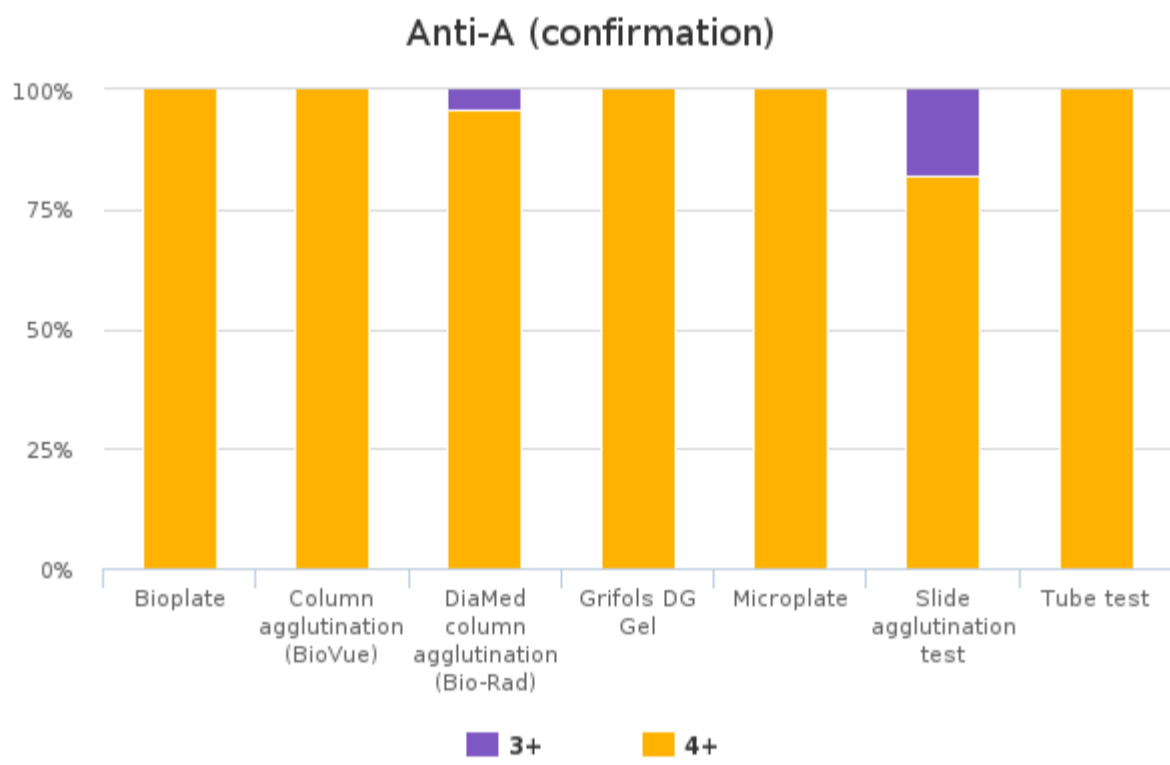
CONFIRMATION ABO GROUP

ABO interpretation (confirmation)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	AB	1	100 %	6
	Column agglutination (BioVue)	AB	6	100 %	6
	DiaMed column agglutination (Bio-Rad)	AB	47	100 %	6
	Grifols DG Gel	AB	6	100 %	6
	Microplate	AB	7	100 %	6

	Slide agglutination test	AB	12	100 %	6
	Tube test	AB	1	100 %	6
	Total:		80	100 %	

CONFIRMATION ABO GROUP

Rh interpretation (confirmation)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Bioplate	Positive	1	100 %	2
	Column agglutination (BioVue)	Positive	6	100 %	2
	DiaMed column agglutination (Bio-Rad)	Positive	47	100 %	2
	Grifols DG Gel	Positive	6	100 %	2
	Microplate	Positive	7	100 %	2
	Slide agglutination test	Positive	12	100 %	2
	Tube test	Positive	1	100 %	2
	Total:		80	100 %	



(BioVue) agglutination
(Bio-Rad)

test

(BioVue) agglutination
(Bio-Rad)

test

■ Negative

■ 3+

■ 4+

■ Negative

CONFIRMATION ABO GROUP

Anti-A (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	6	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	2	4 %	1
		4+	45	96 %	1
	Grifols DG Gel	4+	6	100 %	1
	Microplate	4+	7	100 %	1
	Slide agglutination test	3+	2	18 %	1
		4+	9	82 %	1
	Tube test	4+	1	100 %	1
	Total:		79	100 %	

CONFIRMATION ABO GROUP

Anti-B (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	3+	1	100 %	1
	Column agglutination (BioVue)	4+	6	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	5	11 %	1
		4+	42	89 %	1
	Grifols DG Gel	3+	1	17 %	1
		4+	5	83 %	1
	Microplate	3+	1	14 %	1
		4+	6	86 %	1
	Slide agglutination test	3+	2	18 %	1
		4+	9	82 %	1
	Tube test	4+	1	100 %	1
	Total:		79	100 %	

CONFIRMATION ABO GROUP

Anti-AB (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	4+	9	100 %	1
	Grifols DG Gel	4+	1	100 %	1
	Microplate	4+	6	100 %	1
	Slide agglutination test	4+	9	100 %	1
	Tube test	4+	1	100 %	1
	Total:		31	100 %	

CONFIRMATION ABO GROUP

Anti-D, VI+ (confirmation)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	2	14 %	1
		4+	12	86 %	1
	Grifols DG Gel	4+	2	100 %	1
	Microplate	4+	4	100 %	1
	Slide agglutination test	3+	1	25 %	1
		4+	3	75 %	1
	Tube test	4+	1	100 %	1
	Total:		28	100 %	

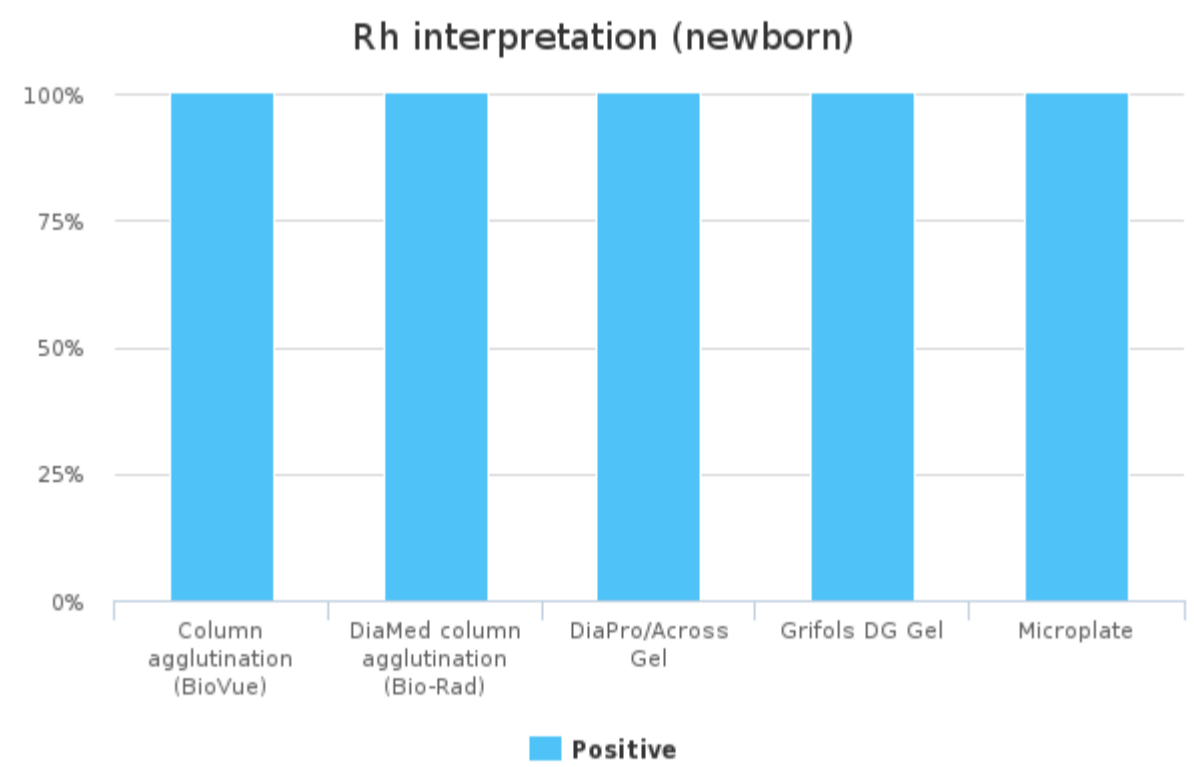
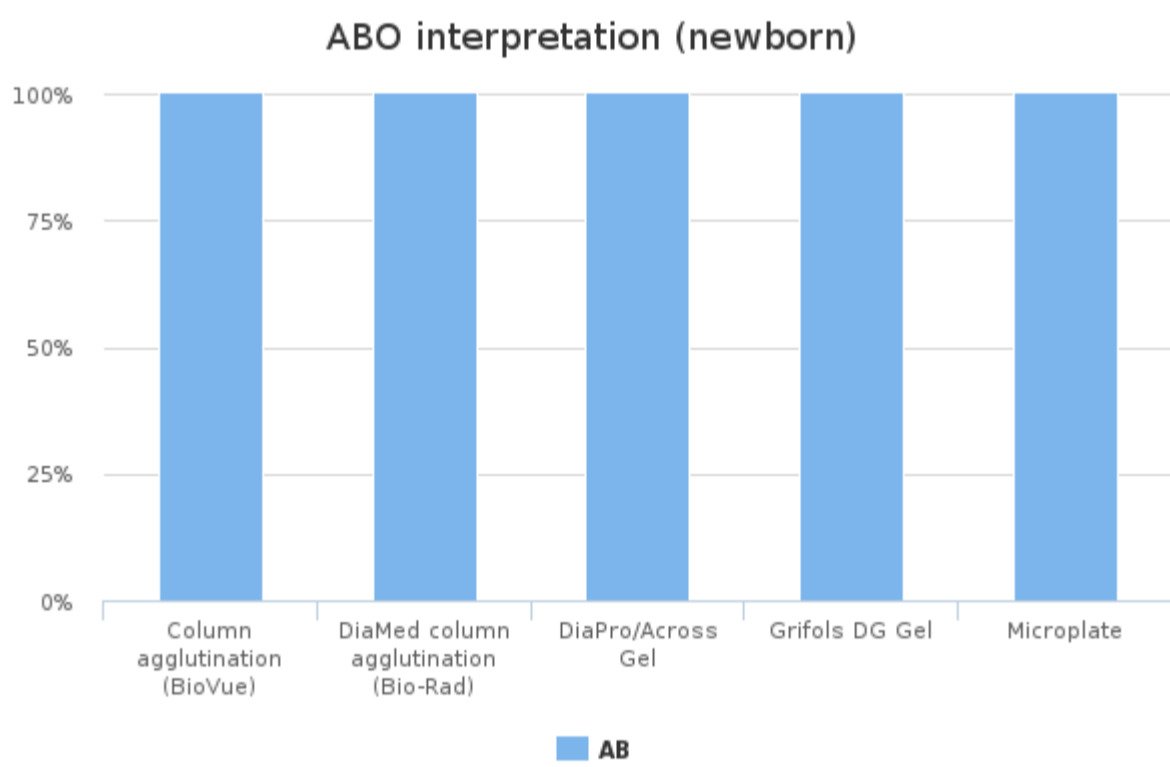
CONFIRMATION ABO GROUP

Anti-D, VI- (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	4+	1	100 %	1
	Column agglutination (BioVue)	4+	5	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	6	14 %	1
		4+	38	86 %	1
	Grifols DG Gel	4+	5	100 %	1

	Microplate	3+	1	20 %	1
		4+	3	60 %	1
		Negative	1	20 %	0
	Slide agglutination test	3+	1	10 %	1
		4+	9	90 %	1
	Tube test	Negative	1	100 %	0
	Total:		71	100 %	

CONFIRMATION ABO GROUP

Rh-control (confirmation)	Method	Reaction strength	n	%	Score
	Bioplate	Negative	1	100 %	-
	Column agglutination (BioVue)	Negative	5	100 %	-
	DiaMed column agglutination (Bio-Rad)	Negative	15	100 %	-
	Grifols DG Gel	Negative	4	100 %	-
	Microplate	Negative	4	100 %	-
	Slide agglutination test	Negative	7	100 %	-
	Tube test	Negative	1	100 %	-
	Total:		37	100 %	



ABO GROUP FOR NEWBORN

ABO interpretation (newborn)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Column agglutination (BioVue)	AB	5	100 %	6
	DiaMed column agglutination (Bio-Rad)	AB	26	100 %	6
	DiaPro/Across Gel	AB	1	100 %	6
	Grifols DG Gel	AB	3	100 %	6
	Microplate	AB	1	100 %	6
	Total:		36	100 %	

ABO GROUP FOR NEWBORN

Rh interpretation (newborn)	Method	Interpretation	Interpretation count	%	Interpretation Score
	Column agglutination (BioVue)	Positive	5	100 %	2
	DiaMed column agglutination (Bio-Rad)	Positive	26	100 %	2
	DiaPro/Across Gel	Positive	1	100 %	2
	Grifols DG Gel	Positive	3	100 %	2
	Microplate	Positive	1	100 %	2
	Total:		36	100 %	



ABO GROUP FOR NEWBORN

Anti-A (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	8	30 %	1
		4+	19	70 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	4+	1	100 %	1
	Total:		37	100 %	

ABO GROUP FOR NEWBORN

Anti-B (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	4	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	7	26 %	1
		4+	20	74 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	3+	1	25 %	1
		4+	3	75 %	1
	Microplate	4+	1	100 %	1
	Total:		37	100 %	

ABO GROUP FOR NEWBORN

Anti-AB (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	9	33 %	1
		4+	18	67 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	3+	1	100 %	1
	Total:		36	100 %	

ABO GROUP FOR NEWBORN

Anti-D, VI+ (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	1	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	8	36 %	1
		4+	14	64 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	4+	1	100 %	1
	Total:		29	100 %	

ABO GROUP FOR NEWBORN

Anti-D, VI- (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	4+	3	100 %	1
	DiaMed column agglutination (Bio-Rad)	3+	7	33 %	1
		4+	14	67 %	1
	DiaPro/Across Gel	4+	1	100 %	1
	Grifols DG Gel	4+	4	100 %	1
	Microplate	3+	1	100 %	1
	Total:		30	100 %	

ABO GROUP FOR NEWBORN

Rh-control (newborn)	Method	Reaction strength	n	%	Score
	Column agglutination (BioVue)	Negative	2	100 %	-
	DiaMed column agglutination (Bio-Rad)	4+	1	4 %	-
		Negative	26	96 %	-
	DiaPro/Across Gel	Negative	1	100 %	-
	Grifols DG Gel	Negative	3	100 %	-
	Microplate	Negative	1	100 %	-
	Total:		34	100 %	

Report Info**PARTICIPANTS**

Altogether 161 laboratories from 15 countries participated in this EQA round.

REPORT INFO

The principles of the scoring will be as follows:

ABO**1. Reaction strengths**

Correct agglutination reaction and grade: 1 point/reaction, altogether 6 points /specimen

Correct reaction, but large difference in reaction grade from the expected: 0.5 points /reaction (eg. 2+ for an expected 4+)

Wrong agglutination reaction: 0 points

2. Interpretation

Correct interpretation: 6 points/specimen, maximum points / specimen = 12

Rh(D)**1. Reaction strengths**

Correct agglutination reaction and grade: 1 point/reaction, altogether 2 points /specimen

Correct reaction, but large difference in reaction grade from the expected: 0.5 points /reaction (eg. 2+ for an expected 4+)

Wrong agglutination reaction: 0 points

2. Interpretation

Correct interpretation: 2 points/specimen, maximum points / specimen = 4

External Quality Assessment Scheme

ABO and Rh Grouping Round 1, 2023

Specimens

Sample S001 and sample S002 were human based whole blood samples.

Based on the previous tests and the results obtained in the round, the samples were homogeneous, stable and suitable for the external quality assessment scheme. The materials were sent without any temperature control packaging.

Sample S001 (LQ714323011): Blood from A RhD negative patient with anti-D and anti-B in plasma.

Sample S002 (LQ714323012): Blood from AB RhD positive patient with no antibodies in plasma.

Report info

Please see the description of the scoring on the last page of the laboratory-specific reports and global reports. It is important to read the Final report first, because it contains important information of the samples and results in each round.

Comments – Expert

ABO group

Sample S001: The expected result was A. There were only few errors made.

Sample S002: The expected result was AB. All participants reported the correct group.

RhD typing

Sample S001: The expected result was RhD negative. No mistakes were made.

Sample S002: The expected result was RhD positive. No mistakes were made.

The results were excellent.

Exceptions in scoring

No exceptions.

End of report

2023-04-17

FINAL REPORT

Product no. 4420

Samples sent	2023-02-27
Round closed	2023-03-20
Final report	2023-04-17

Request for correction

Typing errors in laboratory's result forms are on laboratory's responsibility. Labquality accepts responsibility only for result processing. Requests must be notified by writing within three weeks from the date of this letter.

Authorized by

EQA Coordinator
Iida Silvo
iida.silvo@labquality.fi

Expert

Tomi Koski,
MD, Head of Department
Fimlab Medical Laboratories
Finland

Labquality Oy

Kumpulantie 15
FI-00520 HELSINKI
Finland

Tel. + 358 9 8566 8200

Fax + 358 9 8566 8280

info@labquality.fi
www.labquality.com

