LABQUALITY

External Quality Assessment Scheme

Blood Culture
Round 1, 2023

Specimens
Please find enclosed 2 lyophilized samples S001 and S002, and vials of rehydration fluid, each 0.5 mL.

Caution
The specimens simulate patient samples and should be handled with the same care as patient samples, i.e., as potential transmitters of serious diseases.

Background information
Sample S001
A long-term ICU patient with cannula-related sepsis.

Sample S002
A 23-year-old male with severe wound infection.

Examinations
Blood culture of samples S001 and S002
Antimicrobial susceptibility testing of sample S001

Storage and use
After arrival the samples should be stored at +2…8 °C.

1. Let the sample and the rehydration fluid warm up to room temperature.
2. Cut the foil packet open at the end where you can feel the thicker part of the loop.
3. Remove the plastic sheath from the loop. Break the loop shaft off from handle directly into the tube containing warm rehydration fluid (blue cap).
4. Incubate the tube for 30 minutes at +35…37°C.
5. Check that the black film dissolves completely out of the loop. Mix well and discard the loop.
6. Measure 10 mL of blood (taken from a healthy person or animal) into a sterile tube. *
7. Add 10 µL of rehydrated bacterial sample to the blood. **
8. Mix well the content of the tube.
9. Divide the content of the tube into blood culture bottles: 5 mL in aerobic bottle and 5 mL in anaerobic bottle, or, if only one bottle is used (e.g. Oxoid Signal), add the whole content of the tube into this bottle.

Please note
* To minimize the risk of coagulation, the blood can alternatively be added directly into the blood culture bottles as follows: 5 mL in aerobic bottle and 5 mL in anaerobic bottle, or, if only one bottle is used (e.g. Oxoid Signal) 10 mL directly into the bottle.
** If the blood is added directly into the blood culture bottles proceed as follows; add 10 µL of bacterial sample into 500 µL of 0.9% NaCl, mix well and add 250 µL of this bacterial sample into each blood culture bottle, or if only one bottle is used, add all 500 µL into the bottle.

Incubate like patient samples.

Result reporting
Kindly report your results via LabScala (www.labscala.com). See short guidance for filling the e-form on next page.

2023-02-21

INSTRUCTIONS

Product no. 5100
LQ761823011-012/US
UN3373

Subcontracting: Sample pretesting

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 17, 2023.**

The expected results of the round are published in LabScala in the View Reports section by March 21, 2023.

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FINAS
Finnish Accreditation Service
PT02 (EN ISO/IEC 17043)

Quality Management LQ ISO 9001:2015

First report the growth medium and the incubation period. Add each result by clicking the plus button at the end of row. Next fill in your *Report to the clinician* by choosing the appropriate options in *Finding* and *Further handling.* Report possible identification test results (by gram staining, biochemical identification tests and analyzers, MALDI-TOF, NAT and DNA sequencing). You may report only one gram stain result/finding; however, multiple results may be reported for the other identification tests. Remember to add each result by clicking the plus button at the end of row.

You may report multiple microbe findings by clicking the *Add finding* -button at the end of the blue bar with text *Microbe*.

Report to the clinician part will be scored merely.

Reporting of antimicrobial susceptibility testing results for sample S001
Report which guideline is followed in your laboratory for susceptibility testing procedures. As the NORDIC AST breakpoint values are based on the corresponding values published in the EUCAST guideline, the laboratories following NORDIC AST should select EUCAST as their reference group.

For the disk diffusion method, report the inhibitory zone diameter (mm). The value should be between 5 and 55 mm for the result to be accepted in the result processing. For MIC method, report the MIC value as mg/L. Note, that a rounded MIC result is to be reported in addition to the actual MIC result. Only the rounded values are included in the report. Guidance for correct rounding can be found in table below and is also available in LabScala (click the i-button in column "MIC result, rounded"). The rounded MIC value should always be selected from the list on the result form, also when it is the same as the actual obtained MIC result (see examples below guidance table). In the last column report the corresponding SIR interpretation (Sensitive/Intermediate/Resistant). The interpretation should be reported by taking into consideration possible resistance mechanisms of the microbe.

Guidance for the rounding of MIC values

E-test or other MIC test result (mg/L)	Rounded value (mg/L)
<0.002, <0.003, 0.002	0.002
<0.004, <0.006, 0.003, 0.004	0.004
<0.008, <0.012, 0.006, 0.008	0.008
<0.015, <0.016, <0.023, 0.012, 0.015, 0.016	0.016
<0.03, <0.032, <0.047, 0.023, 0.03, 0.032	0.032
<0.06, <0.064, <0.094, 0.047, 0.06, 0.064	0.064
<0.12, <0.125, <0.19, 0.094, 0.12, 0.125	0.125
<0.25, <0.38, 0.19, 0.25	0.25
<0.5, <0.75, 0.38, 0.5	0.5
<1, <1.5, >0.5, 0.75, 1	1
<2, <3, >1, >1.5, 1.5, 2	2
<4, <6, >2, >3, 3, 4	4
<12, <8, >4, >6, 6, 8	8
<16, <24, >12, >8, 12, 16	16
<32, <48, >16, >24, 24, 32	32
<64, <96, >32, >48, 48, 64	64
<128, <192, >64, >96, 128, 96	128
<256, <384, >128, >192, 192, 256	256
<512, <768, >256, >384, 384, 512	512
<1024, <1536, >512, >768, 1024, 768	1024
<2048, >1024, >1536, 1536, 2048	2048

Example 1: Obtained test result is 0.002 mg/L, rounded value is 0.002 mg/L
Example 2: Obtained test result is 0.003 mg/L, rounded value is 0.004 mg/L
Example 3: Obtained test result is >16 mg/L, rounded value is 32 mg/L

For combination antibiotics note the following:
When the used MIC method gives the result of trimethoprim-sulfamethoxazole (used in ratio 1:19) as a common value of both components and not merely as a value of the trimethoprim component (which is 1/20 of the total), you should divide the result with 20 and thereafter round the value according to the table above. Example: the MIC method gives the result >320 mg/L, which is divided by 20 and yields the result >16 mg/L. After the rounding (see table above) the result is reported as 32 mg/L.

When the result for a combination antibiotic (e.g. piperacillin-tazobactam) includes the value of both components, report the MIC value of the actual antibiotic component (in this case piperacillin) merely. Example: Obtained test result is >128/4 mg/L, the non-rounded MIC value is reported as >128 mg/L and the rounded MIC value is 256 mg/L.

Kindly contact the EQA Coordinator if you need assistance with filling the result form.

Blood Culture

S001

S002

LABQUALITY

Blood culture, March, 1-2023

Report to the clinician

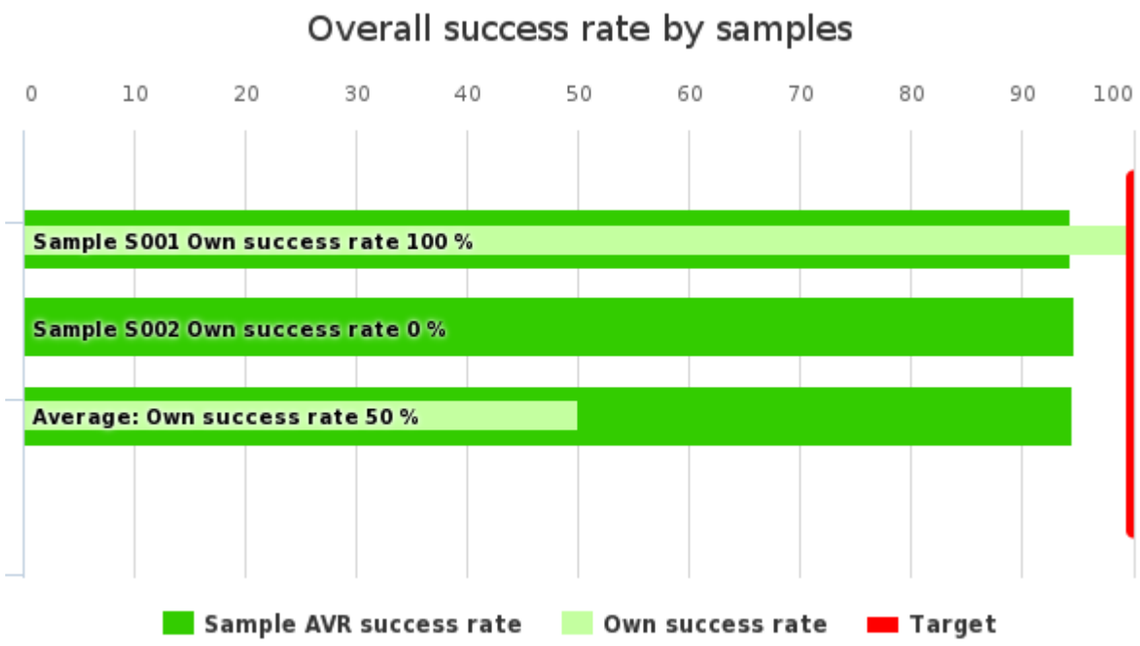
xxxxx

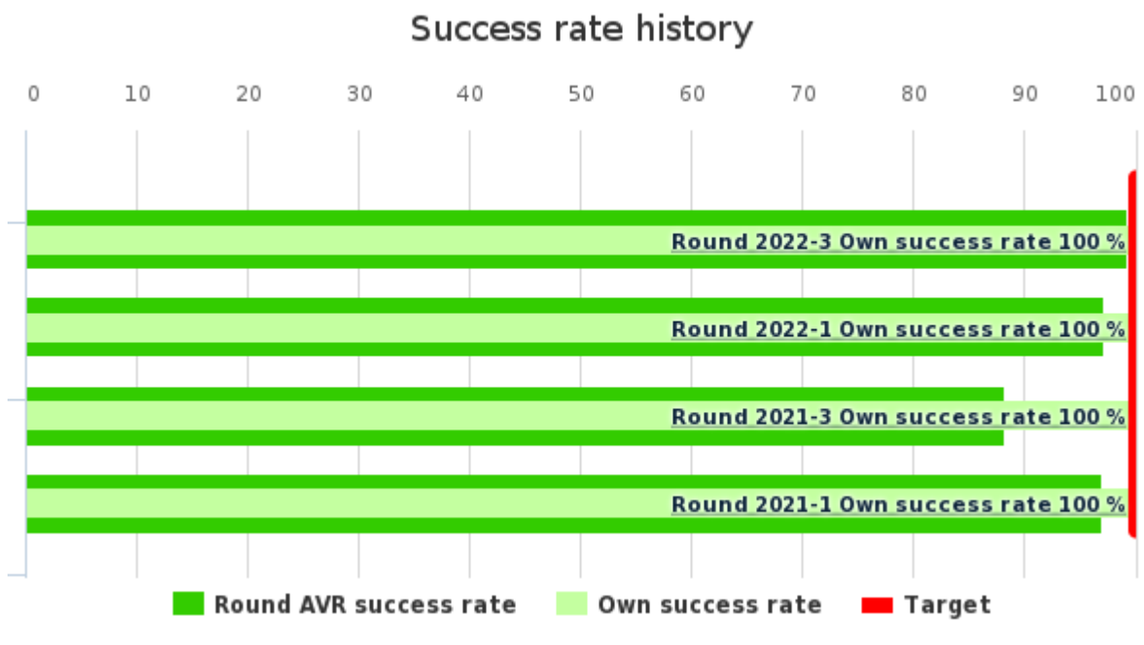
Client report

	No of participants	No of responded participants	Response percentage
Blood culture, March, 1-2023	138	135	97.8 %

Summary

Blood culture (5100)



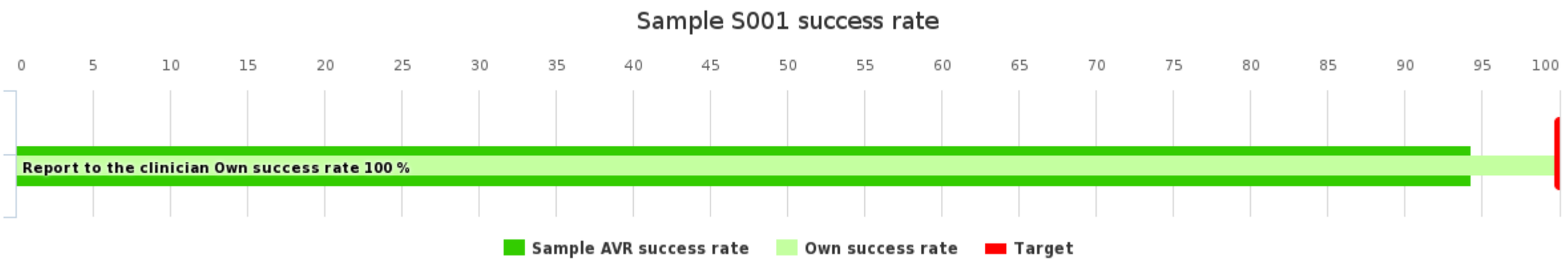


Summary	Own score	Max score	Own success rate	Difference	AVR success rate
Sample S001	4	4	100 %	5.7 %	94.3 %
Sample S002	0	4	0 %	-94.8 %	94.8 %
Average:			50 %	-44.5 %	94.5 %

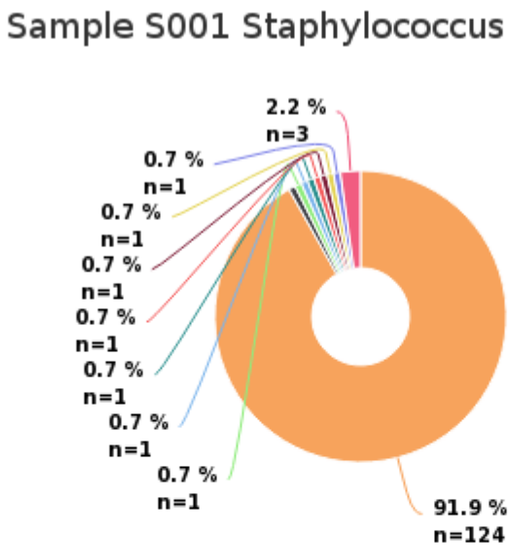
History	Test nr.	Own success rate	Difference	AVR success rate
Round 2022-3	1	100 %	0.7 %	99.3 %
Round 2022-1	1	100 %	2.8 %	97.2 %
Round 2021-3	1	100 %	11.8 %	88.2 %
Round 2021-1	1	100 %	2.9 %	97.1 %

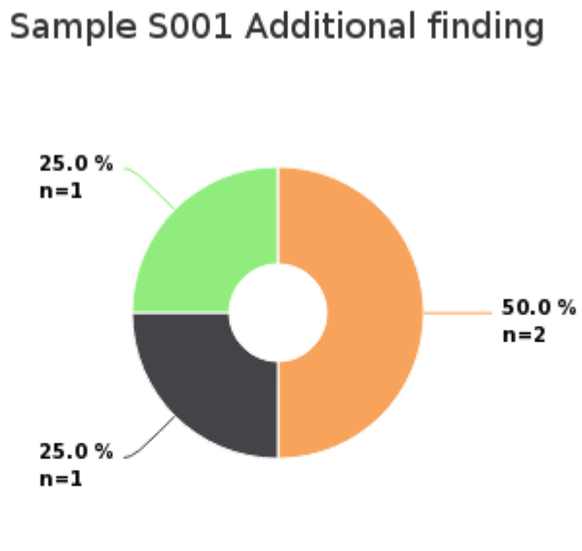
Sample S001 | Staphylococcus epidermidis

Blood culture (5100)



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	94.3 %	139





LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
Staphylococcus epidermidis	Staphylococcus epidermidis	Not referred for further examination	4	4	100 %	5.7 %	94.3 %
Total:			4	4	100 %	5.7 %	94.3 %

REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Staphylococcus epidermidis		**135**			**94.3 %**
	◉ Staphylococcus epidermidis	124	28	◉ 96	
	Staphylococcus sp., coagulase negative	1		1	
	Staphylococcus sp.	1	1		
	Aerobe grampositive cocci in chains	1	1		
	Staphylococcus lugdunensis	1		1	
	Staphylococcus haemolyticus	1		1	
	Staphylococcus aureus	1		1	
	Streptococcus bovis -group	1		1	
	Streptococcus viridans -group	1		1	
	Streptococcus pyogenes	3	1	2	
Additional finding		**4**			**-**
	Staphylococcus epidermidis	2		2	
	Staphylococcus warneri	1		1	
	Bacillus sp.	1		1	

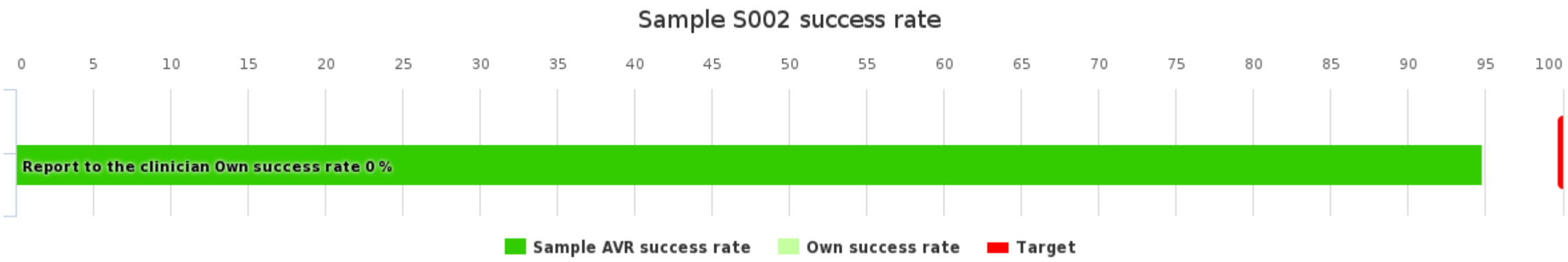
Total:		139			94.3 %

SCORING SUMMARY

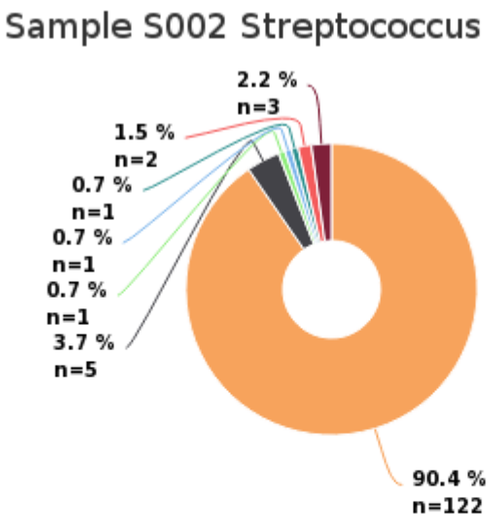
Finding group	Finding	Finding score	Referred	Max score
Staphylococcus epidermidis				**4**
	Staphylococcus epidermidis	4		4
	Staphylococcus sp., coagulase negative	2		4
	Staphylococcus sp.	2	1	4
	Aerobe grampositive cocci in chains	1	1	4
	Staphylococcus lugdunensis	2		4
	Staphylococcus haemolyticus	2		4
	Staphylococcus aureus	2		4
	Streptococcus bovis -group	0		4
	Streptococcus viridans -group	0		4
	Streptococcus pyogenes	0		4
Additional finding				**-**
	Staphylococcus epidermidis	-		-
	Staphylococcus warneri	-		-
	Bacillus sp.	-		-
Total:				4

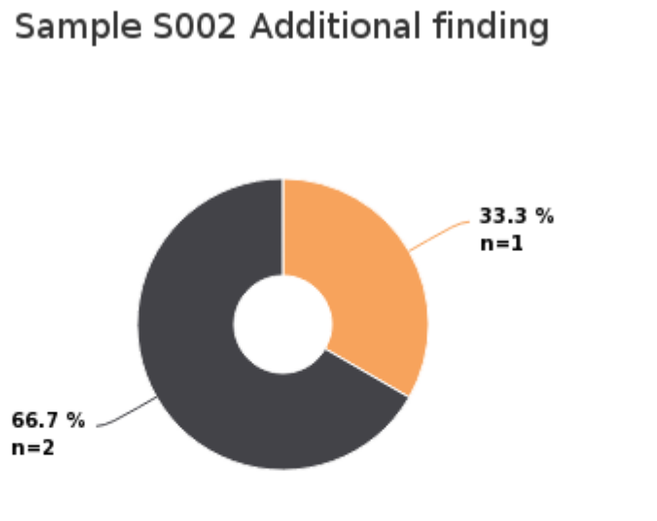
Sample S002 | Streptococcus pyogenes

Blood culture (5100)



Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	94.8 %	138





LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
Streptococcus pyogenes	No growth/Negative	Not referred for further examination	0	4	0 %	-94.8 %	94.8 %
Total:			0	4	0 %	-94.8 %	94.8 %

REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Streptococcus pyogenes		**135**			**94.8 %**
	Streptococcus pyogenes	122	59	63	
	Streptococcus sp., beta-hemolytic, Group A	5	2	3	
	Aerobe grampositive cocci in chains	1	1		
	Streptococcus agalactiae (Group B)	1		1	
	Streptococcus pneumoniae	1		1	
	Staphylococcus epidermidis	2	1	1	
	◉ No growth/Negative	3		◉ 3	
Additional finding		**3**			**-**
	Streptococcus pyogenes	1	1		
	Staphylococcus aureus	2	1	1	
Total:		138			94.8 %

SCORING SUMMARY

Finding group	Finding	Finding score	Referred	Max score
Streptococcus pyogenes				**4**
	Streptococcus pyogenes	4		4

	Streptococcus sp., beta-hemolytic, Group A	4		4
	Aerobe grampositive cocci in chains	1	1	4
	Streptococcus agalactiae (Group B)	2		4
	Streptococcus pneumoniae	0		4
	Staphylococcus epidermidis	0		4
	No growth/Negative	0		4
Additional finding				**-**
	Streptococcus pyogenes	-		-
	Staphylococcus aureus	-		-
Total:				4

Report Info

PARTICIPANTS

Altogether 213 laboratories from 22 countries participated in this EQA round.

REPORT INFO

On the front page you can see summaries of overall success rate and sample specific success rates which have been calculated from the scores. The reported results and the scores are presented in the same report but in separate tables.
In general, the expected results are marked with green color. Accepted results may also be indicated with yellow color. Laboratory's own results are indicated with a black radio button ◉. In the participant specific report there is also a laboratory specific scoring table for each sample, where you can find your own result and the scores given.
If you have not reported results you will get a note: "You have not responded in time, only global report is available".
For information on report interpretation and performance evaluation, please see the "EQAS Interpretation guidelines" in LabScala User instructions. In case you have any questions regarding the reports, please contact the EQA Coordinator.

SCORING

The results in the "Report to the clinician" part can be scored when at least 60% of the participants have reported the correct/expected result and when there are at least three reported results.
The report includes a sample specific scoring summary.
Laboratory's scores have been converted to percentage (own success rate, % from maximum scores) with a target at 100%. Own success rate is compared with the success rate of all results.

The following general rules are applied:
4 points is reached by reporting the expected result
1-3 points is given to results that are partly correct/insufficient regarding the expected finding
0 points is given for an incorrect/false result

LABQUALITY

Blood culture, March, 1-2023

Identification test results

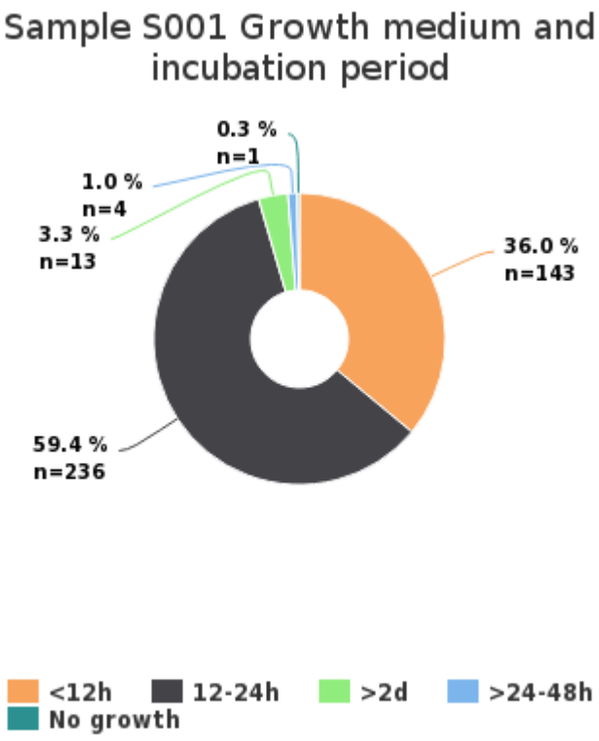
xxxxx

Client report

	No of participants	No of responded participants	Response percentage
Blood culture, March, 1-2023	138	135	97.8 %
Blood culture, screening, March, 1-2023	75	73	97.3 %

Sample S001 | Staphylococcus epidermidis

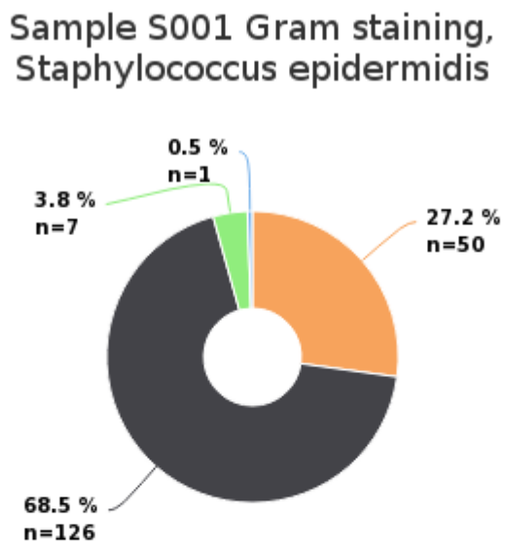
Sample S001 results	Responded	Count
	Growth medium and incubation period	397
	Gram staining	190
	Identification test kits and analyzers	36
	Identification tests: MALDI-TOF	111
	Identification tests: NAT and DNA-sequencing	21

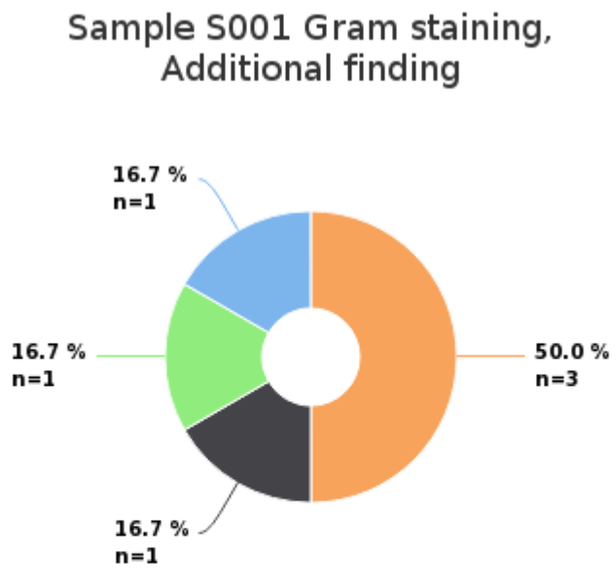


GROWTH MEDIUM AND INCUBATION PERIOD

Medium type	Growth medium	No growth	<12h	12-24h	>24-48h	>2d	Growth medium count
◉ Aerobic bottle							
	BacT/ALERT BPA bioMerieux		2	1			3
	BacT/ALERT FA bioMerieux		3	4			7
	BacT/ALERT FA plus bioMerieux		31	30	1	1	63
	BacT/ALERT PF bioMerieux		2	3			5
	BacT/ALERT SA bioMerieux		7	12		1	20
	BD Bactec Peds Plus/F Becton Dickinson		4	8		1	13
	◉ BD Bactec Plus Aerobic/F Becton Dickinson		20	◉ 57	1	3	81
	BD Bactec Standard/10 Aerobic/F Becton Dickinson	1	2	2			5
	VersaTREK Redoz 1EZ Thermo Scientific		1				1
Aerobic- and anaerobic bottle							
	Oxoid Signal Blood Culture System Thermo Scientific		3	14	1		18
◉ Anaerobic bottle							
	BacT/ALERT BPN bioMerieux		2				2
	BacT/ALERT FN bioMerieux		1	3			4
	BacT/ALERT FN plus bioMerieux		15	48	1	1	65
	BacT/ALERT SN bioMerieux		9	12		1	22
	BD Bactec Lytic/10 Anaerobic/F Becton Dickinson		32	22		2	56
	◉ BD Bactec Plus Anaerobic/F Becton Dickinson		6	◉ 18		3	27
	BD Bactec Standard/10 Anaerobic/F Becton Dickinson		3	2			5
Total:		1	143	236	4	13	397

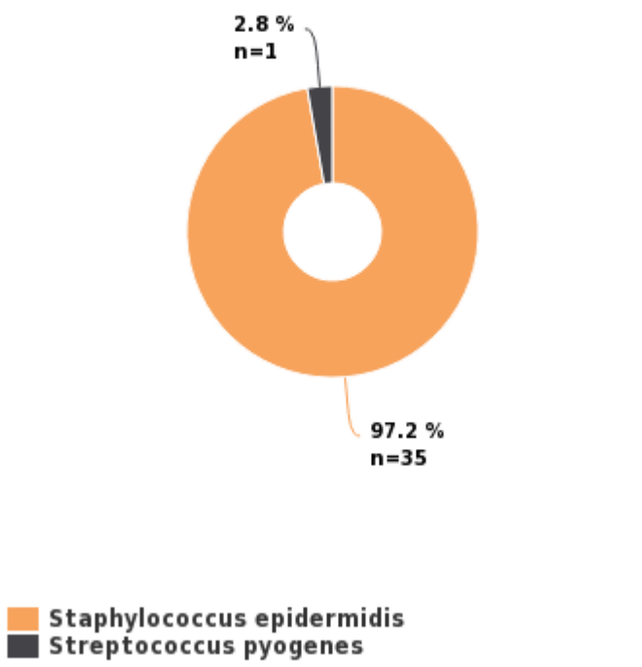
Identification test results

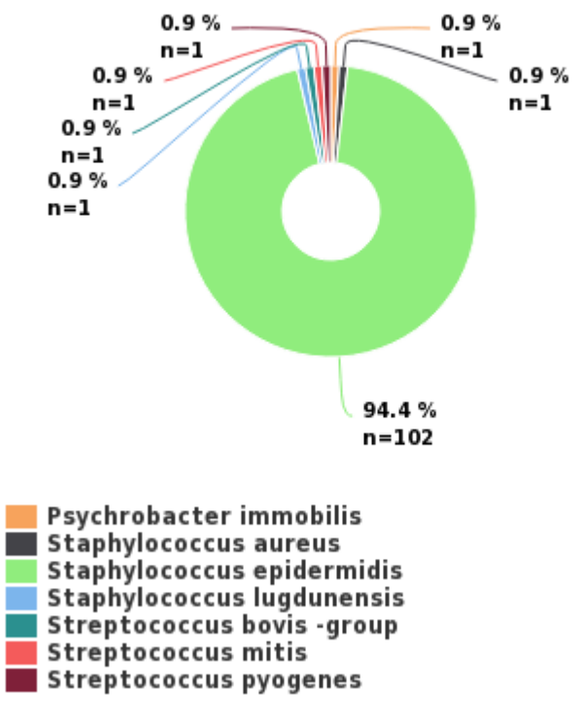


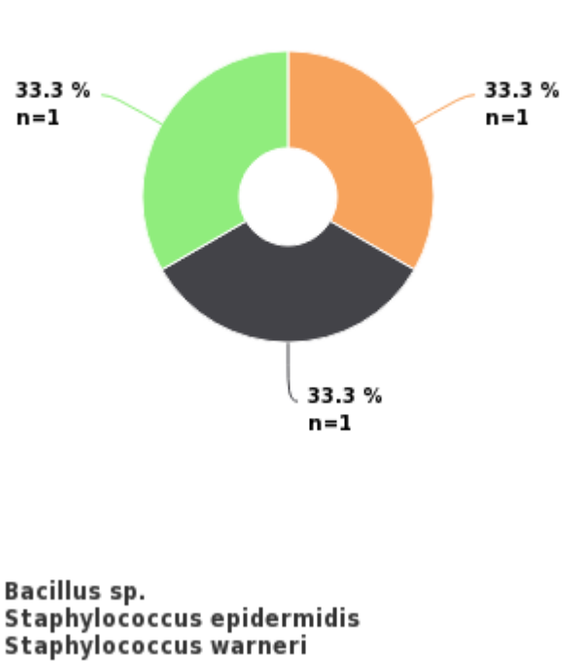


GRAM STAINING

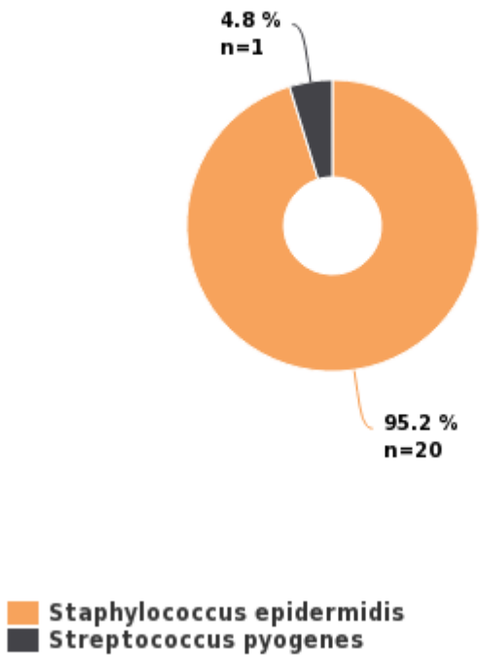
Finding group	Result	Result count
Staphylococcus epidermidis		**184**
	Grampositive cocci	50
	◉ Grampositive cocci in clusters	126
	Grampositive cocci in chains	7
	Gramnegative rod	1
Additional finding		**6**
	Grampositive cocci	3
	Grampositive cocci in clusters	1
	Grampositive rod	1
	Gram variable rod	1
Total:		190







Sample S001 Identification tests: NAT and DNA-sequencing, Staphylococcus epidermidis



IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Staphylococcus epidermidis	MicroScan Walk-Away (Beckman Coulter)	Staphylococcus epidermidis	N/A	2
	VITEK 2 (bioMerieux)	Staphylococcus epidermidis	0704000076721231	1
			110000076621211	1
			070400076621211	2
			030400076621231	3
			030400076621211	2
			020400074620211	1
			020000074621211	1
			010400074621211	1
			010000056220211	1
			01040054620211	1
			GP2422277103351648	1
			GP	1
			N/A	8
		Streptococcus pyogenes	N/A	1
	VITEK 2 Compact 15 (bioMerieux)	Staphylococcus epidermidis	030400076621211	1
			030000076621211	1
			000400074620211	1
	VITEK 2 Compact 30 (bioMerieux)	Staphylococcus epidermidis	030400076621231	1
			030400076621211	1
			030400074620211	1
			000400074621211	1
			N/A	2
Total:				36

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Staphylococcus epidermidis	Autof MALDI-ToF (Chirus)	Staphylococcus epidermidis	9.5..10	1
	MALDI Biotyper (Bruker)	Psychrobacter immobilis	≥1.7..<2	1
		Staphylococcus aureus	≥2	1
		Staphylococcus epidermidis	≥2	61
			≥1.7..<2	5
			N/A	1
		Streptococcus bovis -group	≥2	1
		Streptococcus mitis	≥2	1
	VITEK MS (bioMérieux)	Staphylococcus epidermidis	99,9 %	28
			99 %	2
			91,4 %	1
			N/A	3
		Staphylococcus lugdunensis	99,9 %	1

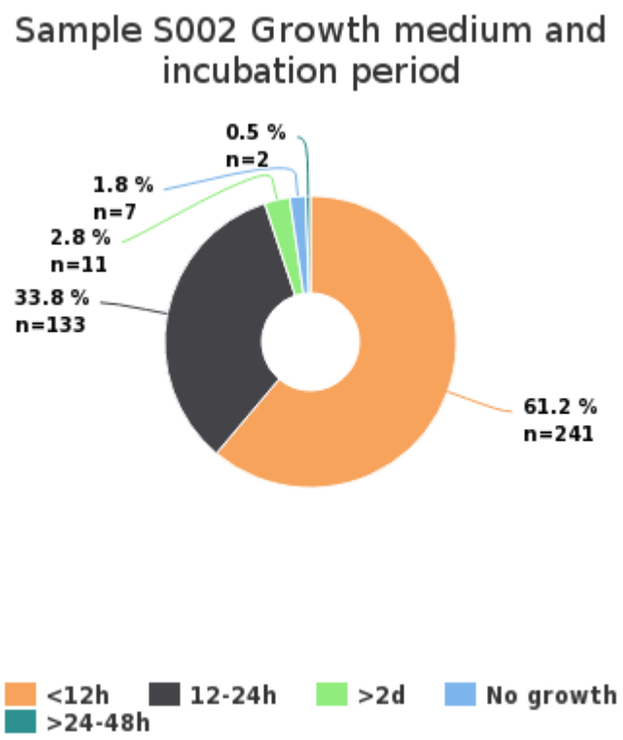
		Streptococcus pyogenes	99,9 %	1
Additional finding	MALDI Biotyper (Bruker)	Bacillus sp.	≥1.7..<2	1
		Staphylococcus epidermidis	≥2	1
		Staphylococcus warneri	≥2	1
Total:				111

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

Finding group	Method	Result	Result count
Staphylococcus epidermidis	BioFire Filmarray BCID2 Panel (bioMerieux)	Staphylococcus epidermidis	16
		Streptococcus pyogenes	1
	ePlex BCID-GP Panel (GenMark)	Staphylococcus epidermidis	3
	NAT, In house	Staphylococcus epidermidis	1
Total:			21

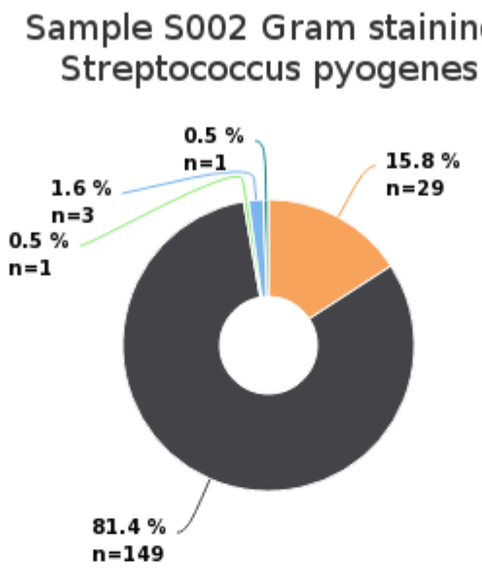
Sample S002 | Streptococcus pyogenes

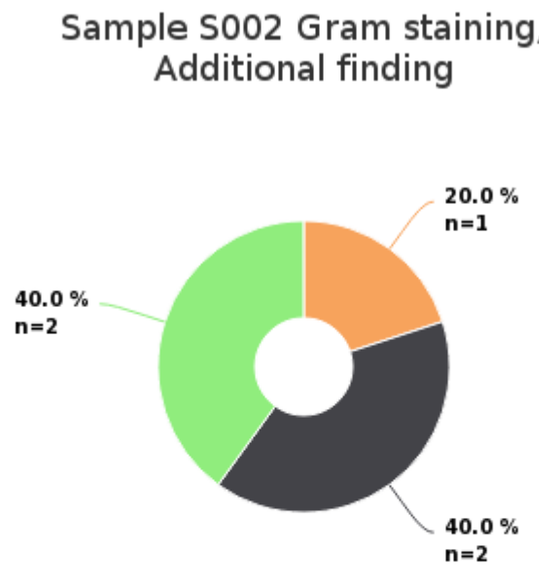
Sample S002 results	Responded	Count
	Growth medium and incubation period	394
	Gram staining	188
	Identification test kits and analyzers	32
	Identification tests: MALDI-TOF	103
	Identification tests: NAT and DNA-sequencing	23



GROWTH MEDIUM AND INCUBATION PERIOD

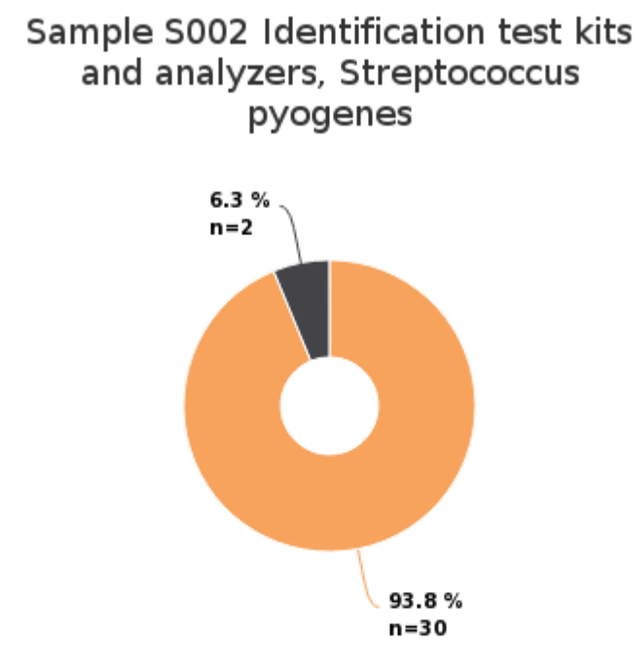
Medium type	Growth medium	No growth	<12h	12-24h	>24-48h	>2d	Growth medium count
◉ Aerobic bottle							
	BacT/ALERT BPA bioMerieux		3				3
	BacT/ALERT FA bioMerieux		4	4			8
	BacT/ALERT FA plus bioMerieux	1	39	23	1		64
	BacT/ALERT PF bioMerieux		2	2			4
	BacT/ALERT SA bioMerieux	1	8	9		1	19
	BD Bactec Peds Plus/F Becton Dickinson		8	4		1	13
	◉ BD Bactec Plus Aerobic/F Becton Dickinson	◉ 2	59	17		3	81
	BD Bactec Standard/10 Aerobic/F Becton Dickinson		3	2			5
	VersaTREK Redoz 1EZ Thermo Scientific		1				1
Aerobic- and anaerobic bottle							
	Oxoid Signal Blood Culture System Thermo Scientific		5	12		1	18
◉ Anaerobic bottle							
	BacT/ALERT BPN bioMerieux		2				2
	BacT/ALERT FN bioMerieux		1	3			4
	BacT/ALERT FN plus bioMerieux		33	31	1		65
	BacT/ALERT SN bioMerieux	1	12	7		1	21
	BD Bactec Lytic/10 Anaerobic/F Becton Dickinson		43	8		2	53
	◉ BD Bactec Plus Anaerobic/F Becton Dickinson	◉ 2	17	10		2	31
	BD Bactec Standard/10 Anaerobic/F Becton Dickinson		1	1			2
Total:		7	241	133	2	11	394

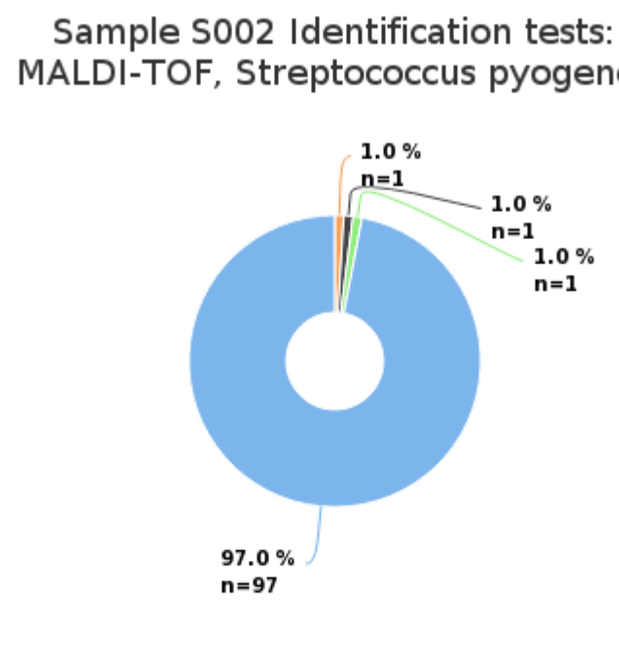


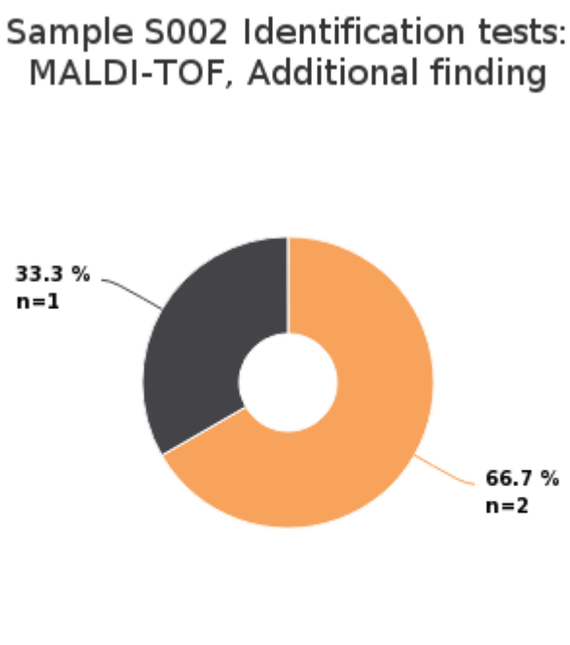


GRAM STAINING

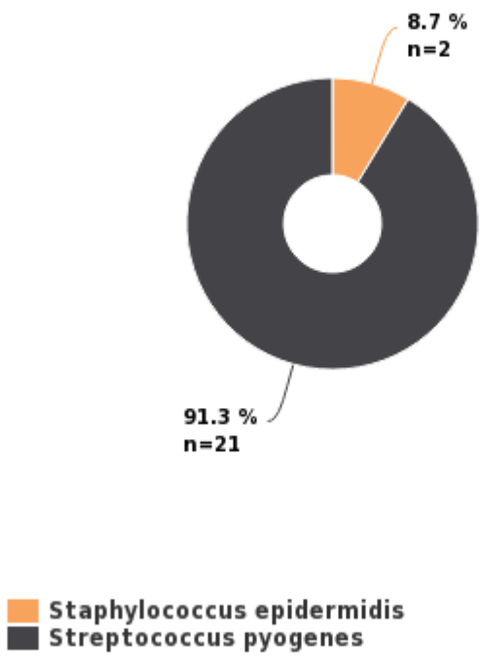
Finding group	Result	Result count
Streptococcus pyogenes		**183**
	Grampositive cocci	29
	Grampositive cocci in chains	149
	Grampositive cocci in clusters	1
	Grampositive diplococci	3
	Yeast	1
Additional finding		**5**
	Grampositive cocci	1
	Grampositive cocci in chains	2
	Grampositive cocci in clusters	2
Total:		188







Sample S002 Identification tests: NAT and DNA-sequencing, Streptococcus pyogenes



IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Streptococcus pyogenes	BBL Crystal Gram-Positive ID Kit (Becton Dickinson)	Streptococcus pyogenes	N/A	1
	MicroScan Walk-Away (Beckman Coulter)	Streptococcus pyogenes	N/A	2
	RapID STR (Thermo Scientific)	Streptococcus sp., beta-hemolytic, Group A	N/A	1
	VITEK 2 (bioMerieux)	Streptococcus pyogenes	051412364713671	1
			051412364713271	1
			051412360713271	1
			051412360313671	1
			051412360311671	1
			051412360311471	1
			051412344313071	1
			051412304313031	1
			051412300311271	2
			011412364313671	1
			011412364313271	1
			011412324211031	1
			GP	1
			GP 2422277103351703	1
			N/A	5
		Streptococcus sp., beta-hemolytic, Group A	N/A	1
	VITEK 2 Compact 15 (bioMerieux)	Streptococcus pyogenes	051412324313271	1
			1514123443431	1
	VITEK 2 Compact 30 (bioMerieux)	Streptococcus pyogenes	051412364313271	1
			051412320313271	1
			011412364311071	1
			N/A	2
Total:				32

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Streptococcus pyogenes	MALDI Biotyper (Bruker)	Streptococcus agalactiae (Group B)	≥2	1
		Streptococcus pyogenes	≥2	64
			≥1.7..<2	1
			N/A	1
	VITEK MS (bioMérieux)	Staphylococcus epidermidis	99,9 %	1
		Streptococcus pneumoniae	99,9 %	1
		Streptococcus pyogenes	99,9 %	27
			99 %	1
			N/A	3
Additional finding	MALDI Biotyper (Bruker)	Staphylococcus aureus	≥2	2

		Streptococcus pyogenes	≥2	1
Total:				103

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

Finding group	Method	Result	Result count
Streptococcus pyogenes	BioFire Filmarray BCID2 Panel (bioMerieux)	Staphylococcus epidermidis	2
		Streptococcus pyogenes	16
	ePlex BCID-GP Panel (GenMark)	Streptococcus pyogenes	3
	NAT, In house	Streptococcus pyogenes	2
Total:			23

LABQUALITY

Blood culture, March, 1-2023

Antimicrobial susceptibility testing results

XXXXX

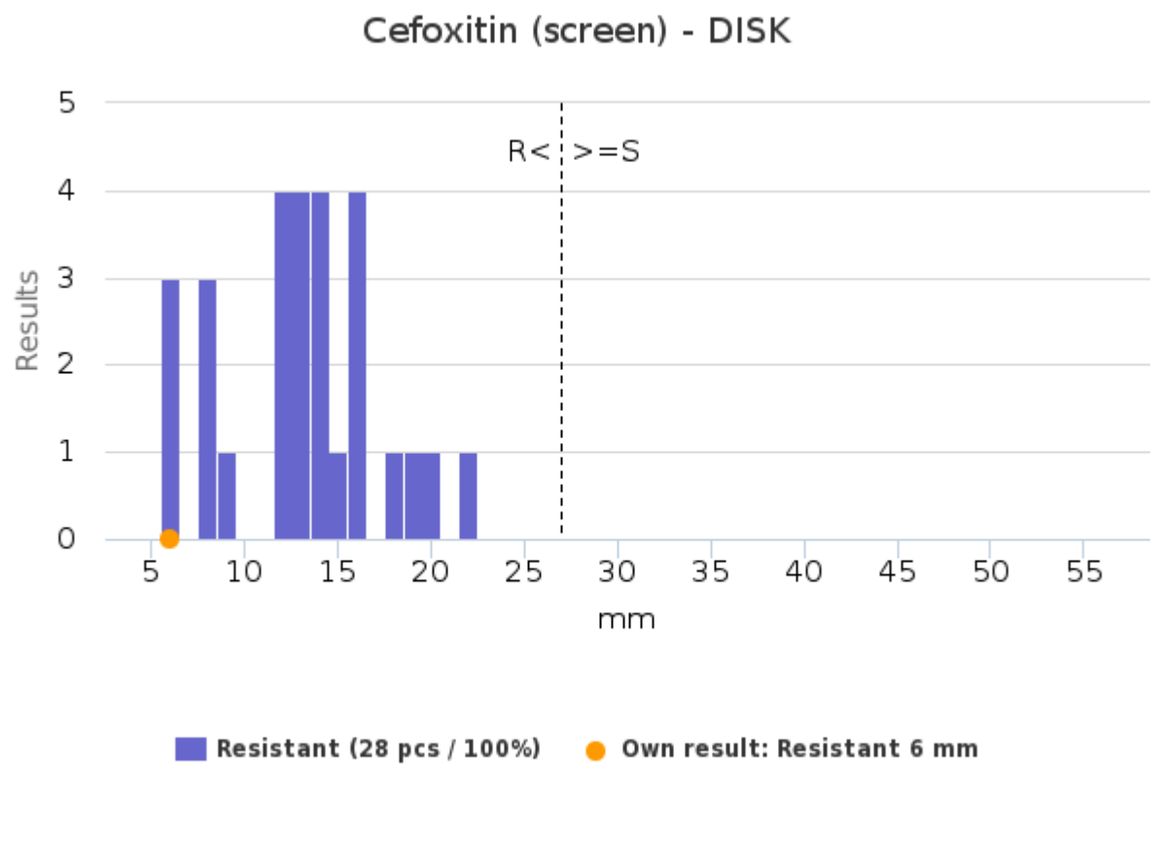
Sample S001

Staphylococcus epidermidis **KSKS 2852**

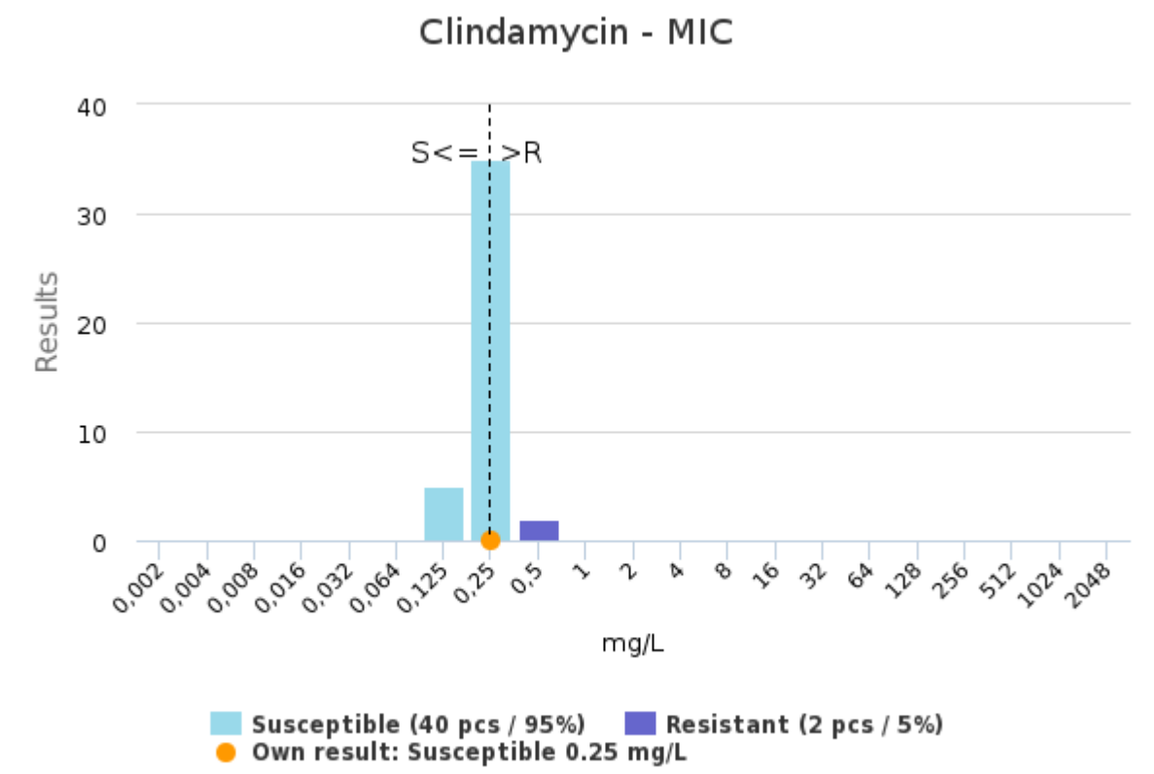
		DISK							MIC					
Antimicrobial agent	**Guideline**	**Own result (mm)**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Own result (mg/L)**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Cefoxitin (screen)	CA-SFM	**-**	13	8	0 (0%)	0 (0%)	3 (100%)	3	**-**	-	-	-	-	-
	EUCAST	**6** ◉	13	4	0 (0%)	0 (0%)	28 (100%) ◉	28	**-**	8	0 (0%)	0 (0%)	5 (100%)	5
	All				**0 (0%)**	**0 (0%)**	**31 (100%)**	**31**			**0 (0%)**	**0 (0%)**	**5 (100%)**	**5**
Clindamycin	CLSI	**-**	30	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.25	5 (100%)	0 (0%)	0 (0%)	5
	CA-SFM	**-**	31	4	13 (100%)	0 (0%)	0 (0%)	13	**-**	0.25	13 (100%)	0 (0%)	0 (0%)	13
	EUCAST	**-**	28	3	45 (100%)	0 (0%)	0 (0%)	45	**0.25** ◉	0.25	40 (95%) ◉	0 (0%)	2 (5%)	42
	All				**59 (100%)**	**0 (0%)**	**0 (0%)**	**59**			**58 (97%)**	**0 (0%)**	**2 (3%)**	**60**
Daptomycin	CLSI	**-**	-	-	-	-	-	-	**-**	0.5	3 (100%)	0 (0%)	0 (0%)	3
	CA-SFM	**-**	-	-	-	-	-	-	**-**	0.5	16 (100%)	0 (0%)	0 (0%)	16
	EUCAST	**-**	-	-	-	-	-	-	**0.5** ◉	0.5	33 (100%) ◉	0 (0%)	0 (0%)	33
	All				**0**	**0**	**0**	**0**			**52 (100%)**	**0 (0%)**	**0 (0%)**	**52**
Erythromycin	CLSI	**-**	28	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.25	5 (100%)	0 (0%)	0 (0%)	5
	CA-SFM	**-**	33	3	13 (100%)	0 (0%)	0 (0%)	13	**-**	0.5	14 (100%)	0 (0%)	0 (0%)	14
	EUCAST	**-**	30	3	42 (98%)	0 (0%)	1 (2%)	43	**1** ◉	0.5	37 (97%) ◉	0 (0%)	1 (3%)	38
	All				**56 (98%)**	**0 (0%)**	**1 (2%)**	**57**			**56 (98%)**	**0 (0%)**	**1 (2%)**	**57**
Fusidic acid	CLSI	**-**	-	-	-	-	-	-	**-**	32	0 (0%)	0 (0%)	1 (100%)	1
	CA-SFM	**-**	12	2	0 (0%)	0 (0%)	13 (100%)	13	**-**	16	0 (0%)	0 (0%)	12 (100%)	12
	EUCAST	**-**	9	2	0 (0%)	0 (0%)	34 (100%)	34	**32** ◉	32	1 (4%)	0 (0%)	26 (96%) ◉	27
	All				**0 (0%)**	**0 (0%)**	**47 (100%)**	**47**			**1 (3%)**	**0 (0%)**	**39 (98%)**	**40**
Gentamycin	CLSI	**-**	33	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.5	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	**-**	30	2	13 (100%)	0 (0%)	0 (0%)	13	**-**	0.5	14 (100%)	0 (0%)	0 (0%)	14
	EUCAST	**-**	27	3	40 (100%)	0 (0%)	0 (0%)	40	**0.25** ◉	0.5	39 (98%) ◉	0 (0%)	1 (3%)	40
	All				**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**			**54 (98%)**	**0 (0%)**	**1 (2%)**	**55**
Levofloxacin	CLSI	**-**	-	-	-	-	-	-	**-**	0.25	1 (50%)	1 (50%)	0 (0%)	2
	CA-SFM	**-**	32	2	3 (38%)	5 (63%)	0 (0%)	8	**-**	0.25	3 (21%)	11 (79%)	0 (0%)	14
	EUCAST	**-**	29	2	1 (7%)	13 (93%)	0 (0%)	14	**0.25** ◉	0.25	2 (10%)	18 (90%) ◉	0 (0%)	20
	All				**4 (18%)**	**18 (82%)**	**0 (0%)**	**22**			**6 (17%)**	**30 (83%)**	**0 (0%)**	**36**
Linezolid	CLSI	**-**	33	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	1	3 (100%)	0 (0%)	0 (0%)	3
	CA-SFM	**-**	30	3	11 (100%)	0 (0%)	0 (0%)	11	**-**	1	13 (100%)	0 (0%)	0 (0%)	13
	EUCAST	**-**	28	4	42 (100%)	0 (0%)	0 (0%)	42	**1** ◉	1	43 (100%) ◉	0 (0%)	0 (0%)	43
	All				**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**			**59 (100%)**	**0 (0%)**	**0 (0%)**	**59**
Oxacillin	CLSI	**-**	-	-	-	-	-	-	**-**	8	0 (0%)	0 (0%)	5 (100%)	5
	CA-SFM	**-**	-	-	-	-	-	-	**-**	4	0 (0%)	0 (0%)	13 (100%)	13
	EUCAST	**-**	-	-	-	-	-	-	**4** ◉	8	1 (3%)	0 (0%)	35 (97%) ◉	36
	All				**0**	**0**	**0**	**0**			**1 (2%)**	**0 (0%)**	**53 (98%)**	**54**
Rifampicin	CLSI	**-**	38	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.032	2 (100%)	0 (0%)	0 (0%)	2
	CA-SFM	**-**	37	4	12 (100%)	0 (0%)	0 (0%)	12	**-**	0.032	13 (93%)	0 (0%)	1 (7%)	14
	EUCAST	**-**	36	3	38 (100%)	0 (0%)	0 (0%)	38	**0.032** ◉	0.032	26 (100%) ◉	0 (0%)	0 (0%)	26
	All				**51 (100%)**	**0 (0%)**	**0 (0%)**	**51**			**41 (98%)**	**0 (0%)**	**1 (2%)**	**42**

		DISK							MIC					
Antimicrobial agent	**Guideline**	**Own result (mm)**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Own result (mg/L)**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Trimethoprim-sulfamethoxazole	CLSI	**-**	6	-	0 (0%)	0 (0%)	1 (100%)	1	**-**	32	3 (75%)	0 (0%)	1 (25%)	4
	CA-SFM	**-**	9	3	1 (8%)	0 (0%)	12 (92%)	13	**-**	32	9 (69%)	0 (0%)	4 (31%)	13
	EUCAST	**-**	9	4	3 (9%)	2 (6%)	28 (85%)	33	**32** ◉	4	12 (50%) ◉	5 (21%)	7 (29%)	24
	All				**4 (9%)**	**2 (4%)**	**41 (87%)**	**47**			**24 (59%)**	**5 (12%)**	**12 (29%)**	**41**
Vancomycin	CLSI	**-**	-	-	-	-	-	-	**-**	-	5 (100%)	0 (0%)	0 (0%)	5
	CA-SFM	**-**	-	-	-	-	-	-	**-**	2	22 (100%)	0 (0%)	0 (0%)	22
	EUCAST	**-**	16	3	4 (100%)	0 (0%)	0 (0%)	4	**2** ◉	2	65 (100%) ◉	0 (0%)	0 (0%)	65
	All				**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**			**92 (100%)**	**0 (0%)**	**0 (0%)**	**92**

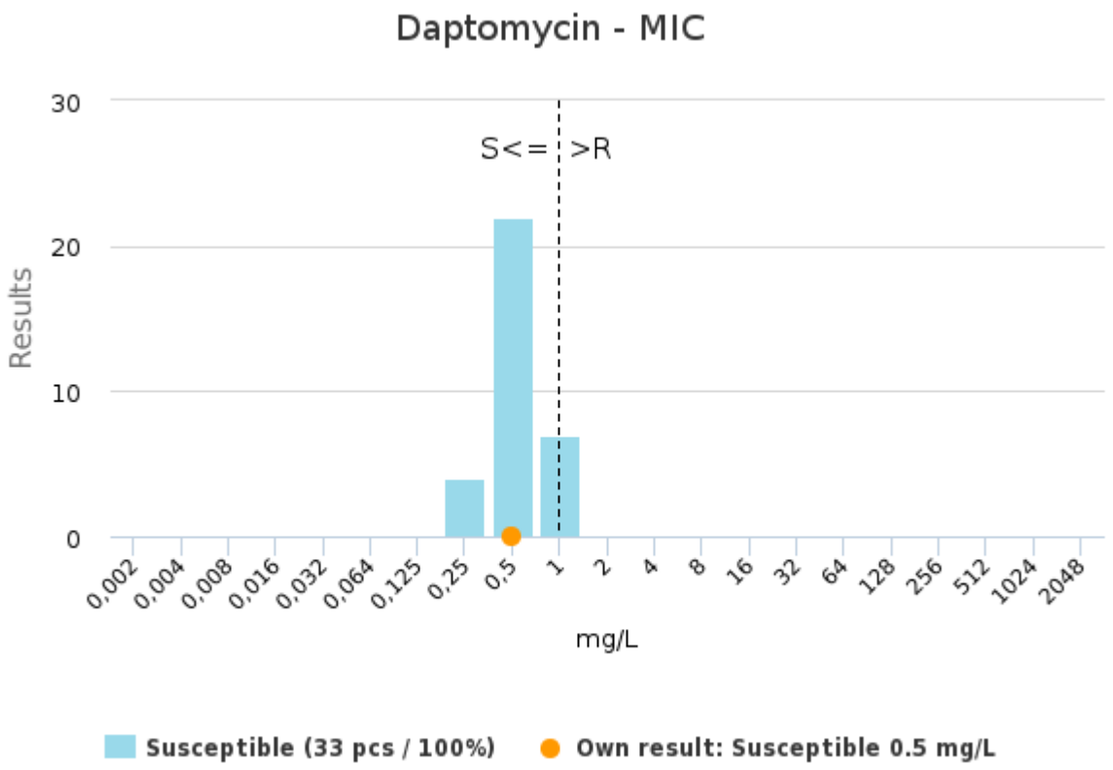
Sample S001 | EUCAST



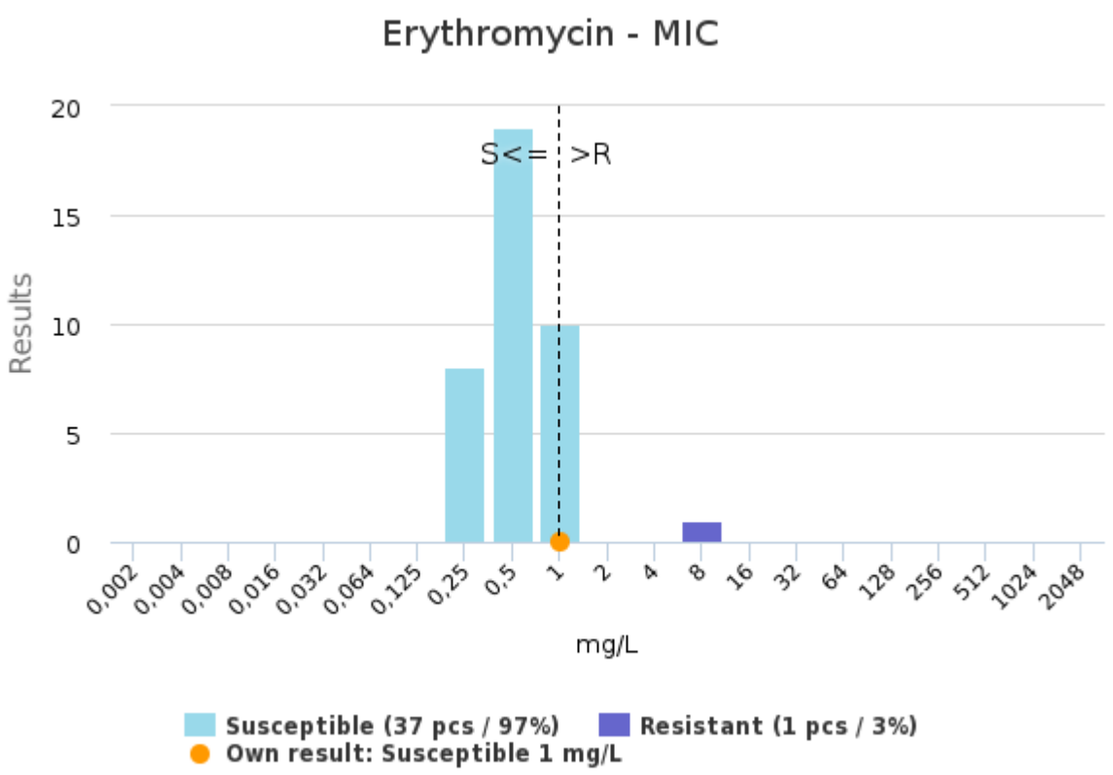
	x	sd	min	max	n
Cefoxitin (screen)	13 mm	4	6	22	28



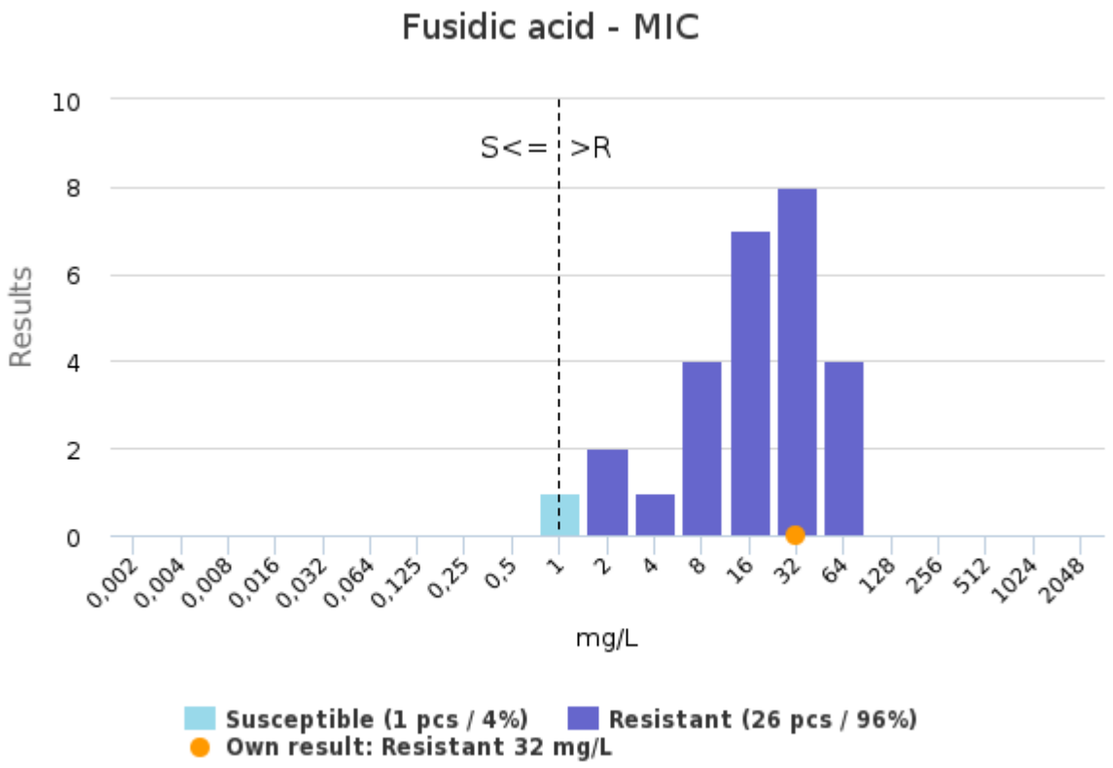
	Mo	min	max	n
Clindamycin	0.25	0.125	0.5	42



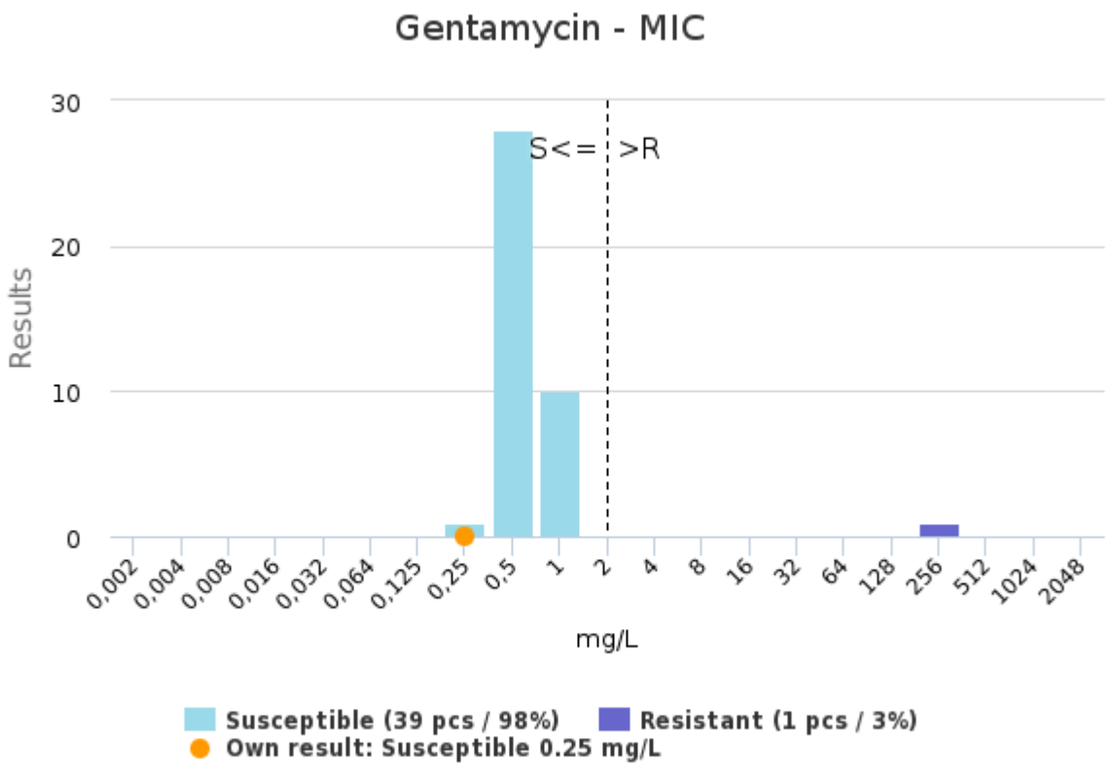
	Mo	min	max	n
Daptomycin	0.5	0.25	1	33



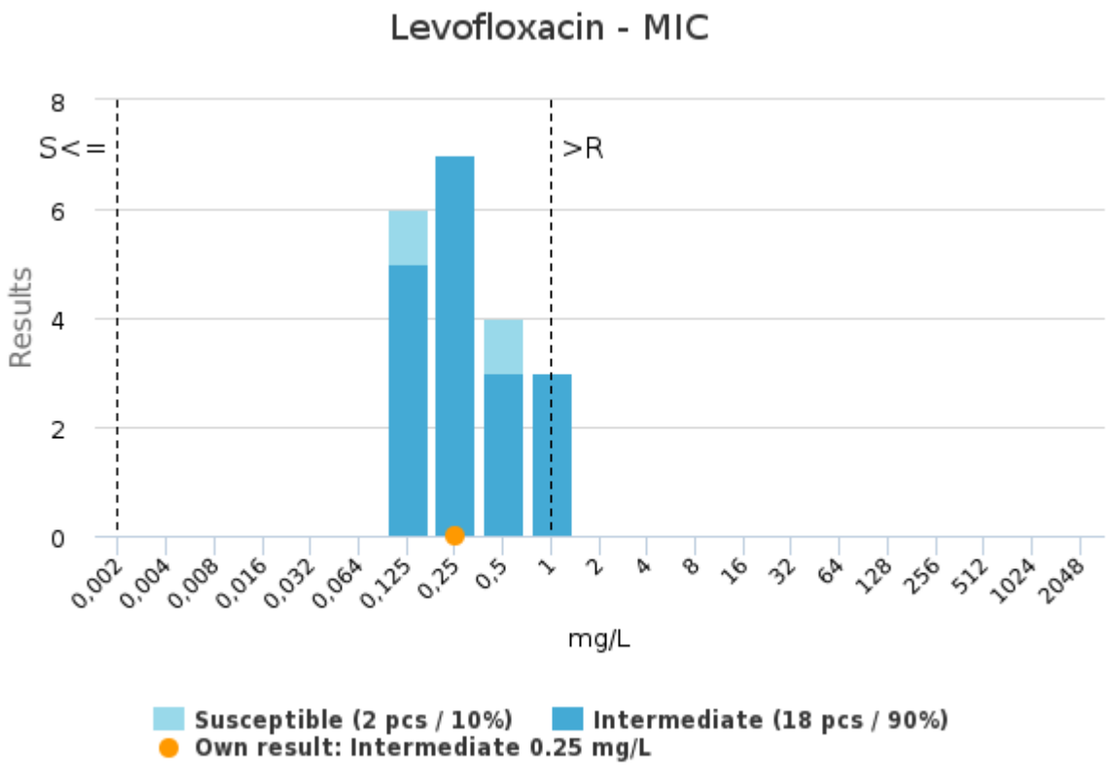
	Mo	min	max	n
Erythromycin	0.5	0.25	8	38



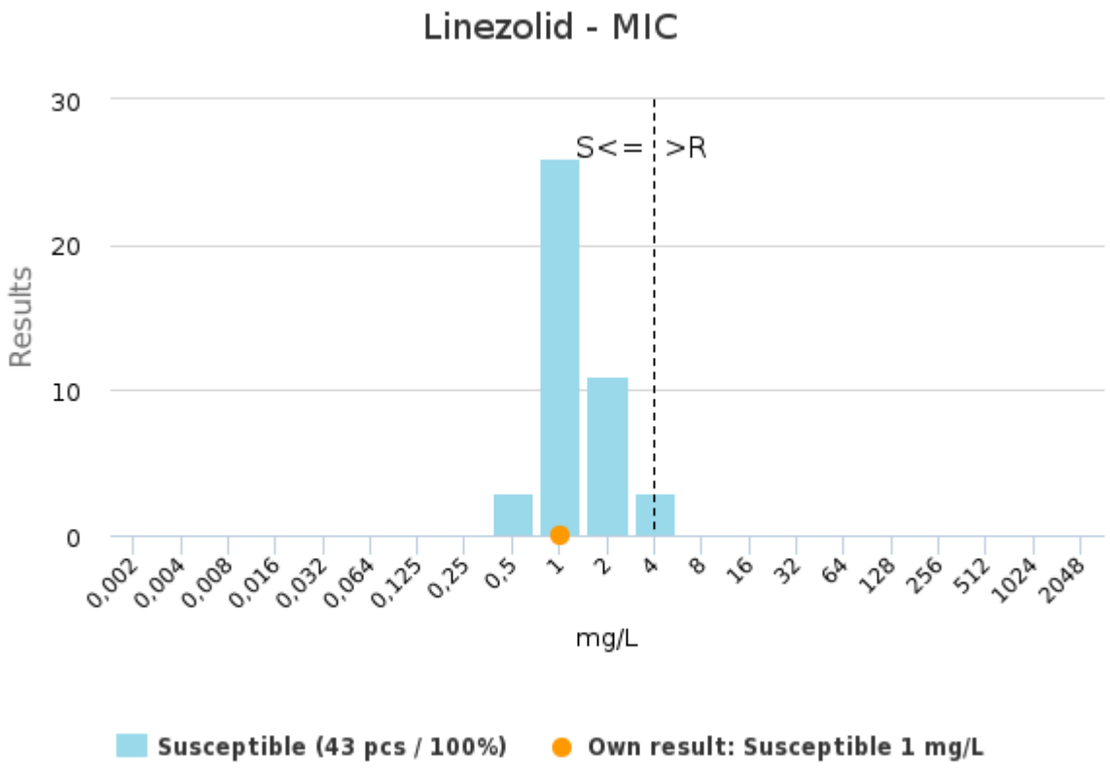
	Mo	min	max	n
Fusidic acid	32	1	64	27



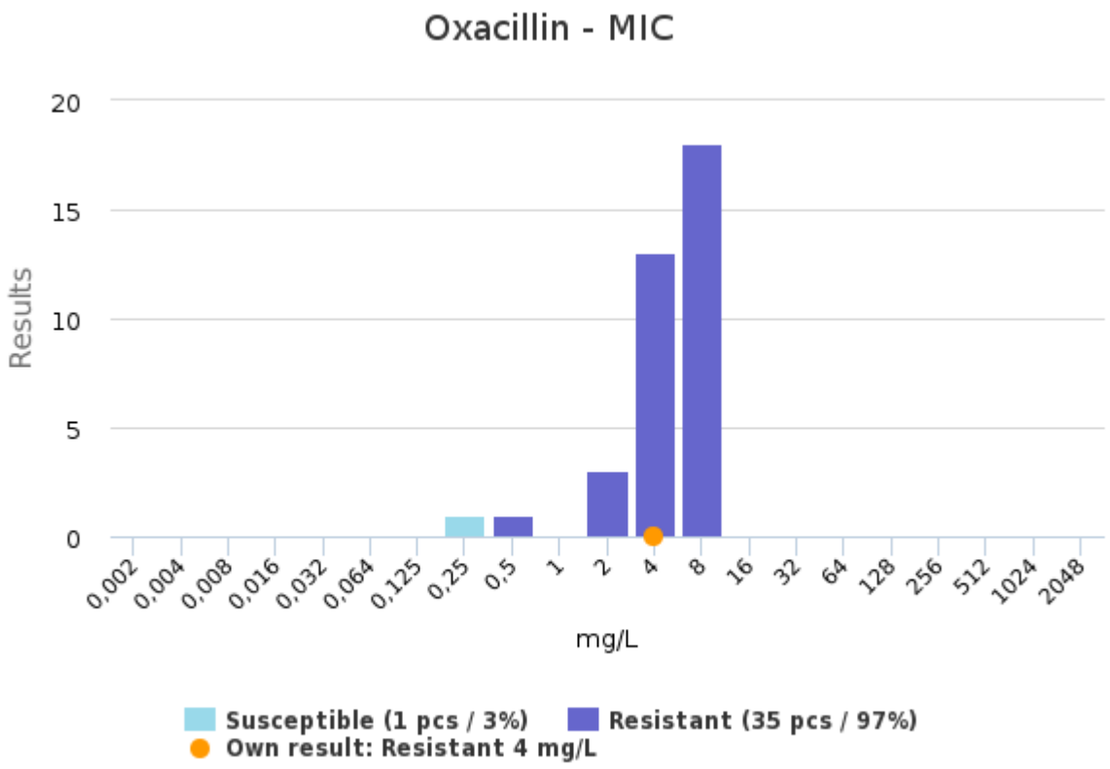
	Mo	min	max	n
Gentamycin	0.5	0.25	256	40



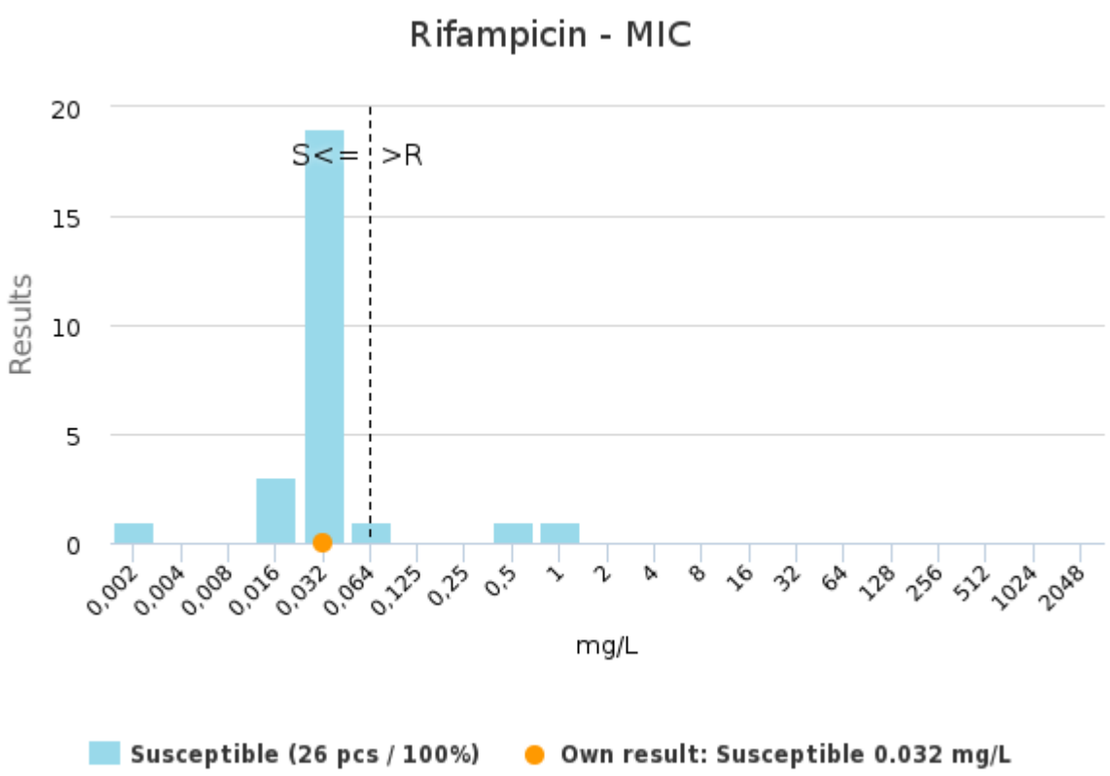
	Mo	min	max	n
Levofloxacin	0.25	0.125	1	20



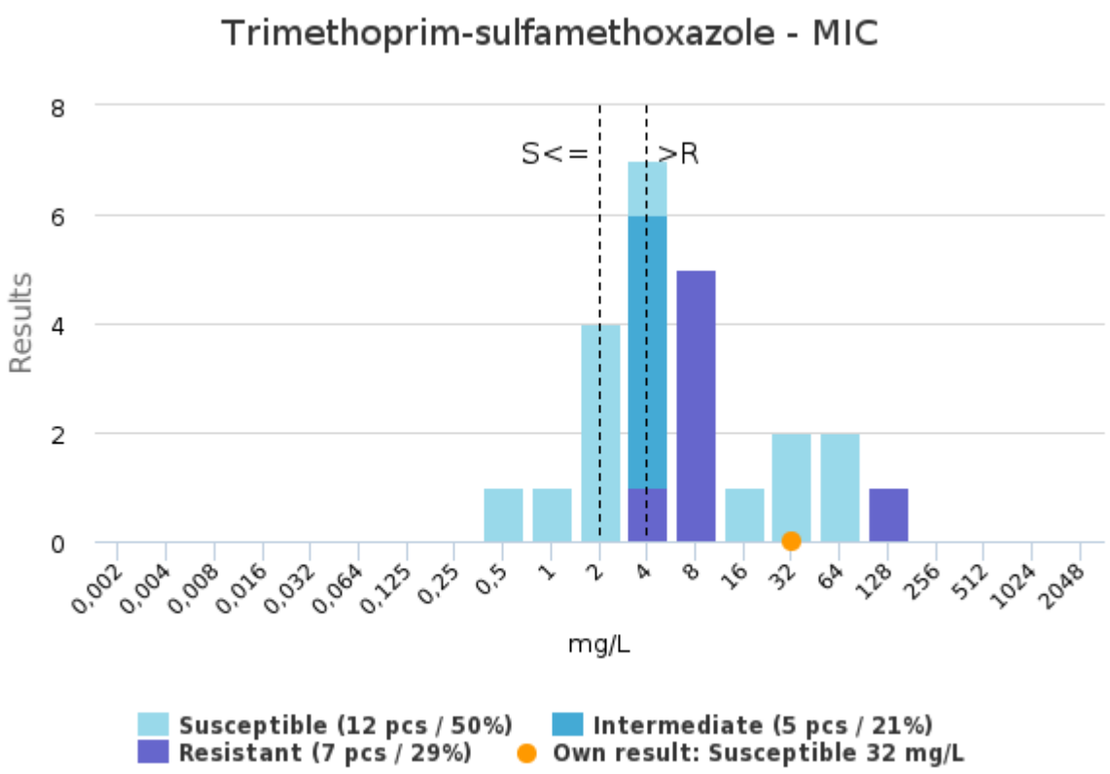
	Mo	min	max	n
Linezolid	1	0.5	4	43



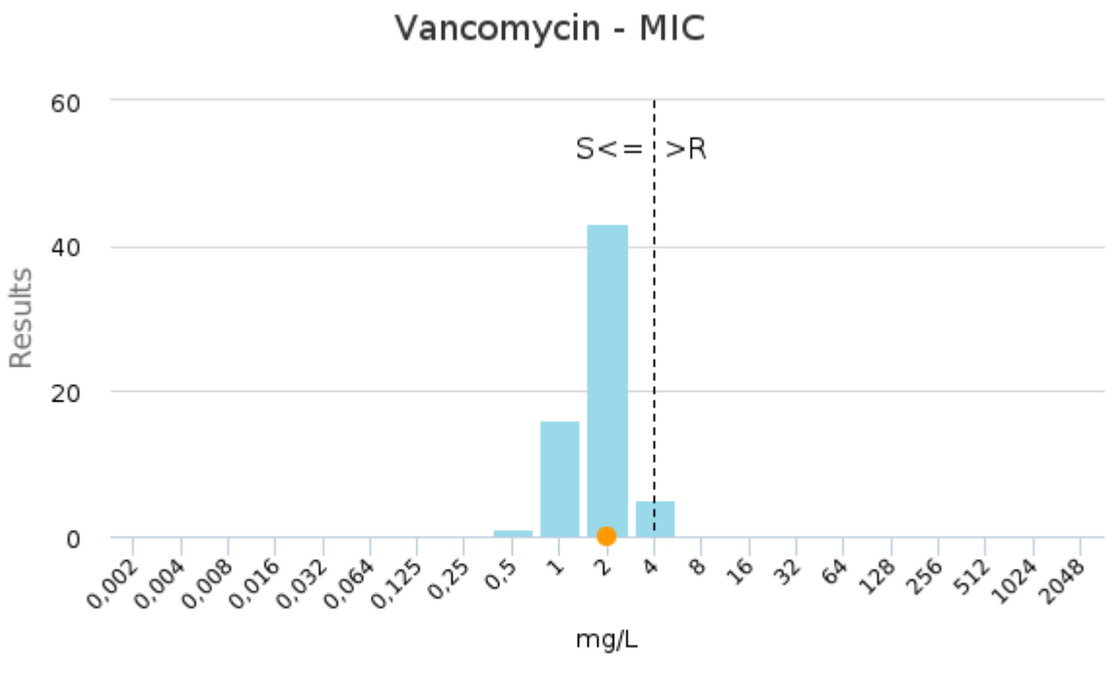
	Mo	min	max	n
Oxacillin	8	0.25	8	36



	Mo	min	max	n
Rifampicin	0.032	0.002	1	26

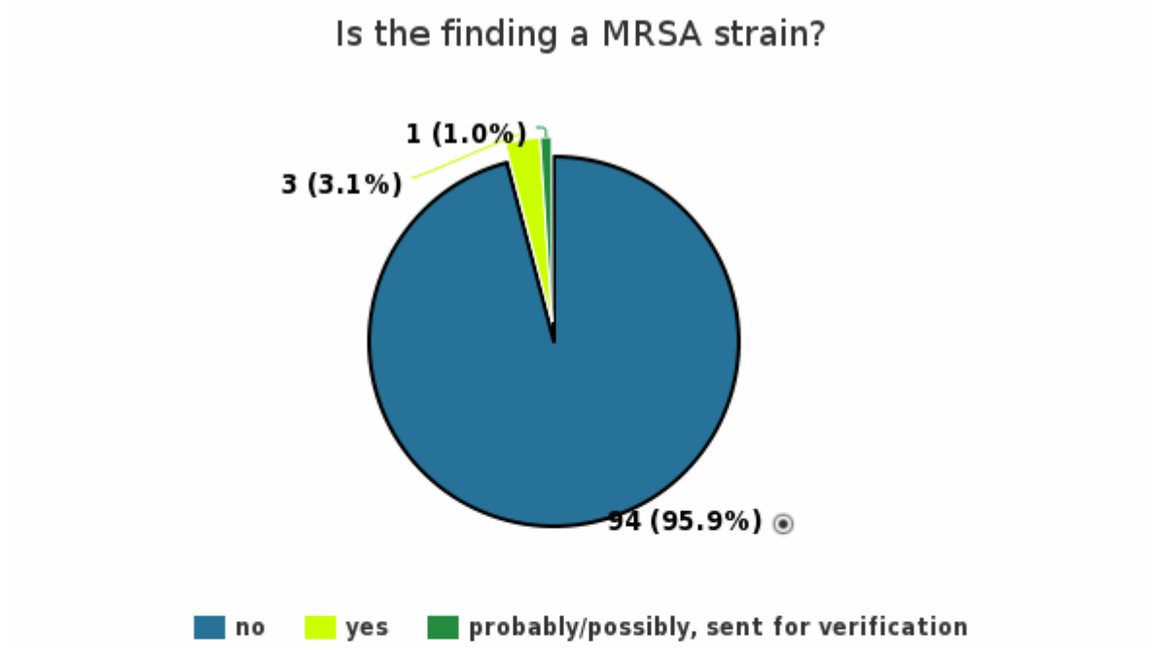


	Mo	min	max	n
Trimethoprim-sulfamethoxazole	4	0.5	128	24



	Mo	min	max	n
Vancomycin	2	0.5	4	65

Sample S001 | Additional questions



Report info

Participants

Altogether 138 laboratories from 19 countries participated in this EQA round.

Report info

The antimicrobial susceptibility testing results are shown in laboratory specific summary tables and histograms. Histograms are drawn for each antimicrobial agent if the laboratory's result is included in a group of at least three results. By "group" is meant results which are obtained and interpreted according to the same standard (EUCAST, CLSI or CA-SFM). Laboratory's own results are indicated with a black radio button in the table and an orange dot in the histograms. Average (x) is used as a reference value for disk results and mode (Mo) is used for MIC results. According to the experts' assessment some antimicrobials may be excluded from the final summary tables, e.g., antimicrobial agents to which the microbe is intrinsically resistant or to which only one result has been reported.
If you have not reported antimicrobial susceptibility testing results, or, your results have been excluded, you will get a note: "You have not reported antimicrobial susceptibility results, only global report is available."
For information on report interpretation and performance evaluation, please see the "EQAS Interpretation guidelines" in LabScala User instructions. In case you have any questions regarding the reports, please contact the EQA Coordinator.

Blood culture, March, 1-2023

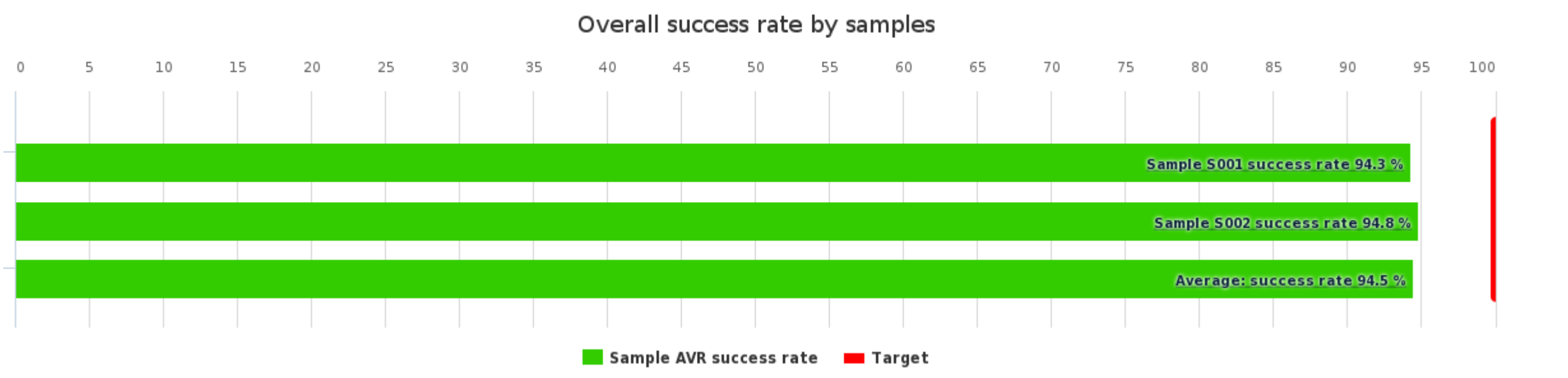
Report to the clinician

GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
Blood culture, March, 1-2023	138	135	97.8 %
Blood culture, screening, March, 1-2023	75	73	97.3 %

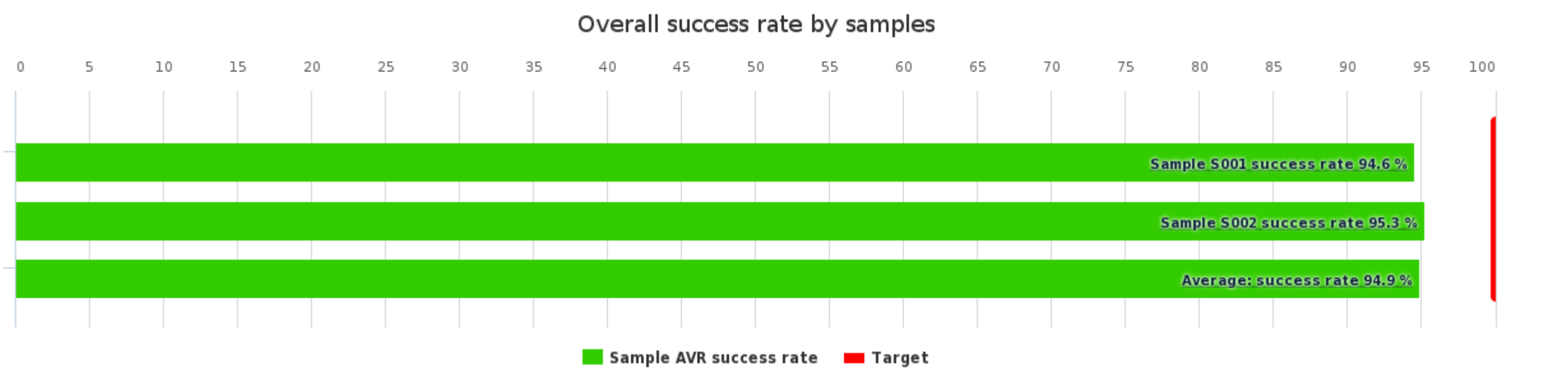
Summary

Blood culture (5100)



Summary	AVR success rate
Sample S001	94.3 %
Sample S002	94.8 %
Average:	94.5 %

Blood culture, screening (5101)



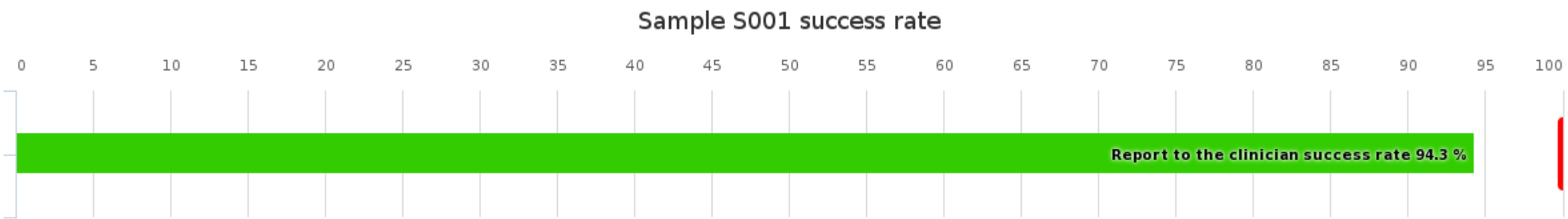
Summary	AVR success rate
Sample S001	94.6 %
Sample S002	95.3 %
Average:	94.9 %

Blood culture, March, 1-2023

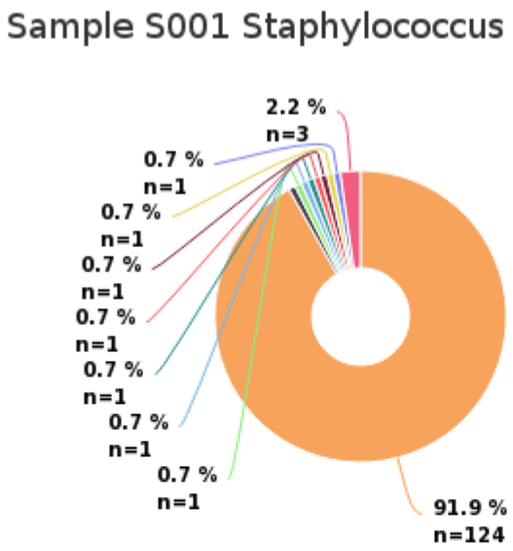
Report to the clinician

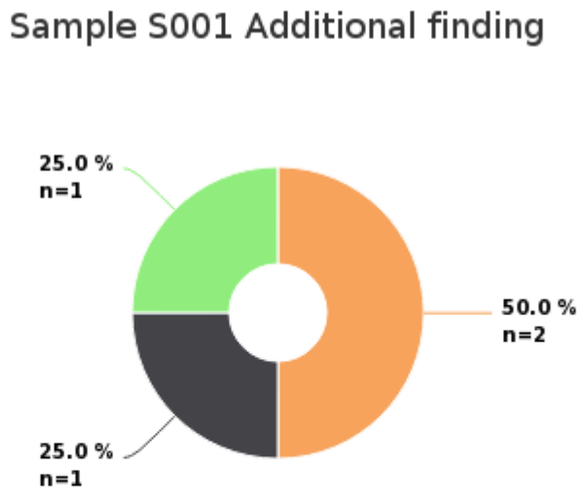
Sample S001 | Staphylococcus epidermidis

Blood culture (5100)



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	94.3 %	139





REPORT TO THE CLINICIAN

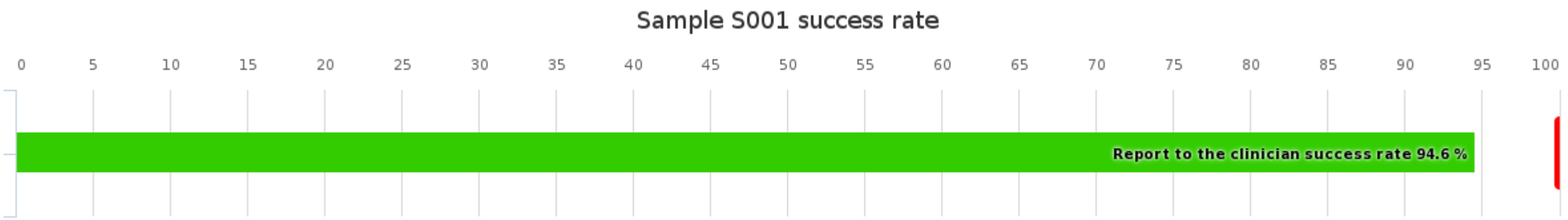
Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Staphylococcus epidermidis		**135**			**94.3 %**
	Staphylococcus epidermidis	124	28	96	
	Staphylococcus sp., coagulase negative	1		1	
	Staphylococcus sp.	1	1		
	Aerobe grampositive cocci in chains	1	1		
	Staphylococcus lugdunensis	1		1	
	Staphylococcus haemolyticus	1		1	
	Staphylococcus aureus	1		1	
	Streptococcus bovis -group	1		1	
	Streptococcus viridans -group	1		1	
	Streptococcus pyogenes	3	1	2	
Additional finding		**4**			**-**
	Staphylococcus epidermidis	2		2	
	Staphylococcus warneri	1		1	
	Bacillus sp.	1		1	
Total:		139			94.3 %

SCORING SUMMARY

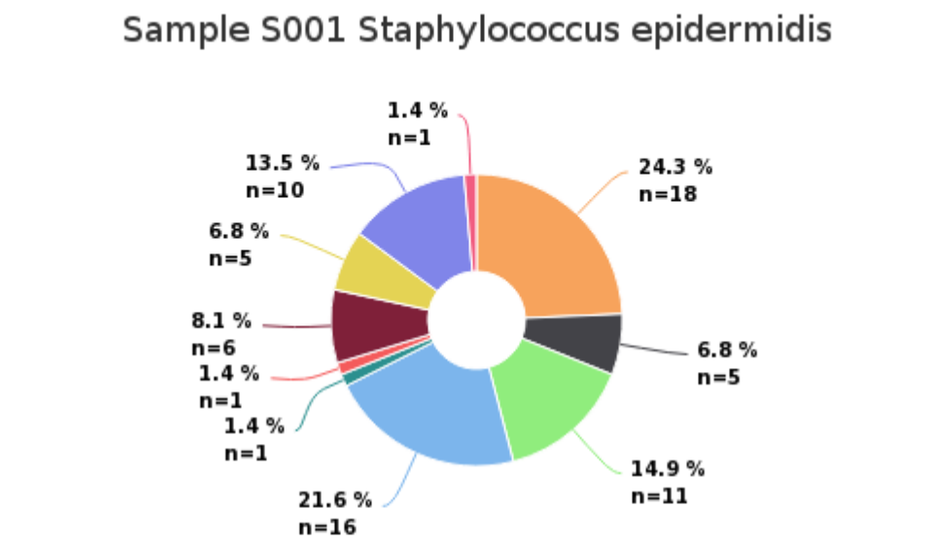
Finding group	Finding	Finding score	Referred	Max score
Staphylococcus epidermidis				**4**
	Staphylococcus epidermidis	4		4

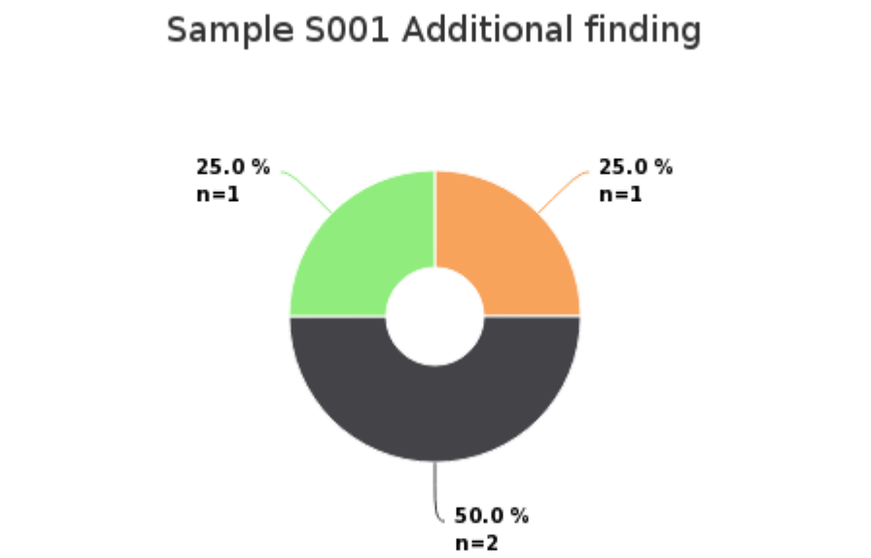
	Staphylococcus sp., coagulase negative	2		4
	Staphylococcus sp.	2	1	4
	Aerobe grampositive cocci in chains	1	1	4
	Staphylococcus lugdunensis	2		4
	Staphylococcus haemolyticus	2		4
	Staphylococcus aureus	2		4
	Streptococcus bovis -group	0		4
	Streptococcus viridans -group	0		4
	Streptococcus pyogenes	0		4
Additional finding				**-**
	Staphylococcus epidermidis	-		-
	Staphylococcus warneri	-		-
	Bacillus sp.	-		-
Total:				4

Blood culture, screening (5101)



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	94.6 %	78





REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Staphylococcus epidermidis		**74**			**94.6 %**
	Growth/Positive - identification is not reported	18	10	8	
	Growth/Positive	5	2	3	
	Grampositive cocci	11	11		
	Grampositive cocci in clusters	16	13	3	
	Grampositive cocci in chains	1		1	
	Gramnegative rod	1	1		
	Aerobe grampositive cocci	6	4	2	
	Aerobe grampositive cocci in clusters	5	2	3	

	Staphylococcus epidermidis (direct NAT)	10	8	2	
	No growth/Negative - identification is not reported	1		1	
Additional finding		**4**			**-**
	Grampositive cocci in chains	1	1		
	Anaerobe grampositive cocci	2	2		
	Anaerobe grampositive rod	1	1		
Total:		78			94.6 %

SCORING SUMMARY

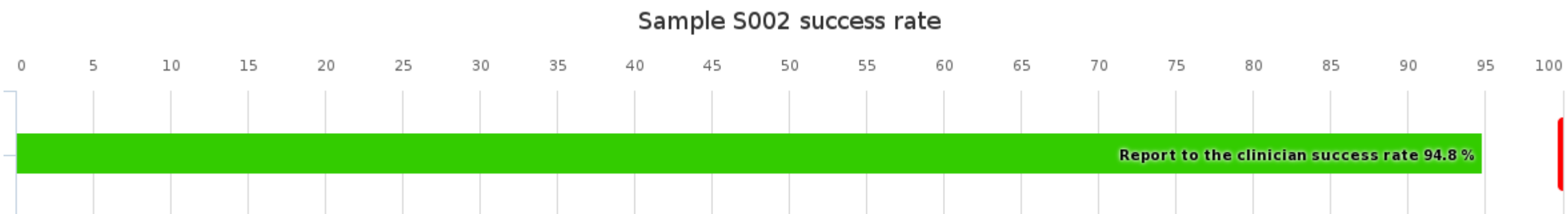
Finding group	Finding	Finding score	Referred	Max score
Staphylococcus epidermidis				**4**
	Growth/Positive - identification is not reported	4		4
	Growth/Positive	2	1	4
	Grampositive cocci	4		4
	Grampositive cocci in clusters	4		4
	Grampositive cocci in chains	4		4
	Gramnegative rod	0		4
	Aerobe grampositive cocci	4		4
	Aerobe grampositive cocci in clusters	4		4
	Staphylococcus epidermidis (direct NAT)	4		4
	No growth/Negative - identification is not reported	0		4
Additional finding				**-**
	Grampositive cocci in chains	-		-
	Anaerobe grampositive cocci	-		-
	Anaerobe grampositive rod	-		-
Total:				4

Blood culture, March, 1-2023

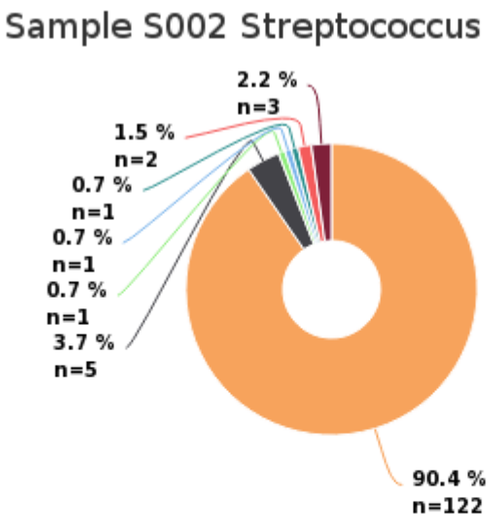
Report to the clinician

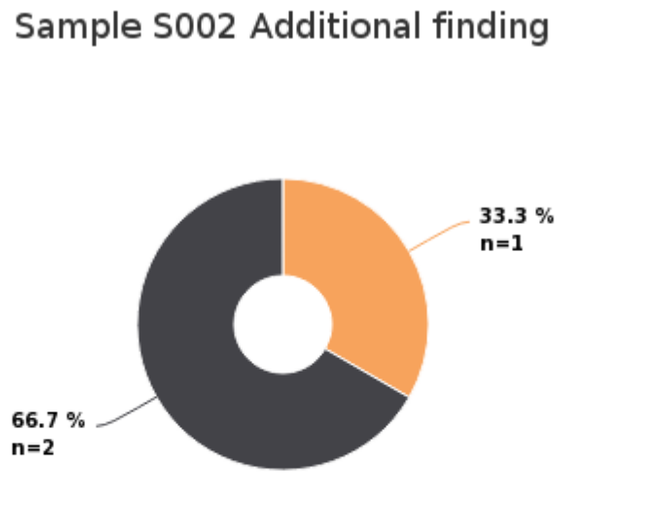
Sample S002 | Streptococcus pyogenes

Blood culture (5100)



Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	94.8 %	138





REPORT TO THE CLINICIAN

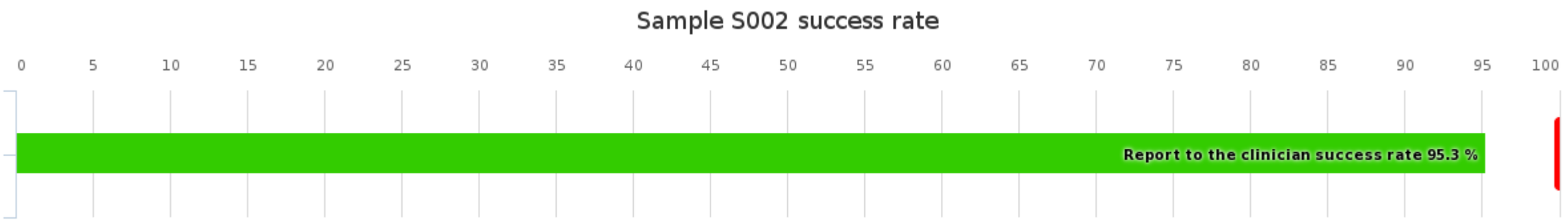
Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Streptococcus pyogenes		**135**			**94.8 %**
	Streptococcus pyogenes	122	59	63	
	Streptococcus sp., beta-hemolytic, Group A	5	2	3	
	Aerobe grampositive cocci in chains	1	1		
	Streptococcus agalactiae (Group B)	1		1	
	Streptococcus pneumoniae	1		1	
	Staphylococcus epidermidis	2	1	1	
	No growth/Negative	3		3	
Additional finding		**3**			**-**
	Streptococcus pyogenes	1	1		
	Staphylococcus aureus	2	1	1	
Total:		138			94.8 %

SCORING SUMMARY

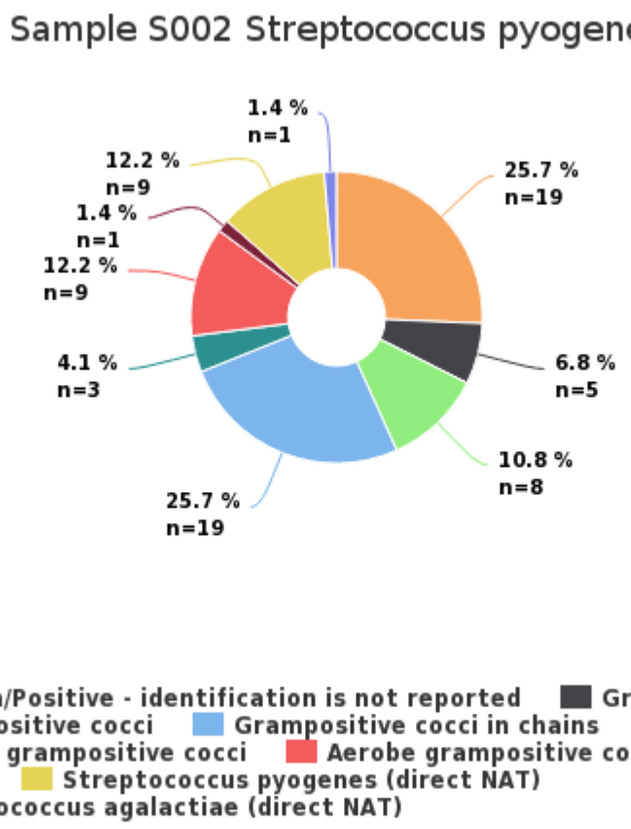
Finding group	Finding	Finding score	Referred	Max score
Streptococcus pyogenes				**4**
	Streptococcus pyogenes	4		4
	Streptococcus sp., beta-hemolytic, Group A	4		4
	Aerobe grampositive cocci in chains	1	1	4
	Streptococcus agalactiae (Group B)	2		4
	Streptococcus pneumoniae	0		4
	Staphylococcus epidermidis	0		4
	No growth/Negative	0		4

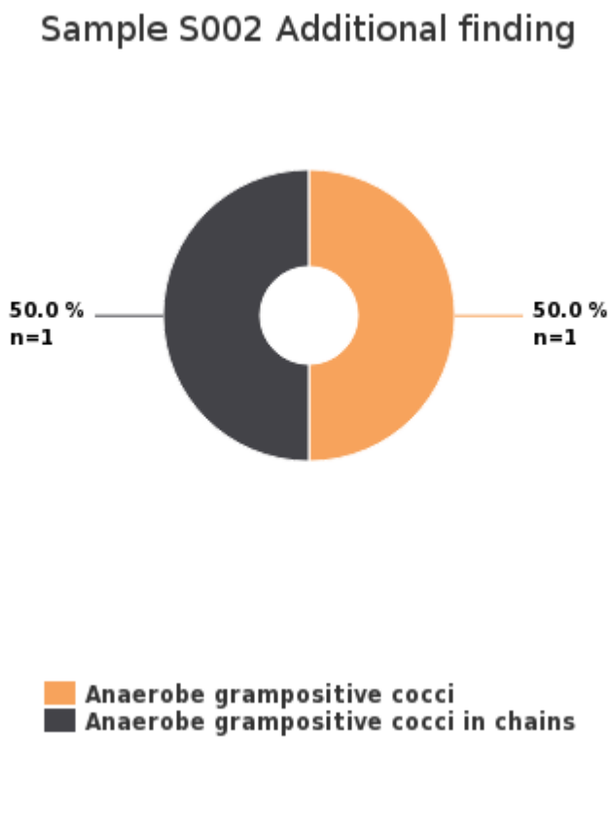
Additional finding				**-**
	Streptococcus pyogenes	-		-
	Staphylococcus aureus	-		-
Total:				4

Blood culture, screening (5101)



Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	95.3 %	76





REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Streptococcus pyogenes		**74**			**95.3 %**
	Growth/Positive - identification is not reported	19	11	8	
	Growth/Positive	5	2	3	
	Grampositive cocci	8	8		
	Grampositive cocci in chains	19	15	4	
	Aerobe grampositive cocci	3	2	1	
	Aerobe grampositive cocci in chains	9	6	3	
	Yeast	1	1		
	Streptococcus pyogenes (direct NAT)	9	9		
	Streptococcus agalactiae (direct NAT)	1		1	
Additional finding		**2**			**-**
	Anaerobe grampositive cocci	1	1		
	Anaerobe grampositive cocci in chains	1	1		
Total:		76			95.3 %

SCORING SUMMARY

Finding group	Finding	Finding score	Referred	Max score
Streptococcus pyogenes				**4**
	Growth/Positive - identification is not reported	4		4
	Growth/Positive	2	1	4

	Grampositive cocci	4		4
	Grampositive cocci in chains	4		4
	Aerobe grampositive cocci	4		4
	Aerobe grampositive cocci in chains	4		4
	Yeast	0		4
	Streptococcus pyogenes (direct NAT)	4		4
	Streptococcus agalactiae (direct NAT)	2		4
Additional finding				**-**
	Anaerobe grampositive cocci	-		-
	Anaerobe grampositive cocci in chains	-		-
Total:				4

Blood culture, March, 1-2023

Report to the clinician

Report Info

PARTICIPANTS

Altogether 213 laboratories from 22 countries participated in this EQA round.

REPORT INFO

On the front page you can see summaries of overall success rate and sample specific success rates which have been calculated from the scores. The reported results and the scores are presented in the same report but in separate tables.
In general, the expected results are marked with green color. Accepted results may also be indicated with yellow color. Laboratory's own results are indicated with a black radio button ◉. In the participant specific report there is also a laboratory specific scoring table for each sample, where you can find your own result and the scores given.
If you have not reported results you will get a note: "You have not responded in time, only global report is available".
For information on report interpretation and performance evaluation, please see the "EQAS Interpretation guidelines" in LabScala User instructions. In case you have any questions regarding the reports, please contact the EQA Coordinator.

SCORING

The results in the "Report to the clinician" part can be scored when at least 60% of the participants have reported the correct/expected result and when there are at least three reported results.
The report includes a sample specific scoring summary.
Laboratory's scores have been converted to percentage (own success rate, % from maximum scores) with a target at 100%. Own success rate is compared with the success rate of all results.

The following general rules are applied:
4 points is reached by reporting the expected result
1-3 points is given to results that are partly correct/insufficient regarding the expected finding
0 points is given for an incorrect/false result

Blood culture, March, 1-2023

Identification test results

GLOBAL REPORT

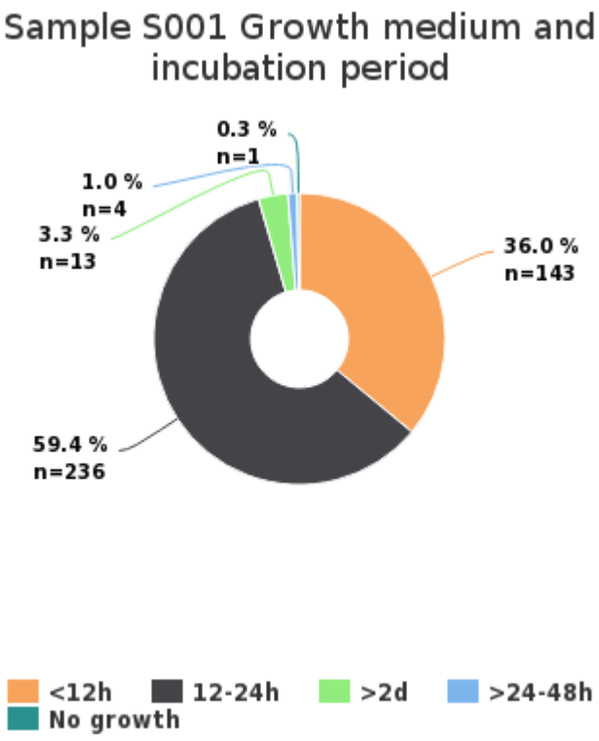
	No of participants	No of responded participants	Response percentage
Blood culture, March, 1-2023	138	135	97.8 %
Blood culture, screening, March, 1-2023	75	73	97.3 %

Blood culture, March, 1-2023

Identification test results

Sample S001 | Staphylococcus epidermidis

Sample S001 results	Responded	Count
	Growth medium and incubation period	397
	Gram staining	190
	Identification test kits and analyzers	36
	Identification tests: MALDI-TOF	111
	Identification tests: NAT and DNA-sequencing	21



GROWTH MEDIUM AND INCUBATION PERIOD

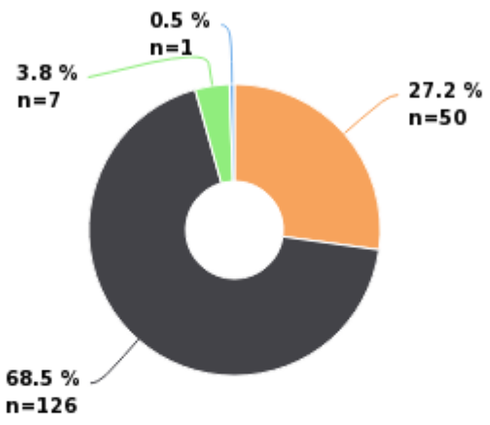
Medium type	Growth medium	No growth	<12h	12-24h	>24-48h	>2d	Growth medium count
Aerobic bottle							
	BacT/ALERT BPA bioMerieux		2	1			3
	BacT/ALERT FA bioMerieux		3	4			7
	BacT/ALERT FA plus bioMerieux		31	30	1	1	63
	BacT/ALERT PF bioMerieux		2	3			5
	BacT/ALERT SA bioMerieux		7	12		1	20
	BD Bactec Peds Plus/F Becton Dickinson		4	8		1	13
	BD Bactec Plus Aerobic/F Becton Dickinson		20	57	1	3	81
	BD Bactec Standard/10 Aerobic/F Becton Dickinson	1	2	2			5
	VersaTREK Redoz 1EZ Thermo Scientific		1				1
Aerobic- and anaerobic bottle							
	Oxoid Signal Blood Culture System Thermo Scientific		3	14	1		18
Anaerobic bottle							
	BacT/ALERT BPN bioMerieux		2				2
	BacT/ALERT FN bioMerieux		1	3			4
	BacT/ALERT FN plus bioMerieux		15	48	1	1	65
	BacT/ALERT SN bioMerieux		9	12		1	22
	BD Bactec Lytic/10 Anaerobic/F Becton Dickinson		32	22		2	56
	BD Bactec Plus Anaerobic/F Becton Dickinson		6	18		3	27
	BD Bactec Standard/10 Anaerobic/F Becton Dickinson		3	2			5
Total:		1	143	236	4	13	397

LABQUALITY

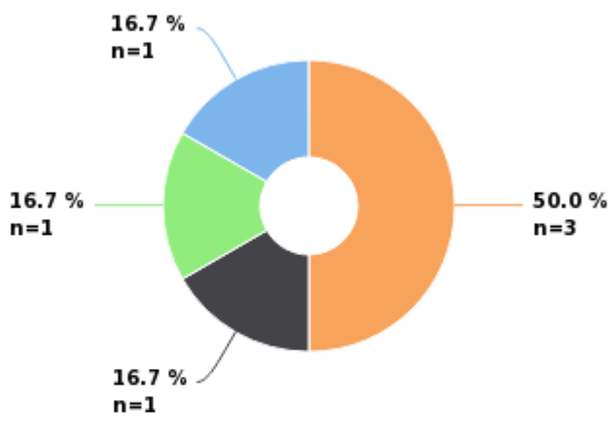
Blood culture, March, 1-2023

Identification test results

Sample S001 Gram staining, Staphylococcus epidermidis



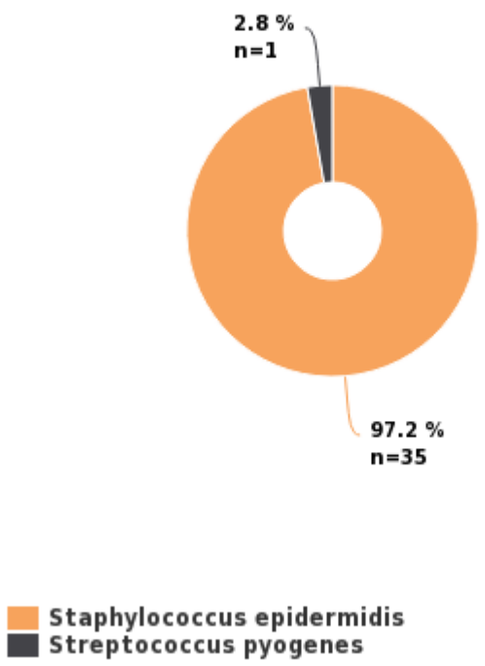
Sample S001 Gram staining, Additional finding



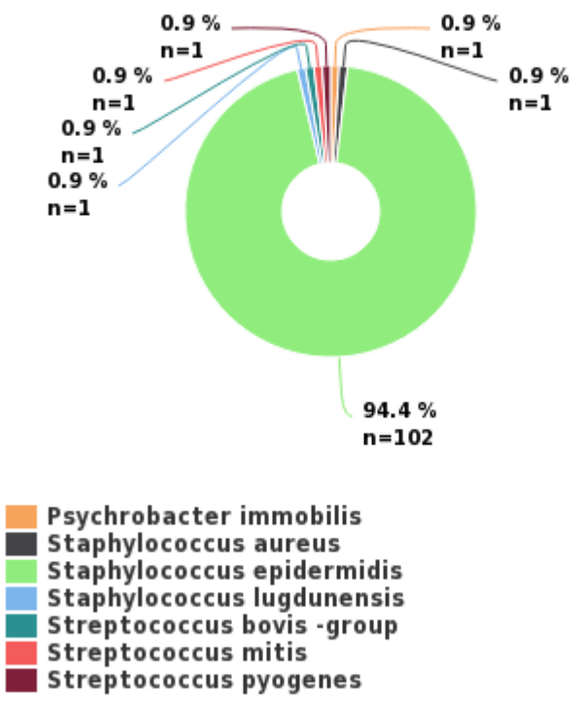
GRAM STAINING

Finding group	Result	Result count
Staphylococcus epidermidis		**184**
	Grampositive cocci	50
	Grampositive cocci in clusters	126
	Grampositive cocci in chains	7
	Gramnegative rod	1
Additional finding		**6**
	Grampositive cocci	3
	Grampositive cocci in clusters	1
	Grampositive rod	1
	Gram variable rod	1
Total:		190

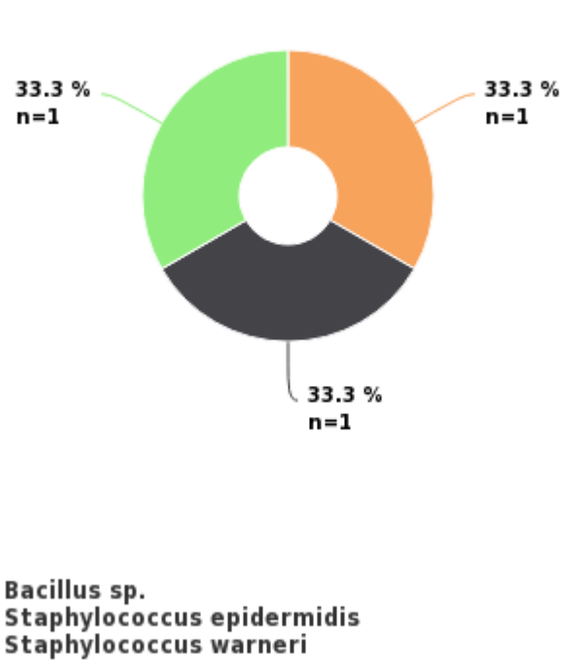
Sample S001 Identification test kits and analyzers, Staphylococcus epidermidis

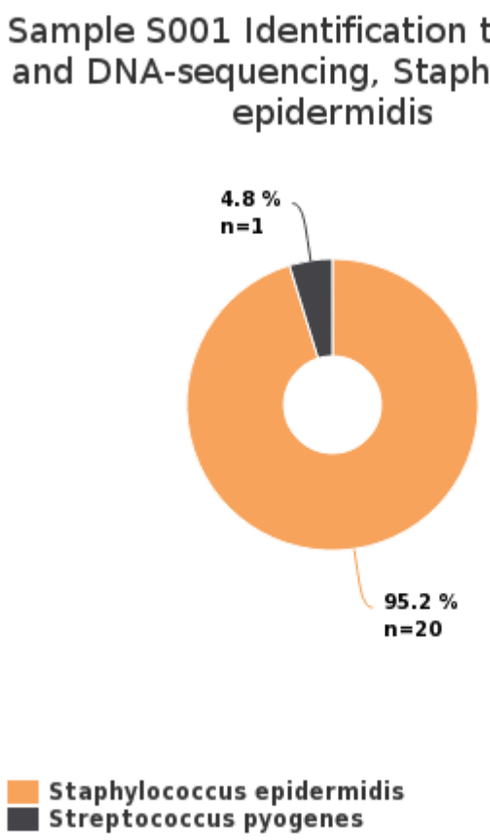


Sample S001 Identification tests: MALDI-TOF, Staphylococcus epidermidis



Sample S001 Identification tests: MALDI-TOF, Additional finding





IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Staphylococcus epidermidis	MicroScan Walk-Away (Beckman Coulter)	Staphylococcus epidermidis	N/A	2
	VITEK 2 (bioMerieux)	Staphylococcus epidermidis	0704000076721231	1
			110000076621211	1
			070400076621211	2
			030400076621231	3
			030400076621211	2
			020400074620211	1
			020000074621211	1
			010400074621211	1
			010000056220211	1
			01040054620211	1
			GP2422277103351648	1
			GP	1
			N/A	8
		Streptococcus pyogenes	N/A	1
	VITEK 2 Compact 15 (bioMerieux)	Staphylococcus epidermidis	030400076621211	1
			030000076621211	1
			000400074620211	1
	VITEK 2 Compact 30 (bioMerieux)	Staphylococcus epidermidis	030400076621231	1
			030400076621211	1
			030400074620211	1
			000400074621211	1
			N/A	2
Total:				36

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Staphylococcus epidermidis	Autof MALDI-ToF (Chirus)	Staphylococcus epidermidis	9.5..10	1
	MALDI Biotyper (Bruker)	Psychrobacter immobilis	≥1.7..<2	1
		Staphylococcus aureus	≥2	1
		Staphylococcus epidermidis	≥2	61
			≥1.7..<2	5
			N/A	1
		Streptococcus bovis -group	≥2	1
		Streptococcus mitis	≥2	1
	VITEK MS (bioMérieux)	Staphylococcus epidermidis	99,9 %	28
			99 %	2
			91,4 %	1
			N/A	3
		Staphylococcus lugdunensis	99,9 %	1

		Streptococcus pyogenes	99,9 %	1
Additional finding	MALDI Biotyper (Bruker)	Bacillus sp.	≥1.7..<2	1
		Staphylococcus epidermidis	≥2	1
		Staphylococcus warneri	≥2	1
Total:				111

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

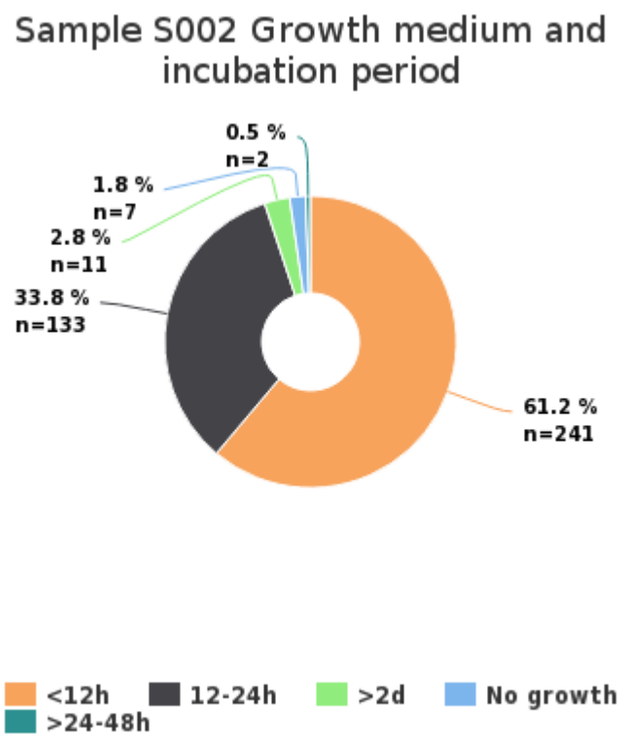
Finding group	Method	Result	Result count
Staphylococcus epidermidis	BioFire Filmarray BCID2 Panel (bioMerieux)	Staphylococcus epidermidis	16
		Streptococcus pyogenes	1
	ePlex BCID-GP Panel (GenMark)	Staphylococcus epidermidis	3
	NAT, In house	Staphylococcus epidermidis	1
Total:			21

Blood culture, March, 1-2023

Identification test results

Sample S002 | Streptococcus pyogenes

Sample S002 results	Responded	Count
	Growth medium and incubation period	394
	Gram staining	188
	Identification test kits and analyzers	32
	Identification tests: MALDI-TOF	103
	Identification tests: NAT and DNA-sequencing	23



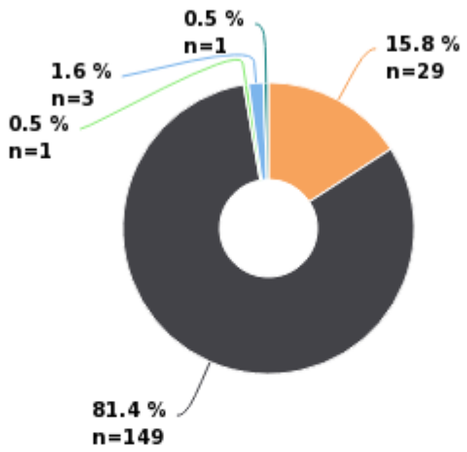
GROWTH MEDIUM AND INCUBATION PERIOD

Medium type	Growth medium	No growth	<12h	12-24h	>24-48h	>2d	Growth medium count
Aerobic bottle							
	BacT/ALERT BPA bioMerieux		3				3
	BacT/ALERT FA bioMerieux		4	4			8
	BacT/ALERT FA plus bioMerieux	1	39	23	1		64
	BacT/ALERT PF bioMerieux		2	2			4
	BacT/ALERT SA bioMerieux	1	8	9		1	19
	BD Bactec Peds Plus/F Becton Dickinson		8	4		1	13
	BD Bactec Plus Aerobic/F Becton Dickinson	2	59	17		3	81
	BD Bactec Standard/10 Aerobic/F Becton Dickinson		3	2			5
	VersaTREK Redoz 1EZ Thermo Scientific		1				1
Aerobic- and anaerobic bottle							
	Oxoid Signal Blood Culture System Thermo Scientific		5	12		1	18
Anaerobic bottle							
	BacT/ALERT BPN bioMerieux		2				2
	BacT/ALERT FN bioMerieux		1	3			4
	BacT/ALERT FN plus bioMerieux		33	31	1		65
	BacT/ALERT SN bioMerieux	1	12	7		1	21
	BD Bactec Lytic/10 Anaerobic/F Becton Dickinson		43	8		2	53
	BD Bactec Plus Anaerobic/F Becton Dickinson	2	17	10		2	31
	BD Bactec Standard/10 Anaerobic/F Becton Dickinson		1	1			2
Total:		7	241	133	2	11	394

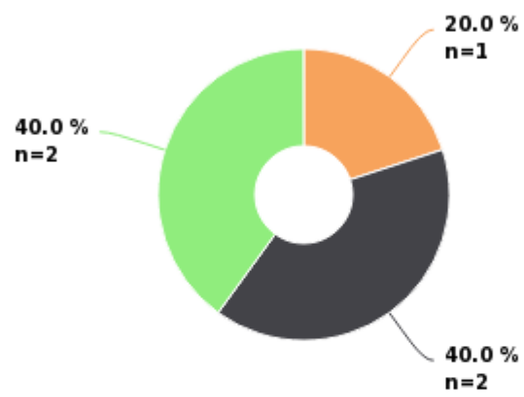
Blood culture, March, 1-2023

Identification test results

Sample S002 Gram staining, Streptococcus pyogenes



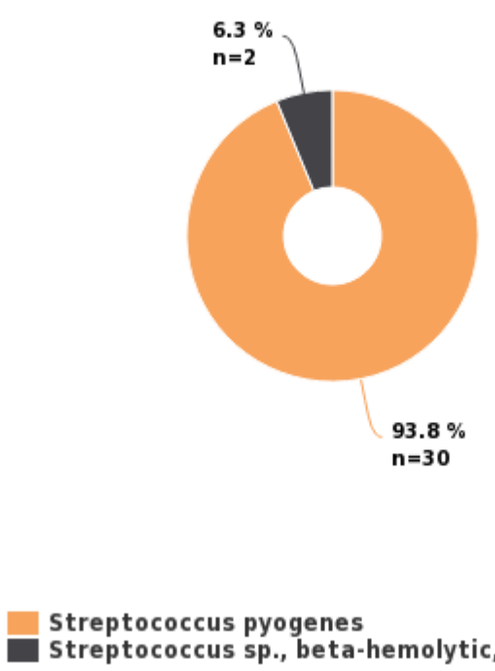
Sample S002 Gram staining, Additional finding



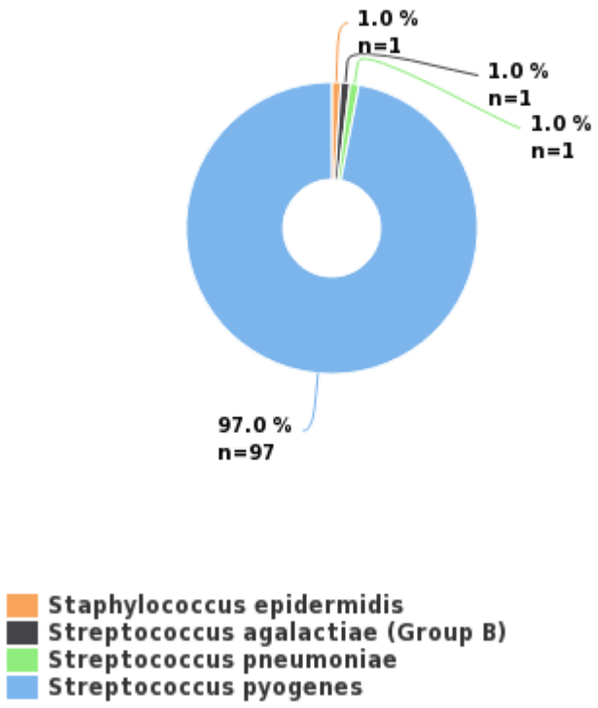
GRAM STAINING

Finding group	Result	Result count
Streptococcus pyogenes		**183**
	Grampositive cocci	29
	Grampositive cocci in chains	149
	Grampositive cocci in clusters	1
	Grampositive diplococci	3
	Yeast	1
Additional finding		**5**
	Grampositive cocci	1
	Grampositive cocci in chains	2
	Grampositive cocci in clusters	2
Total:		188

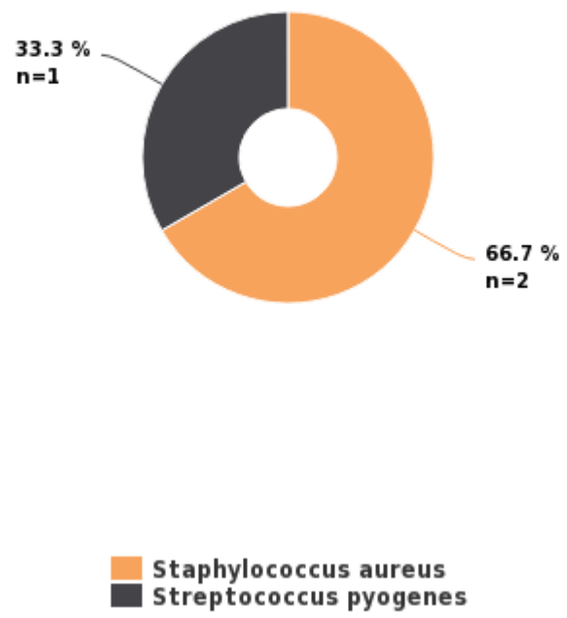
Sample S002 Identification test kits and analyzers, Streptococcus pyogenes

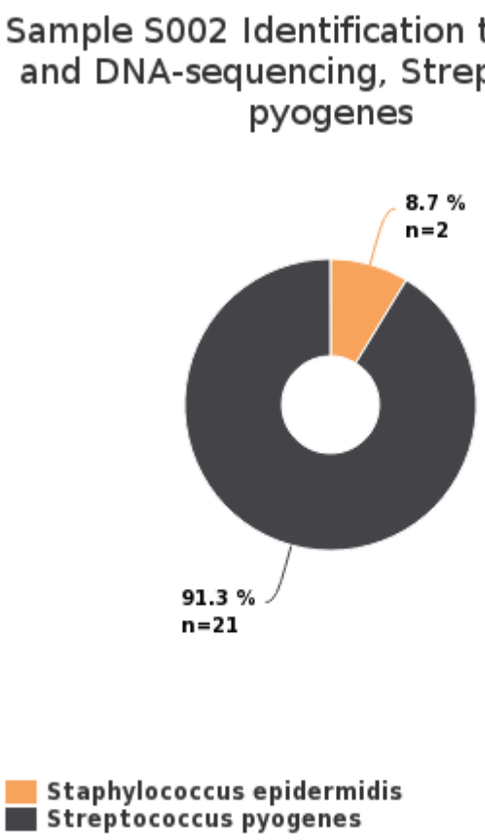


Sample S002 Identification tests: MALDI-TOF, Streptococcus pyogenes



Sample S002 Identification tests: MALDI-TOF, Additional finding





IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Streptococcus pyogenes	BBL Crystal Gram-Positive ID Kit (Becton Dickinson)	Streptococcus pyogenes	N/A	1
	MicroScan Walk-Away (Beckman Coulter)	Streptococcus pyogenes	N/A	2
	RapID STR (Thermo Scientific)	Streptococcus sp., beta-hemolytic, Group A	N/A	1
	VITEK 2 (bioMerieux)	Streptococcus pyogenes	051412364713671	1
			051412364713271	1
			051412360713271	1
			051412360313671	1
			051412360311671	1
			051412360311471	1
			051412344313071	1
			051412304313031	1
			051412300311271	2
			011412364313671	1
			011412364313271	1
			011412324211031	1
			GP	1
			GP 2422277103351703	1
			N/A	5
		Streptococcus sp., beta-hemolytic, Group A	N/A	1
	VITEK 2 Compact 15 (bioMerieux)	Streptococcus pyogenes	051412324313271	1
			1514123443431	1
	VITEK 2 Compact 30 (bioMerieux)	Streptococcus pyogenes	051412364313271	1
			051412320313271	1
			011412364311071	1
			N/A	2
Total:				32

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Streptococcus pyogenes	MALDI Biotyper (Bruker)	Streptococcus agalactiae (Group B)	≥2	1
		Streptococcus pyogenes	≥2	64
			≥1.7..<2	1
			N/A	1
	VITEK MS (bioMérieux)	Staphylococcus epidermidis	99,9 %	1
		Streptococcus pneumoniae	99,9 %	1
		Streptococcus pyogenes	99,9 %	27
			99 %	1
			N/A	3
Additional finding	MALDI Biotyper (Bruker)	Staphylococcus aureus	≥2	2

		Streptococcus pyogenes	≥2	1
Total:				103

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

Finding group	Method	Result	Result count
Streptococcus pyogenes	BioFire Filmarray BCID2 Panel (bioMerieux)	Staphylococcus epidermidis	2
		Streptococcus pyogenes	16
	ePlex BCID-GP Panel (GenMark)	Streptococcus pyogenes	3
	NAT, In house	Streptococcus pyogenes	2
Total:			23

LABQUALITY

Blood culture, March, 1-2023

Antimicrobial susceptibility testing results

Sample S001

***Staphylococcus epidermidis* KSKS 2852**

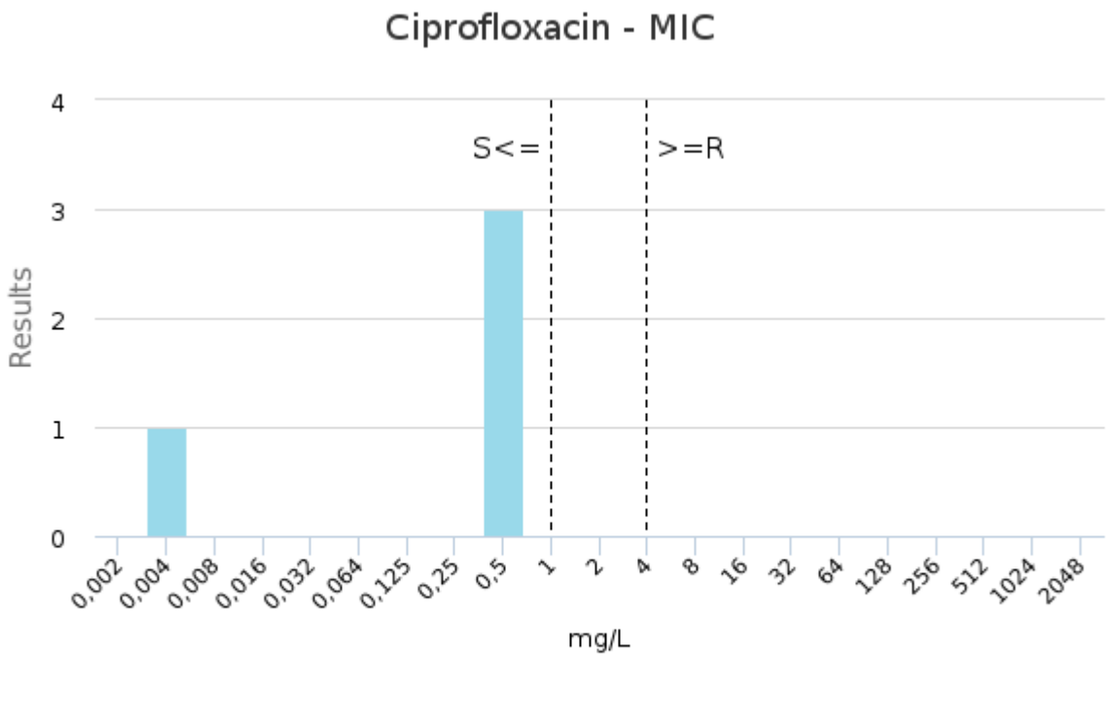
		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Amikacin	EUCAST	24	-	2 (100%)	0 (0%)	0 (0%)	2	2	2 (100%)	0 (0%)	0 (0%)	2
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Cefoxitin	CA-SFM	15	2	0 (0%)	0 (0%)	11 (100%)	11	16	0 (0%)	0 (0%)	1 (100%)	1
	CLSI	13	-	0 (0%)	0 (0%)	1 (100%)	1	-	-	-	-	-
	EUCAST	14	3	0 (0%)	0 (0%)	26 (100%)	26	-	1 (33%)	0 (0%)	2 (67%)	3
	All			**0 (0%)**	**0 (0%)**	**38 (100%)**	**38**		**1 (25%)**	**0 (0%)**	**3 (75%)**	**4**
Cefoxitin (screen)	CA-SFM	13	8	0 (0%)	0 (0%)	3 (100%)	3	-	-	-	-	-
	EUCAST	13	4	0 (0%)	0 (0%)	28 (100%)	28	8	0 (0%)	0 (0%)	5 (100%)	5
	All			**0 (0%)**	**0 (0%)**	**31 (100%)**	**31**		**0 (0%)**	**0 (0%)**	**5 (100%)**	**5**
Chloramphenicol	CA-SFM	29	-	1 (100%)	0 (0%)	0 (0%)	1	-	-	-	-	-
	EUCAST	27	3	4 (100%)	0 (0%)	0 (0%)	4	4	13 (100%)	0 (0%)	0 (0%)	13
	All			**5 (100%)**	**0 (0%)**	**0 (0%)**	**5**		**13 (100%)**	**0 (0%)**	**0 (0%)**	**13**
Ciprofloxacin	CA-SFM	31	1	0 (0%)	3 (100%)	0 (0%)	3	-	-	-	-	-
	CLSI	31	-	1 (100%)	0 (0%)	0 (0%)	1	0.5	4 (100%)	0 (0%)	0 (0%)	4
	EUCAST	29	3	1 (4%)	22 (96%)	0 (0%)	23	0.5	6 (23%)	20 (77%)	0 (0%)	26
	All			**2 (7%)**	**25 (93%)**	**0 (0%)**	**27**		**10 (33%)**	**20 (67%)**	**0 (0%)**	**30**
Clarithromycin	EUCAST	32	1	3 (100%)	0 (0%)	0 (0%)	3	0.5	2 (100%)	0 (0%)	0 (0%)	2
	All			**3 (100%)**	**0 (0%)**	**0 (0%)**	**3**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Clindamycin	CA-SFM	31	4	13 (100%)	0 (0%)	0 (0%)	13	0.25	13 (100%)	0 (0%)	0 (0%)	13
	CLSI	30	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	5 (100%)	0 (0%)	0 (0%)	5
	EUCAST	28	3	45 (100%)	0 (0%)	0 (0%)	45	0.25	40 (95%)	0 (0%)	2 (5%)	42
	All			**59 (100%)**	**0 (0%)**	**0 (0%)**	**59**		**58 (97%)**	**0 (0%)**	**2 (3%)**	**60**
Dalbavancin	CA-SFM	-	-	-	-	-	-	0.064	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	-	-	-	-	-	-	0.125	1 (100%)	0 (0%)	0 (0%)	1
	All			**0**	**0**	**0**	**0**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Daptomycin	CA-SFM	-	-	-	-	-	-	0.5	16 (100%)	0 (0%)	0 (0%)	16
	CLSI	-	-	-	-	-	-	0.5	3 (100%)	0 (0%)	0 (0%)	3
	EUCAST	-	-	-	-	-	-	0.5	33 (100%)	0 (0%)	0 (0%)	33
	All			**0**	**0**	**0**	**0**		**52 (100%)**	**0 (0%)**	**0 (0%)**	**52**
Doxycycline	EUCAST	27	-	2 (100%)	0 (0%)	0 (0%)	2	-	1 (50%)	1 (50%)	0 (0%)	2
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**1 (50%)**	**1 (50%)**	**0 (0%)**	**2**

		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Erythromycin	CA-SFM	33	3	13 (100%)	0 (0%)	0 (0%)	13	0.5	14 (100%)	0 (0%)	0 (0%)	14
	CLSI	28	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	5 (100%)	0 (0%)	0 (0%)	5
	EUCAST	30	3	42 (98%)	0 (0%)	1 (2%)	43	0.5	37 (97%)	0 (0%)	1 (3%)	38
	All			**56 (98%)**	**0 (0%)**	**1 (2%)**	**57**		**56 (98%)**	**0 (0%)**	**1 (2%)**	**57**
Fosfomycin	CA-SFM	39	-	2 (100%)	0 (0%)	0 (0%)	2	8	11 (100%)	0 (0%)	0 (0%)	11
	CLSI	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	-	-	-	-	-	-	16	10 (100%)	0 (0%)	0 (0%)	10
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**22 (100%)**	**0 (0%)**	**0 (0%)**	**22**
Fusidic acid	CA-SFM	12	2	0 (0%)	0 (0%)	13 (100%)	13	16	0 (0%)	0 (0%)	12 (100%)	12
	CLSI	-	-	-	-	-	-	32	0 (0%)	0 (0%)	1 (100%)	1
	EUCAST	9	2	0 (0%)	0 (0%)	34 (100%)	34	32	1 (4%)	0 (0%)	26 (96%)	27
	All			**0 (0%)**	**0 (0%)**	**47 (100%)**	**47**		**1 (3%)**	**0 (0%)**	**39 (98%)**	**40**
Gentamycin	CA-SFM	30	2	13 (100%)	0 (0%)	0 (0%)	13	0.5	14 (100%)	0 (0%)	0 (0%)	14
	CLSI	33	-	1 (100%)	0 (0%)	0 (0%)	1	0.5	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	27	3	40 (100%)	0 (0%)	0 (0%)	40	0.5	39 (98%)	0 (0%)	1 (3%)	40
	All			**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**		**54 (98%)**	**0 (0%)**	**1 (2%)**	**55**
Kanamycin	CA-SFM	19	4	0 (0%)	0 (0%)	10 (100%)	10	4	12 (92%)	0 (0%)	1 (8%)	13
	EUCAST	22	-	1 (50%)	0 (0%)	1 (50%)	2	4	1 (100%)	0 (0%)	0 (0%)	1
	All			**1 (8%)**	**0 (0%)**	**11 (92%)**	**12**		**13 (93%)**	**0 (0%)**	**1 (7%)**	**14**
Levofloxacin	CA-SFM	32	2	3 (38%)	5 (63%)	0 (0%)	8	0.25	3 (21%)	11 (79%)	0 (0%)	14
	CLSI	-	-	-	-	-	-	0.25	1 (50%)	1 (50%)	0 (0%)	2
	EUCAST	29	2	1 (7%)	13 (93%)	0 (0%)	14	0.25	2 (10%)	18 (90%)	0 (0%)	20
	All			**4 (18%)**	**18 (82%)**	**0 (0%)**	**22**		**6 (17%)**	**30 (83%)**	**0 (0%)**	**36**
Linezolid	CA-SFM	30	3	11 (100%)	0 (0%)	0 (0%)	11	1	13 (100%)	0 (0%)	0 (0%)	13

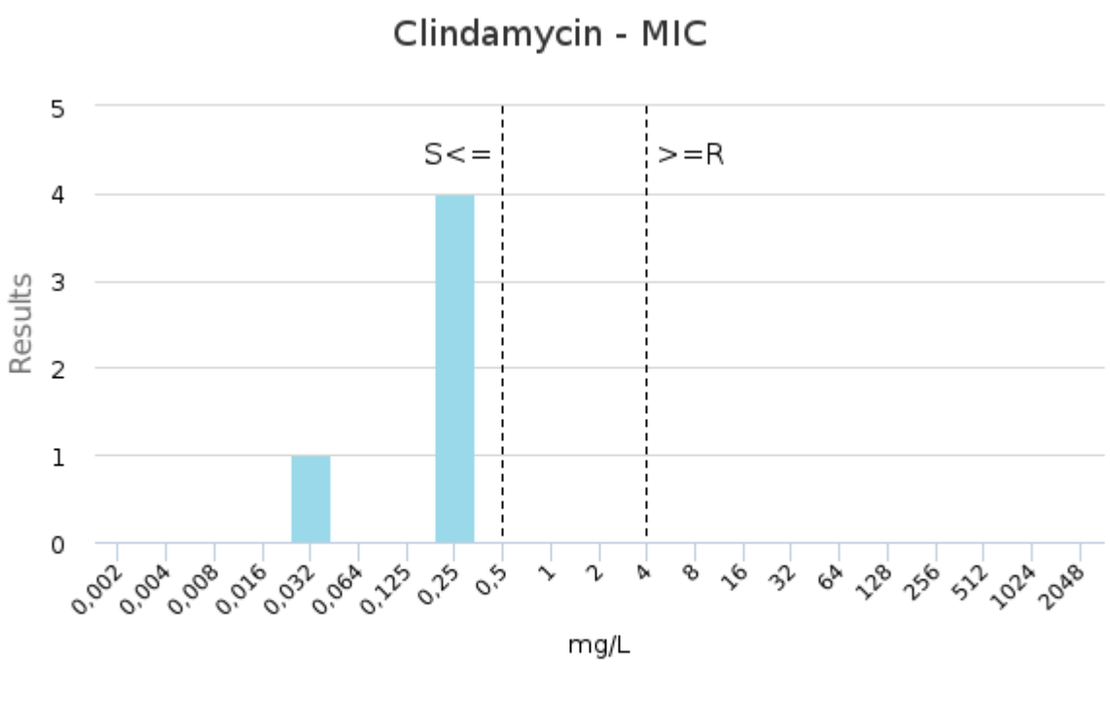
	CLSI	33	-	1 (100%)	0 (0%)	0 (0%)	1	1	3 (100%)	0 (0%)	0 (0%)	3
	EUCAST	28	4	42 (100%)	0 (0%)	0 (0%)	42	1	43 (100%)	0 (0%)	0 (0%)	43
	All			**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**		**59 (100%)**	**0 (0%)**	**0 (0%)**	**59**
Minocycline	CA-SFM	30	-	2 (100%)	0 (0%)	0 (0%)	2	-	-	-	-	-
	EUCAST	30	-	2 (100%)	0 (0%)	0 (0%)	2	-	-	-	-	-
	All			**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**		**0**	**0**	**0**	**0**
Moxifloxacin	CA-SFM	36	-	2 (100%)	0 (0%)	0 (0%)	2	-	-	-	-	-
	CLSI	-	-	-	-	-	-	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	31	4	7 (88%)	0 (0%)	1 (13%)	8	0.25	10 (100%)	0 (0%)	0 (0%)	10
	All			**9 (90%)**	**0 (0%)**	**1 (10%)**	**10**		**11 (100%)**	**0 (0%)**	**0 (0%)**	**11**
Mupirocine	EUCAST	39	6	4 (100%)	0 (0%)	0 (0%)	4	2	10 (100%)	0 (0%)	0 (0%)	10
	All			**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**		**10 (100%)**	**0 (0%)**	**0 (0%)**	**10**
		DISK						**MIC**				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Nitrofurantoin	CA-SFM	26	4	3 (100%)	0 (0%)	0 (0%)	3	16	8 (100%)	0 (0%)	0 (0%)	8
	EUCAST	28	-	1 (100%)	0 (0%)	0 (0%)	1	16	5 (100%)	0 (0%)	0 (0%)	5
	All			**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**		**13 (100%)**	**0 (0%)**	**0 (0%)**	**13**
Norfloxacin	CA-SFM	30	2	10 (100%)	0 (0%)	0 (0%)	10	-	-	-	-	-
	EUCAST	32	4	5 (100%)	0 (0%)	0 (0%)	5	-	-	-	-	-
	All			**15 (100%)**	**0 (0%)**	**0 (0%)**	**15**		**0**	**0**	**0**	**0**
Ofloxacin	CA-SFM	29	-	2 (100%)	0 (0%)	0 (0%)	2	-	-	-	-	-
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**0**	**0**	**0**	**0**
Oxacillin	CA-SFM	-	-	-	-	-	-	4	0 (0%)	0 (0%)	13 (100%)	13
	CLSI	-	-	-	-	-	-	8	0 (0%)	0 (0%)	5 (100%)	5
	EUCAST	-	-	-	-	-	-	8	1 (3%)	0 (0%)	35 (97%)	36
	All			**0**	**0**	**0**	**0**		**1 (2%)**	**0 (0%)**	**53 (98%)**	**54**
Penicillin	CA-SFM	6	0	0 (0%)	0 (0%)	3 (100%)	3	-	-	-	-	-
	CLSI	13	-	0 (0%)	0 (0%)	1 (100%)	1	-	-	-	-	-
	EUCAST	7	2	0 (0%)	0 (0%)	14 (100%)	14	0.5	0 (0%)	0 (0%)	7 (100%)	7
	All			**0 (0%)**	**0 (0%)**	**18 (100%)**	**18**		**0 (0%)**	**0 (0%)**	**7 (100%)**	**7**
Quinupristin-dalfopristin	CA-SFM	31	3	10 (100%)	0 (0%)	0 (0%)	10	0.25	12 (100%)	0 (0%)	0 (0%)	12
	EUCAST	31	4	3 (100%)	0 (0%)	0 (0%)	3	-	5 (100%)	0 (0%)	0 (0%)	5
	All			**13 (100%)**	**0 (0%)**	**0 (0%)**	**13**		**17 (100%)**	**0 (0%)**	**0 (0%)**	**17**
Rifampicin	CA-SFM	37	4	12 (100%)	0 (0%)	0 (0%)	12	0.032	13 (93%)	0 (0%)	1 (7%)	14
	CLSI	38	-	1 (100%)	0 (0%)	0 (0%)	1	0.032	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	36	3	38 (100%)	0 (0%)	0 (0%)	38	0.032	26 (100%)	0 (0%)	0 (0%)	26
	All			**51 (100%)**	**0 (0%)**	**0 (0%)**	**51**		**41 (98%)**	**0 (0%)**	**1 (2%)**	**42**
Teicoplanin	CA-SFM	-	-	-	-	-	-	4	7 (70%)	1 (10%)	2 (20%)	10
	CLSI	-	-	-	-	-	-	16	0 (0%)	0 (0%)	1 (100%)	1
	EUCAST	-	-	-	-	-	-	-	16 (53%)	1 (3%)	13 (43%)	30
	All			**0**	**0**	**0**	**0**		**23 (56%)**	**2 (5%)**	**16 (39%)**	**41**
Tetracycline	CA-SFM	30	5	9 (100%)	0 (0%)	0 (0%)	9	2	3 (27%)	1 (9%)	7 (64%)	11
	CLSI	30	-	1 (100%)	0 (0%)	0 (0%)	1	2	2 (67%)	0 (0%)	1 (33%)	3
	EUCAST	25	2	30 (91%)	0 (0%)	3 (9%)	33	2	9 (31%)	5 (17%)	15 (52%)	29
	All			**40 (93%)**	**0 (0%)**	**3 (7%)**	**43**		**14 (33%)**	**6 (14%)**	**23 (53%)**	**43**
Tigecycline	CLSI	-	-	-	-	-	-	0.5	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	24	-	2 (100%)	0 (0%)	0 (0%)	2	0.25	18 (100%)	0 (0%)	0 (0%)	18
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**19 (100%)**	**0 (0%)**	**0 (0%)**	**19**
		DISK						**MIC**				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Tobramycin	CA-SFM	13	5	0 (0%)	0 (0%)	11 (100%)	11	-	-	-	-	-
	CLSI	-	-	-	-	-	-	2	0 (0%)	0 (0%)	1 (100%)	1
	EUCAST	14	3	0 (0%)	0 (0%)	6 (100%)	6	-	0 (0%)	0 (0%)	5 (100%)	5
	All			**0 (0%)**	**0 (0%)**	**17 (100%)**	**17**		**0 (0%)**	**0 (0%)**	**6 (100%)**	**6**
Trimethoprim	EUCAST	6	1	0 (0%)	0 (0%)	3 (100%)	3	-	1 (8%)	0 (0%)	11 (92%)	12
	All			**0 (0%)**	**0 (0%)**	**3 (100%)**	**3**		**1 (8%)**	**0 (0%)**	**11 (92%)**	**12**
Trimethoprim-sulfamethoxazole	CA-SFM	9	3	1 (8%)	0 (0%)	12 (92%)	13	32	9 (69%)	0 (0%)	4 (31%)	13
	CLSI	6	-	0 (0%)	0 (0%)	1 (100%)	1	32	3 (75%)	0 (0%)	1 (25%)	4
	EUCAST	9	4	3 (9%)	2 (6%)	28 (85%)	33	4	12 (50%)	5 (21%)	7 (29%)	24
	All			**4 (9%)**	**2 (4%)**	**41 (87%)**	**47**		**24 (59%)**	**5 (12%)**	**12 (29%)**	**41**
Vancomycin	CA-SFM	-	-	-	-	-	-	2	22 (100%)	0 (0%)	0 (0%)	22
	CLSI	-	-	-	-	-	-	-	5 (100%)	0 (0%)	0 (0%)	5
	EUCAST	16	3	4 (100%)	0 (0%)	0 (0%)	4	2	65 (100%)	0 (0%)	0 (0%)	65

	All			**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**		**92 (100%)**	**0 (0%)**	**0 (0%)**	**92**

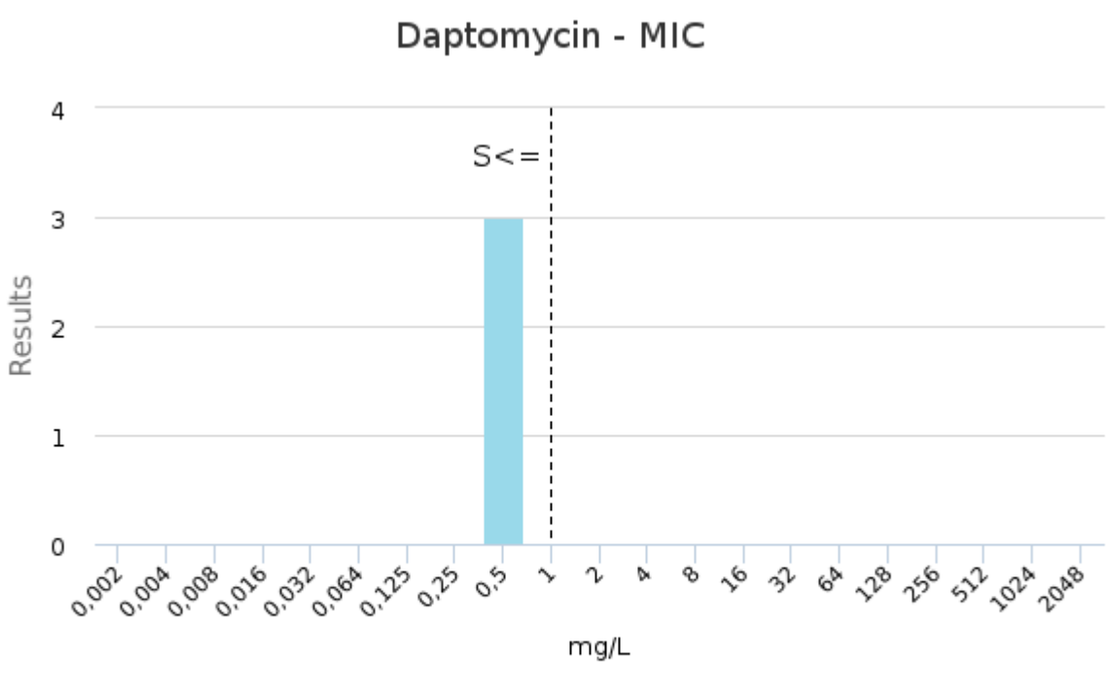
Sample S001 | CLSI



Susceptible (4 pcs / 100%)



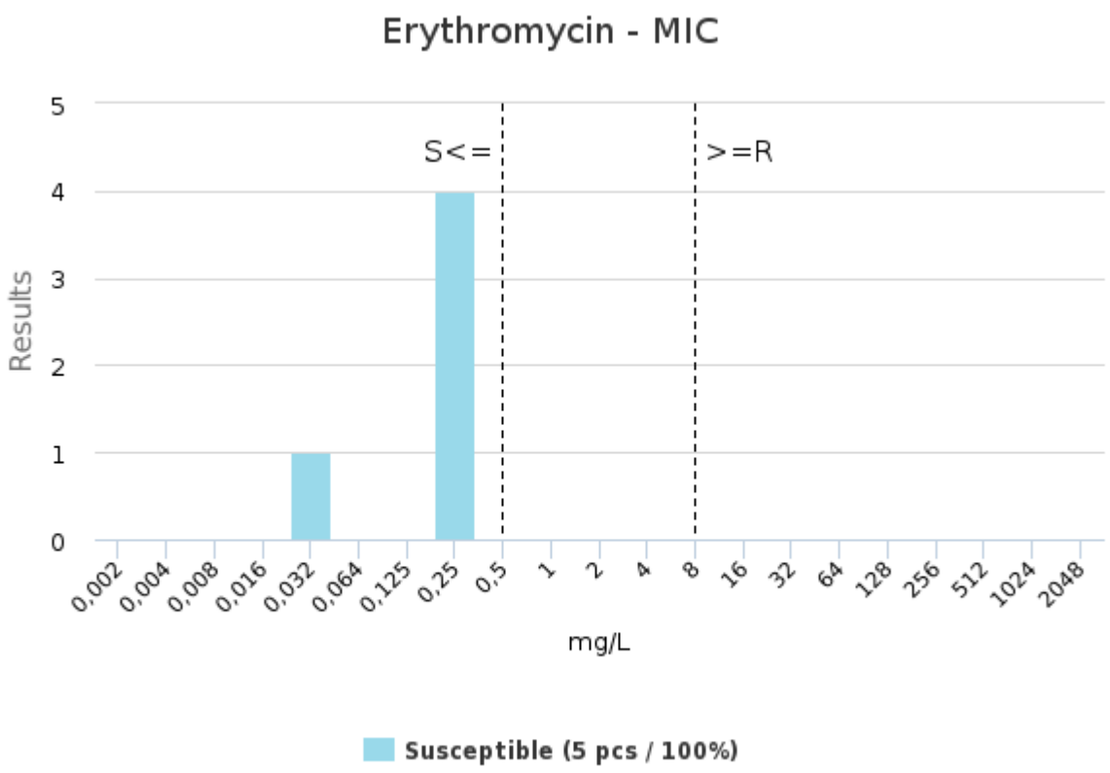
Susceptible (5 pcs / 100%)

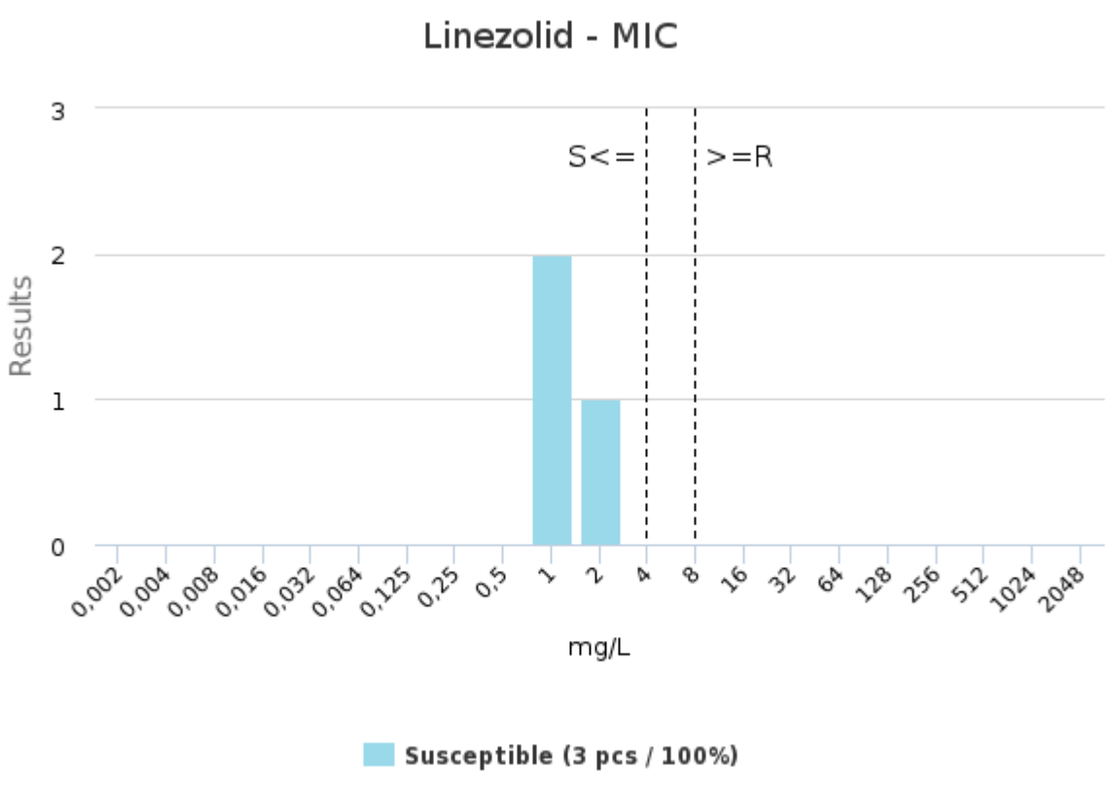


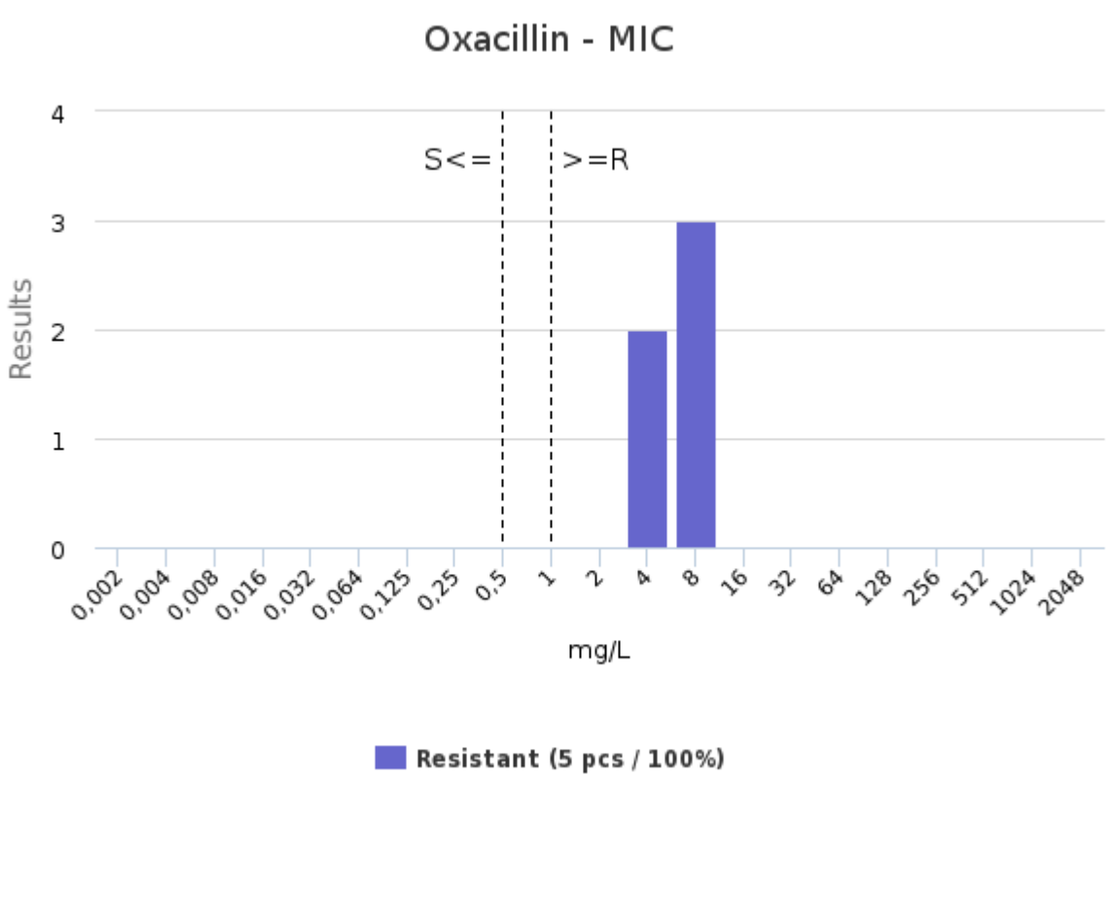
Susceptible (3 pcs / 100%)

Blood culture, March, 1-2023

Antimicrobial susceptibility testing results

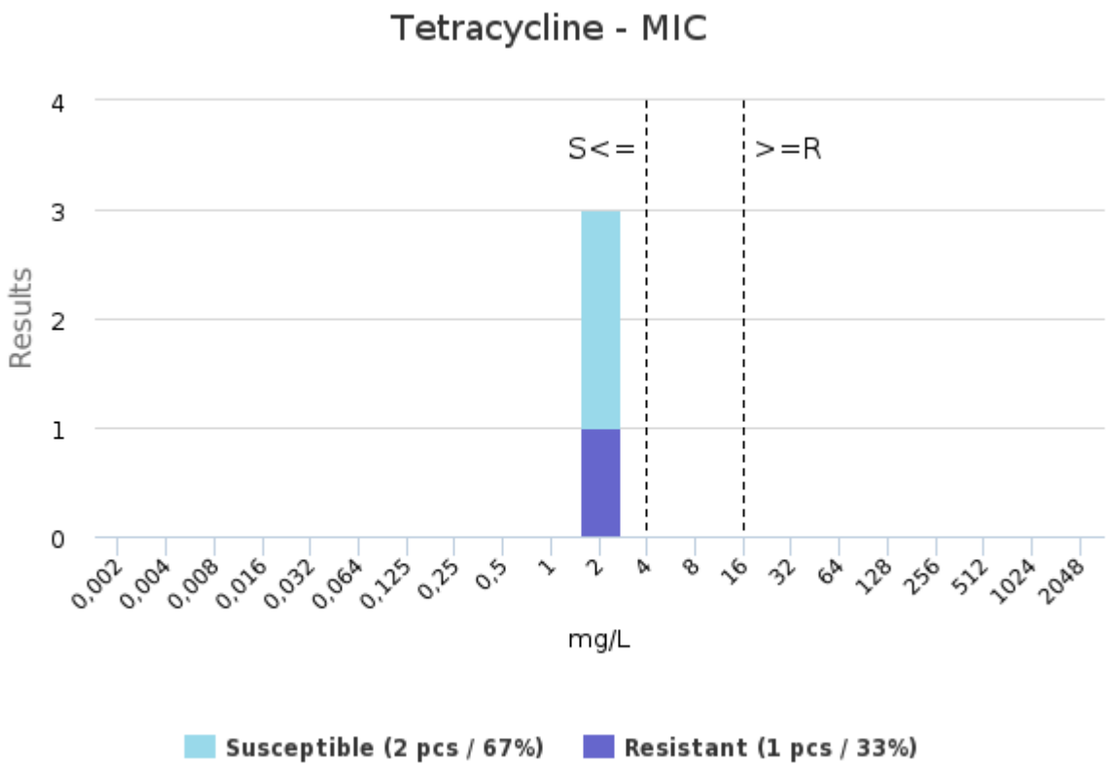


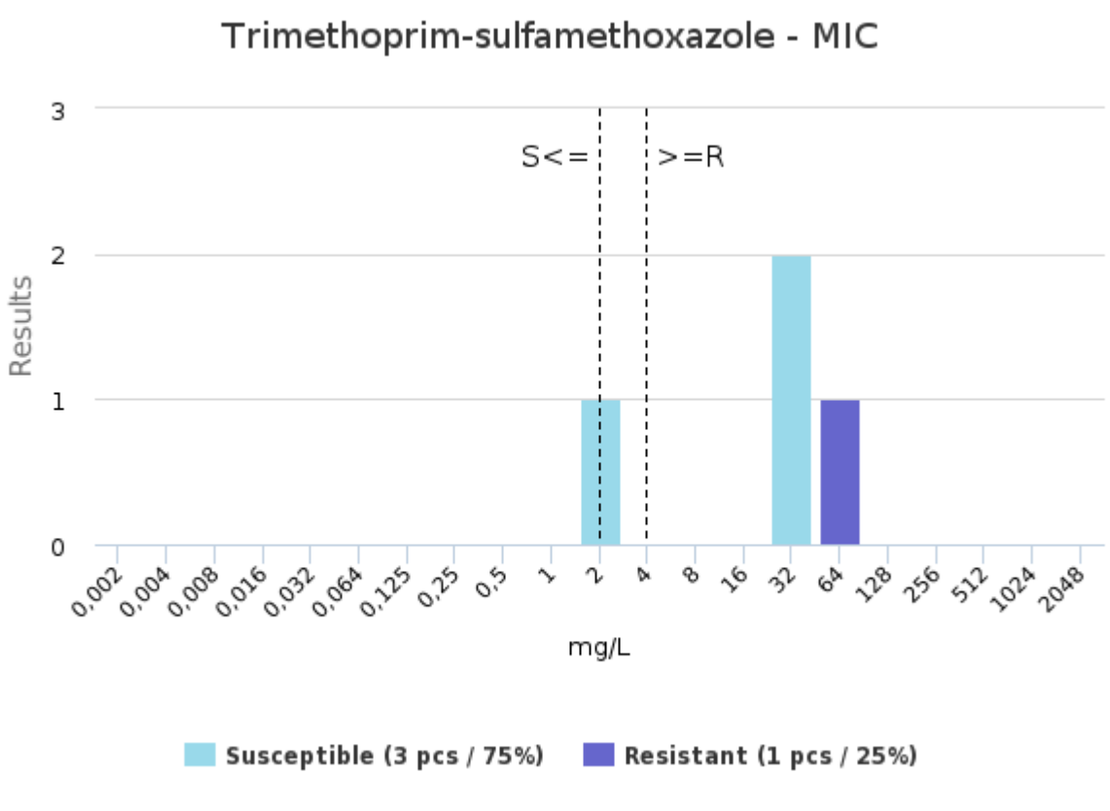


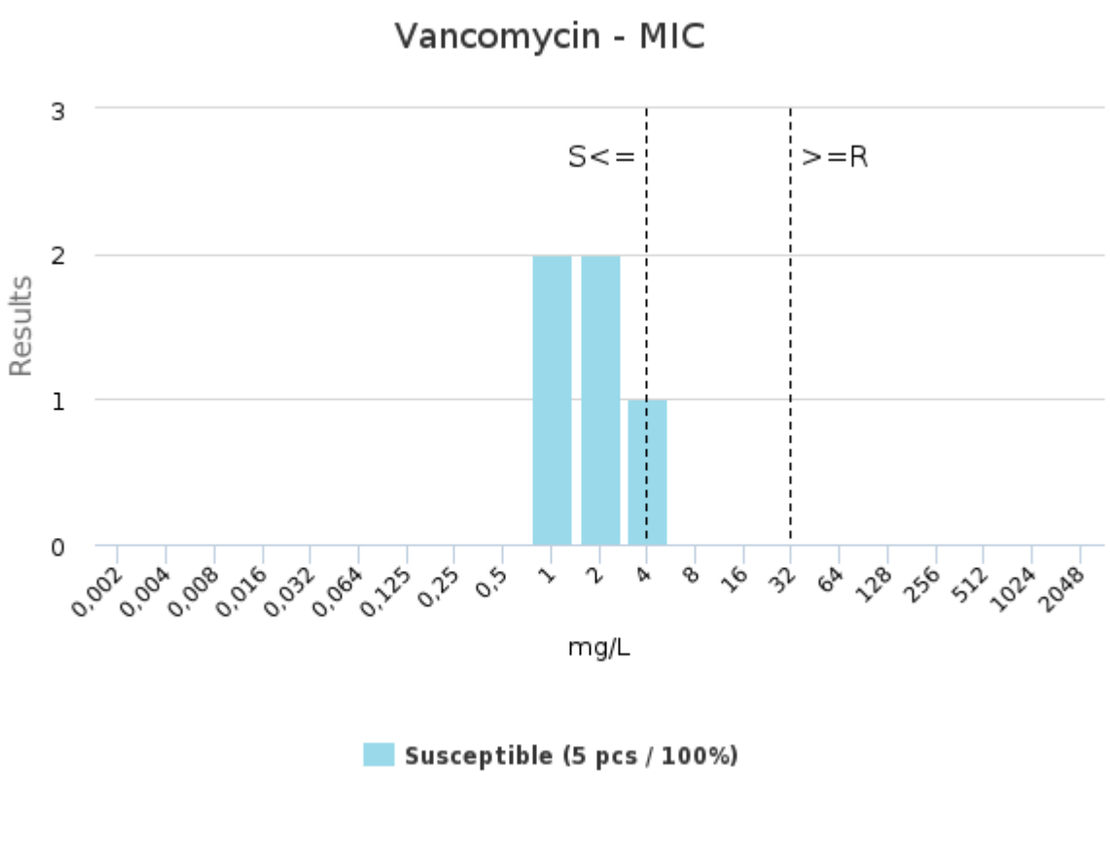


Blood culture, March, 1-2023

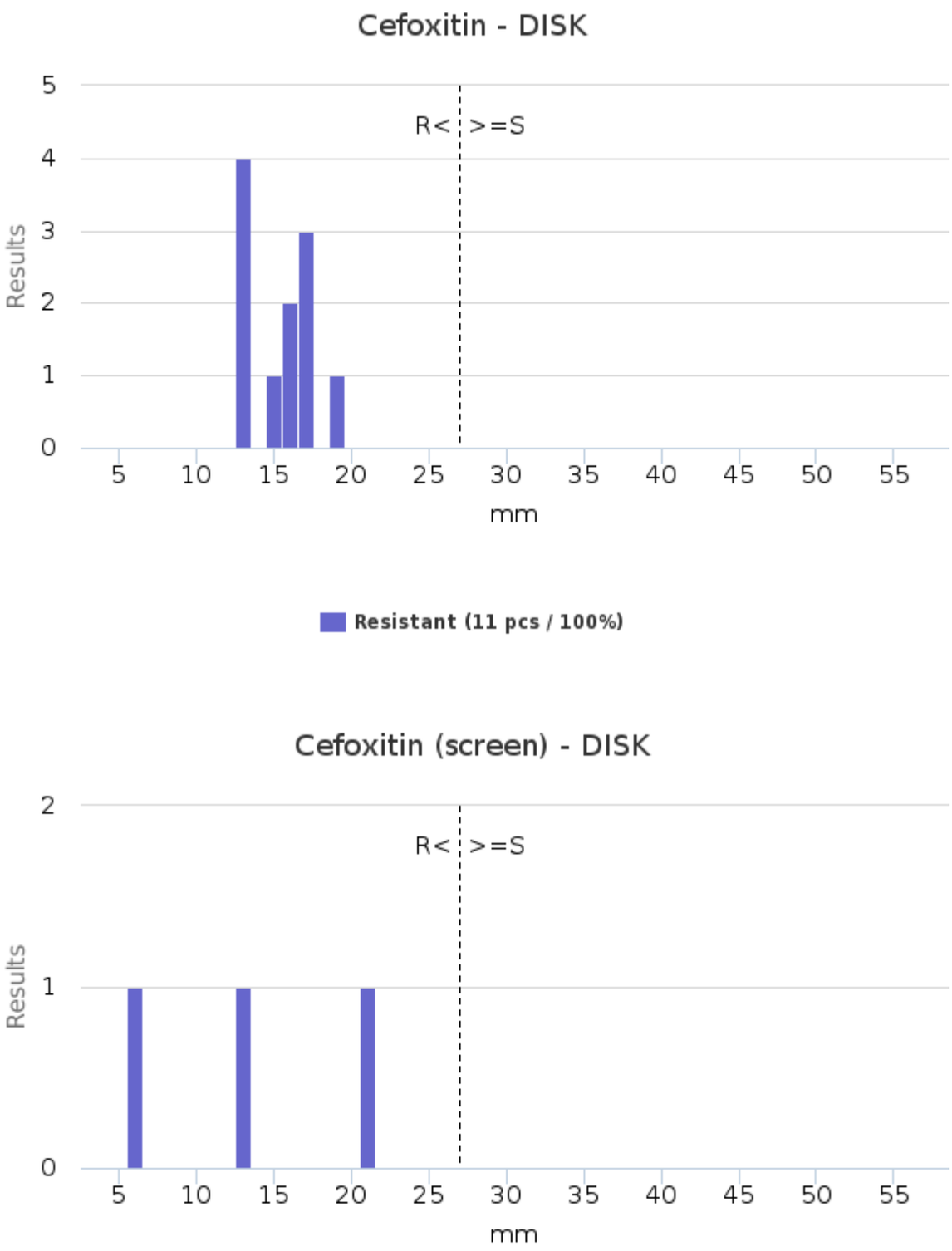
Antimicrobial susceptibility testing results

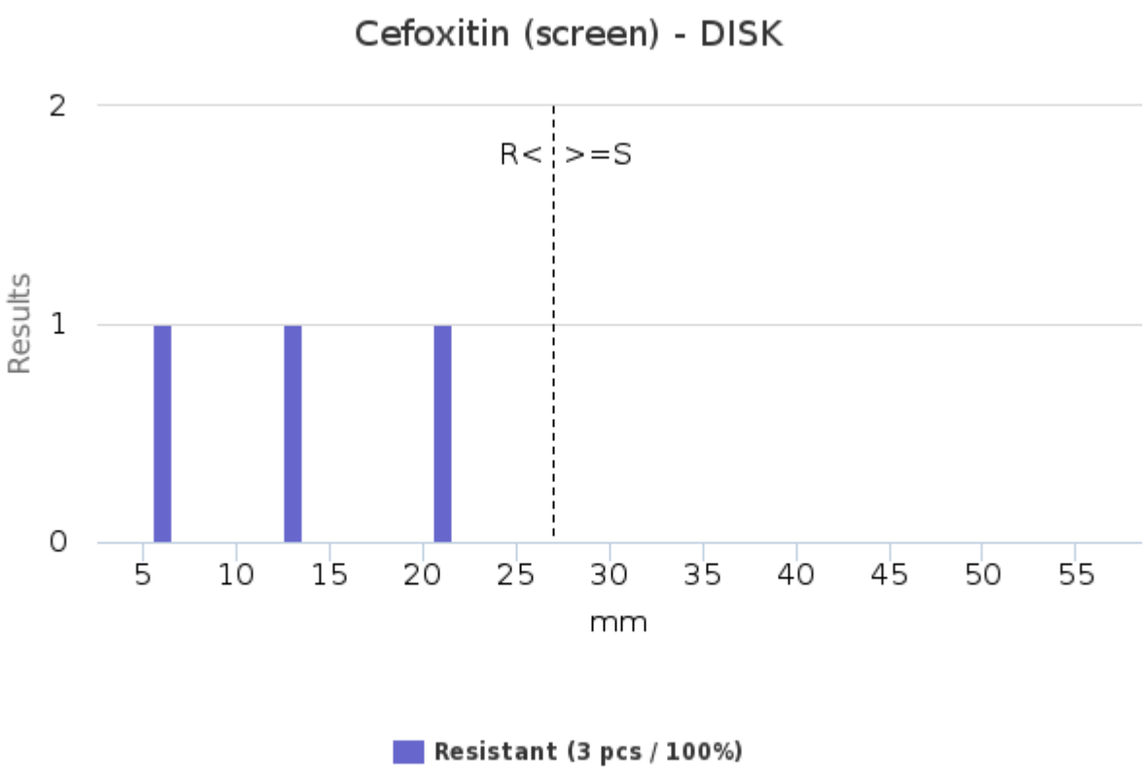


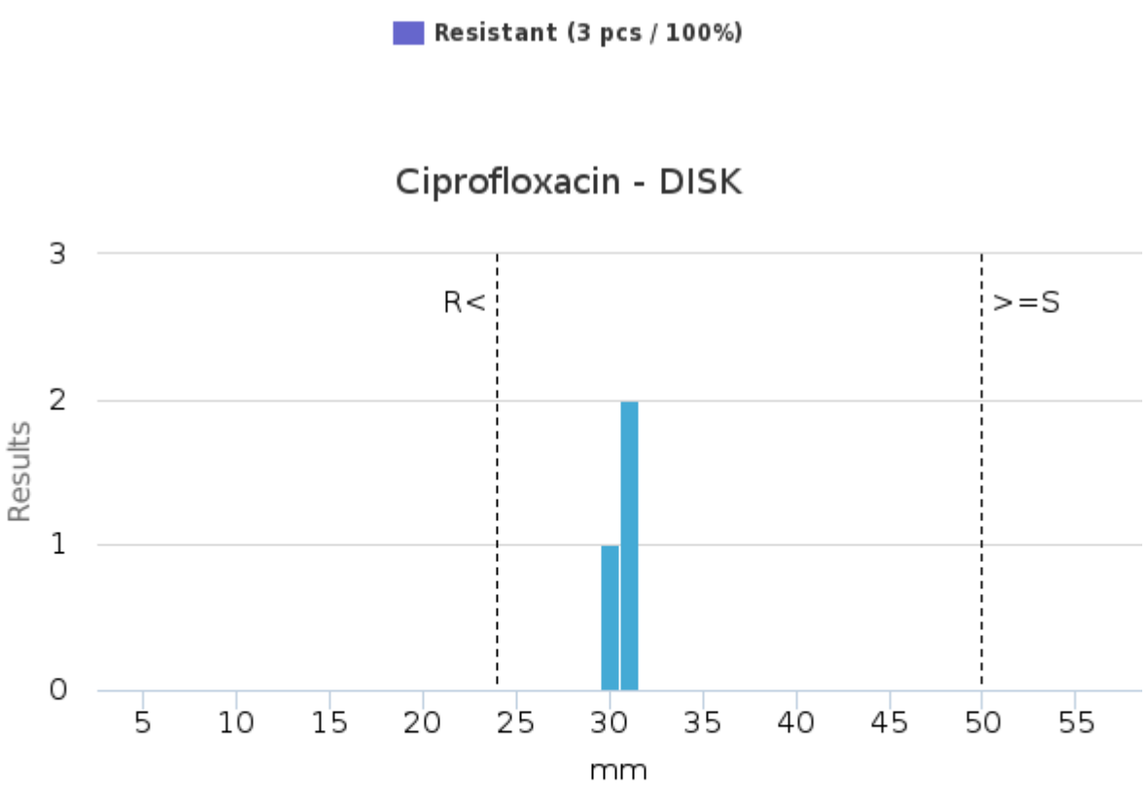




Sample S001 | CA-SFM





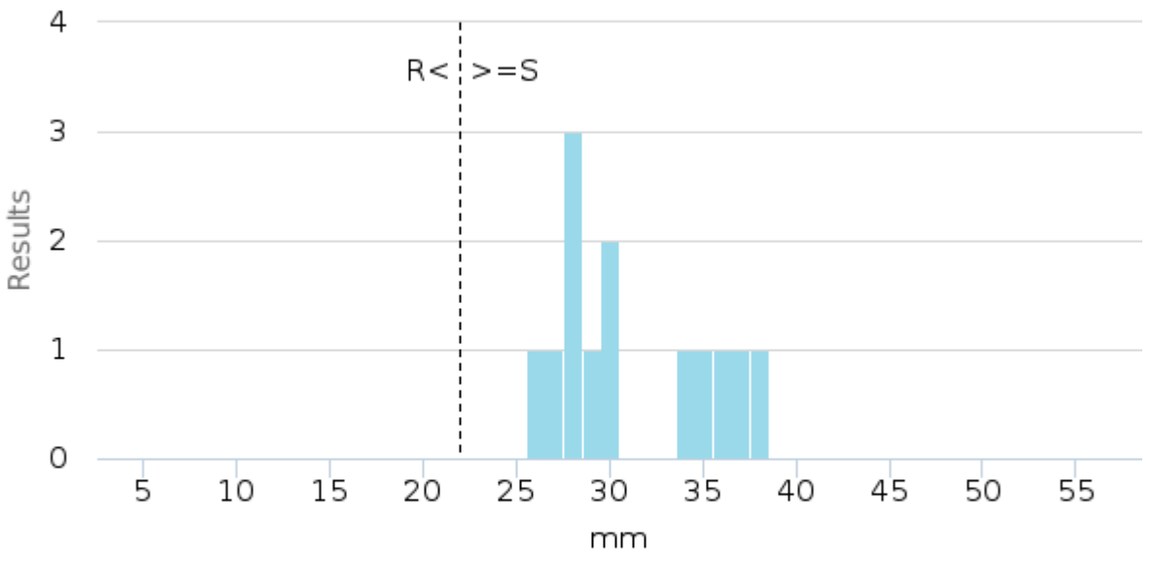


LABQUALITY

Blood culture, March, 1-2023

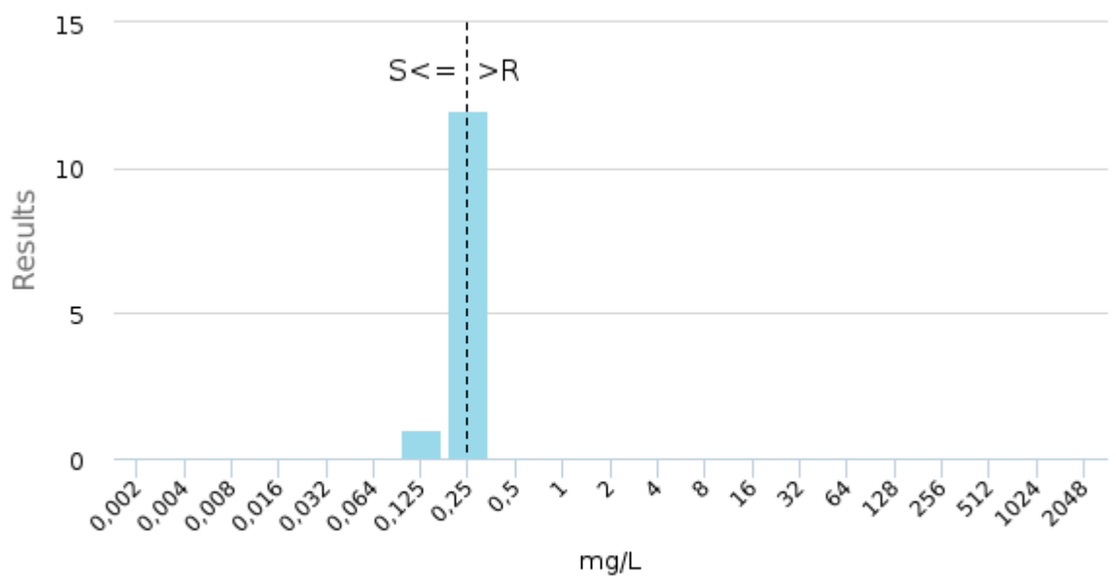
Antimicrobial susceptibility testing results

Clindamycin - DISK



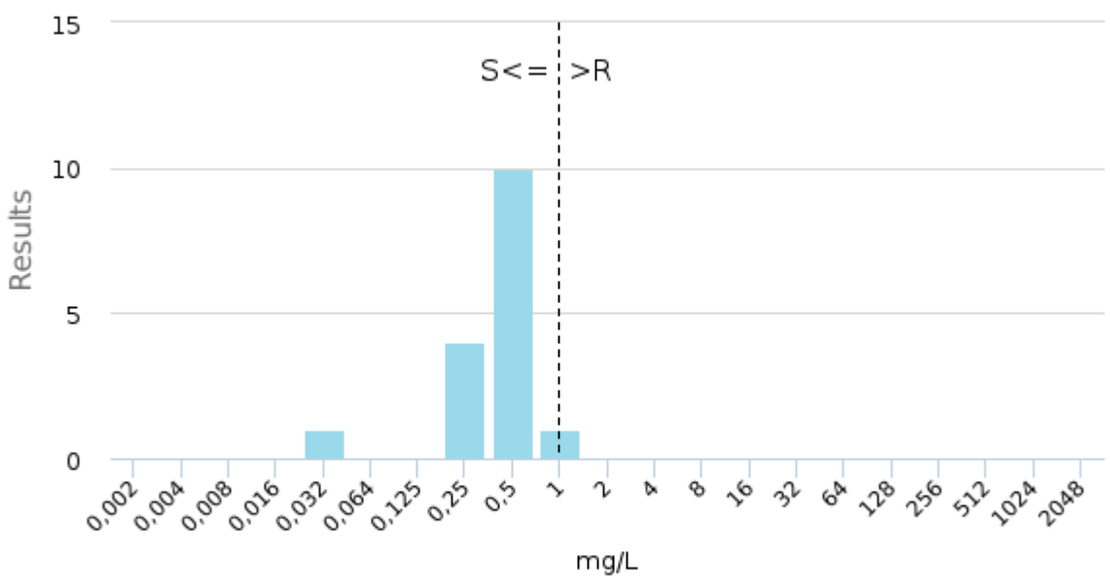
Susceptible (13 pcs / 100%)

Clindamycin - MIC



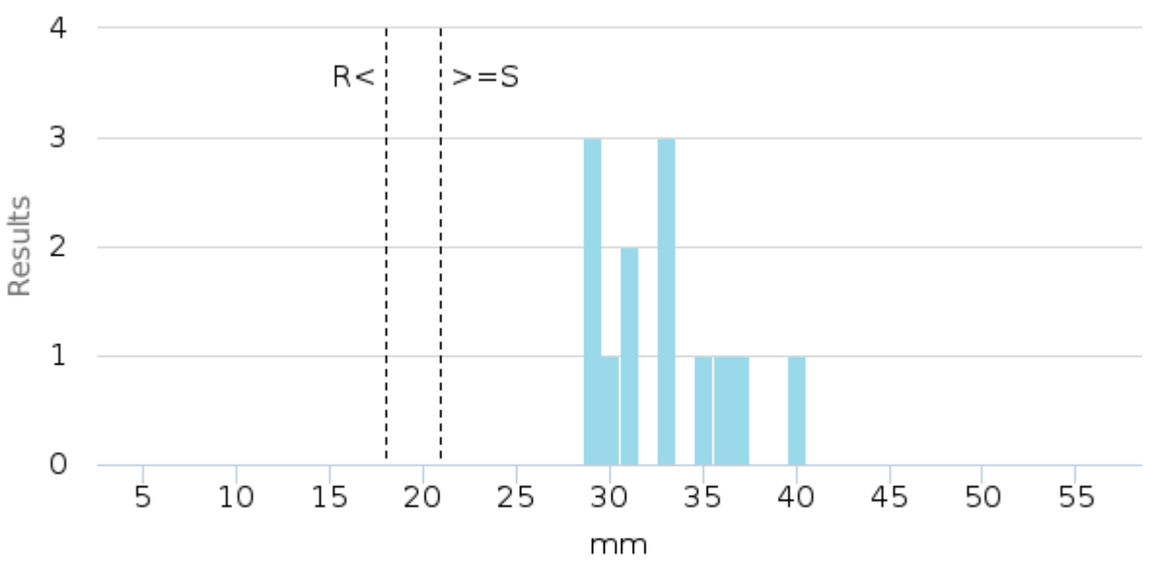
Susceptible (13 pcs / 100%)

Daptomycin - MIC



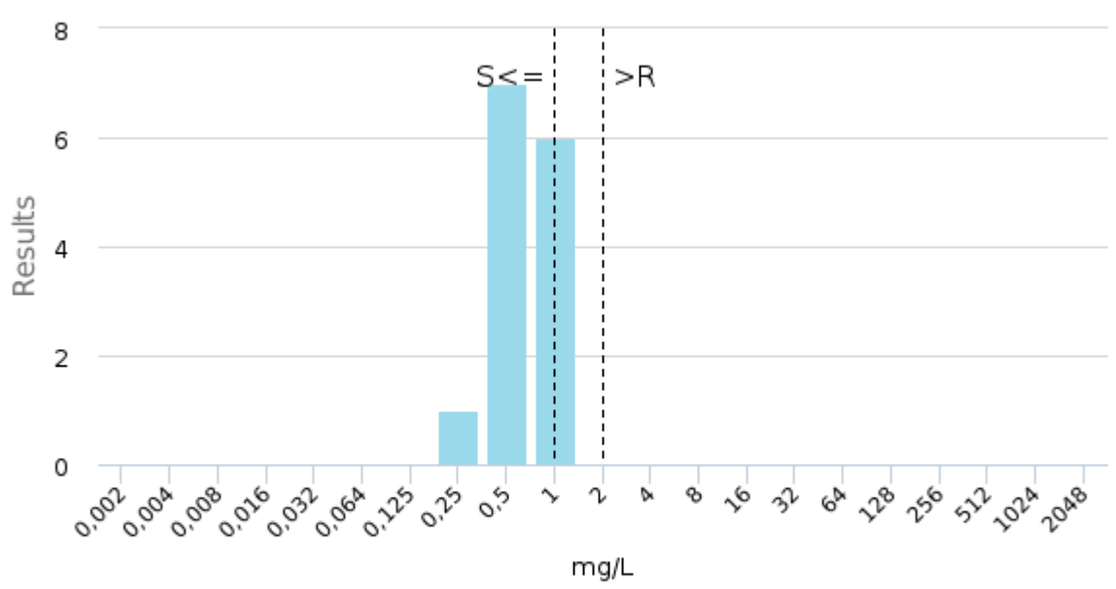
Susceptible (16 pcs / 100%)

Erythromycin - DISK

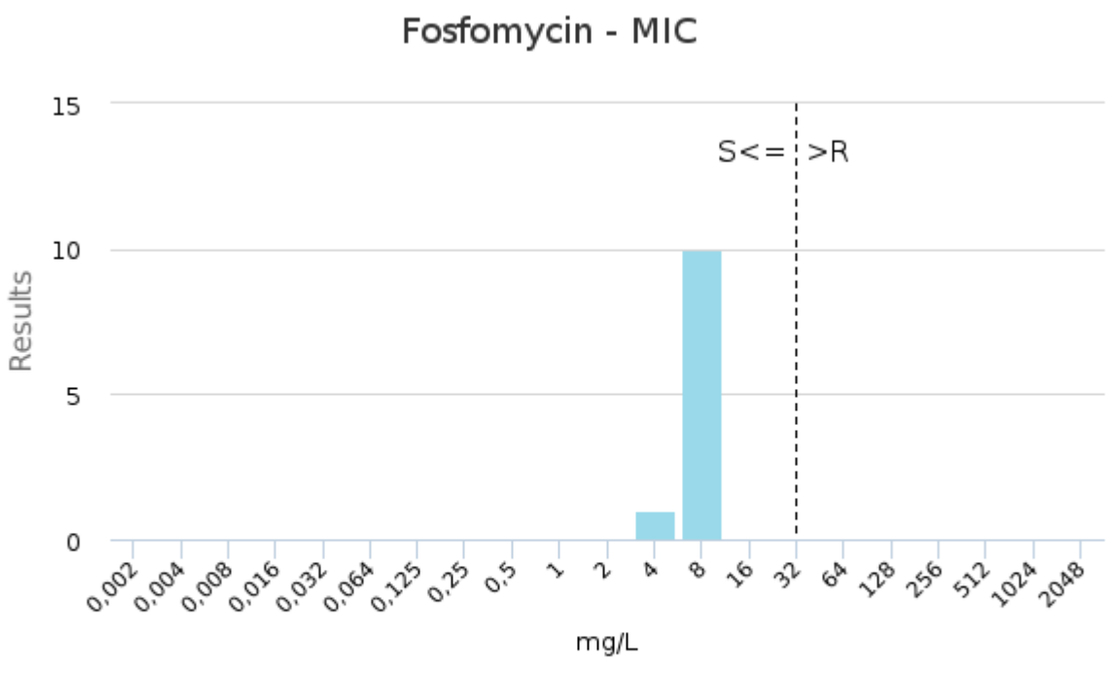


Susceptible (13 pcs / 100%)

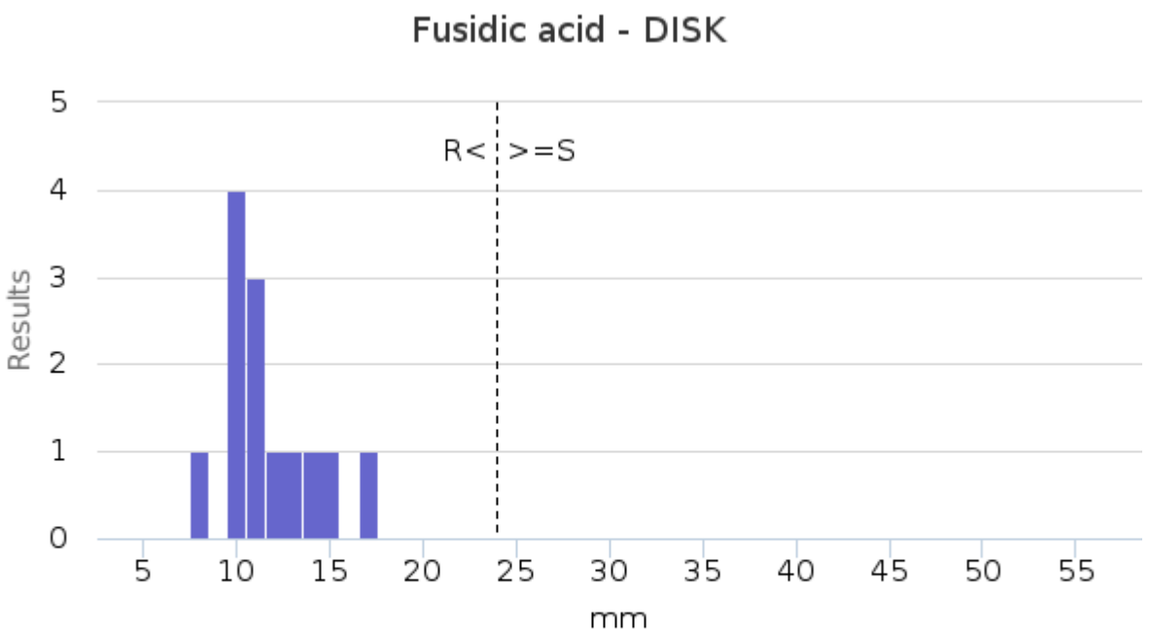
Erythromycin - MIC

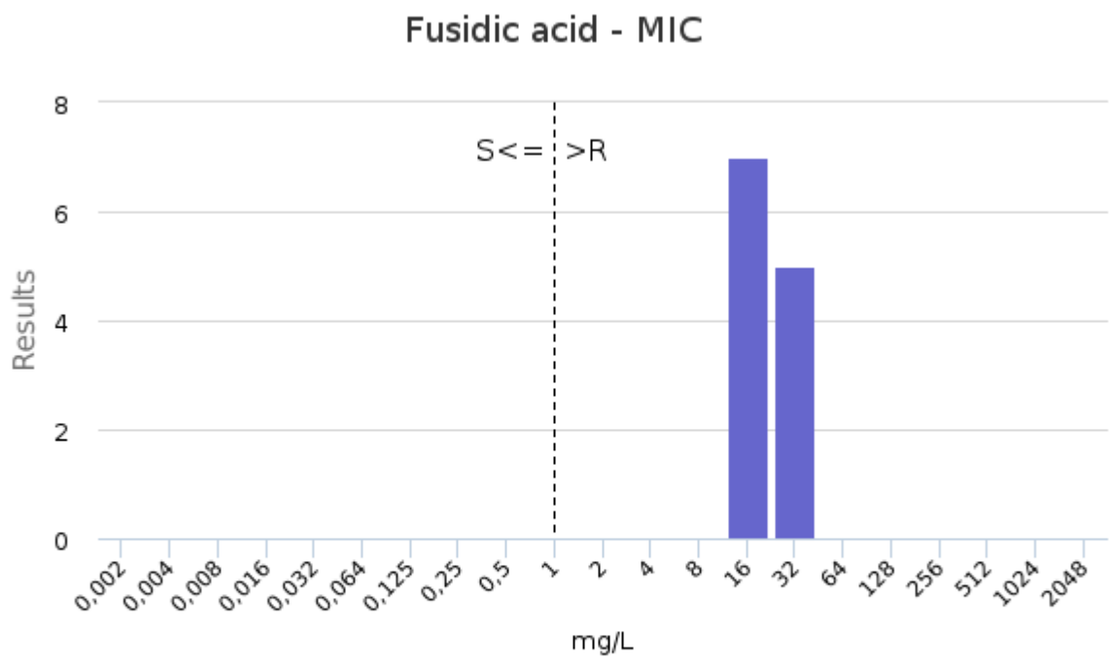


Susceptible (14 pcs / 100%)

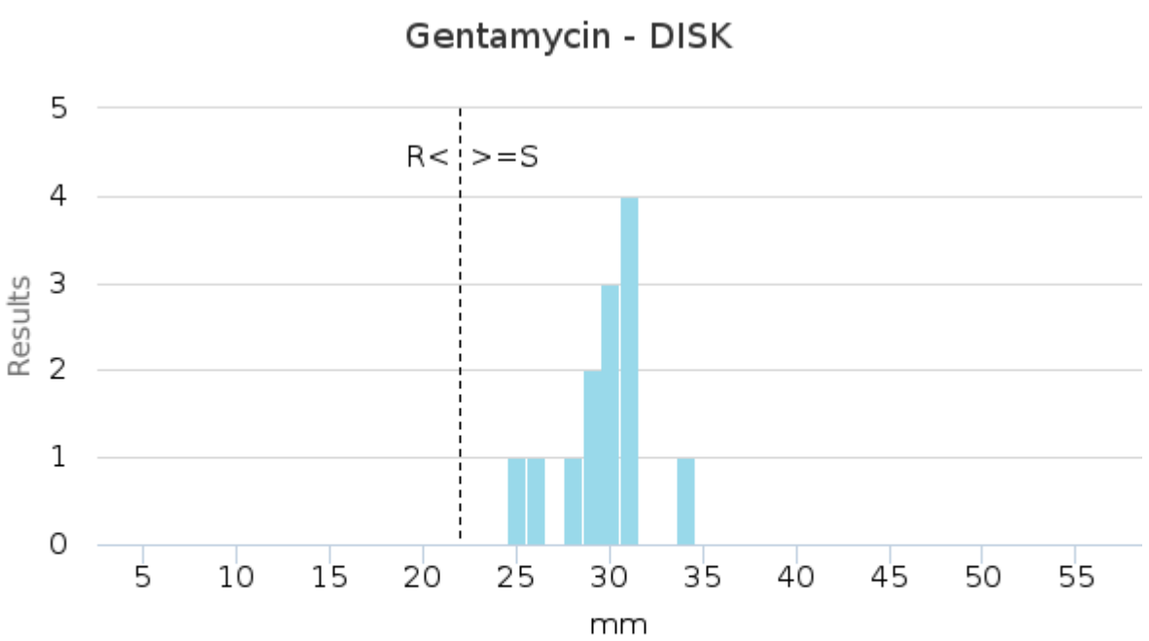


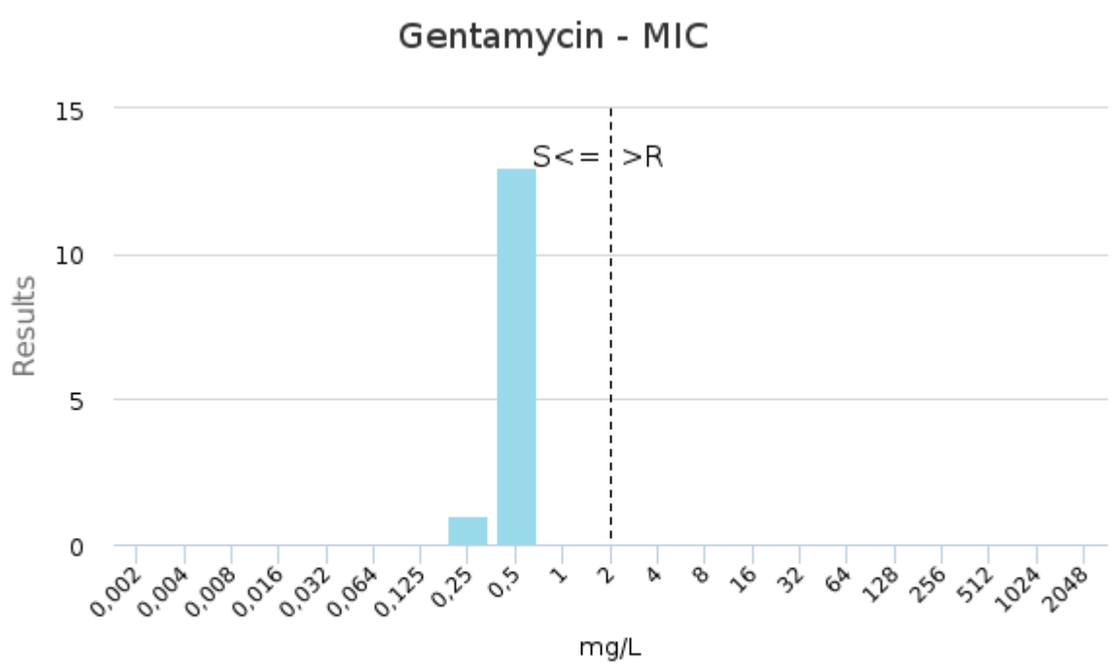
Susceptible (11 pcs / 100%)





Resistant (13 pcs / 100%)





Susceptible (13 pcs / 100%)

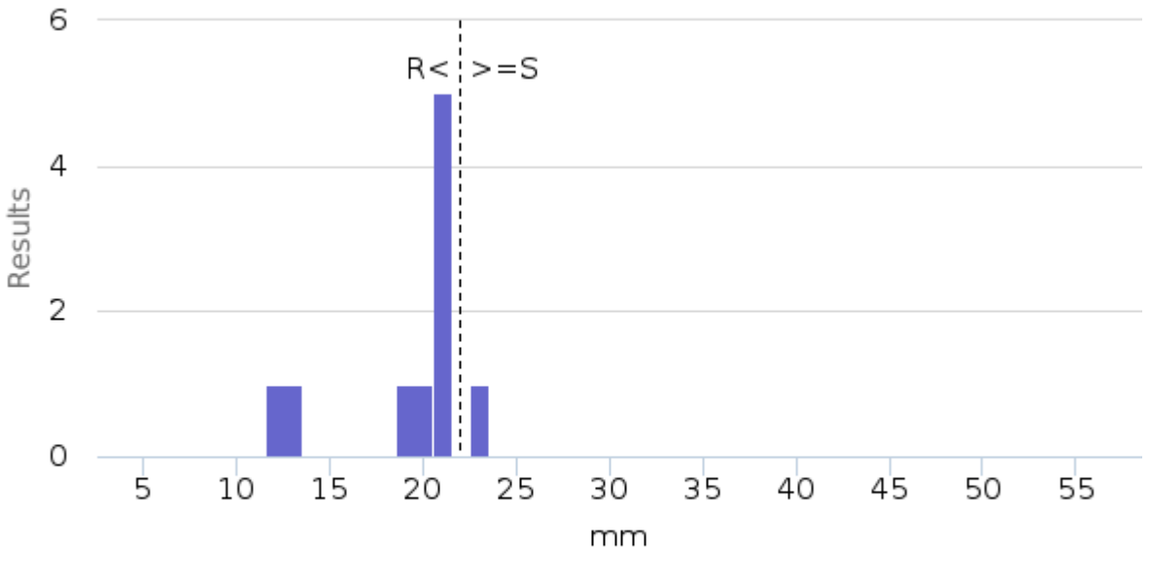
Resistant (12 pcs / 100%)

Susceptible (14 pcs / 100%)

Blood culture, March, 1-2023

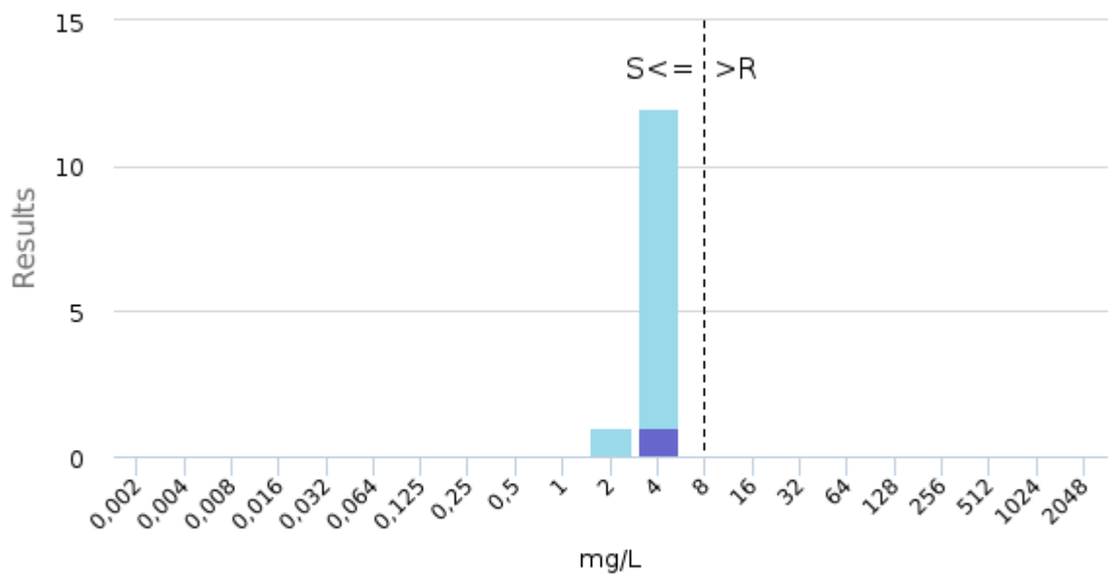
Antimicrobial susceptibility testing results

Kanamycin - DISK



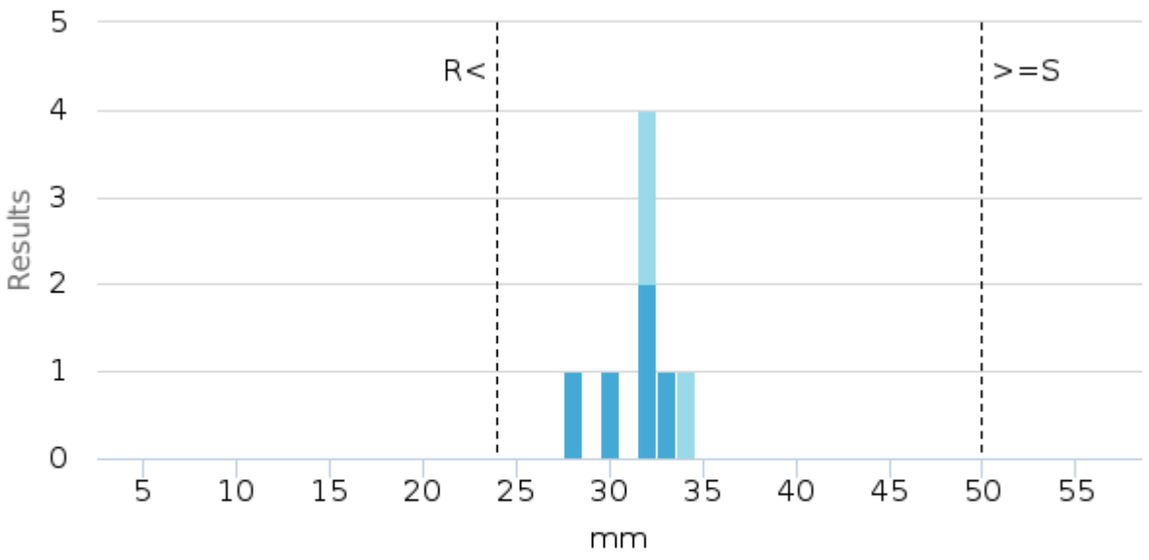
Resistant (10 pcs / 100%)

Kanamycin - MIC



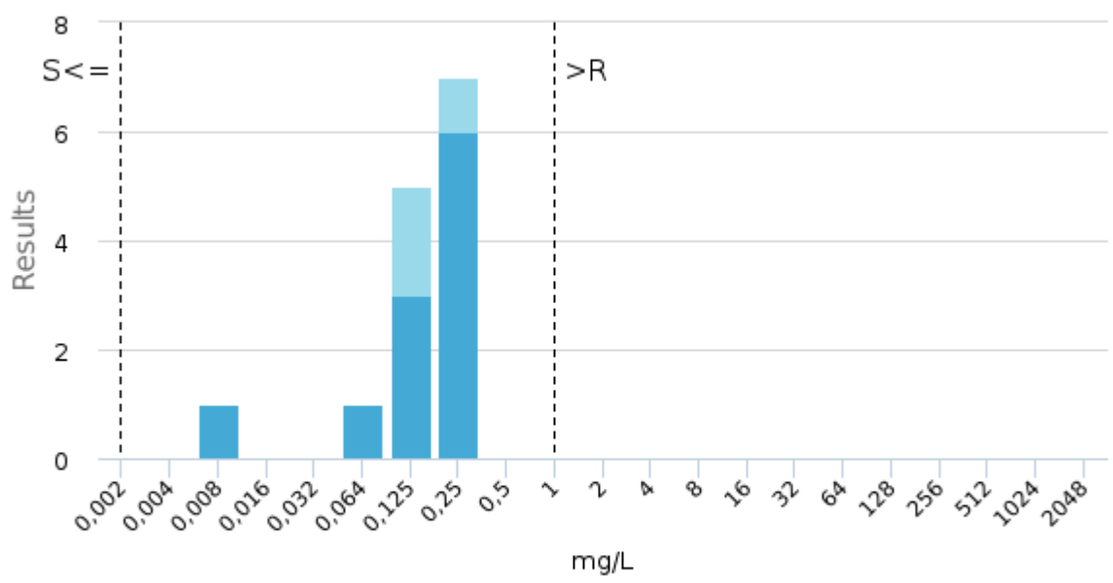
Susceptible (12 pcs / 92%) Resistant (1 pcs / 8%)

Levofloxacin - DISK



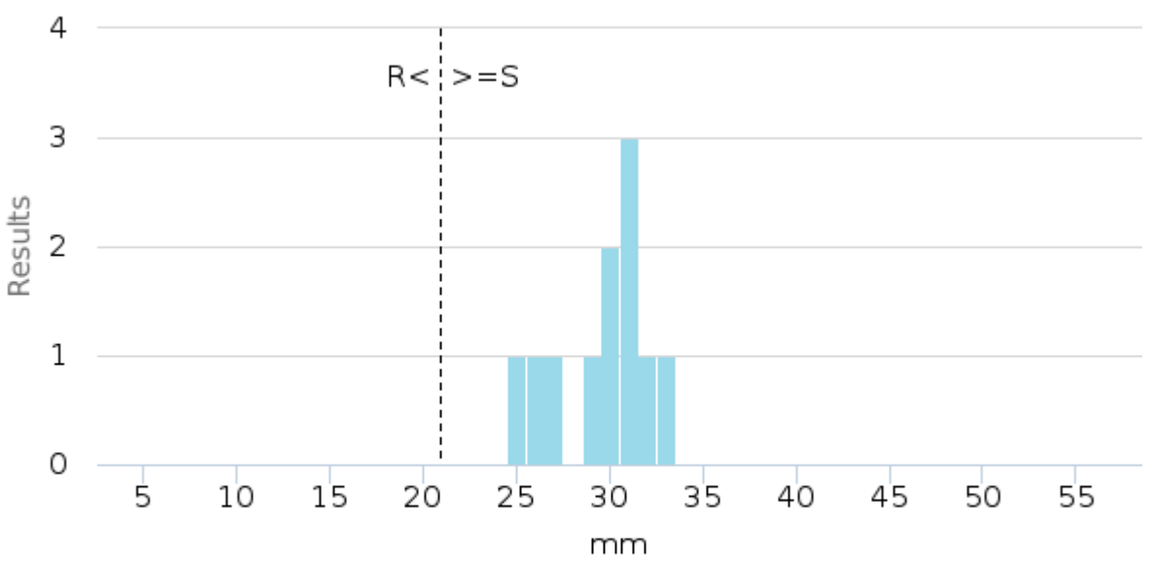
Susceptible (3 pcs / 38%) Intermediate (5 pcs / 63%)

Levofloxacin - MIC



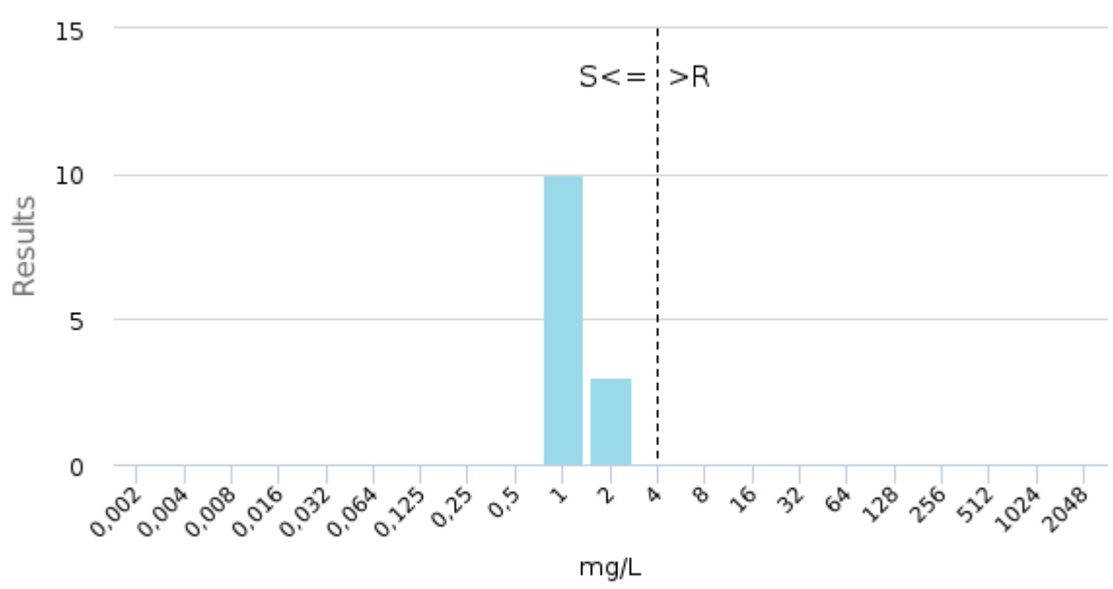
Susceptible (3 pcs / 21%) Intermediate (11 pcs / 79%)

Linezolid - DISK



Susceptible (11 pcs / 100%)

Linezolid - MIC

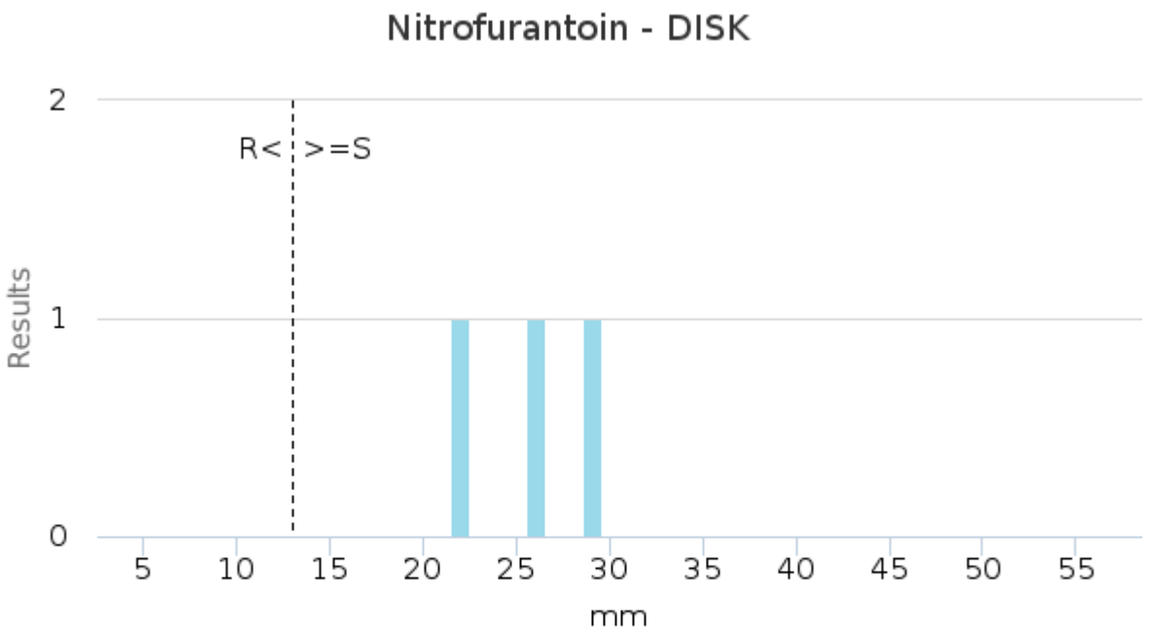


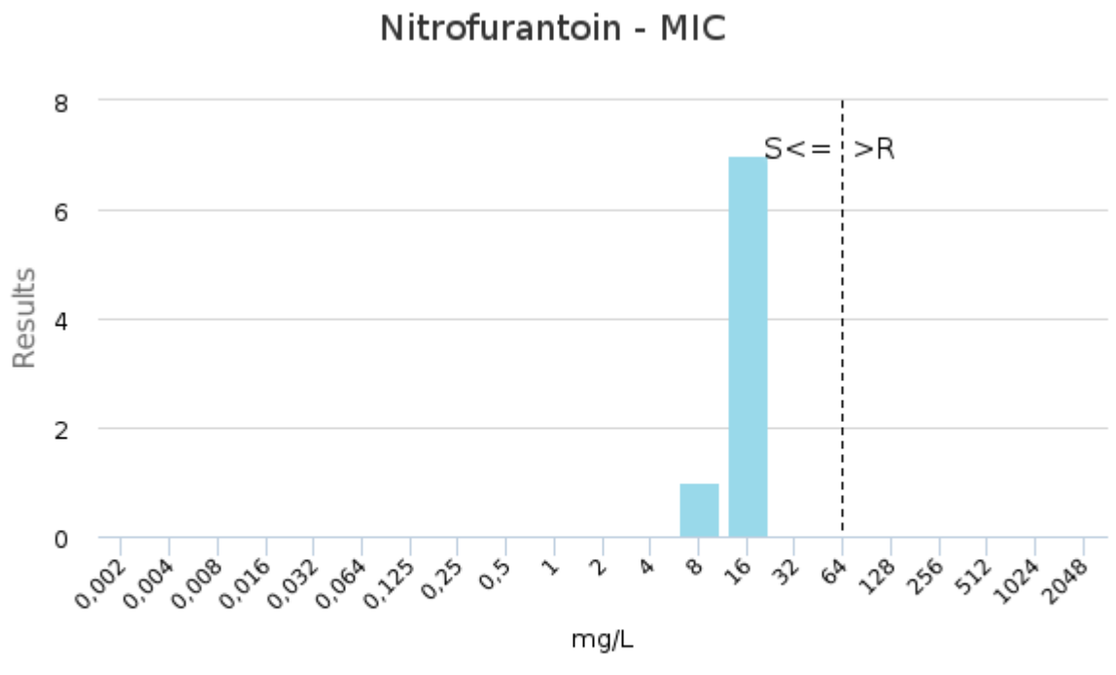
Susceptible (13 pcs / 100%)

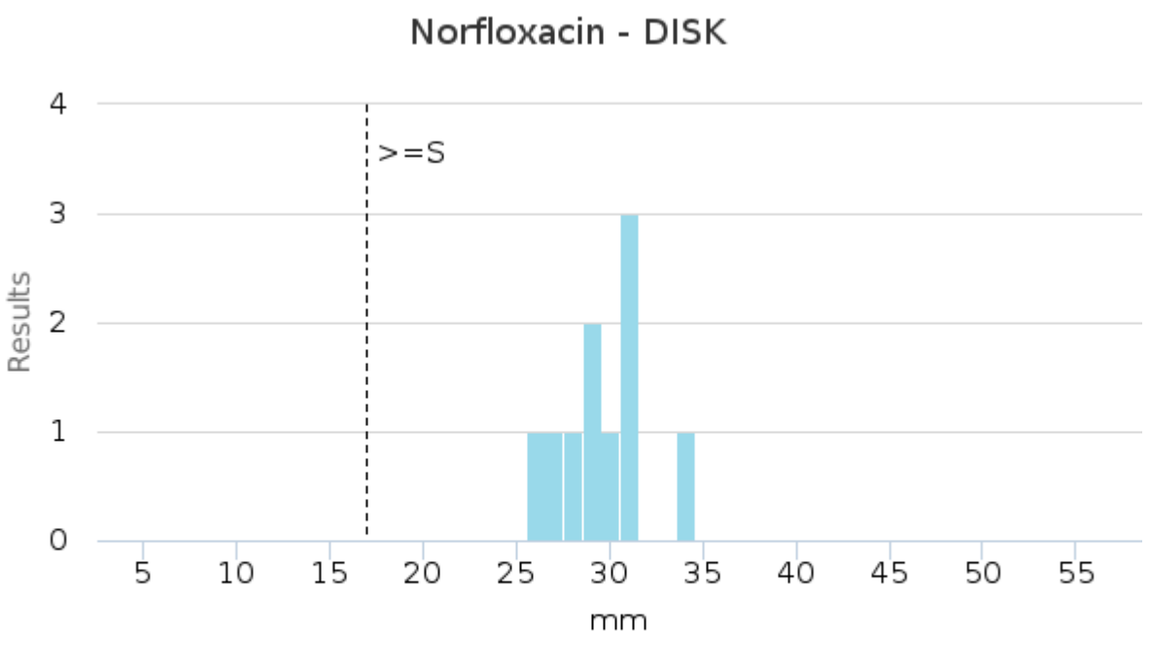
LABQUALITY

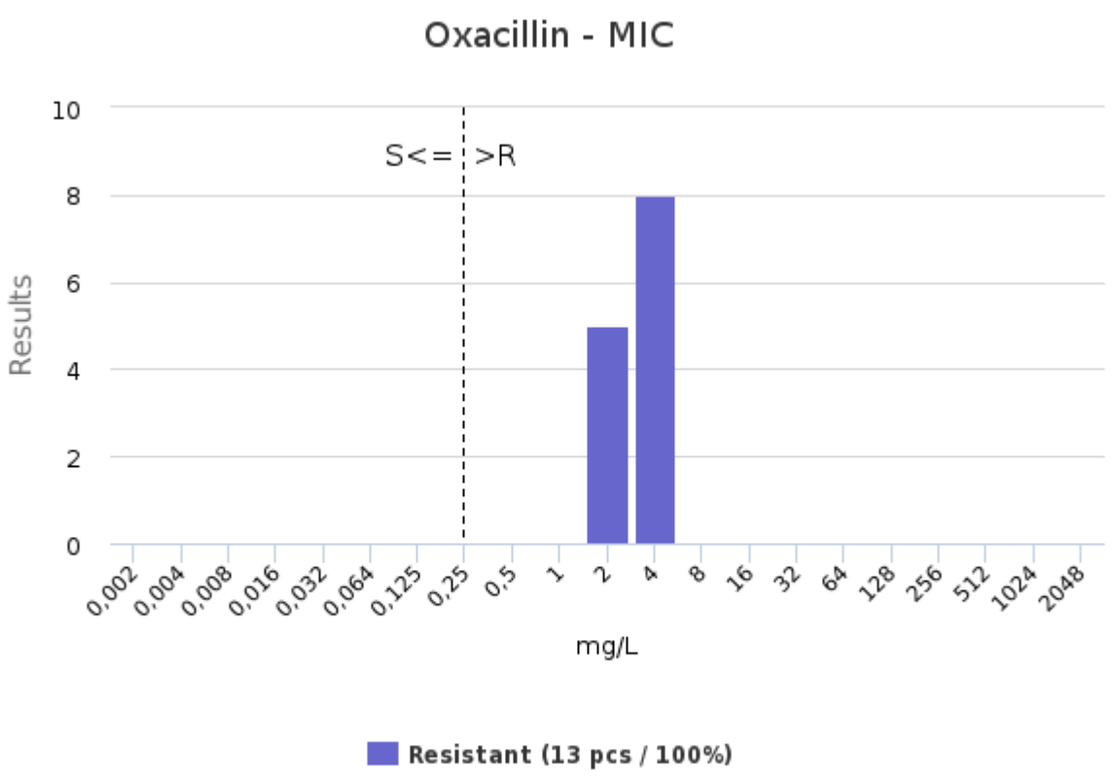
Blood culture, March, 1-2023

Antimicrobial susceptibility testing results



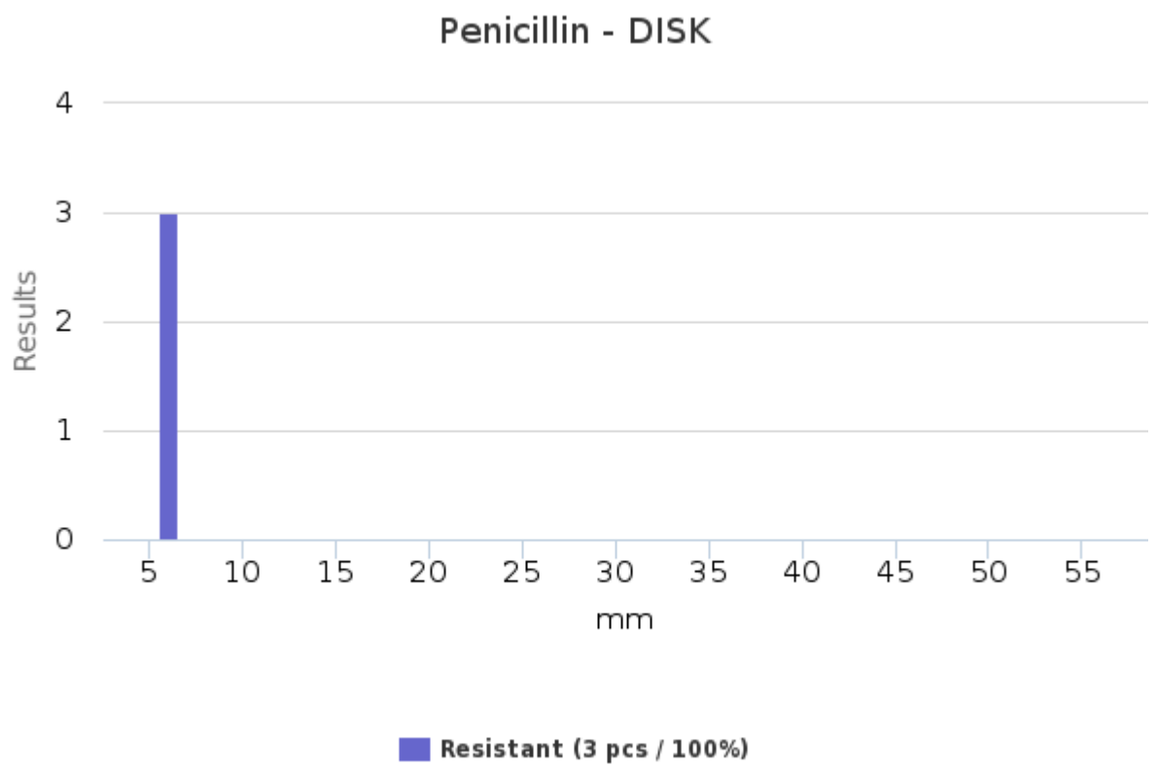


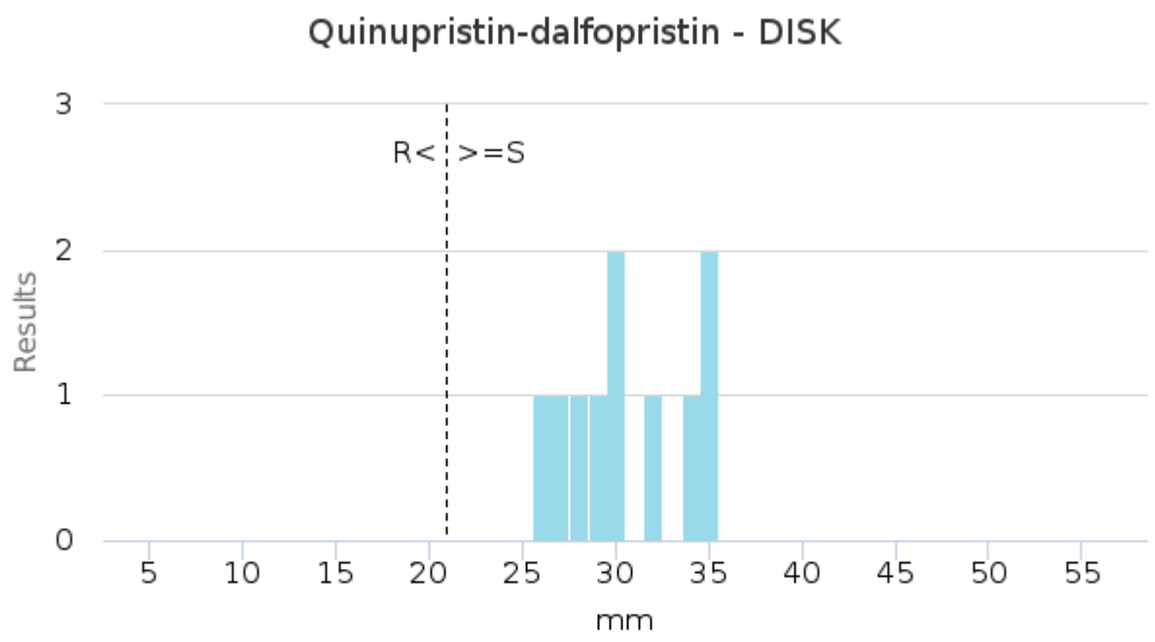


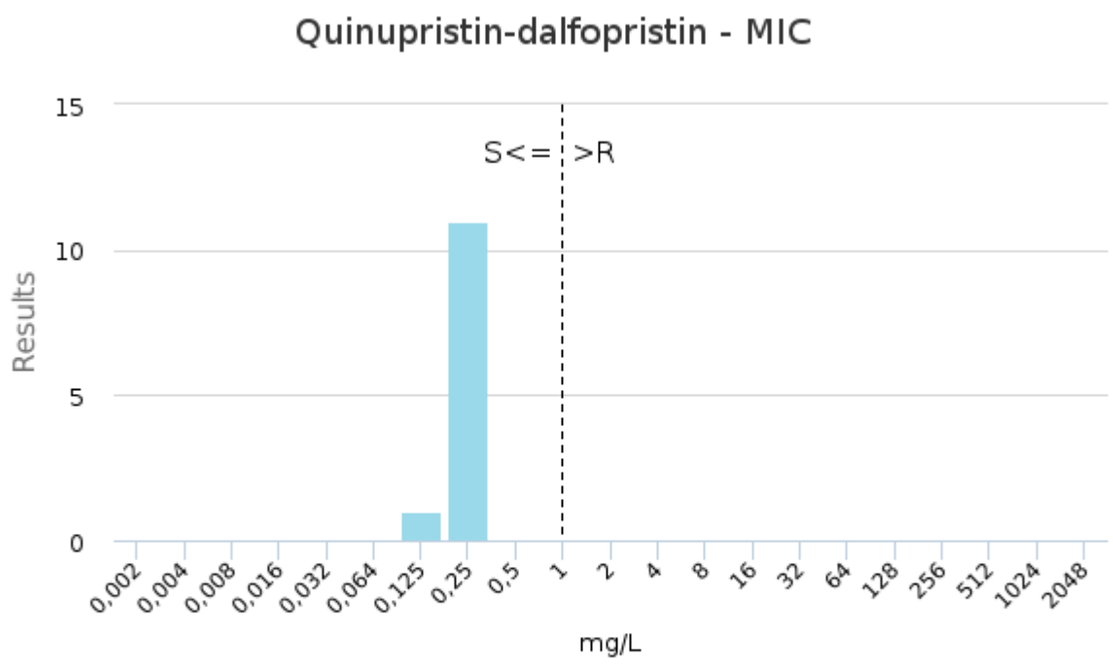


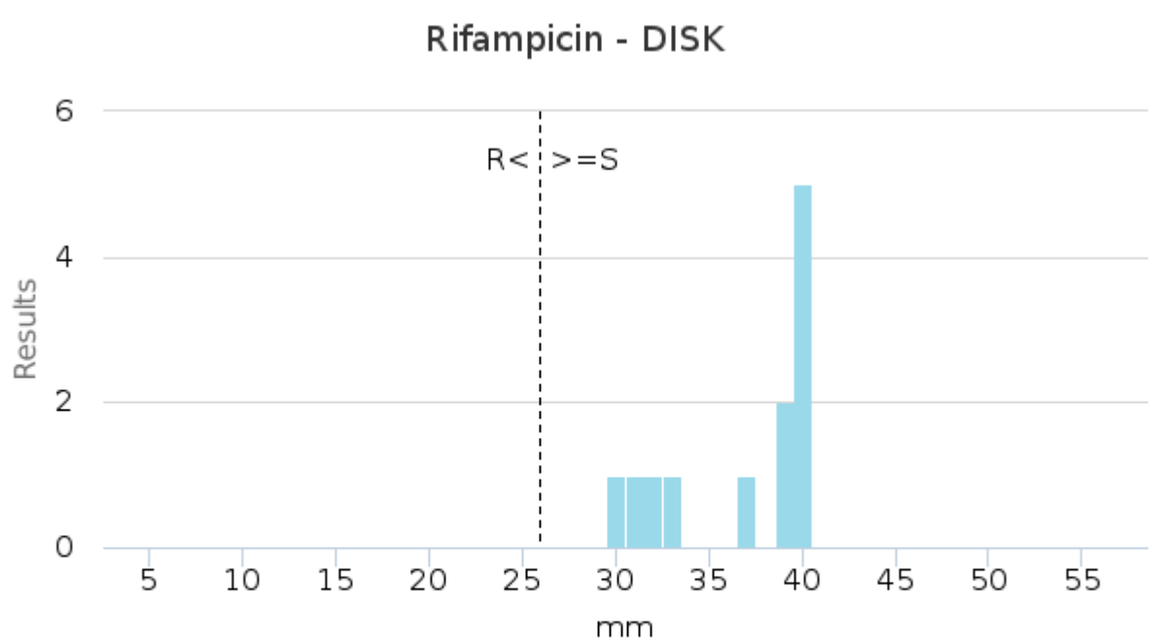
Blood culture, March, 1-2023

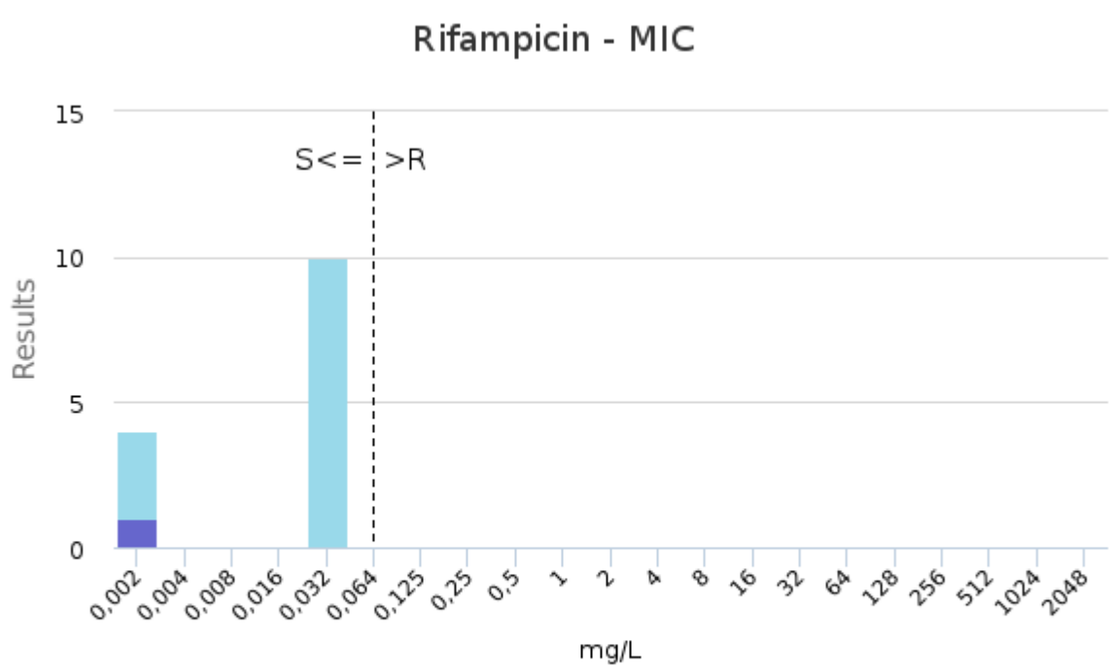
Antimicrobial susceptibility testing results





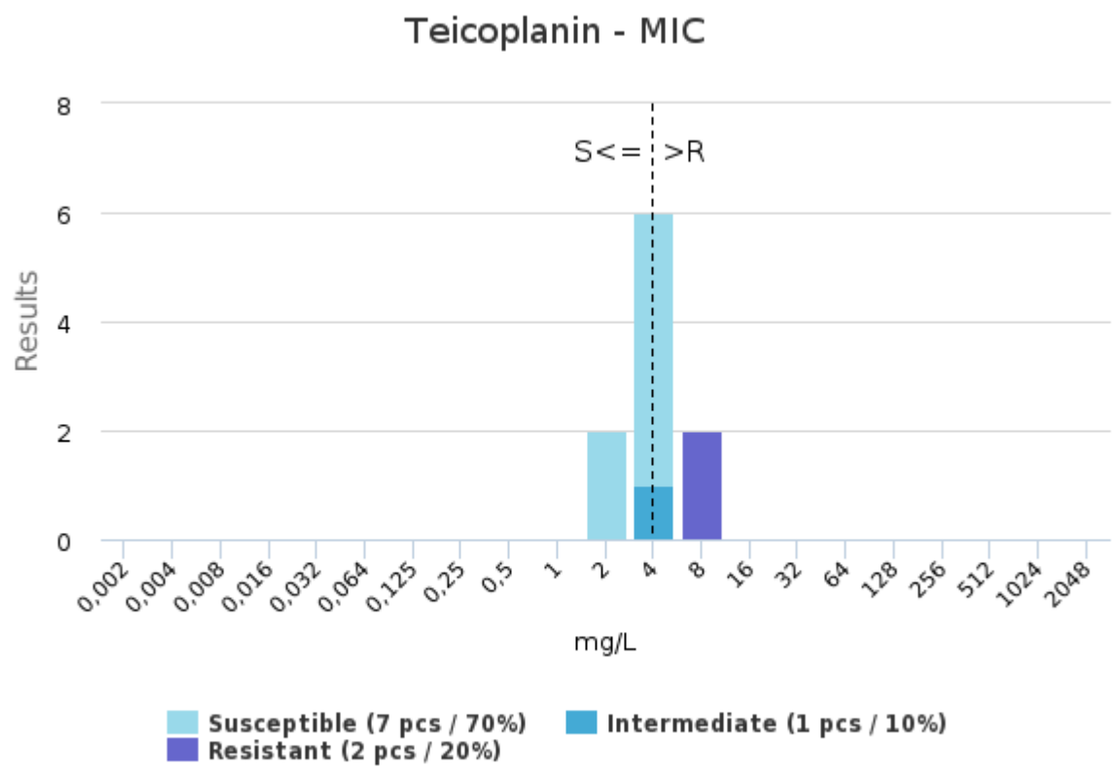


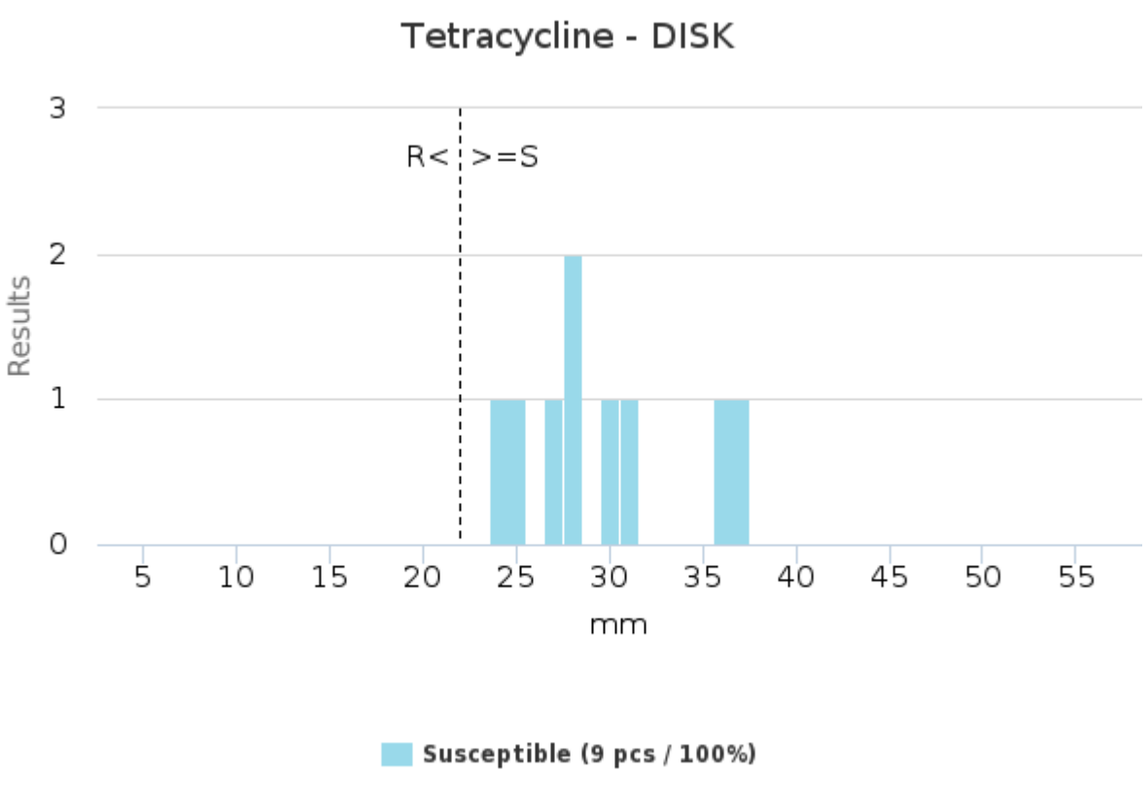


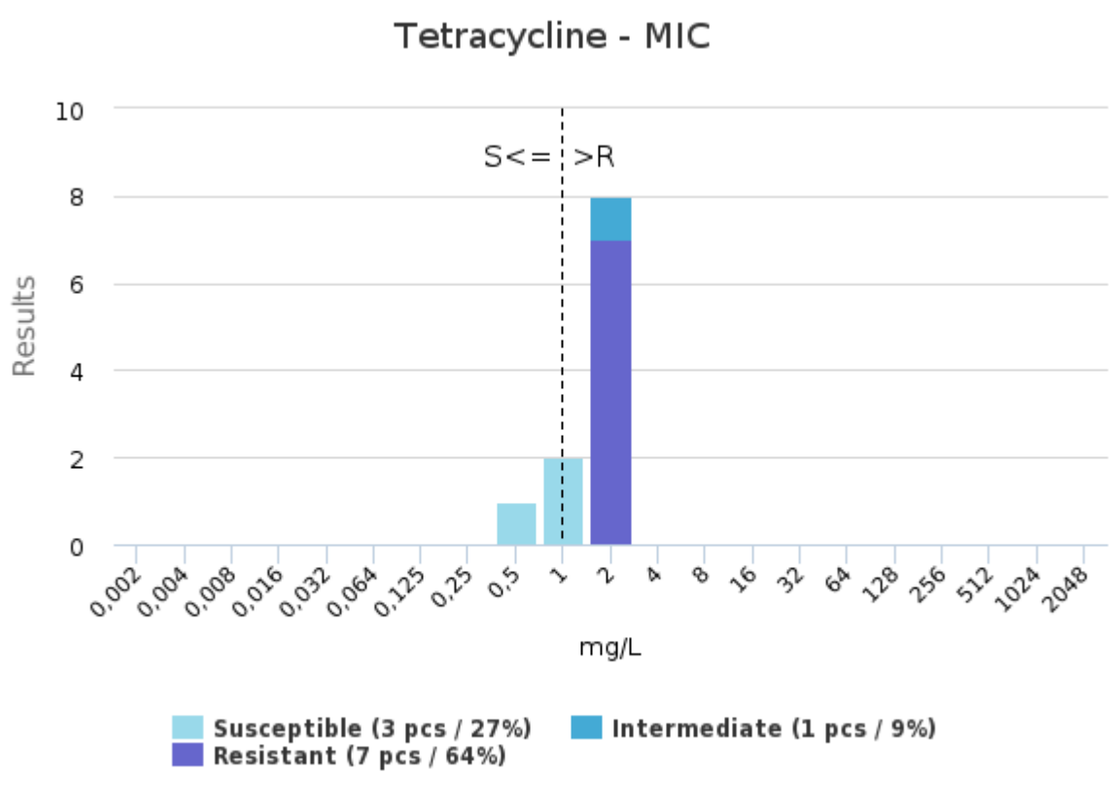


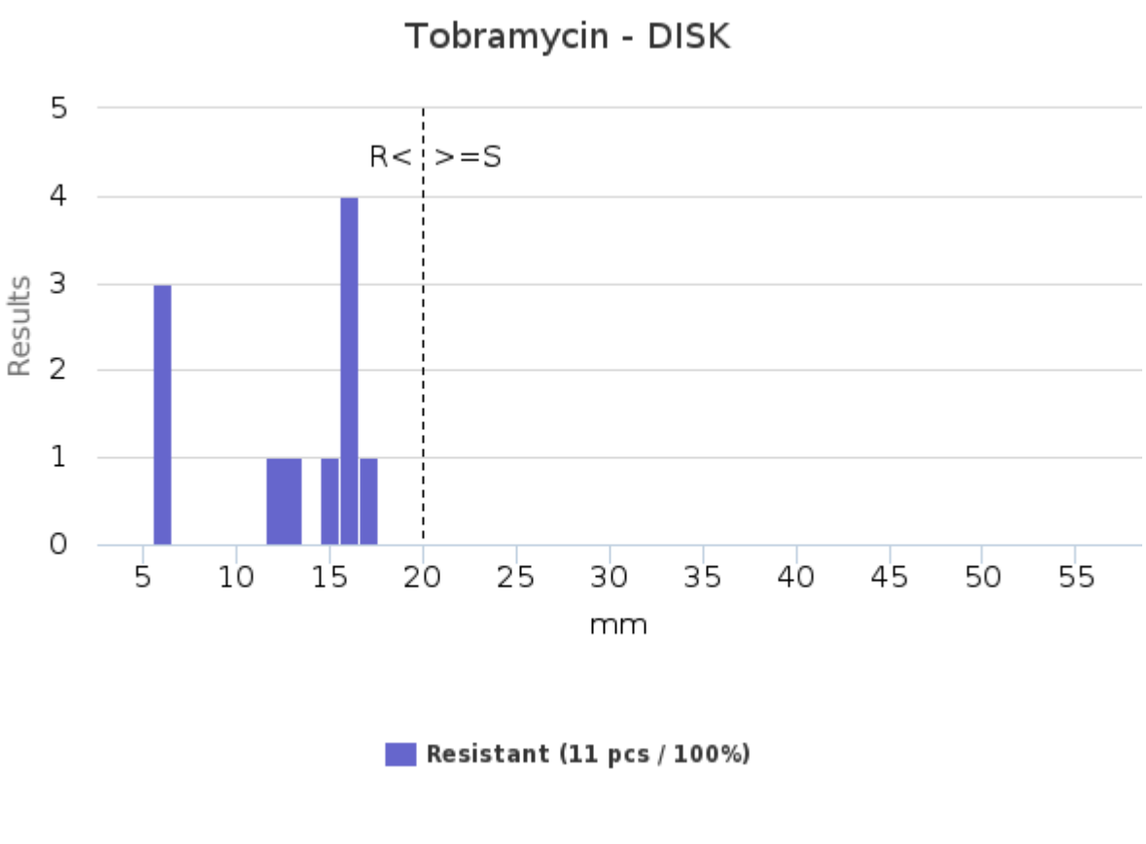
Blood culture, March, 1-2023

Antimicrobial susceptibility testing results





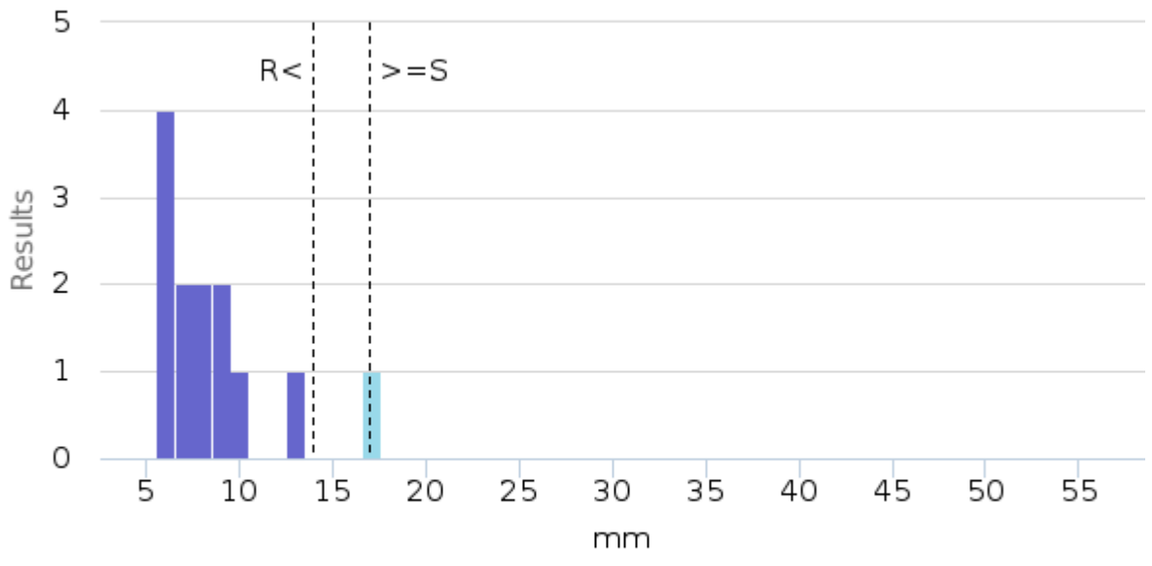




Blood culture, March, 1-2023

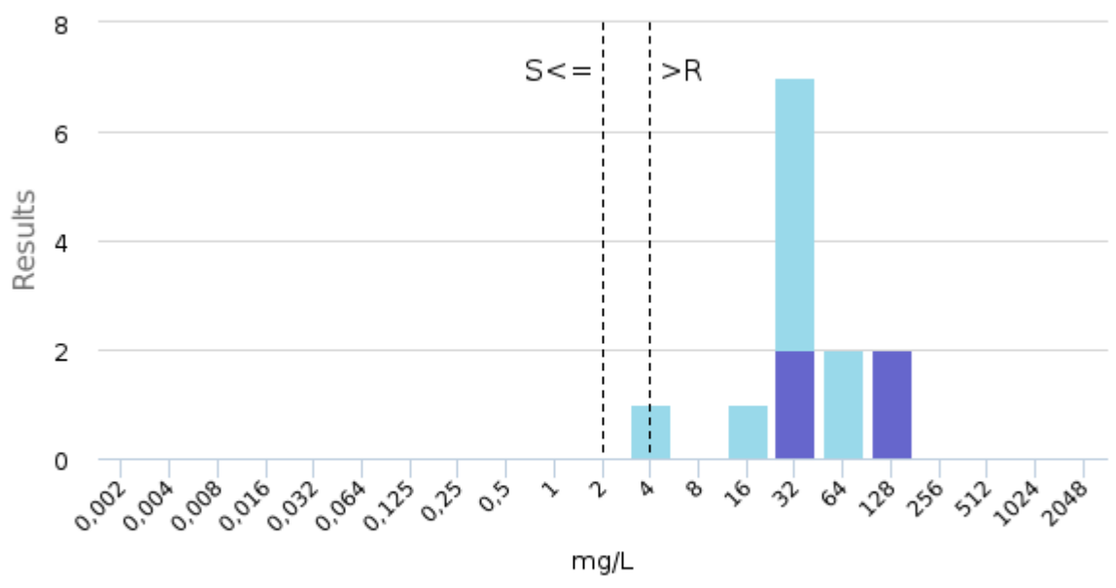
Antimicrobial susceptibility testing results

Trimethoprim-sulfamethoxazole - DISK



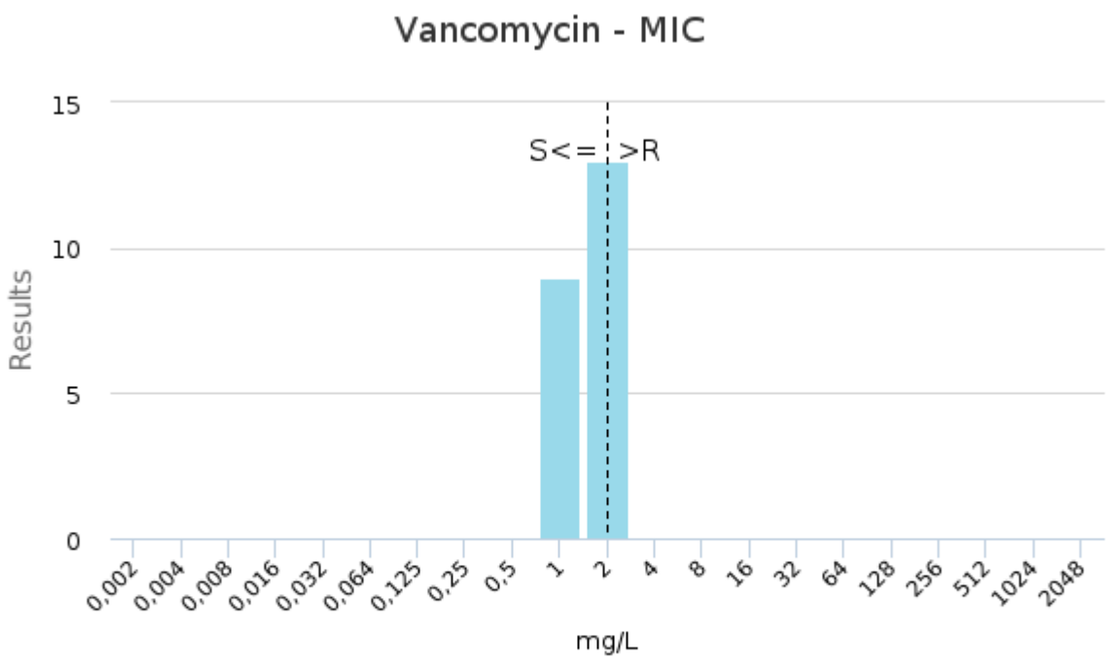
Susceptible (1 pcs / 8%) Resistant (12 pcs / 92%)

Trimethoprim-sulfamethoxazole - MIC



Susceptible (9 pcs / 69%) Resistant (4 pcs / 31%)

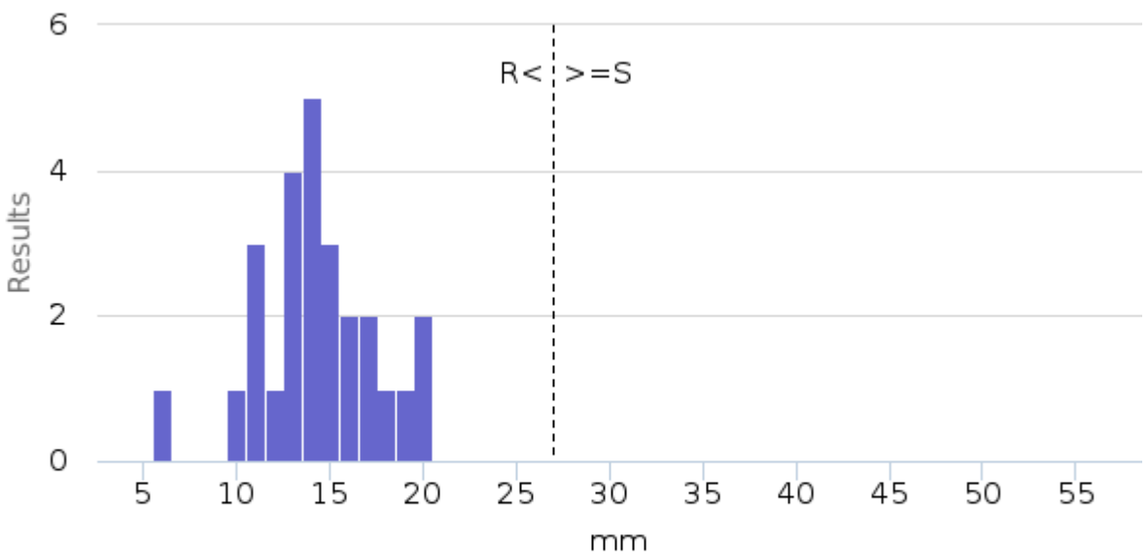
Vancomycin - MIC



Susceptible (22 pcs / 100%)

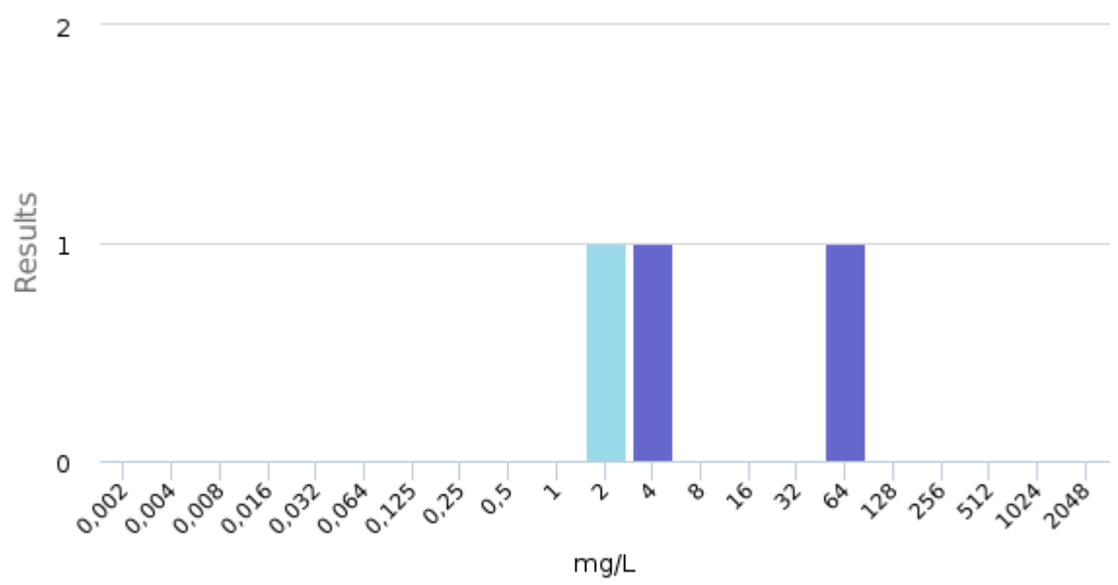
Sample S001 | EUCAST

Cefoxitin - DISK



Resistant (26 pcs / 100%)

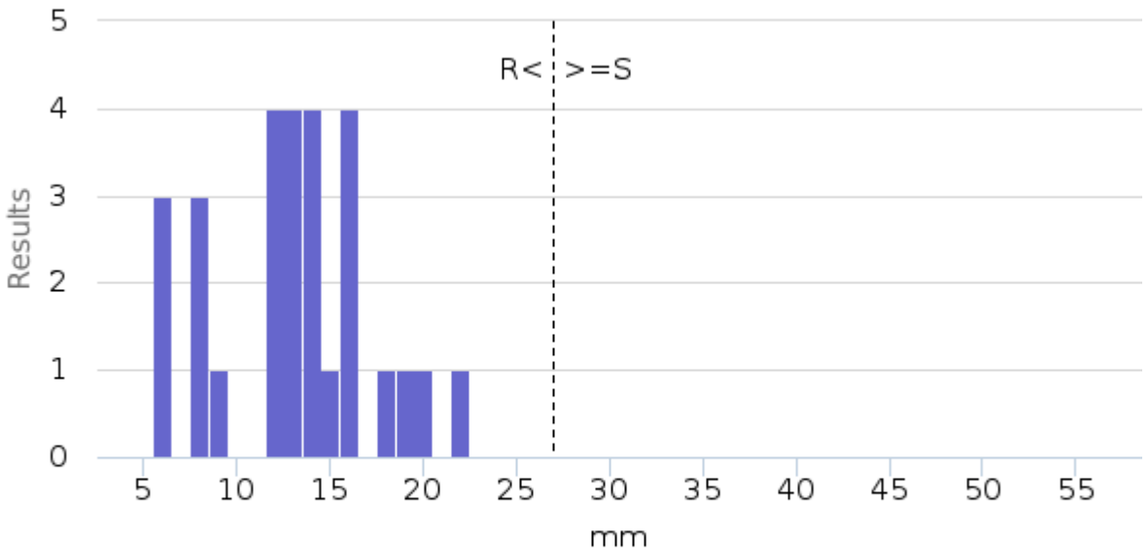
Cefoxitin - MIC



Susceptible (1 pcs / 33%)

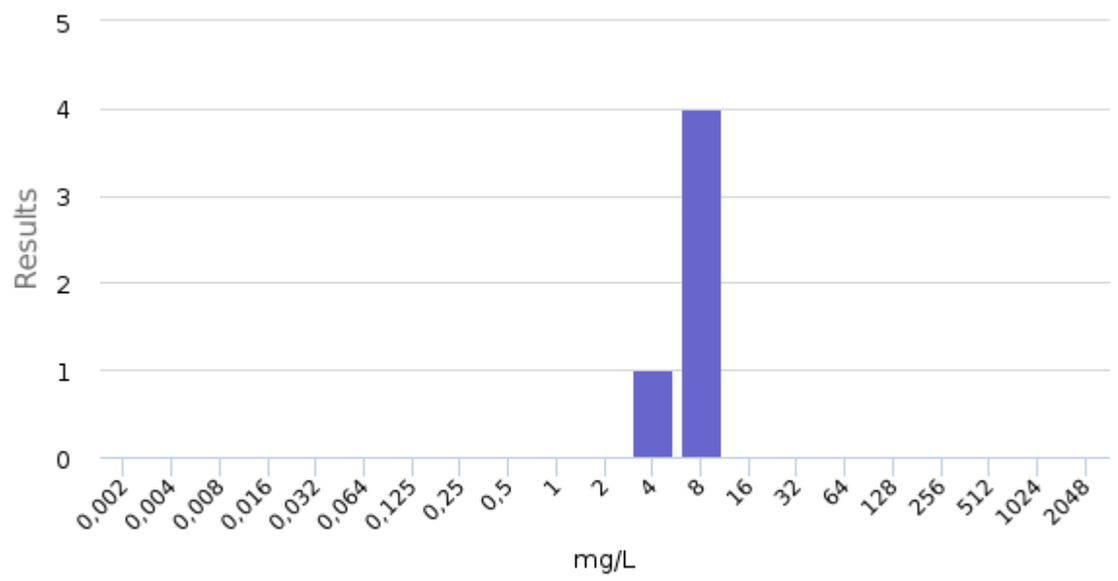
Resistant (2 pcs / 67%)

Cefoxitin (screen) - DISK



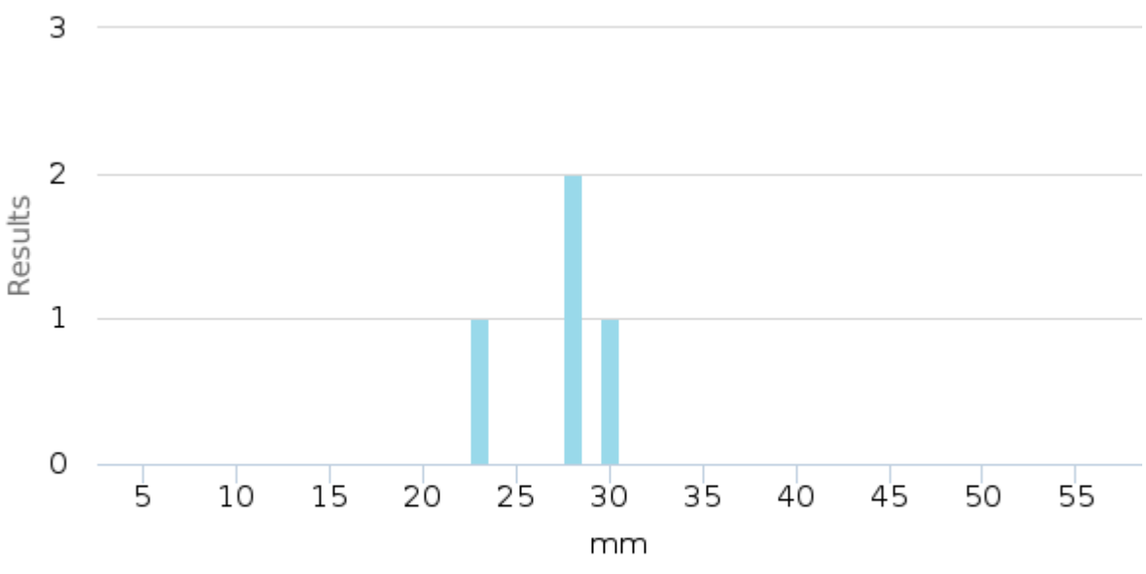
Resistant (28 pcs / 100%)

Cefoxitin (screen) - MIC



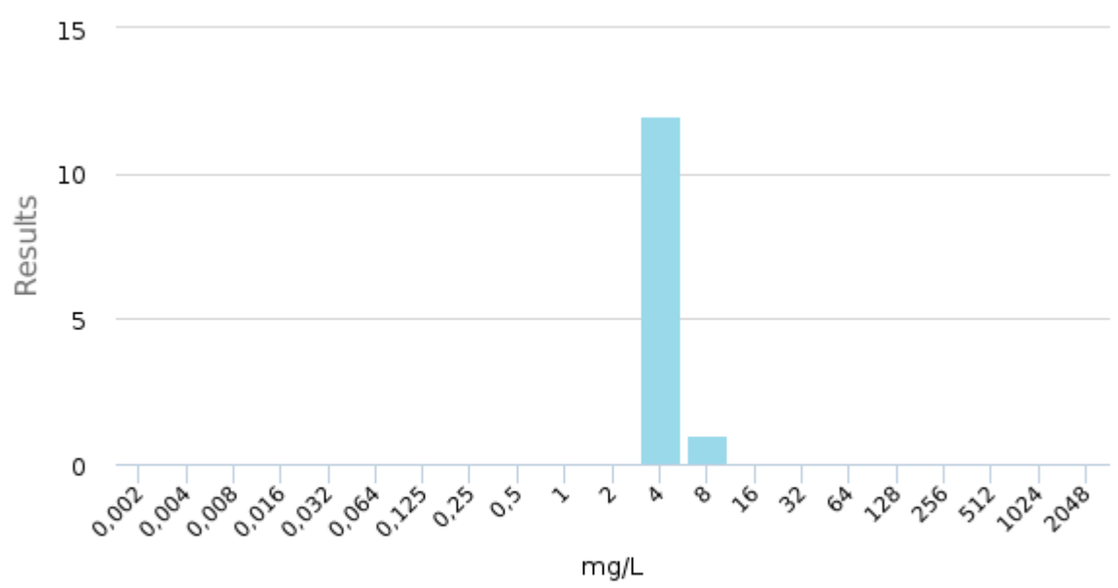
Resistant (5 pcs / 100%)

Chloramphenicol - DISK



Susceptible (4 pcs / 100%)

Chloramphenicol - MIC

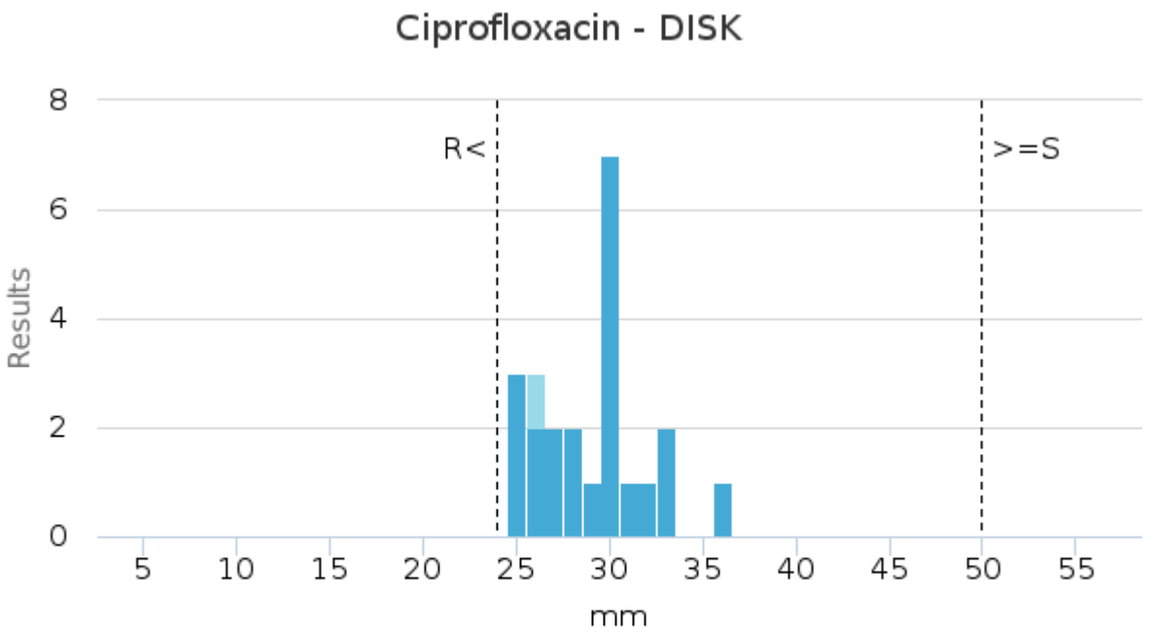


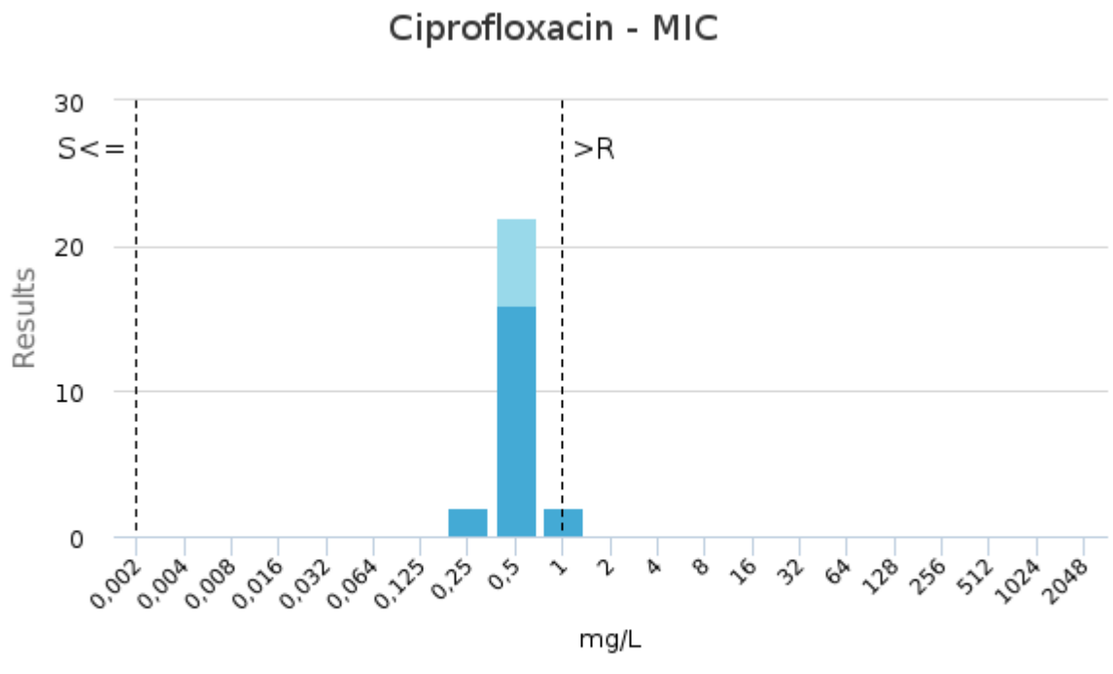
Susceptible (13 pcs / 100%)

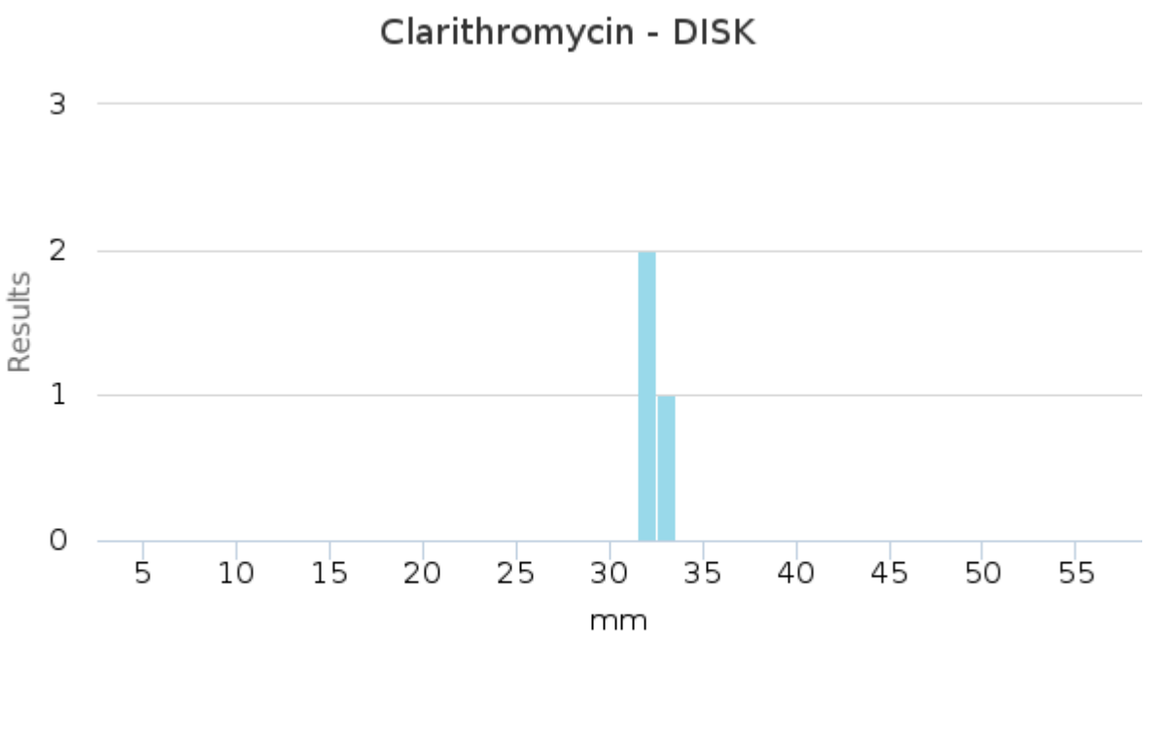
LABQUALITY

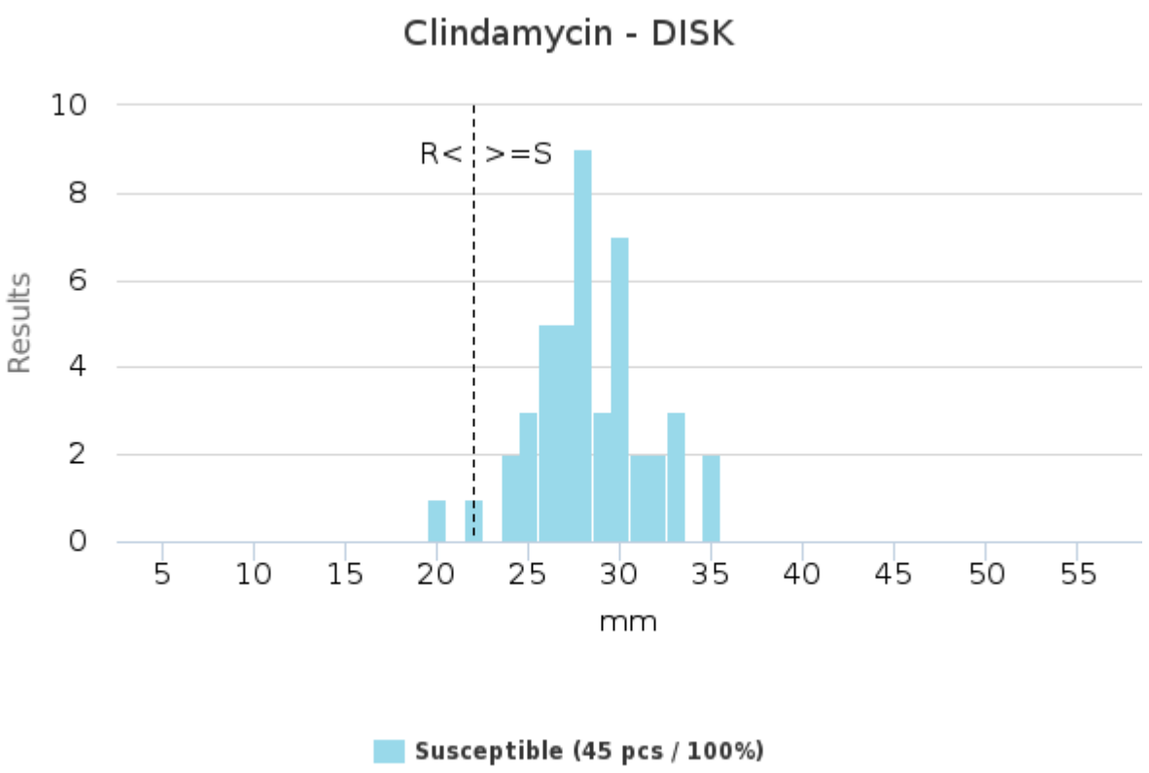
Blood culture, March, 1-2023

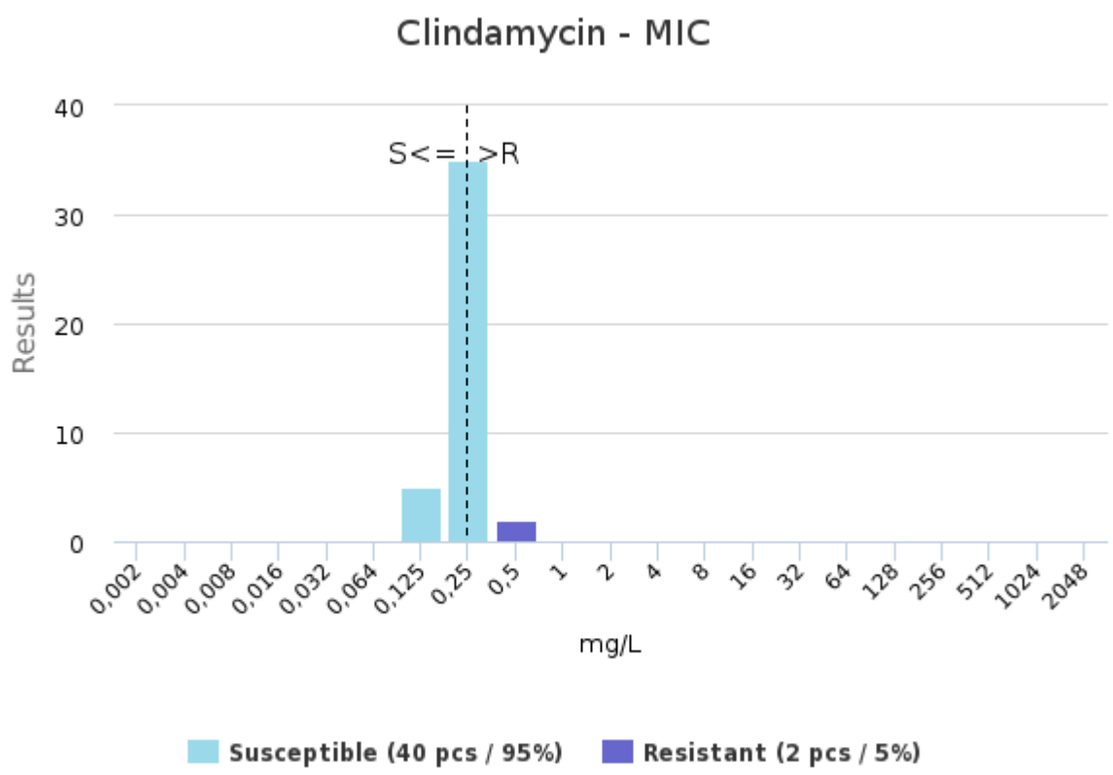
Antimicrobial susceptibility testing results

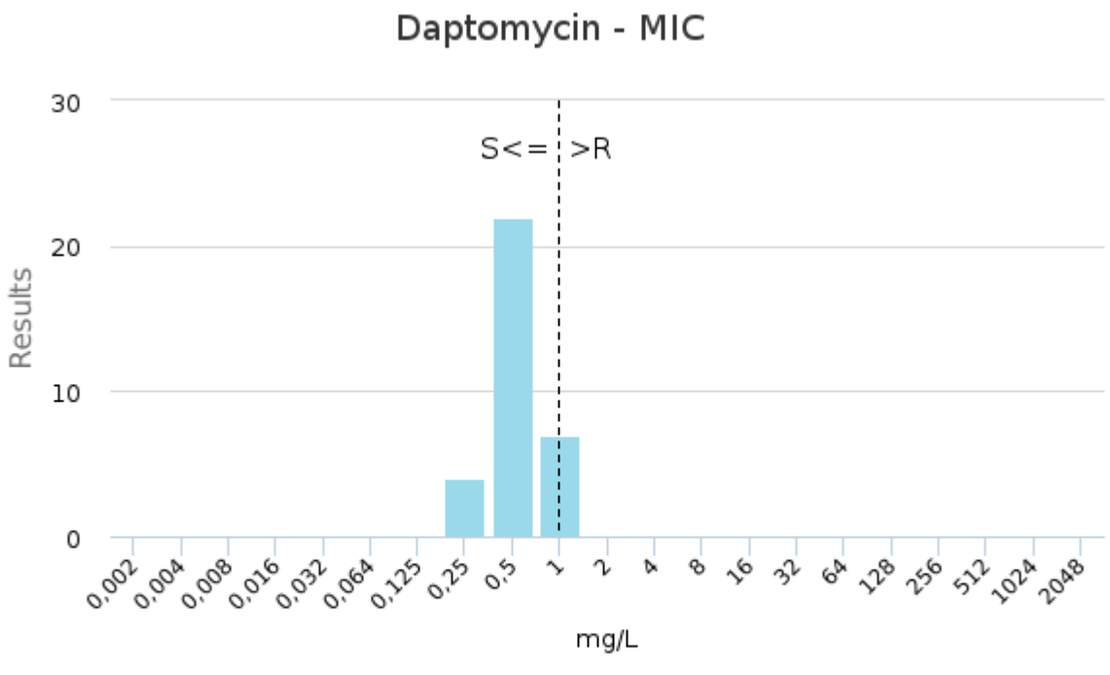




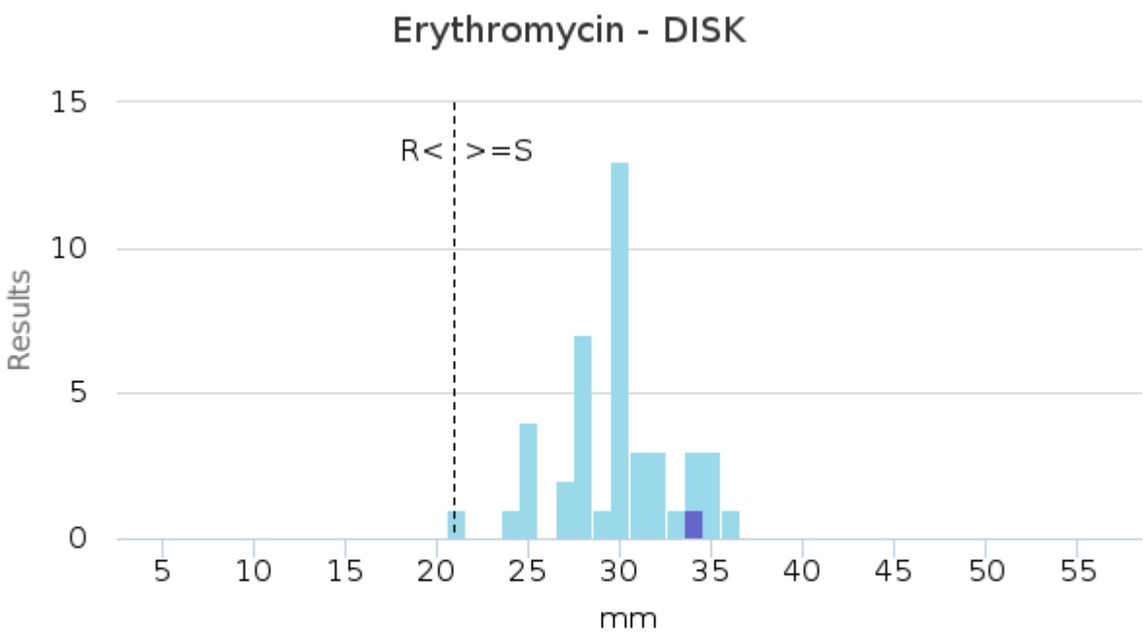


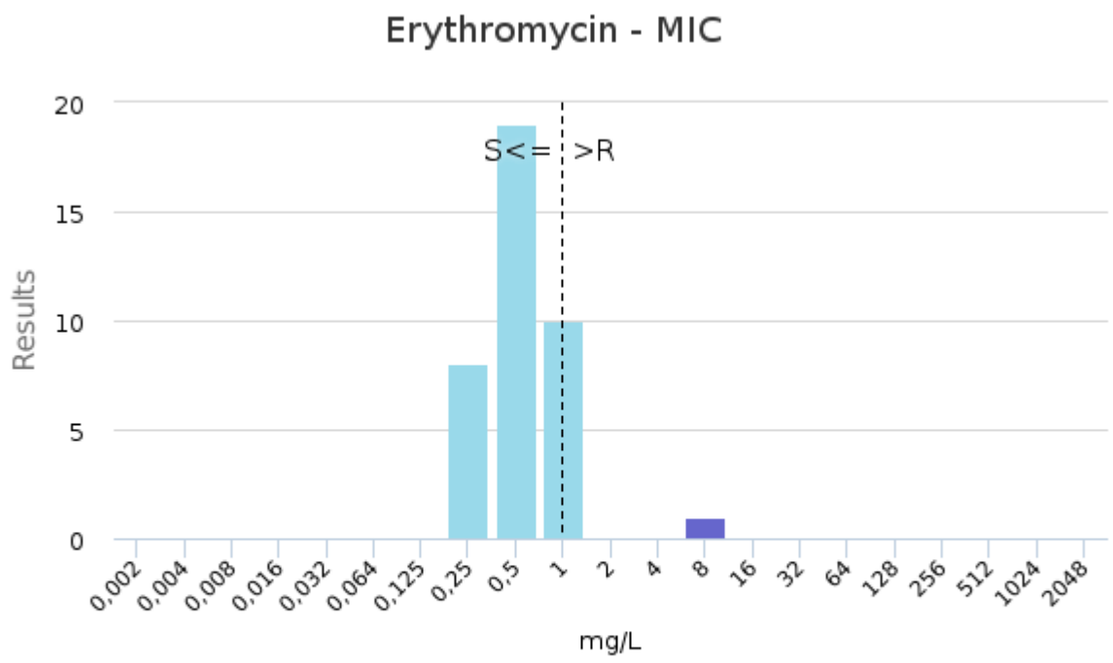






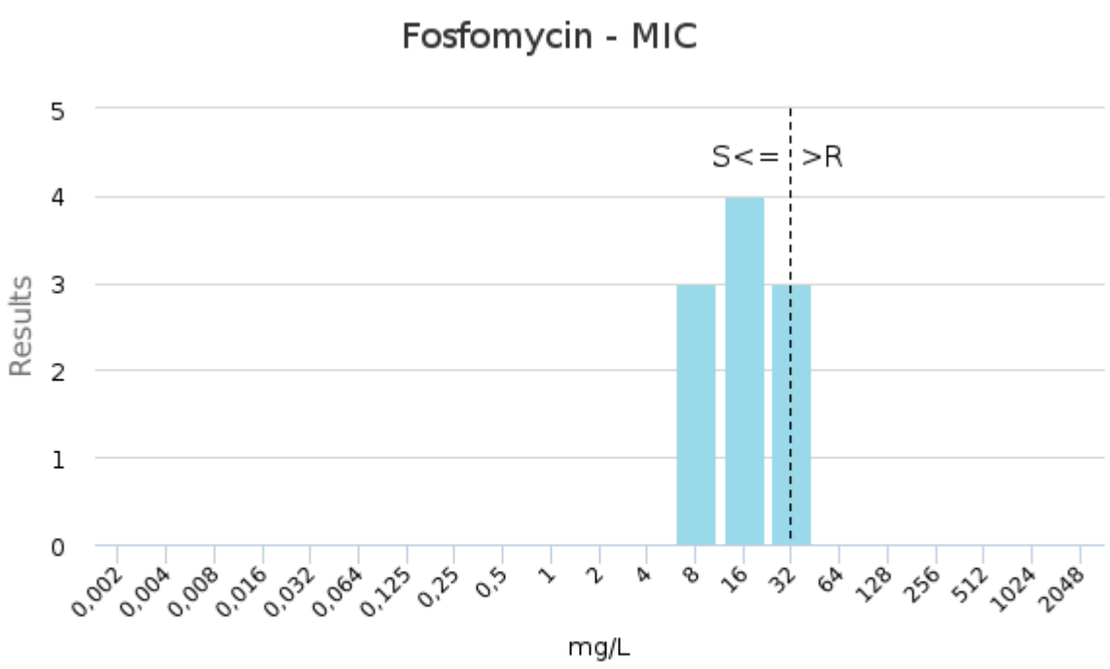
Susceptible (33 pcs / 100%)





Susceptible (42 pcs / 98%) Resistant (1 pcs / 2%)

Susceptible (37 pcs / 97%) Resistant (1 pcs / 3%)

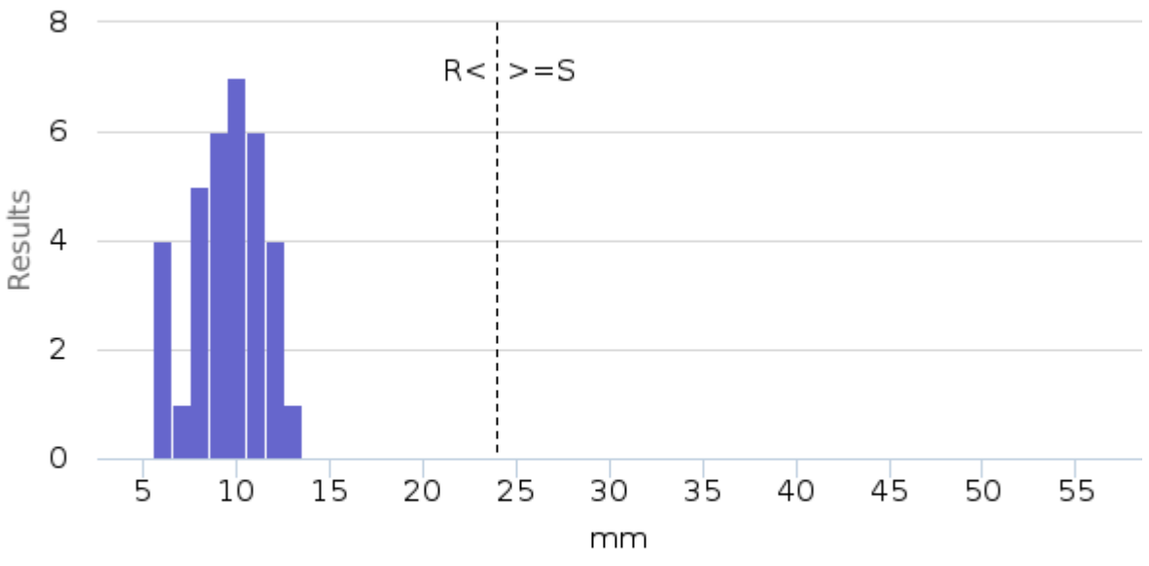


Susceptible (10 pcs / 100%)

Blood culture, March, 1-2023

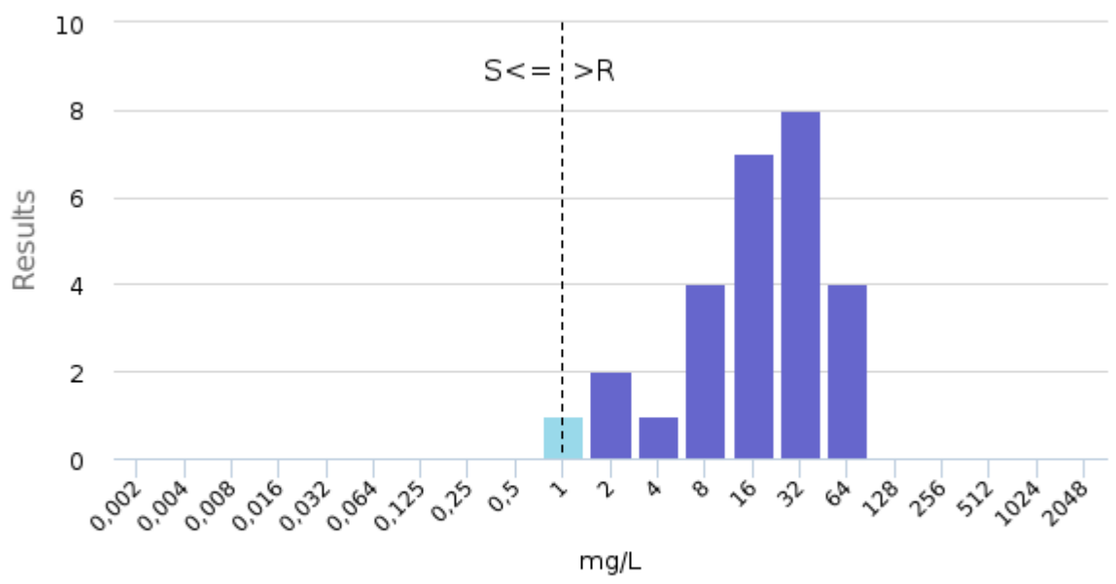
Antimicrobial susceptibility testing results

Fusidic acid - DISK



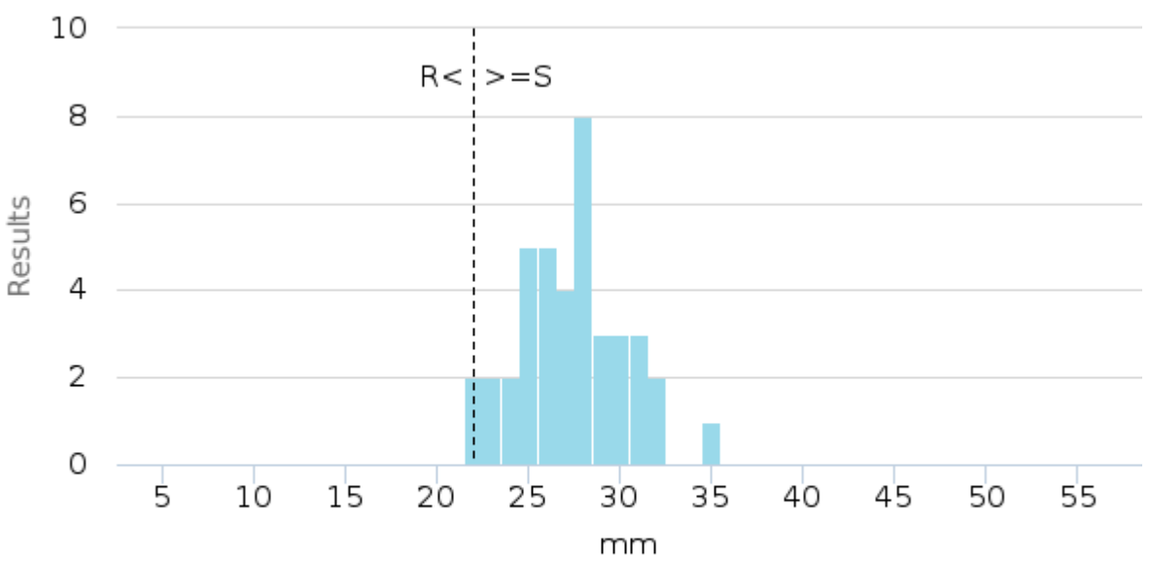
Resistant (34 pcs / 100%)

Fusidic acid - MIC



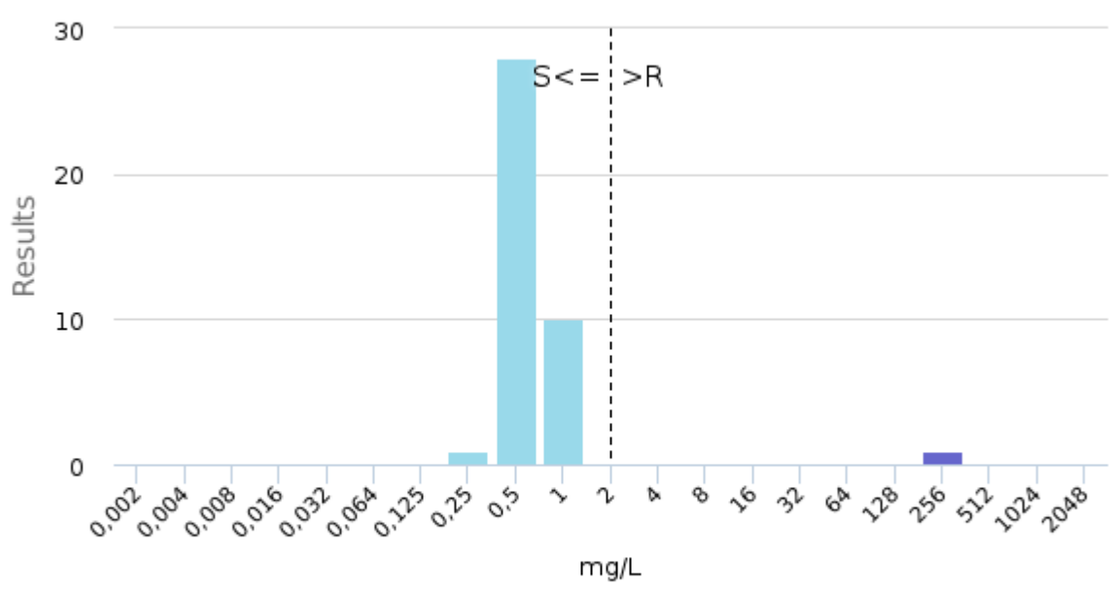
Susceptible (1 pcs / 4%) Resistant (26 pcs / 96%)

Gentamycin - DISK



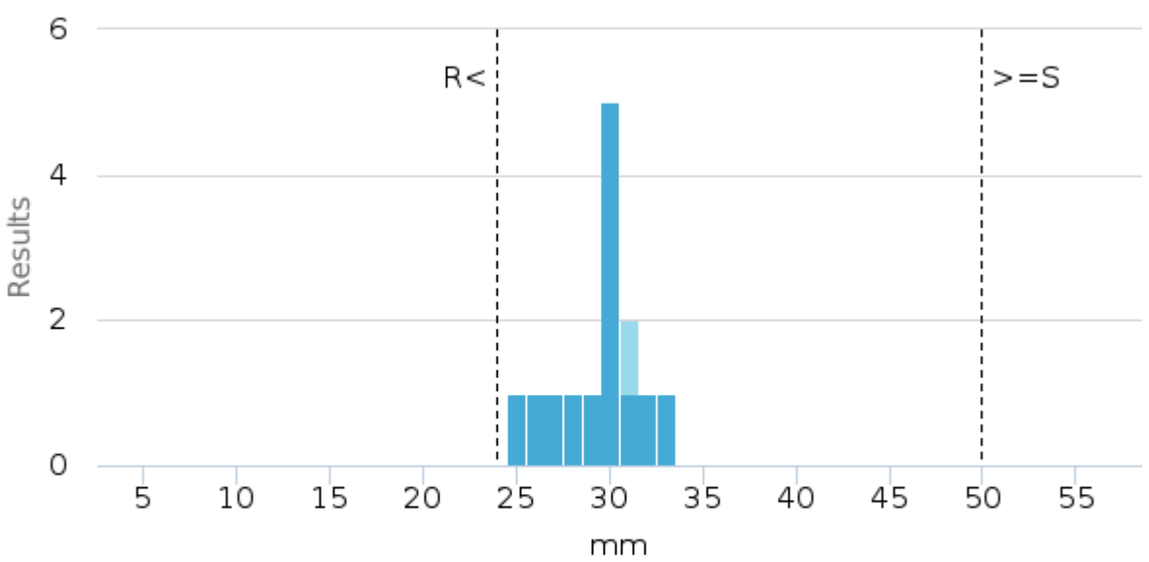
Susceptible (40 pcs / 100%)

Gentamycin - MIC



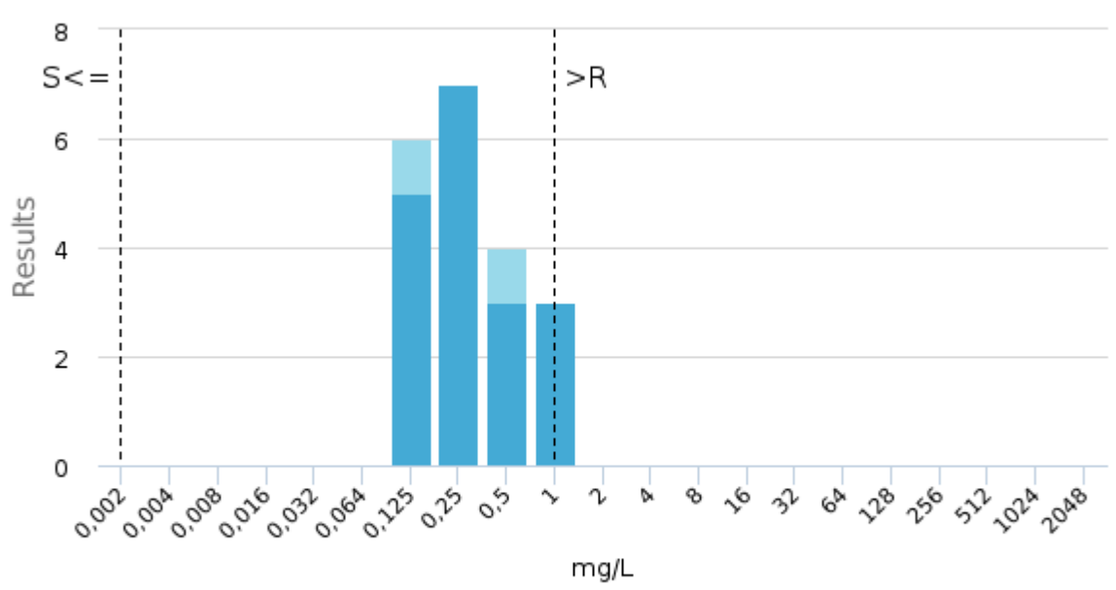
Susceptible (39 pcs / 98%) Resistant (1 pcs / 3%)

Levofloxacin - DISK



Susceptible (1 pcs / 7%) Intermediate (13 pcs / 93%)

Levofloxacin - MIC

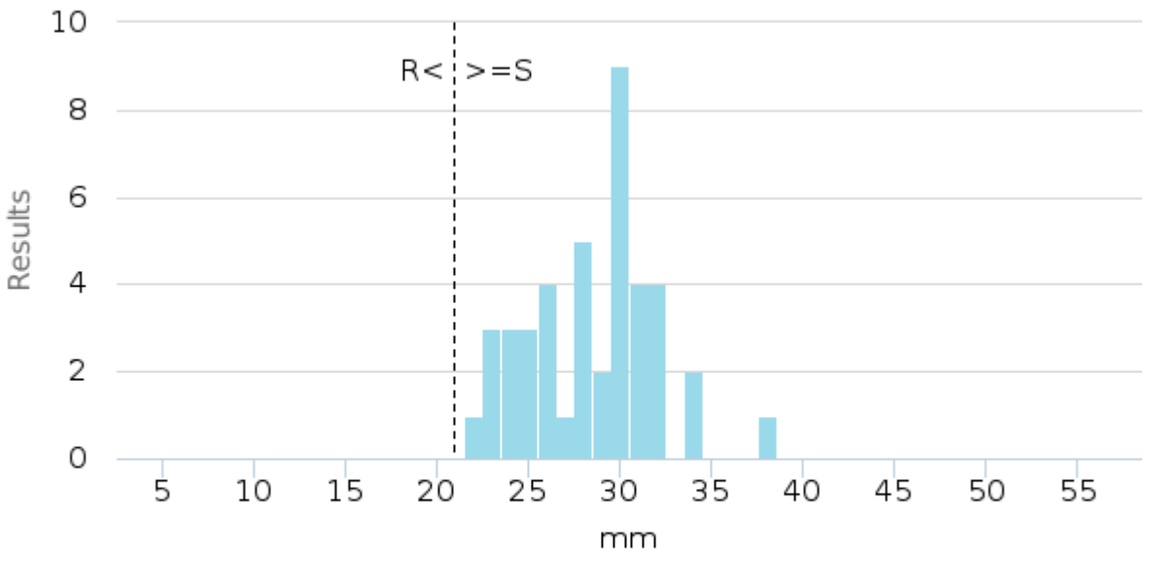


Susceptible (2 pcs / 10%) Intermediate (18 pcs / 90%)

Blood culture, March, 1-2023

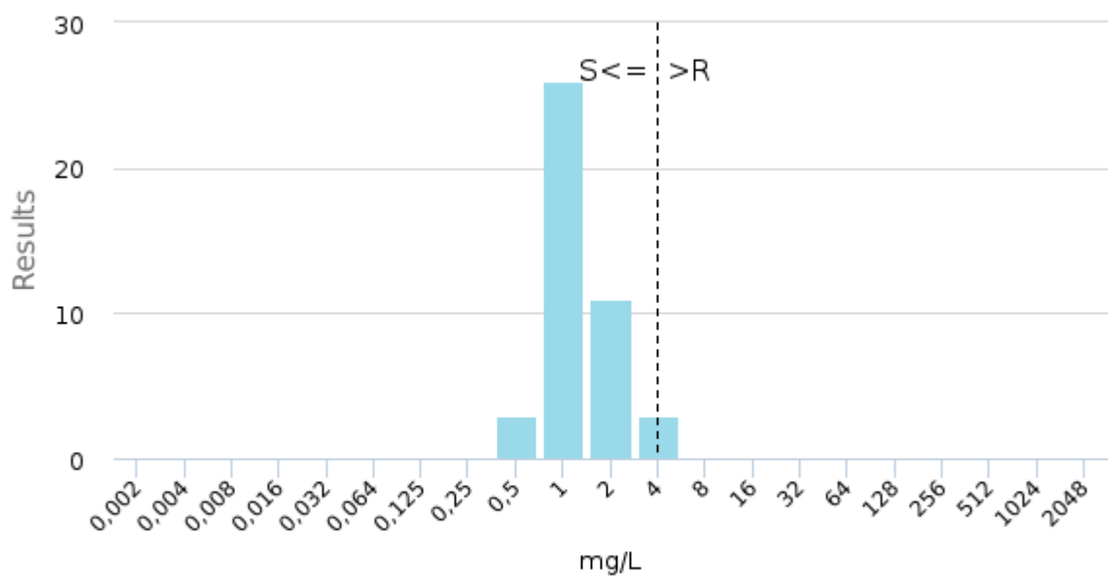
Antimicrobial susceptibility testing results

Linezolid - DISK



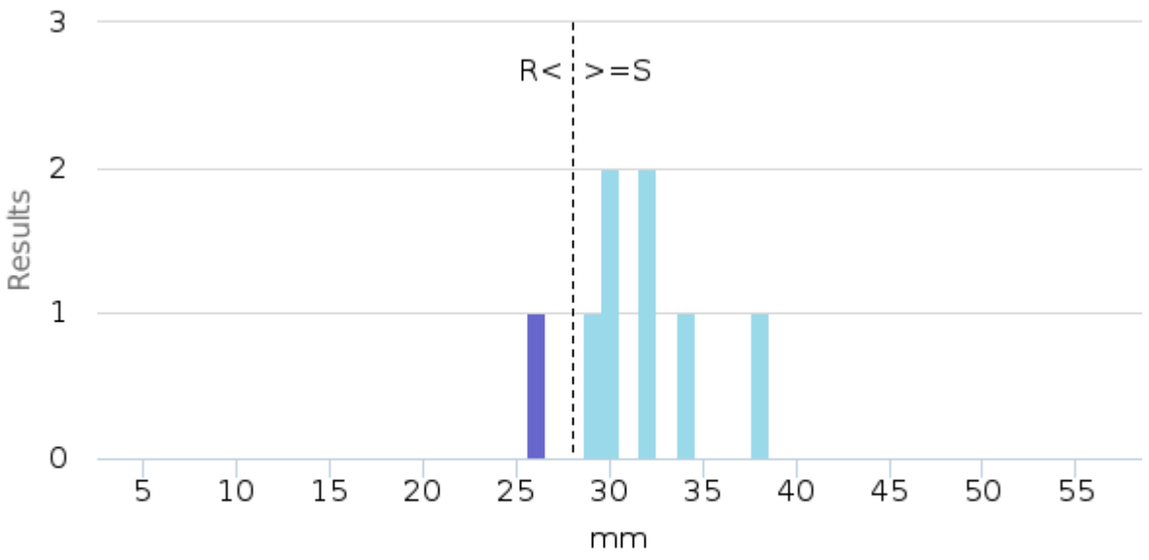
Susceptible (42 pcs / 100%)

Linezolid - MIC



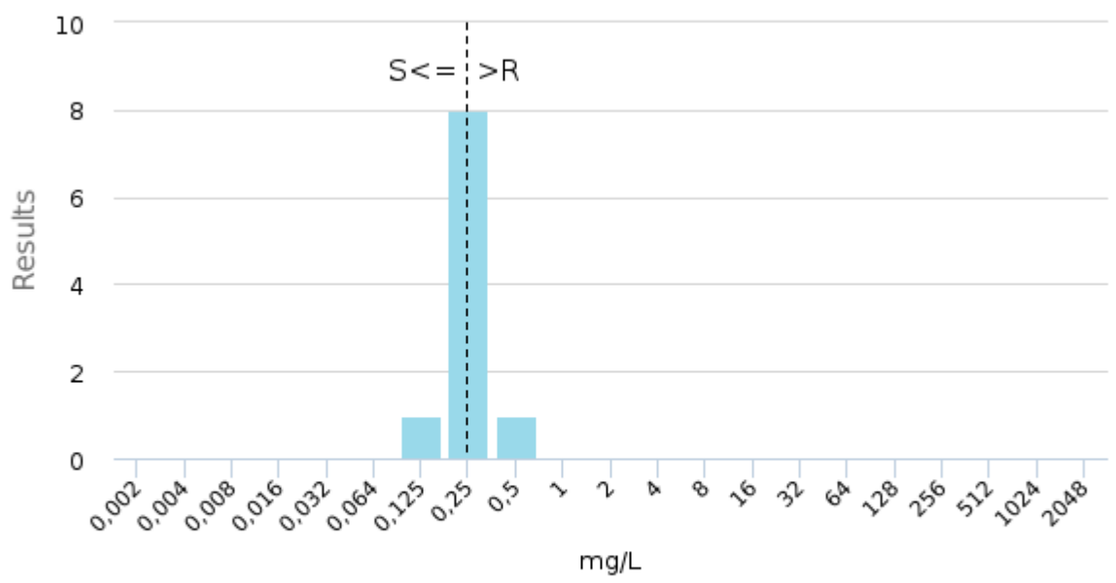
Susceptible (43 pcs / 100%)

Moxifloxacin - DISK



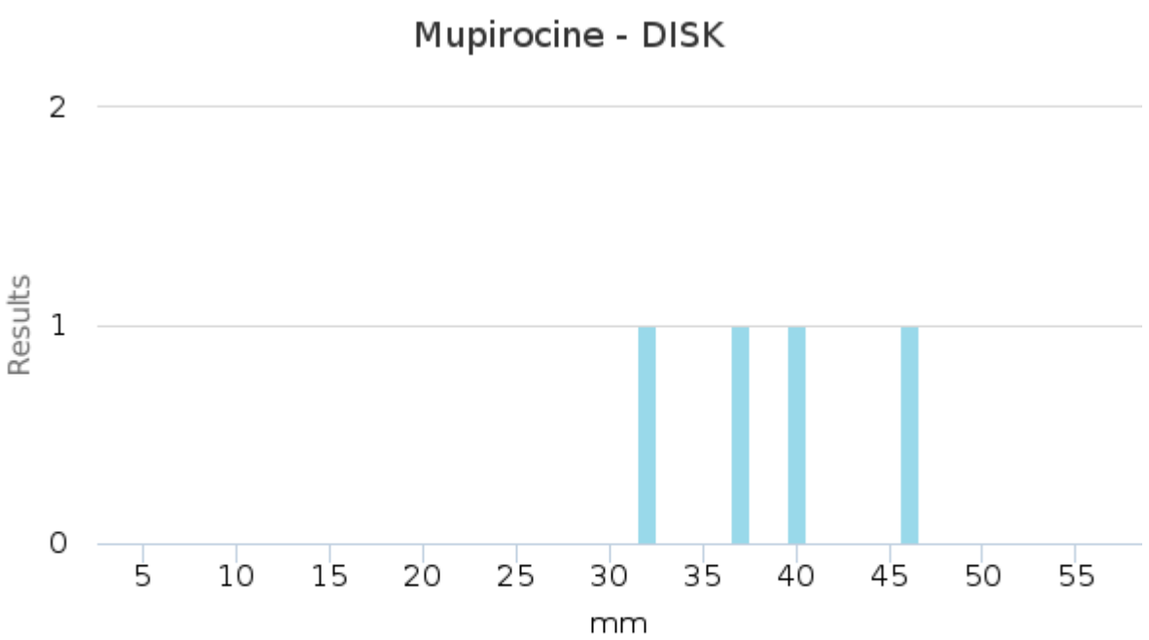
Susceptible (7 pcs / 88%) Resistant (1 pcs / 13%)

Moxifloxacin - MIC



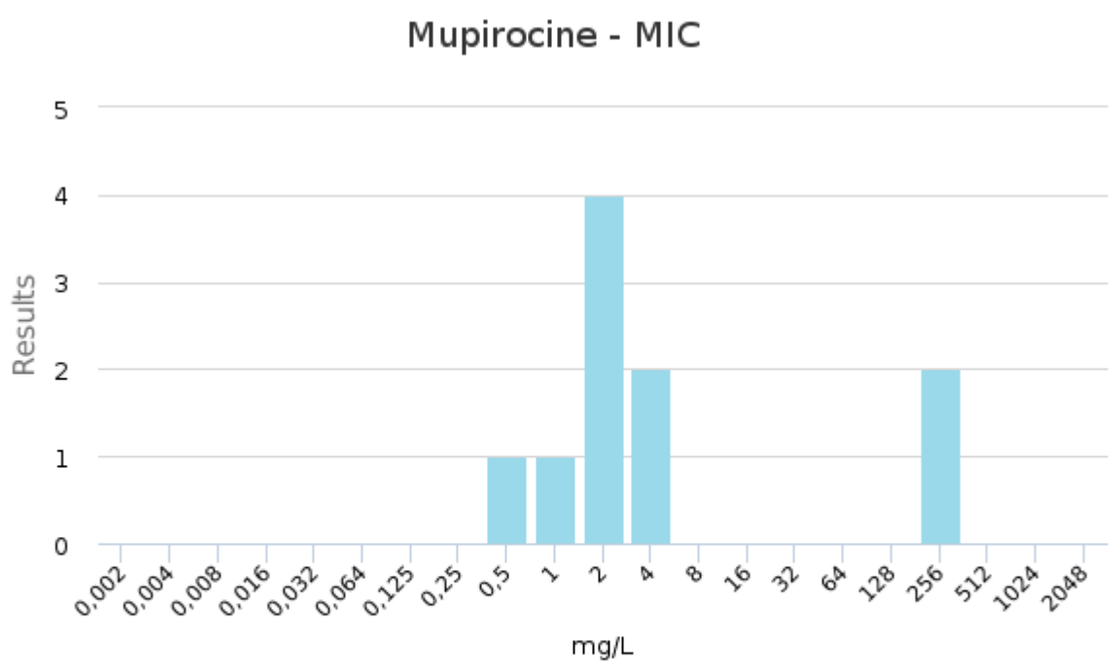
Susceptible (10 pcs / 100%)

Mupirocine - DISK



Susceptible (4 pcs / 100%)

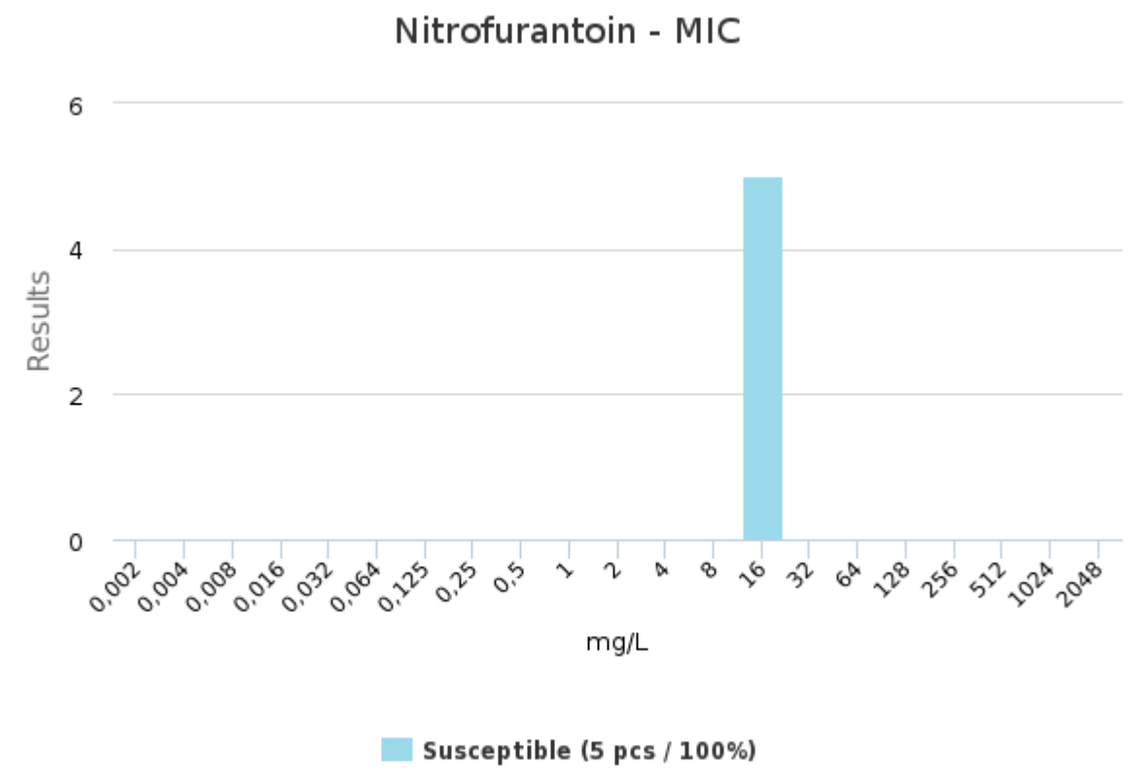
Mupirocine - MIC

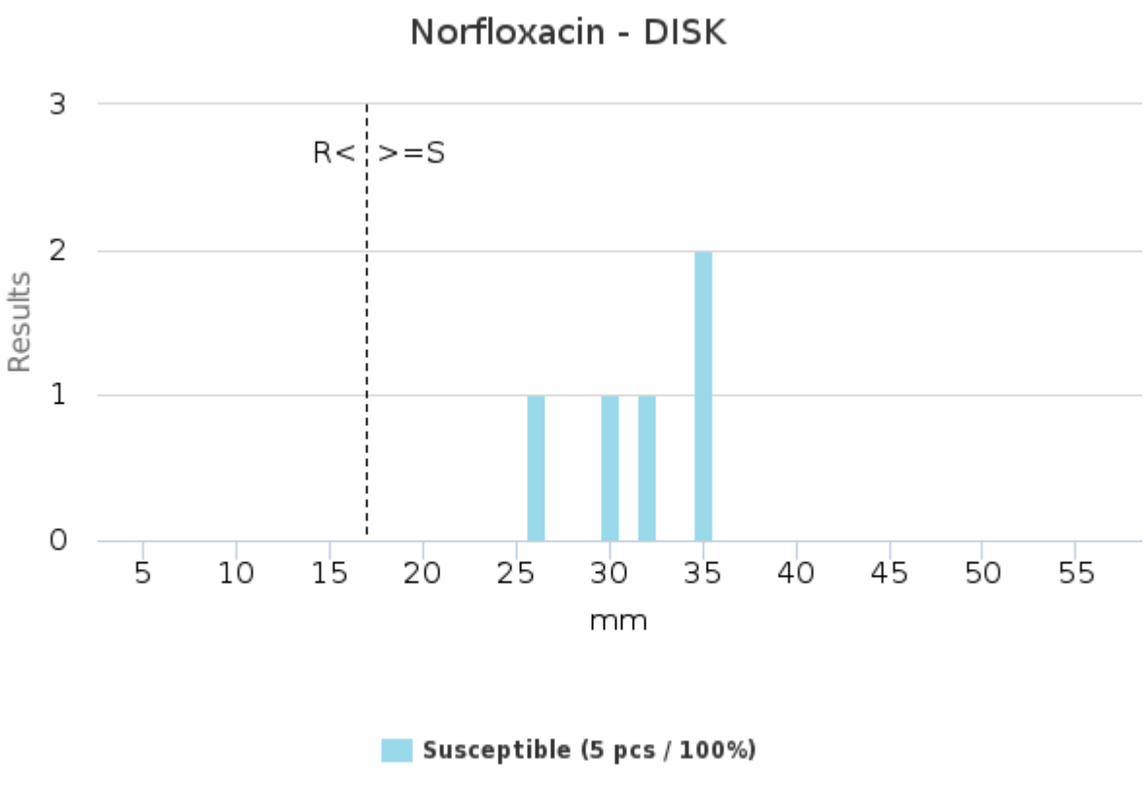


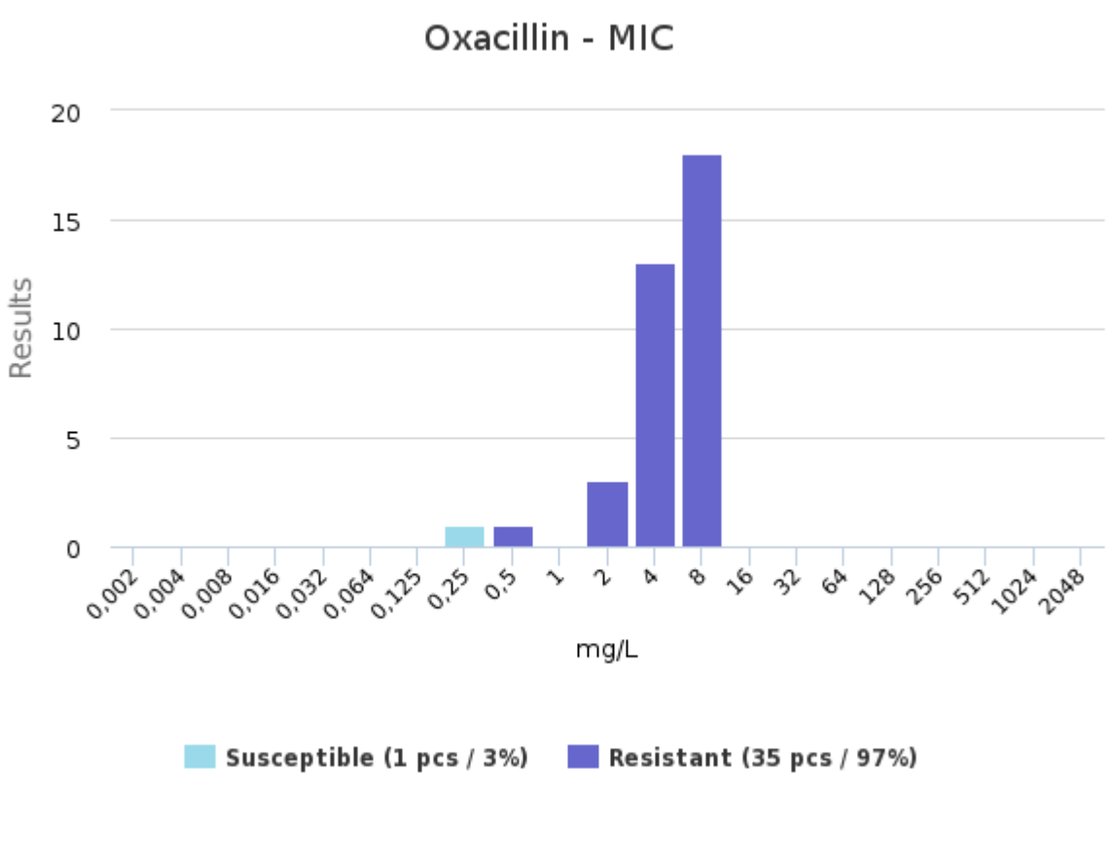
Susceptible (10 pcs / 100%)

Blood culture, March, 1-2023

Antimicrobial susceptibility testing results

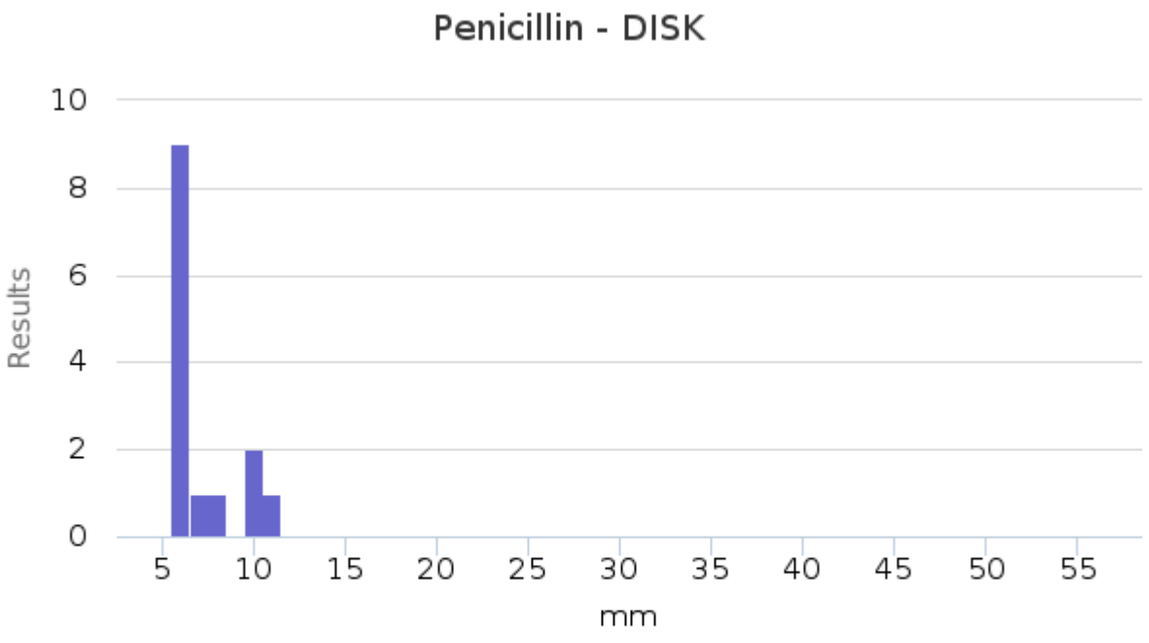


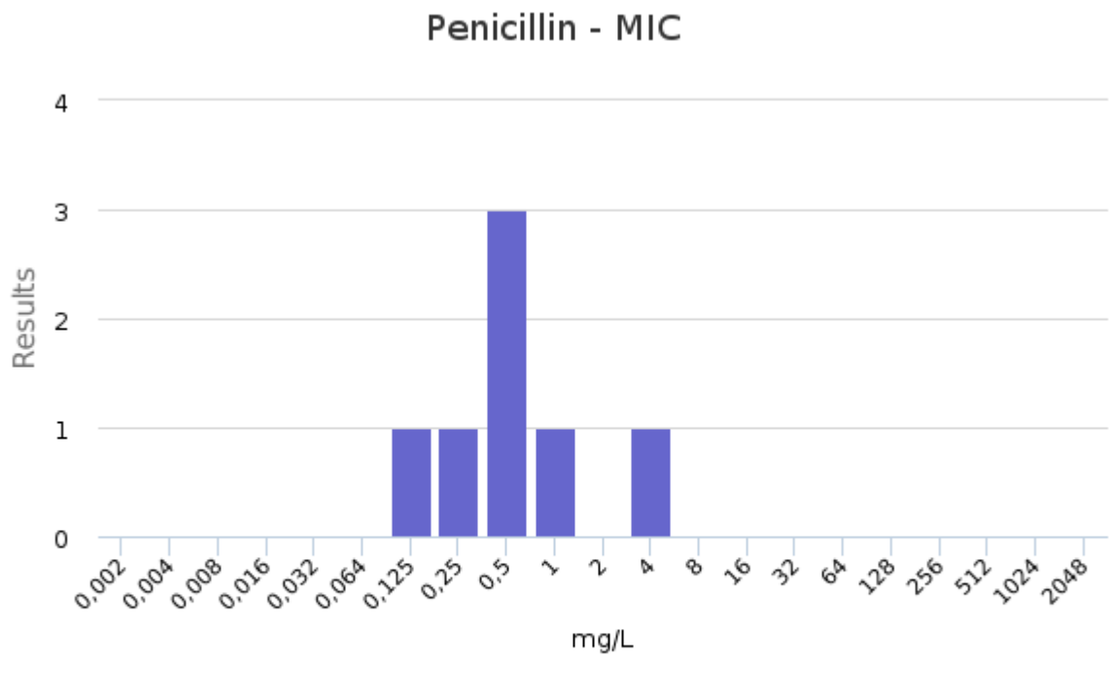


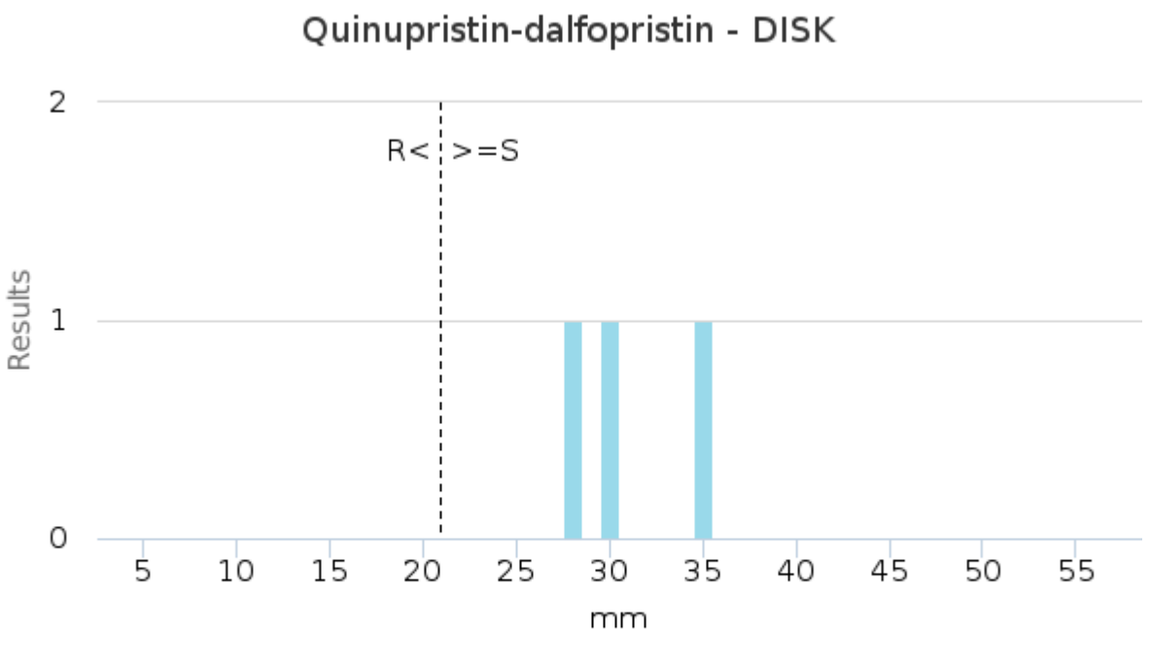


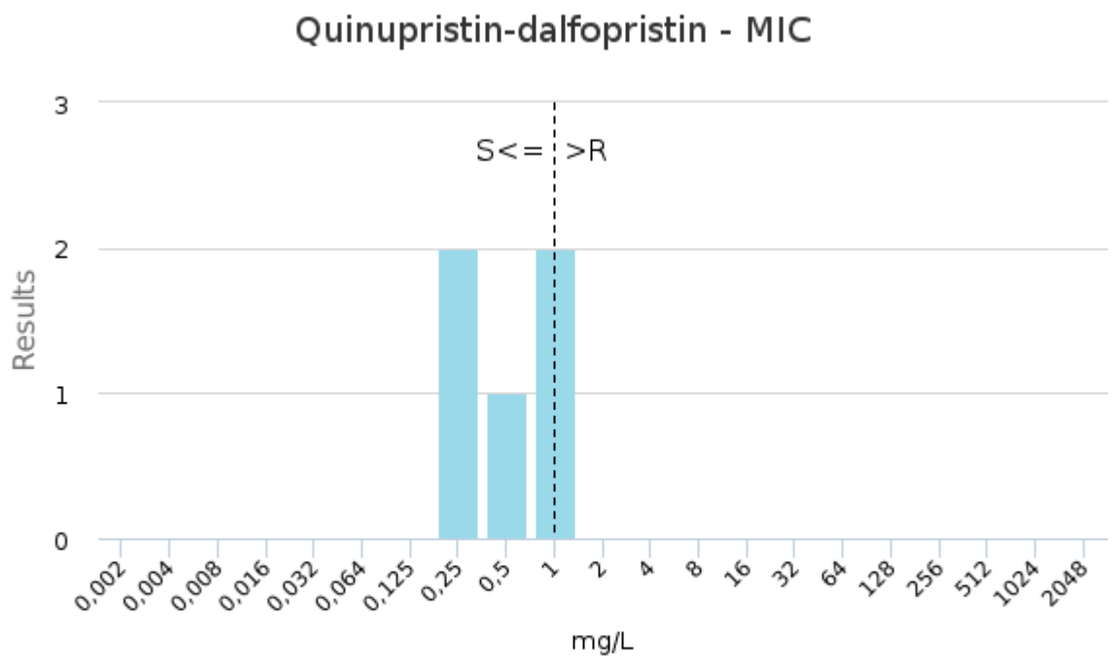
Blood culture, March, 1-2023

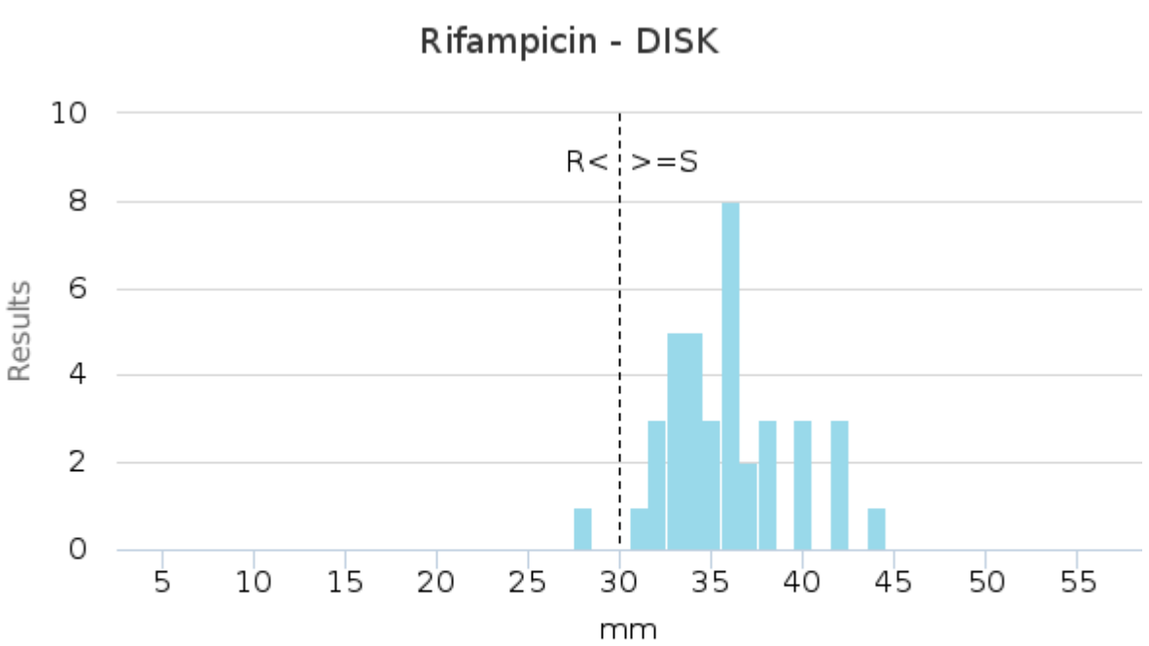
Antimicrobial susceptibility testing results

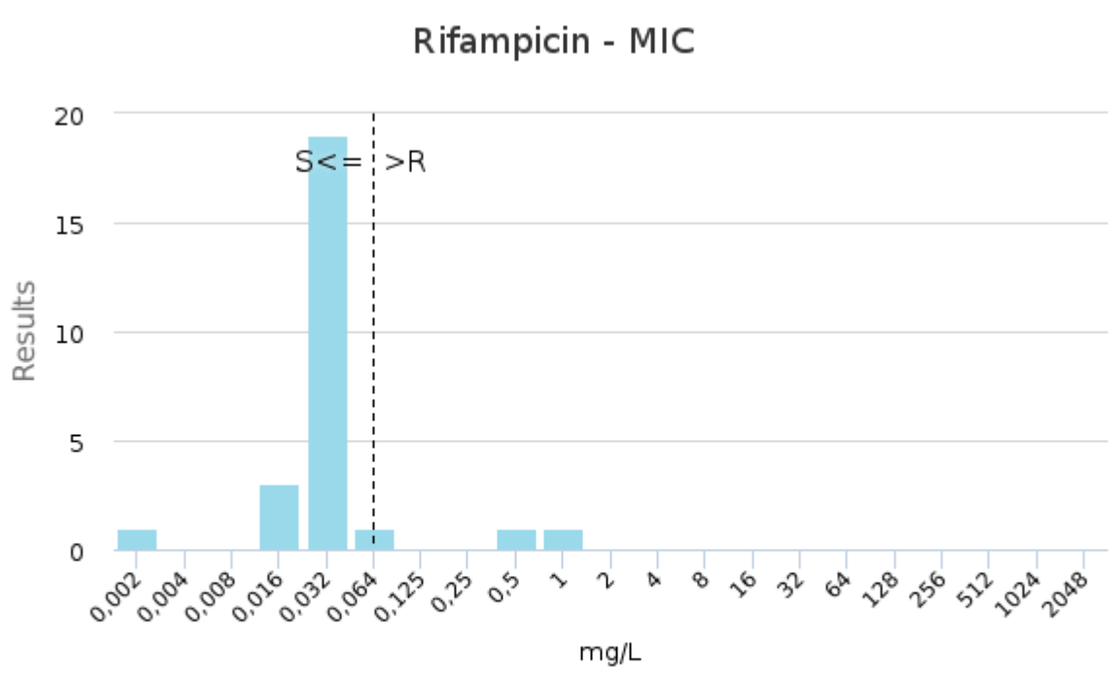


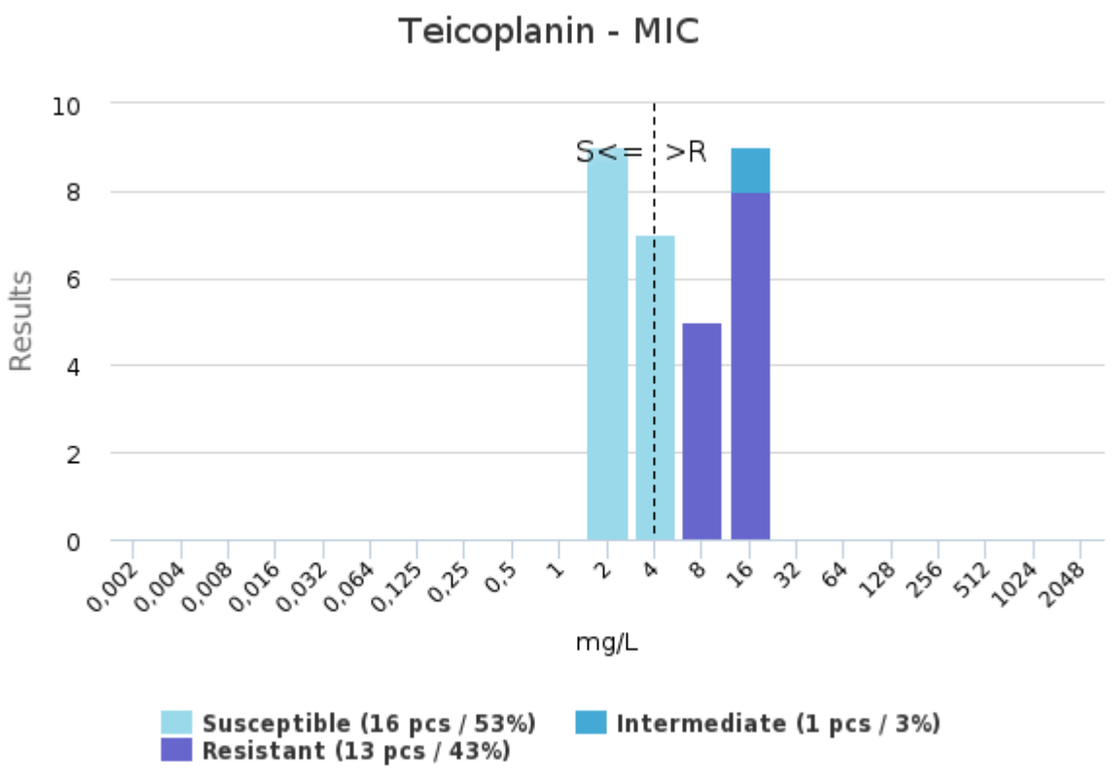


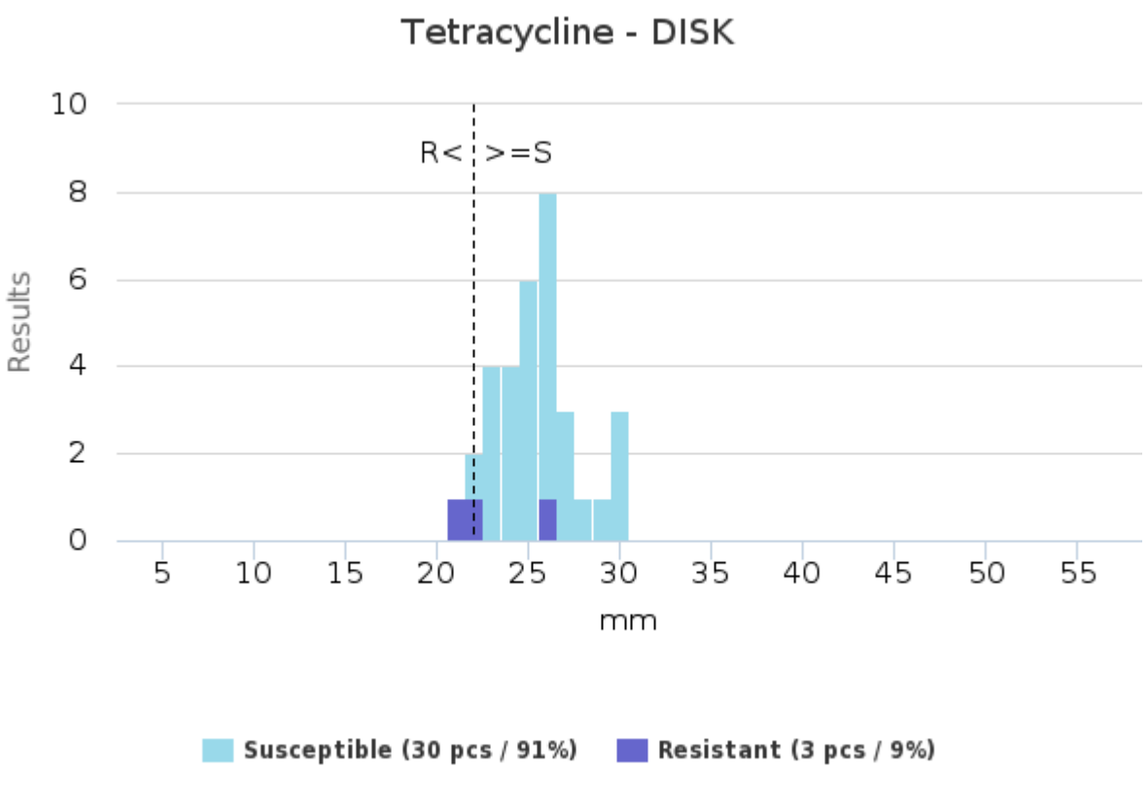


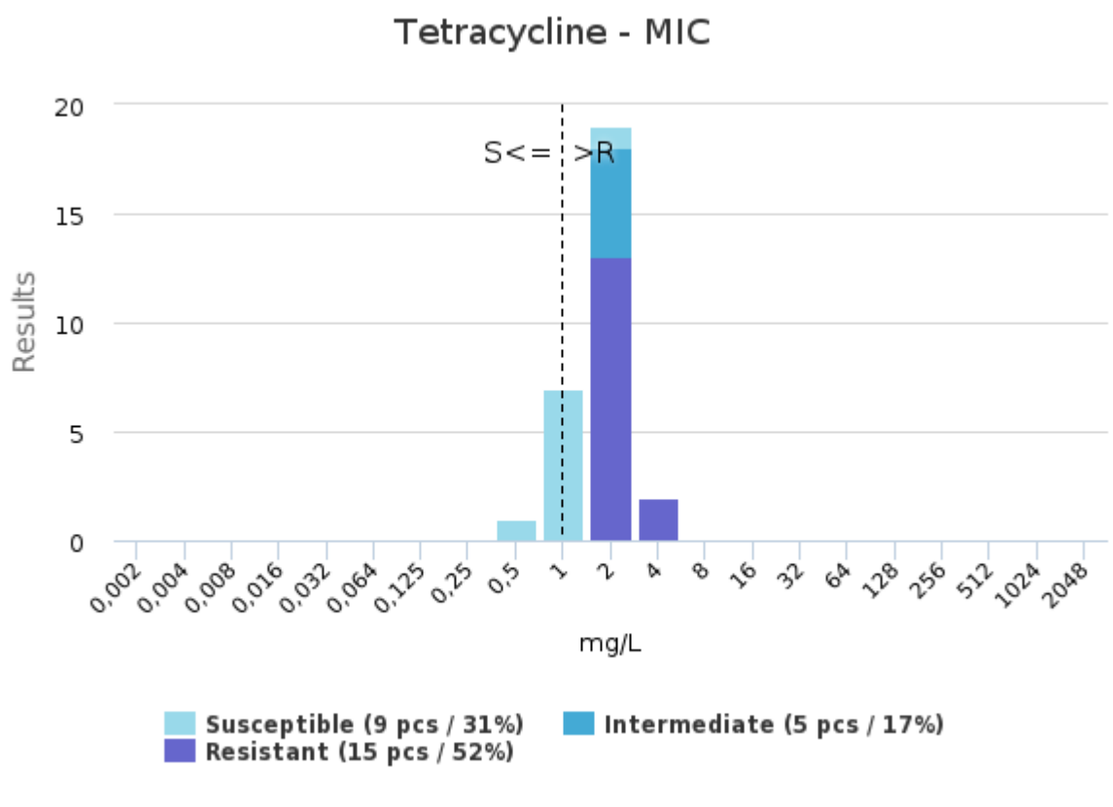


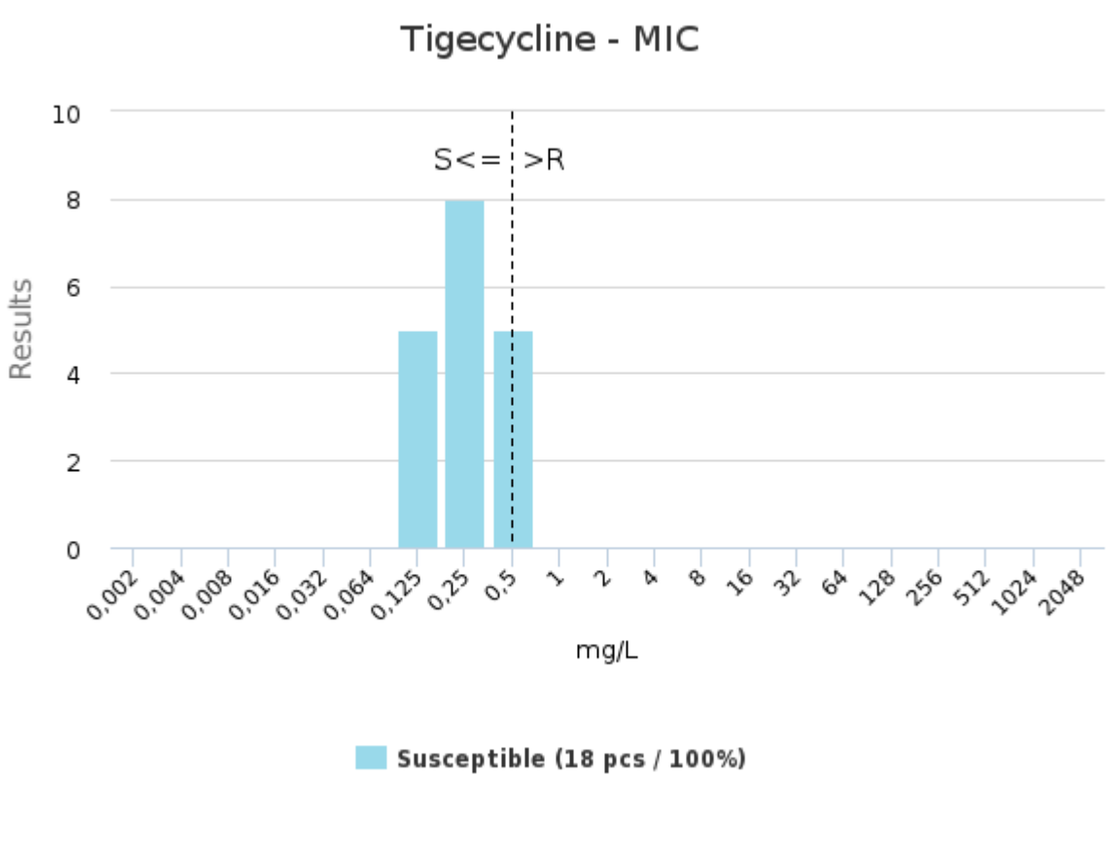








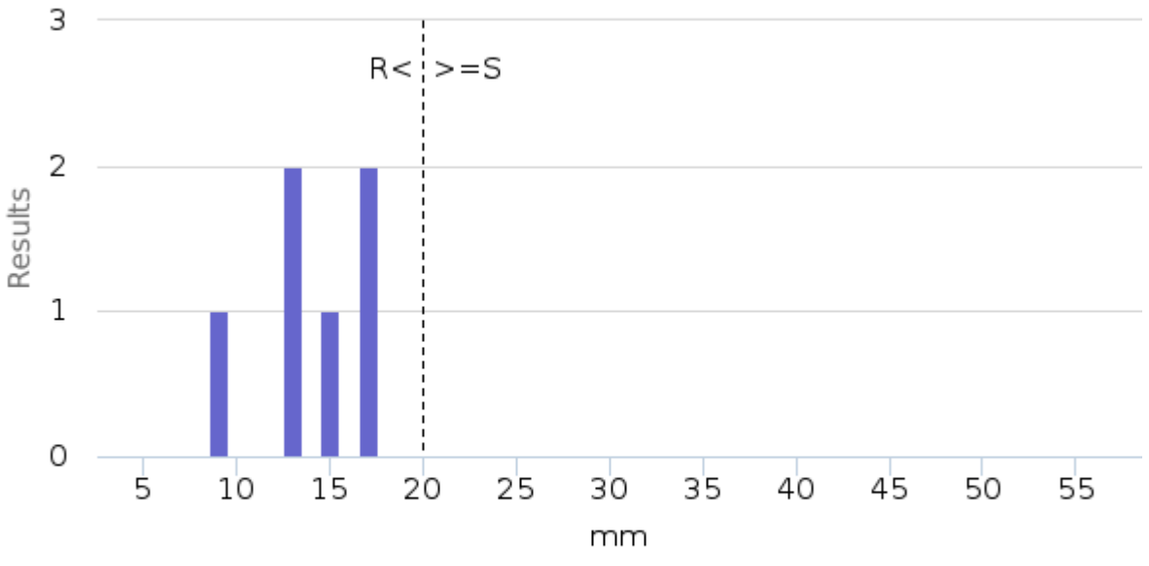




Blood culture, March, 1-2023

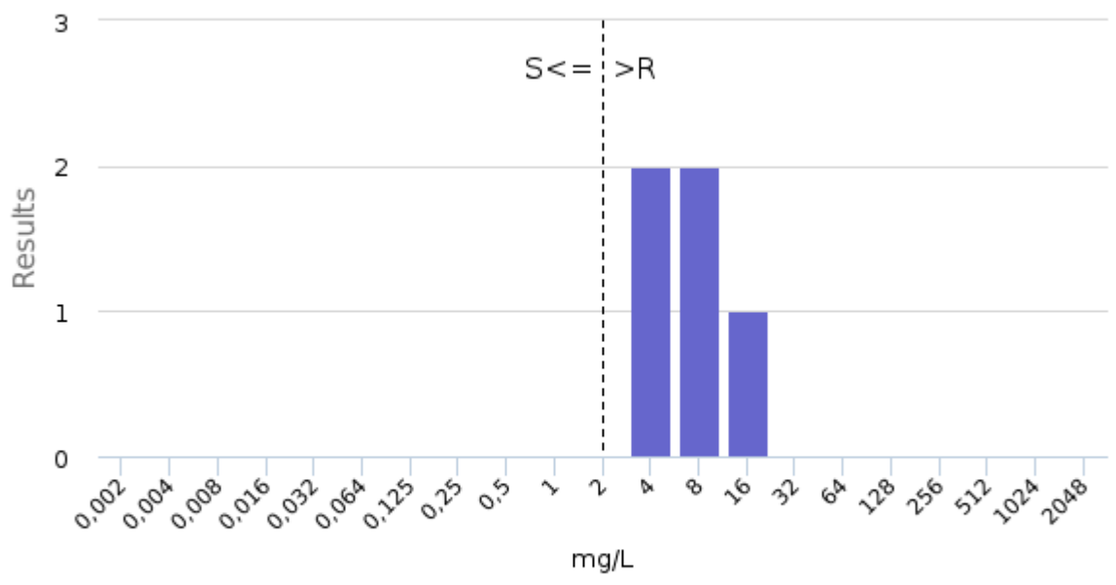
Antimicrobial susceptibility testing results

Tobramycin - DISK



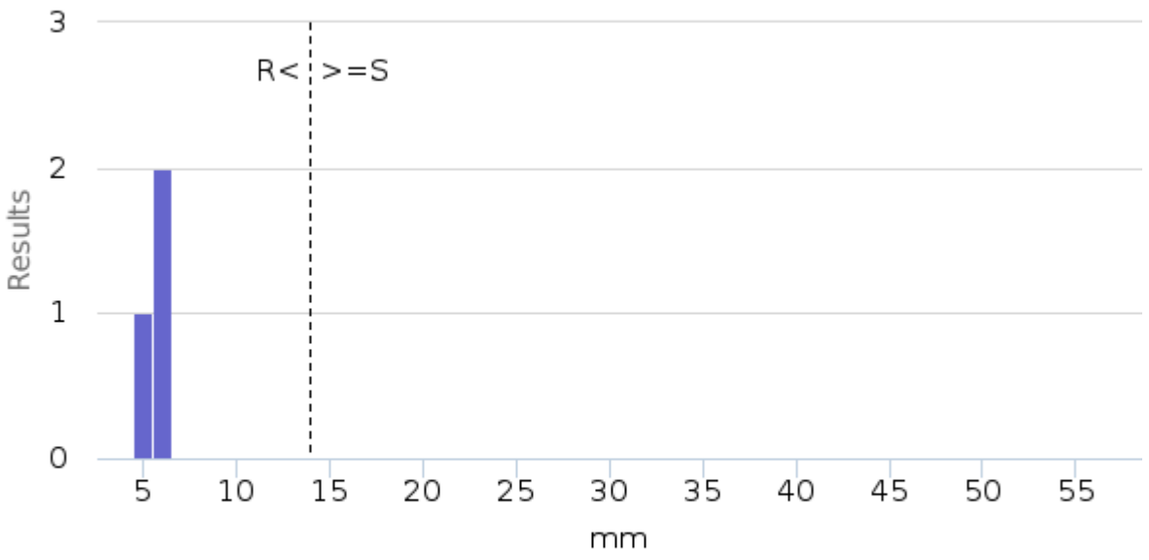
Resistant (6 pcs / 100%)

Tobramycin - MIC



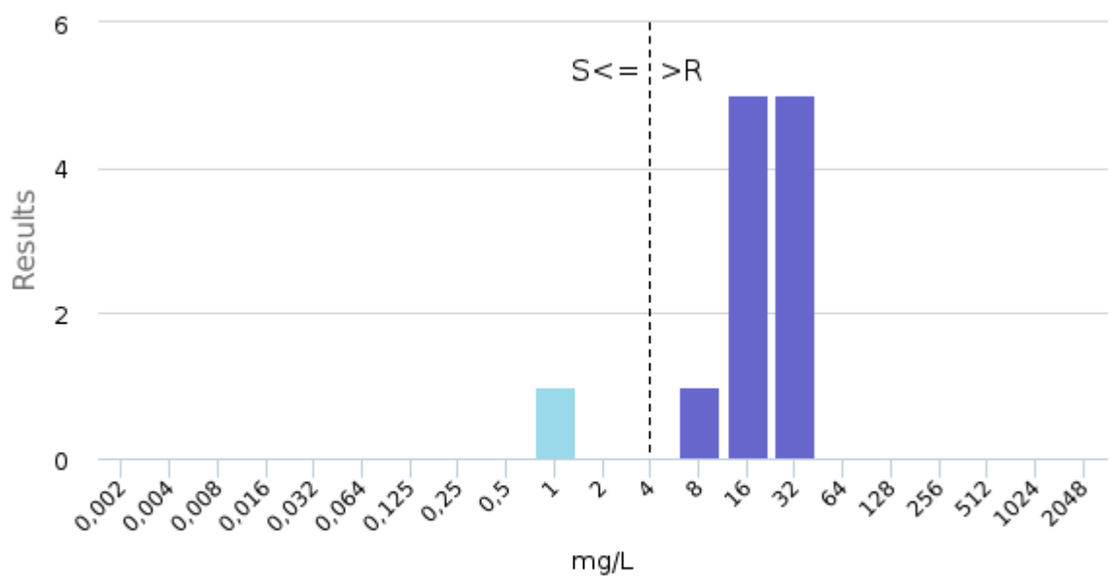
Resistant (5 pcs / 100%)

Trimethoprim - DISK



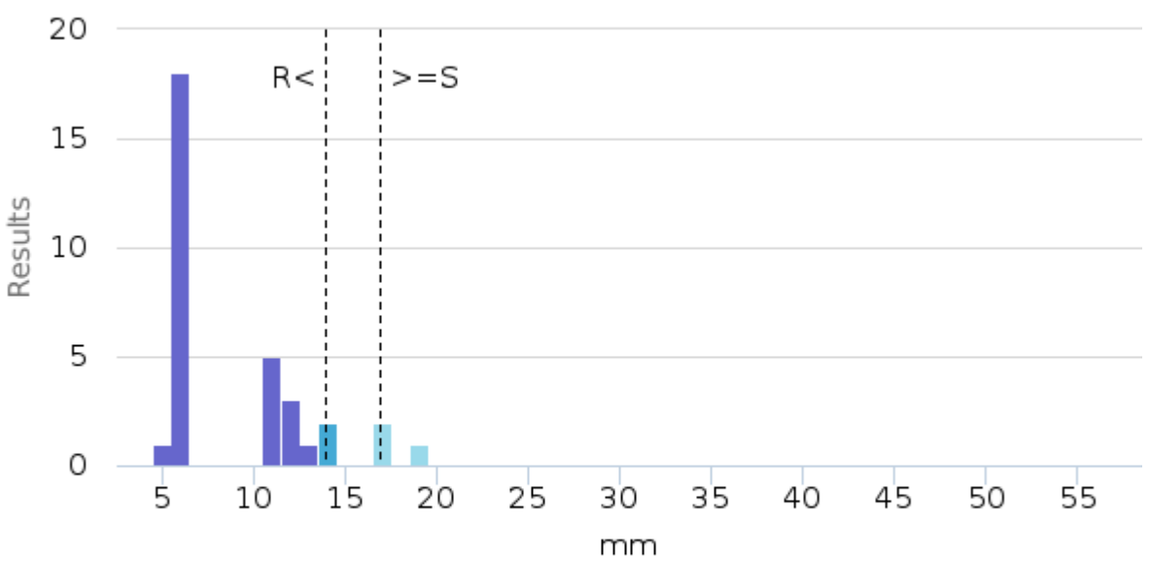
Resistant (3 pcs / 100%)

Trimethoprim - MIC



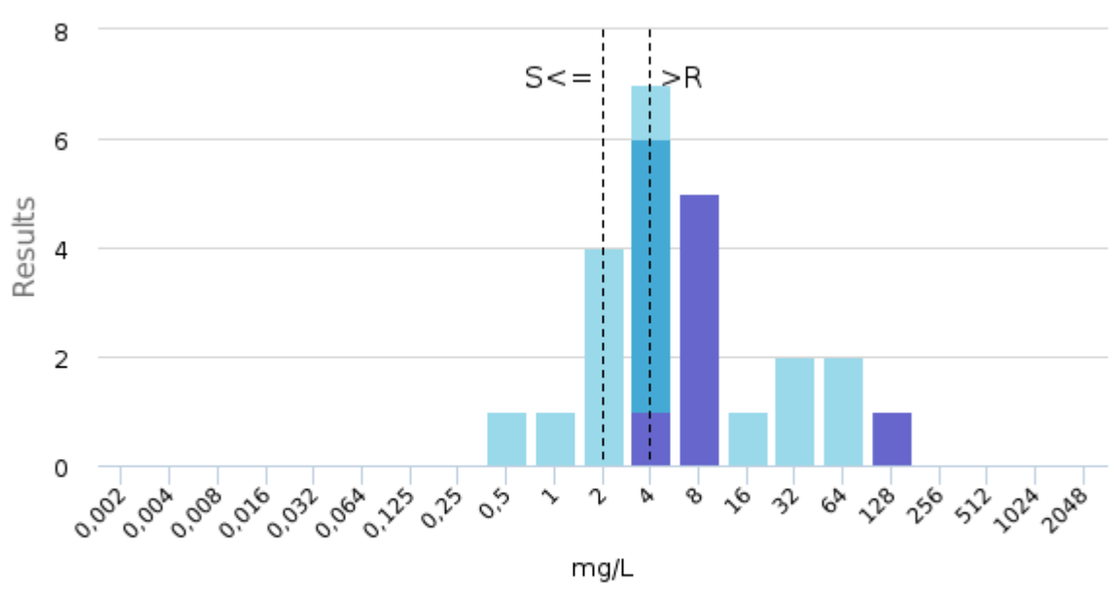
Susceptible (1 pcs / 8%)
Resistant (11 pcs / 92%)

Trimethoprim-sulfamethoxazole - DISK



Susceptible (3 pcs / 9%)
Intermediate (2 pcs / 6%)
Resistant (28 pcs / 85%)

Trimethoprim-sulfamethoxazole - MIC



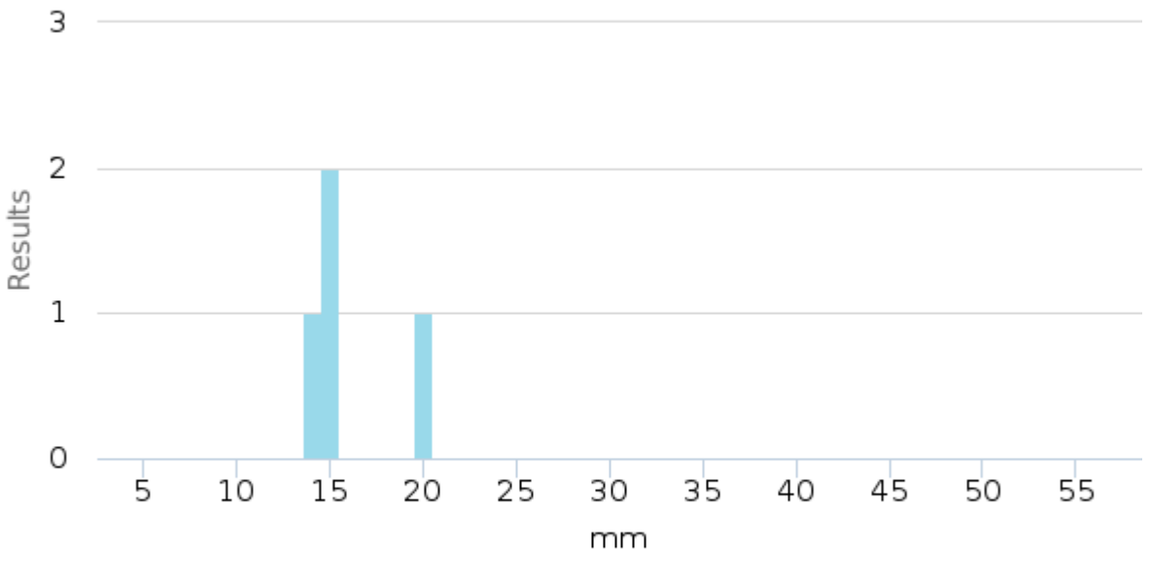
Susceptible (12 pcs / 50%)
Intermediate (5 pcs / 21%)
Resistant (7 pcs / 29%)

LABQUALITY

Blood culture, March, 1-2023

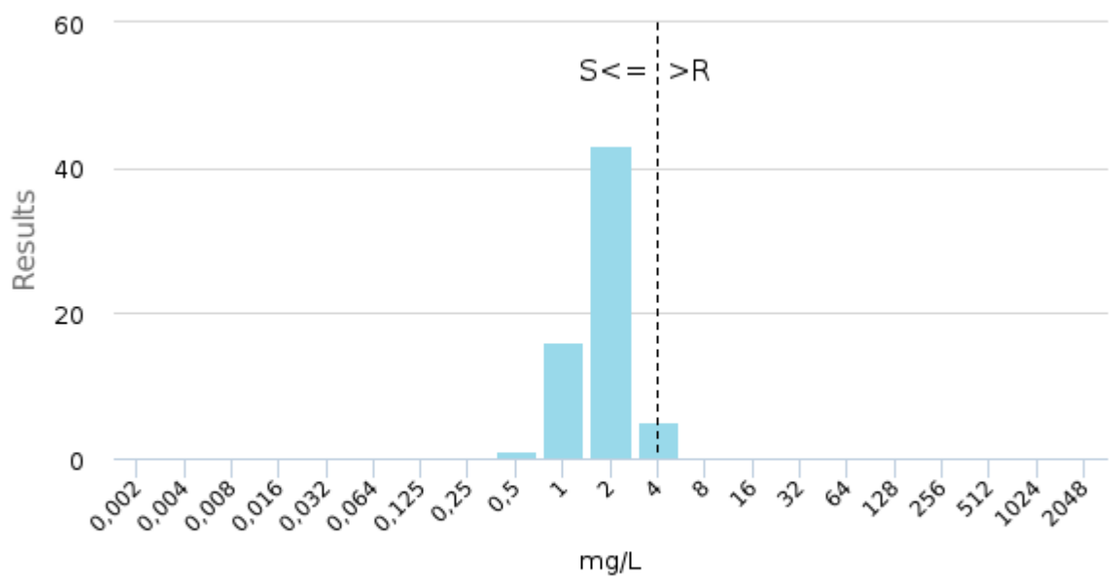
Antimicrobial susceptibility testing results

Vancomycin - DISK



Susceptible (4 pcs / 100%)

Vancomycin - MIC



Susceptible (65 pcs / 100%)

Sample S001 | Additional questions

Blood culture, March, 1-2023

Antimicrobial susceptibility testing results

Report info

Participants

Altogether 138 laboratories from 19 countries participated in this EQA round.

Report info

The antimicrobial susceptibility testing results are shown in laboratory specific summary tables and histograms. Histograms are drawn for each antimicrobial agent if the laboratory's result is included in a group of at least three results. By "group" is meant results which are obtained and interpreted according to the same standard (EUCAST, CLSI or CA-SFM). Laboratory's own results are indicated with a black radio button in the table and an orange dot in the histograms. Average (x) is used as a reference value for disk results and mode (Mo) is used for MIC results. According to the experts' assessment some antimicrobials may be excluded from the final summary tables, e.g., antimicrobial agents to which the microbe is intrinsically resistant or to which only one result has been reported.
If you have not reported antimicrobial susceptibility testing results, or, your results have been excluded, you will get a note: "You have not reported antimicrobial susceptibility results, only global report is available."
For information on report interpretation and performance evaluation, please see the "EQAS Interpretation guidelines" in LabScala User instructions. In case you have any questions regarding the reports, please contact the EQA Coordinator.

LABQUALITY

External Quality Assessment Scheme

Blood Culture (5100)
Blood Culture, screening (5101)
Rounds 1, 2023

This report replaces the preliminary report. The final report also includes the expert comments on the susceptibility testing results. We apologize for the inconvenience caused by the delay in publication.

Specimens
The round included two lyophilized samples. The sample lots were tested in an accredited Finnish reference laboratory and the results were consistent with the certificates provided by the sample manufacturer. Based on the quality controls conducted by the sample material manufacturer, pre-testing and the results obtained in the round, the sample lots are to be considered as homogeneous, stable and suitable for external quality assessment. The materials were sent without temperature control packaging.

The use of samples only for external quality assessment. The consent of Labquality must be requested for the use of the microbial strains contained in the samples for other purposes.

The content of the samples was as follows:

Sample S001 (LQ761823011)
Staphylococcus epidermidis KSKS 2852

Näyte S002 (LQ761823012)
Streptococcus pyogenes ATCC® 19615™

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

Comments – Experts
Sample S001
Background information: A long-term ICU patient with cannula-related sepsis.

The sample contained *Staphylococcus epidermidis*. If the sample was handled according to the instructions, >10^3 CFUs were transferred into one blood culture bottle.

Growth: In all 208/209 (99.5%) of the participating laboratories reported growth in the sample.

Of the screening laboratories 74% (55/74) stated to report a preliminary identification result to the clinician based on gram staining and/or other identification methods. Altogether 71% (39/55) of these laboratories reported grampositive cocci as expected. Additionally, 18% (10/55) reported *Staphylococcus epidermidis* based on a direct nucleic acid test from a positive blood culture bottle. One laboratory (2%) reported erroneously a gramnegative rod, and merely growth, without a gram staining result, was reported by 9% (5/55) of these laboratories. Four screening laboratories reported an unexpected second finding.

Altogether 26% (19/74) of the screening laboratories were not performing preliminary identification and 95% (18/19) of them reported merely growth as

2023-05-09

FINAL REPORT

Product no. 5100-5101

Subcontracting: Sample pretesting

Samples sent	2023-02-21
Round closed	2023-03-17
Expected results	2023-03-21
Preliminary report	2023-04-24
Final report	2023-05-09

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
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Experts
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Quality Management
LQR
ISO 9001:2015

expected.

Identification: 92% (124/135) of the participants identified the growth correctly as *Staphylococcus epidermidis*. Two laboratories reported the finding merely to the genus level, *Staphylococcus* sp., the other with an additional information of the isolate being coagulase negative. Altogether, 4% (5/135) of the results were erroneous species or genus level identifications. Three laboratories had most probably mixed up the samples at some point, as they reported *Streptococcus pyogenes* from this sample.

In all, four second findings were reported: *Staphylococcus epidermidis* (2), *Staphylococcus warneri* (1) and *Bacillus* sp. (1). So, two laboratories reported two separate *S. epidermidis* findings, which differed from each other by their antimicrobial susceptibility profiles.

Comments on susceptibility test results
This strain of *S. epidermidis* is resistant to cefoxitin and, therefore, to other beta-lactams.

The strain is also resistant to fusidic acid and tobramycin. Its susceptibility to teicoplanin, tetracycline and trimethoprim-sulfamethoxazole is close to the S/R breakpoint. This time, even the reference laboratories did not reach a consensus for trimethoprim-sulfamethoxazole and teicoplanin: The results of the laboratory using the broth microdilution method were resistant, while the laboratory using gradient tests interpreted both as susceptible. The strain does not have a *vanA* or *vanB* gene, so the reduced glycopeptide susceptibility is based on other mechanisms.

The overall performance of the laboratories with this strain was very good. Only one erroneous S result was reported to cefoxitin and one to fusidic acid. There was considerable dispersion only for the three antibiotics with susceptibility close to the S/R breakpoint: teicoplanin, tetracycline and trimethoprim-sulfamethoxazole. Typically, MIC results of those antibiotics were more resistant than their disk diffusion results.

It is reasonable to send a strain like this, whose susceptibilities to glycopeptides are close to the S/R breakpoint and even somewhat conflicting (as here with the broth microdilution results vancomycin S and teicoplanin R), to a reference laboratory for further investigation.

Table 1. The MIC results reported by two Finnish reference laboratories of the *Staphylococcus epidermidis* KSKS 2852 strain. The reference laboratories followed the EUCAST guideline.

Antimicrobial agent	Ref. laboratory 1 MIC (mg/L)	Ref. laboratory 1 SIR	Ref. laboratory 2 MIC (mg/L)	Ref. laboratory 2 SIR
Cefoxitin (screen)	-	-	-	R[1]
Ciprofloxacin	0.125	I	<=0.5	I
Clindamycin	0.064	S	<=0.12	S
Gentamicin	0.25	S	<=0.5	S
Rifampicin	0.003	S	<0.03	S
Teicoplanin	3	S	8	R
Trimethoprim-sulfa.	1.5	S	8	R
Vancomycin	1	S	2	S

[1]Determined by disk diffusion method, zone diameter 16 mm

Sample S002
Background information: A 23-year-old male with severe wound infection.

The sample contained *Streptococcus pyogenes.* If the sample was handled according to the instructions, >10^3 CFUs were transferred into one blood culture bottle.

Growth: In all 206/209 (98.6%) of the participating laboratories reported growth in the sample.

Of the screening laboratories 74% (55/74) stated to report a preliminary identification result to the clinician based on gram staining and/or other identification methods. Altogether 71% (39/55) of these laboratories reported grampositive cocci as expected. Additionally, 16% (9/55) reported *Streptococcus pyogenes* based on a direct nucleic acid test from a positive blood culture bottle. One participant (2%) reported the finding erroneously as yeast and one (2%) as *Streptococcus agalactiae*. In all, 9% (5/55) reported merely growth, without a gram staining result. Two laboratories reported anaerobe grampositive cocci as an unexpected second finding.

Altogether 26% (19/74) of the screening laboratories were not performing preliminary identification and all of them reported growth as expected.

Identification: 94% (127/135) of the participants reported the expected result, *Streptococcus pyogenes* or Group A beta-hemolytic streptococcus. Altogether, 1% (2/135) of the results were erroneous species level identifications (*S. agalactiae*, *S. pneumoniae*). Additionally, the *Staphylococcus epidermidis* findings reported from this sample are likely due to a mix-up of samples S001 and S002 in the laboratories. In all, 2 % (3/135) reported the sample as negative.

Three unexpected second findings were reported: *Streptococcus pyogenes* (1) and *Staphylococcus aureus* (2).

Exceptions in scoring
No exceptions

End of report