LABQUALITY

External Quality Assessment Scheme

Urine culture, quantitative screening, identification and susceptibility Round 1, 2023

Specimens
Please find enclosed 2 lyophilized samples S001 and S002, vials of rehydration fluid, each 1 mL and dilution buffer, each 99 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
Pyelonephritis of a toddler.

Sample S002
A 30-year-old female, sample taken in home, bladder time <4 hours.

Examinations
Urine culture, quantitation, evaluation of significance and identification
Antimicrobial susceptibility testing of S001

Storage and use
After arrival, the samples should be stored at +2…8°C. The identification information of the sample is found in the Labquality label on the foil package. Possible markings located inside the foil package on the vials are to be ignored when processing the samples. Excessive shaking of the vials during the rehydration is not recommendable as it may produce foam and retard the dissolution process.

1. Warm the 99 mL bottles of dilution fluid to +35…37°C. Let the samples and rehydration fluids warn up to room temperature.
2. Discard the blue-coloured cap from the vial of rehydration fluid.
3. Transfer the colourless cap (on vial inside the foil package) to the vial of the rehydration fluid. The bacterial specimen is fixed in the black particles inside the colourless cap (the paper pad inside the vial with the colourless cap is a desiccant).
4. Invert the vial, tap to be sure the liquid is in contact with the inside of the cap and place it in an incubator at +35…37°C for 15 minutes to dissolve the preserved microbes.
5. Check that there are no black particles inside the cap to make certain that all the microbes have dissolved into the solution. If necessary, reinvert the vial and continue the rehydration process. Observe closely every 1 to 2 minutes for complete dissolution. Continue to dissolve the specimen until no black particles are left in the cap, however, note that a prolonged rehydration process may affect the bacterial count. To enhance the dissolution of the particles you may gently tap the bottom of the vial when keeping it in an inverted position. Excessive vigorous shaking will produce foam.
6. Decant the contents of the small vial completely into the 99 mL bottle of warm dilution fluid.
7. Immediately mix the contents of the bottle, culture and incubate as corresponding clinical specimens.

2023-03-07

INSTRUCTIONS

Product no. 5065
LQ761923011-012/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 **April 4, 2023**.

The expected results of the round are published in LabScala in the View Reports section by April 6, 2023.

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

Only the analysis phase is accredited.

Quality Management
ISO 9001:2015

Result reporting
Please enter the results and methods via LabScala (www.labscala.com). Please follow the instructions below. If you cannot find your answer or method from the list, please contact the EQA Coordinator.

Type and extent of growth
First report the urine culture method you use. Only one option can be reported. Report the quantity of bacteria present and the number of colonies on the plate culture. Next, report the type (significance) of growth.

Final report to the clinician and identification tests
First answer the question concerning the examination selection, whether the laboratory routinely identifies all significant findings. All laboratories are expected to include *E. coli* in their test selection. The test selection question should be answered in the same way for both samples.

Next, select a suitable answer for "Report to the clinician" e.g. select a microbe name that was identified from the sample. Note! Although there are gram stain options available in the list, usually a microbe name is the expected answer as the report to the clinician if significant growth was observed. In case the type of growth has been reported as mixed flora/normal flora or no growth/negative, the same answer should also be given as the report to the clinician.

Finally, answer the question of further handling. It is also possible to report test methods and results that have been used in the identification of the isolated findings. This part is not mandatory and is not scored.

Antimicrobial susceptibility testing results (sample S001)
Susceptibility test results are given only to the antimicrobial agents, which are routinely used in your laboratory for the isolated microbe in question. First 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 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 after the guidance table). In the last column report the corresponding SIR interpretation (S/I/R). The interpretation should be reported by taking into consideration the possible resistance mechanisms of the microbe.

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.

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

Results reported in the Extent of growth, Type of growth and Report to the clinician parts will be scored.

S001

S002

LABQUALITY

Urine culture, March, 1-2023

Extent and type of growth

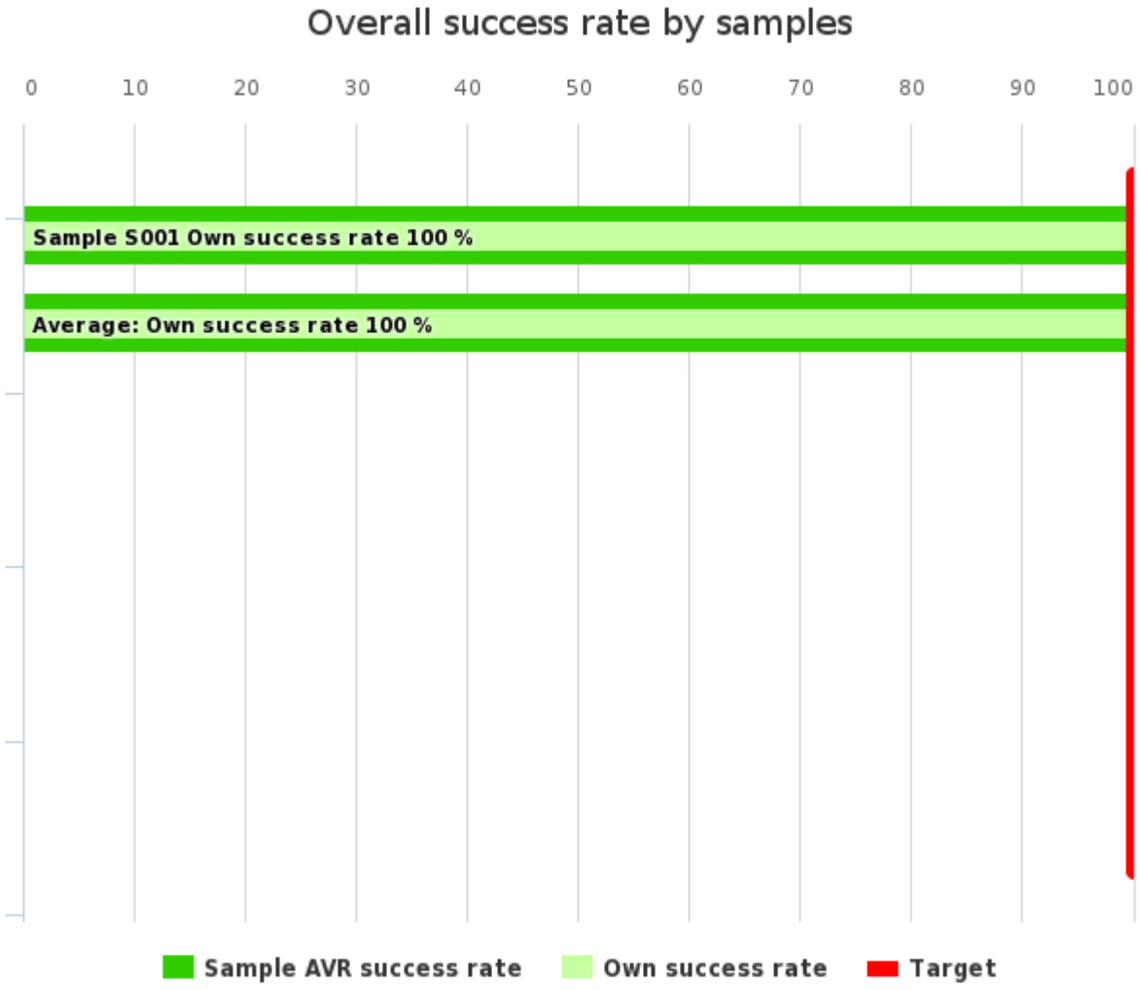
xxxxx

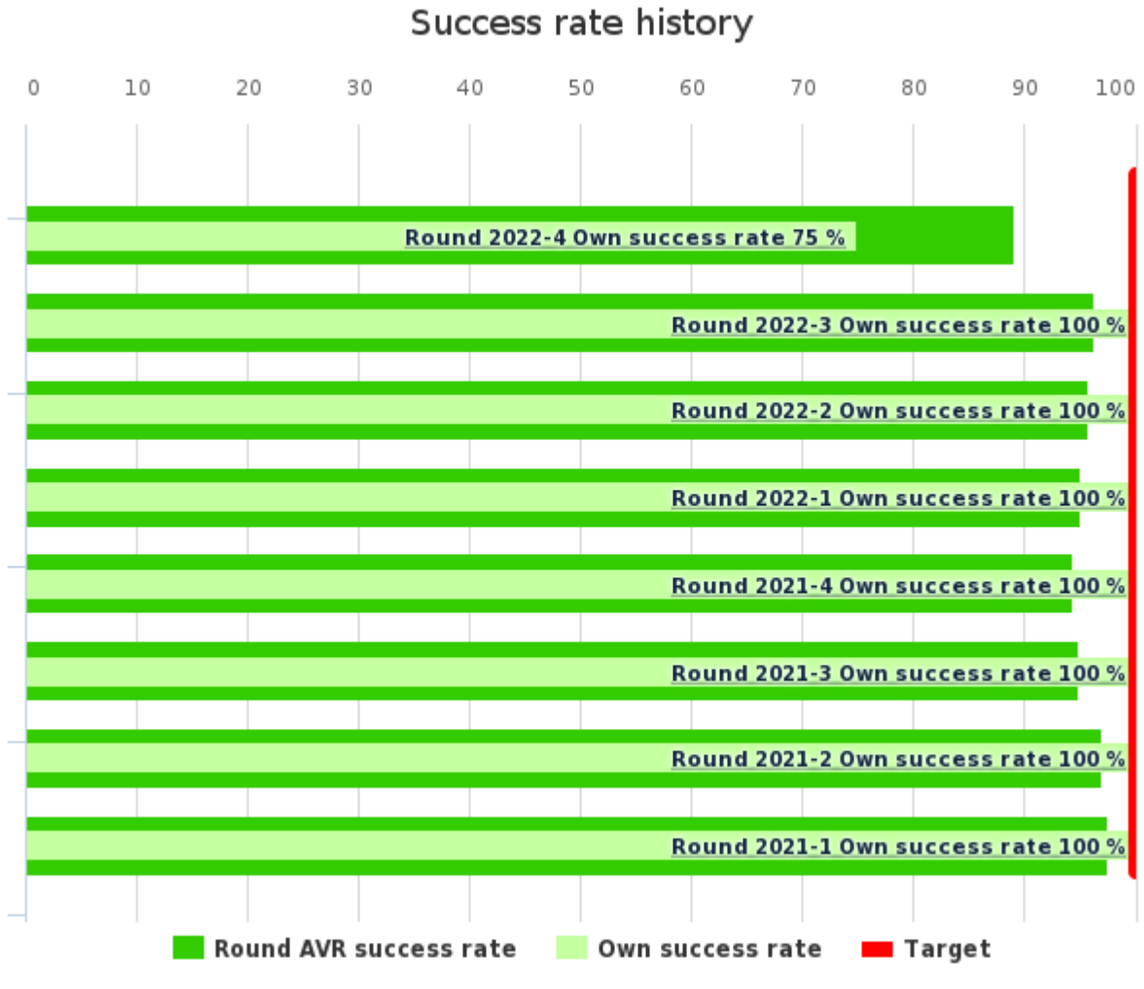
Client report

	No of participants	No of responded participants	Response percentage
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023	123	118	95.9 %

Summary

Urine culture, quantitative screening, identification and susceptibility (5065)



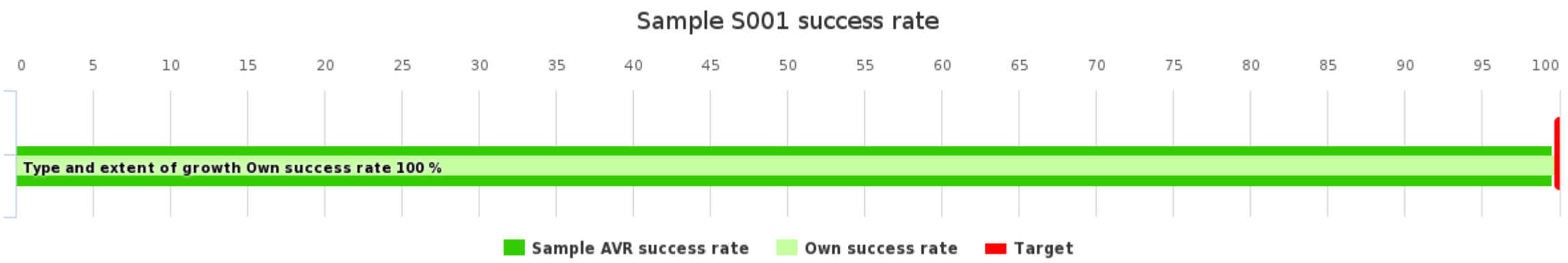


Summary	Own score	Max score	Own success rate	Difference	AVR success rate
Sample S001	4	4	100 %	0.4 %	99.6 %
Sample S002	-	-	-	-	-
Average:			100 %	0.4 %	99.6 %

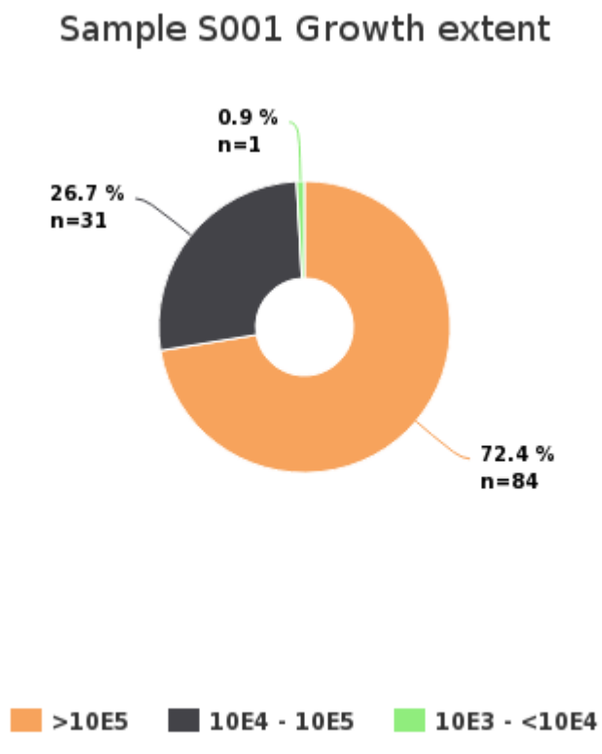
History	Test nr.	Own success rate	Difference	AVR success rate
Round 2022-4	1-1	75 %	-14.2 %	89.2 %
Round 2022-3	1-1	100 %	3.6 %	96.4 %
Round 2022-2	1-1	100 %	4.2 %	95.8 %
Round 2022-1	1-1	100 %	4.9 %	95.1 %
Round 2021-4	1-1	100 %	5.6 %	94.4 %
Round 2021-3	1-1	100 %	5 %	95 %
Round 2021-2	1-1	100 %	3 %	97 %
Round 2021-1	1-1	100 %	2.5 %	97.5 %

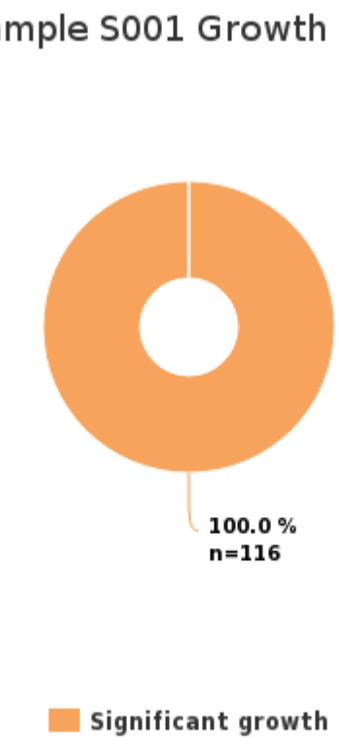
Sample S001 | Significant growth, >10^5 CFU/mL, E. coli

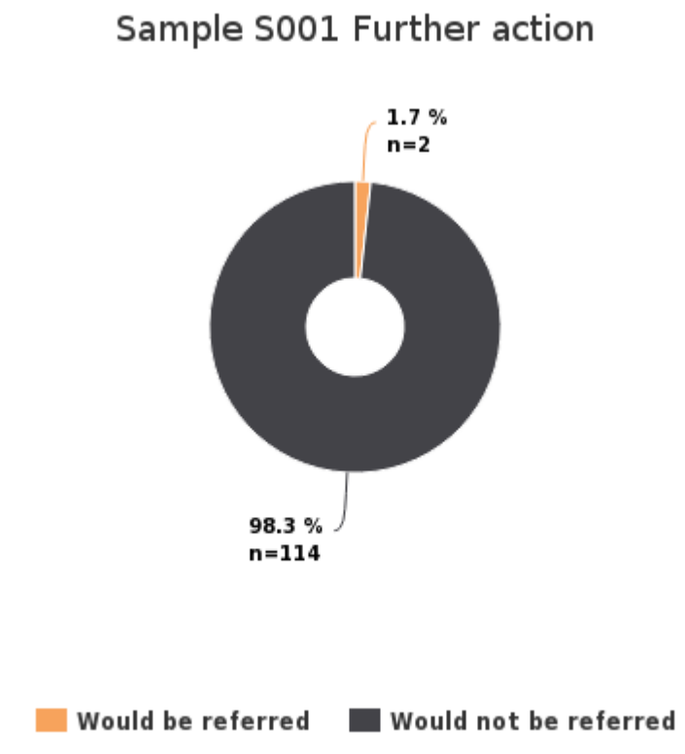
Urine culture, quantitative screening, identification and susceptibility (5065)



Type of growth	Extent of growth	Growth medium	count	Growth medium count	Own score	Max score	Own success rate	Difference	AVR success rate
Significant growth			116		4	4	100 %	0.4 %	99.6 %
	>10^5		84		-				100 %
		Chromogenic medium		69					
		Non-chromogenic medium		15					
	◉ 10^4 - 10^5		31		4	4	100 %	0 %	100 %
		Chromogenic medium		24					
		◉ Non-chromogenic medium		7					
	10^3 - <10^4		1		-				50 %
		Chromogenic medium		1					
Total:			116		4	4	100 %	0.4 %	99.6 %







GROWTH EXTENT

Extent of growth	count
>10E5	84
◉ 10E4 - 10E5	31
10E3 - <10E4	1
Total:	116

GROWTH TYPE

Type of growth	count
◉ Significant growth	116
Total:	116

FURTHER ACTION

Result	count

Extent and type of growth

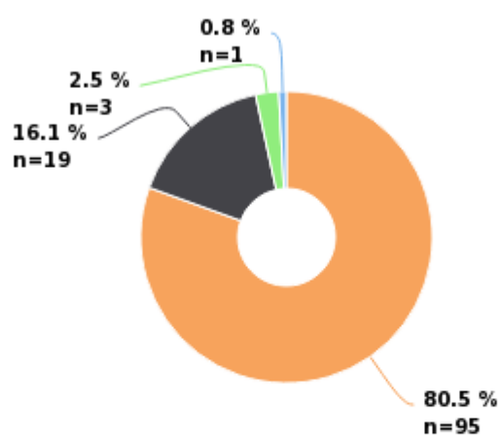
Would be referred	2
◉ Would not be referred	114
Total:	116

Sample S002 | Mixed flora, >10^5 CFU/mL, E. faecalis, S. epidermidis, Acinetobacter sp.

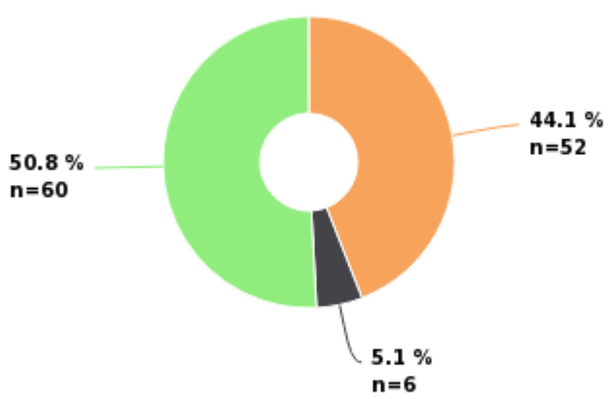
Urine culture, quantitative screening, identification and susceptibility (5065)

Type of growth	Extent of growth	Growth medium	count	Growth medium count	Own score	Max score	Own success rate	Difference	AVR success rate
Mixed flora/Normal flora			52		-	-			-
	>10^5		45		-				-
		Chromogenic medium		38					
		Non-chromogenic medium		7					
	10^4 - 10^5		6		-				-
		Chromogenic medium		4					
		Non-chromogenic medium		2					
	10^3 - <10^4		1		-				-
		Non-chromogenic medium		1					
No significant growth			6		-	-			-
	>10^5		2		-				-
		Chromogenic medium		2					
	10^4 - 10^5		2		-				-
		Chromogenic medium		2					
	10^3 - <10^4		1		-				-
		Chromogenic medium		1					
	<10^3		1		-				-
		Non-chromogenic medium		1					
Significant growth			60		-	-			-
	>10^5		48		-				-
		Chromogenic medium		41					
		Non-chromogenic medium		7					
	◉ 10^4 - 10^5		11		-				-
		Chromogenic medium		9					
		◉ Non-chromogenic medium		2					
	10^3 - <10^4		1		-				-
		Chromogenic medium		1					
Total:			118		-	-	-	-	

Sample S002 Growth extent



Sample S002 Growth type



Sample S002 Further action

GROWTH EXTENT

Extent of growth	count
>10E5	95
◉ 10E4 - 10E5	19
10E3 - <10E4	3
<10E3	1

Total:	118

GROWTH TYPE

Type of growth	count
Mixed flora/Normal flora	52
No significant growth	6
◉ Significant growth	60
Total:	118

FURTHER ACTION

Result	count
New sample requested	33
Would be referred	7
◉ Would not be referred	78
Total:	118

Report Info

PARTICIPANTS

Altogether 226 laboratories from 19 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.
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 ◉.
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 "Type of growth" and "Extent of growth" parts 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:
2 points is reached by reporting the expected extent of growth (CFU/mL)
2 points is reached by reporting the expected type of growth
Laboratories that routinely do not evaluate the observed growth but send all samples indicating any growth to the reference laboratory are given 2 points according to correctly identified growth.
For negative answers, the results are evaluated similarly to other screening laboratories

Sample S001

Escherichia coli ATCC 25922

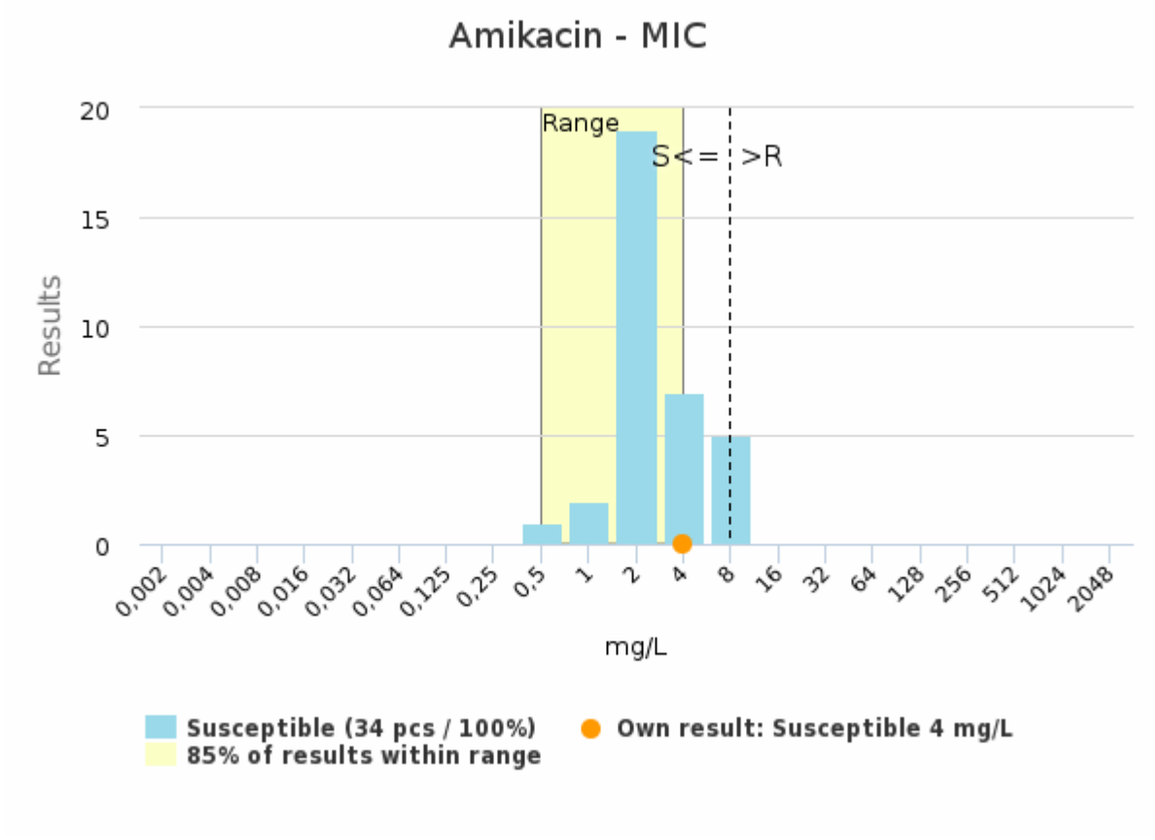
		DISK							MIC					
Antimicrobial agent	**Guideline**	**Own result (mm)**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Own result (mg/L)**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Amikacin	BSAC	**-**	-	-	-	-	-	-	**-**	32	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	23	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	**-**	21	2	17 (100%)	0 (0%)	0 (0%)	17	**4**	2	34 (100%)	0 (0%)	0 (0%)	34
	CA-SFM	**-**	24	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	2	1 (100%)	0 (0%)	0 (0%)	1
	All				**19 (100%)**	**0 (0%)**	**0 (0%)**	**19**			**37 (100%)**	**0 (0%)**	**0 (0%)**	**37**
Amoxicillin-clavulanate	CLSI	**-**	21	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	4	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	21	2	48 (98%)	1 (2%)	0 (0%)	49	**8**	4	45 (98%)	1 (2%)	0 (0%)	46
	CA-SFM	**-**	21	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	4	2 (100%)	0 (0%)	0 (0%)	2
	All				**50 (98%)**	**1 (2%)**	**0 (0%)**	**51**			**49 (98%)**	**1 (2%)**	**0 (0%)**	**50**
Ampicillin	BSAC	**-**	-	-	-	-	-	-	**-**	32	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	17	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	18	2	44 (100%)	0 (0%)	0 (0%)	44	**4**	4	39 (98%)	1 (3%)	0 (0%)	40
	CA-SFM	**-**	19	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	4	2 (100%)	0 (0%)	0 (0%)	2
	All				**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**			**44 (98%)**	**1 (2%)**	**0 (0%)**	**45**
Cefepime	CLSI	**-**	-	-	-	-	-	-	**-**	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	32	3	8 (100%)	0 (0%)	0 (0%)	8	**1**	1	28 (100%)	0 (0%)	0 (0%)	28
	CA-SFM	**-**	33	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	0.25	1 (100%)	0 (0%)	0 (0%)	1
	All				**9 (100%)**	**0 (0%)**	**0 (0%)**	**9**			**31 (100%)**	**0 (0%)**	**0 (0%)**	**31**
Ceftazidime	CLSI	**-**	22	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	26	2	27 (100%)	0 (0%)	0 (0%)	27	**1**	0.125	39 (100%)	0 (0%)	0 (0%)	39
	CA-SFM	**-**	-	-	-	-	-	-	**-**	1	1 (100%)	0 (0%)	0 (0%)	1
	All				**28 (100%)**	**0 (0%)**	**0 (0%)**	**28**			**42 (100%)**	**0 (0%)**	**0 (0%)**	**42**
Ceftriaxone	BSAC	**-**	-	-	-	-	-	-	**-**	64	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	-	-	-	-	-	-	**-**	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	**-**	31	2	15 (100%)	0 (0%)	0 (0%)	15	**1**	0.25	9 (90%)	1 (10%)	0 (0%)	10
	CA-SFM	**-**	31	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	1	1 (100%)	0 (0%)	0 (0%)	1
	All				**16 (100%)**	**0 (0%)**	**0 (0%)**	**16**			**12 (92%)**	**1 (8%)**	**0 (0%)**	**13**
Cefuroxime (iv/parenteral)	CLSI	**-**	23	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	**-**	22	2	8 (32%)	17 (68%)	0 (0%)	25	**4**	4	3 (11%)	25 (89%)	0 (0%)	28
	All				**9 (35%)**	**17 (65%)**	**0 (0%)**	**26**			**4 (14%)**	**25 (86%)**	**0 (0%)**	**29**
Ciprofloxacin	BSAC	**-**	-	-	-	-	-	-	**-**	4	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	32	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	33	3	52 (100%)	0 (0%)	0 (0%)	52	**0.25**	0.25	45 (100%)	0 (0%)	0 (0%)	45
	CA-SFM	**-**	38	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	-	-	-	-	-
	All				**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**			**48 (100%)**	**0 (0%)**	**0 (0%)**	**48**
Gentamycin	BSAC	**-**	-	-	-	-	-	-	**-**	8	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	22	-	2 (100%)	0 (0%)	0 (0%)	2	**-**	1	4 (100%)	0 (0%)	0 (0%)	4
	EUCAST	**-**	21	3	36 (100%)	0 (0%)	0 (0%)	36	**1**	1	46 (100%)	0 (0%)	0 (0%)	46
	CA-SFM	**-**	25	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	1	1 (100%)	0 (0%)	0 (0%)	1
	All				**39 (100%)**	**0 (0%)**	**0 (0%)**	**39**			**52 (100%)**	**0 (0%)**	**0 (0%)**	**52**
Imipenem	BSAC	**-**	-	-	-	-	-	-	**-**	16	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	**-**	30	3	12 (100%)	0 (0%)	0 (0%)	12	**0.25**	0.25	16 (100%)	0 (0%)	0 (0%)	16
	CA-SFM	**-**	-	-	-	-	-	-	**-**	0.125	1 (100%)	0 (0%)	0 (0%)	1
	All				**12 (100%)**	**0 (0%)**	**0 (0%)**	**12**			**18 (100%)**	**0 (0%)**	**0 (0%)**	**18**
		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**
Meropenem	CLSI	**-**	-	-	-	-	-	-	**-**	0.25	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	31	3	31 (100%)	0 (0%)	0 (0%)	31	**0.125**	0.25	44 (100%)	0 (0%)	0 (0%)	44
	All				**31 (100%)**	**0 (0%)**	**0 (0%)**	**31**			**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**
Nitrofurantoin	BSAC	**-**	-	-	-	-	-	-	**-**	64	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	22	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	16	3 (100%)	0 (0%)	0 (0%)	3
	EUCAST	**-**	21	2	61 (100%)	0 (0%)	0 (0%)	61	**16**	16	36 (100%)	0 (0%)	0 (0%)	36
	CA-SFM	**-**	20	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	16	1 (100%)	0 (0%)	0 (0%)	1
	All				**63 (100%)**	**0 (0%)**	**0 (0%)**	**63**			**41 (100%)**	**0 (0%)**	**0 (0%)**	**41**

Susceptibility results

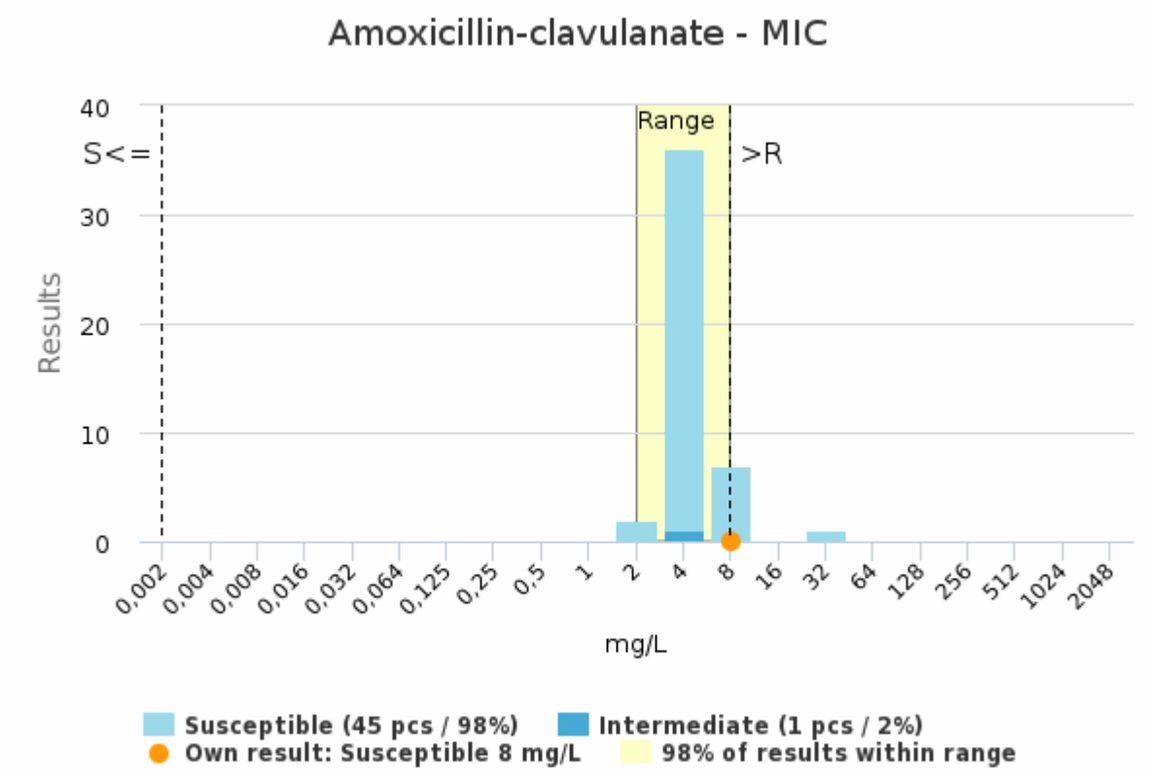
Piperacillin-tazobactam	BSAC	**-**	-	-	-	-	-	-	**-**	128	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	**-**	-	-	-	-	-	-	**-**	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	**-**	24	3	35 (100%)	0 (0%)	0 (0%)	35	**4**	4	43 (100%)	0 (0%)	0 (0%)	43
	CA-SFM	**-**	24	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	4	1 (100%)	0 (0%)	0 (0%)	1
	All				**36 (100%)**	**0 (0%)**	**0 (0%)**	**36**			**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**
Trimethoprim-sulfamethoxazole	CLSI	**-**	27	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	16	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	**-**	27	3	37 (100%)	0 (0%)	0 (0%)	37	**1**	1	38 (100%)	0 (0%)	0 (0%)	38
	CA-SFM	**-**	27	-	1 (100%)	0 (0%)	0 (0%)	1	**-**	16	2 (100%)	0 (0%)	0 (0%)	2
	All				**39 (100%)**	**0 (0%)**	**0 (0%)**	**39**			**42 (100%)**	**0 (0%)**	**0 (0%)**	**42**

Susceptibility results

Sample S001 | EUCAST

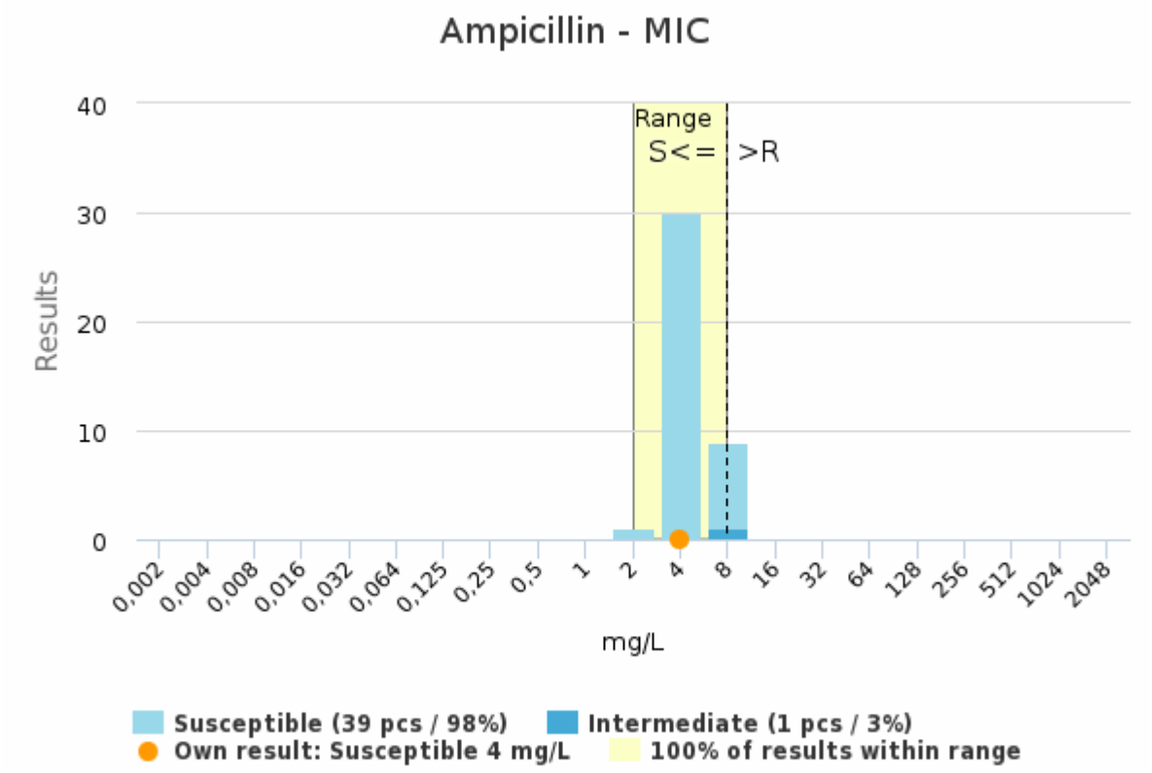


	Mo	min	max	n
Amikacin	2	0.5	8	34

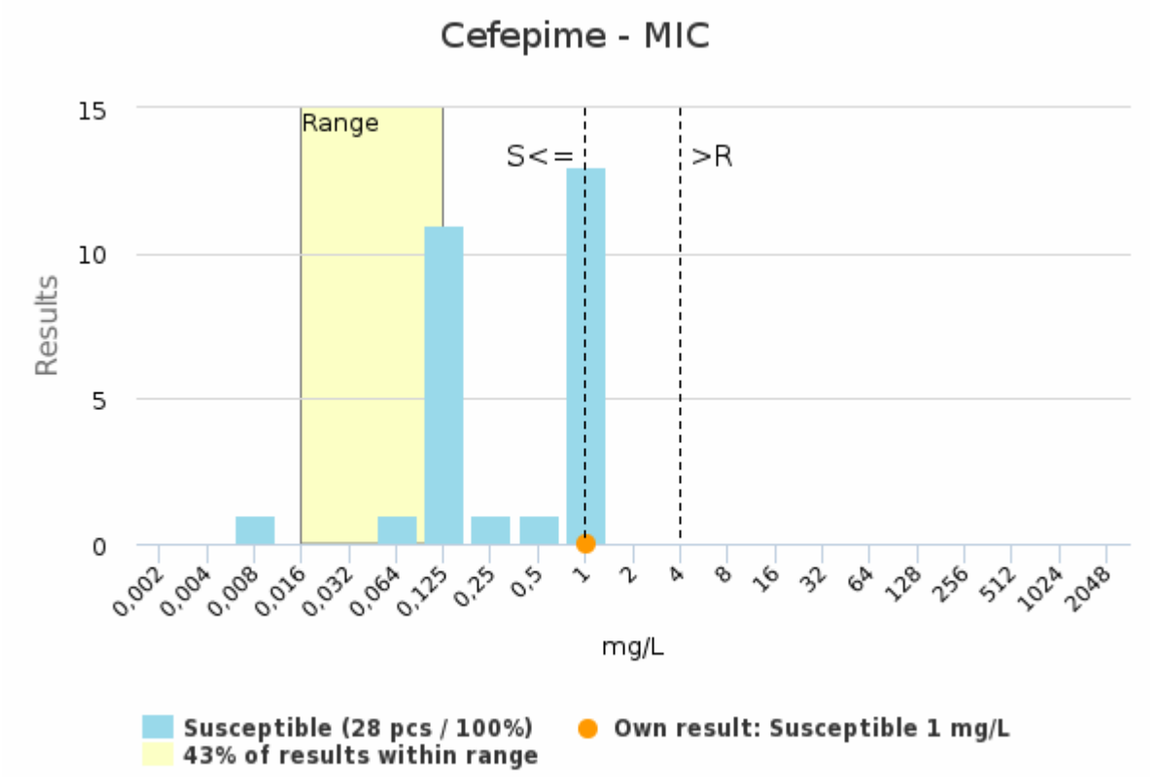


	Mo	min	max	n
Amoxicillin-clavulanate	4	2	32	46

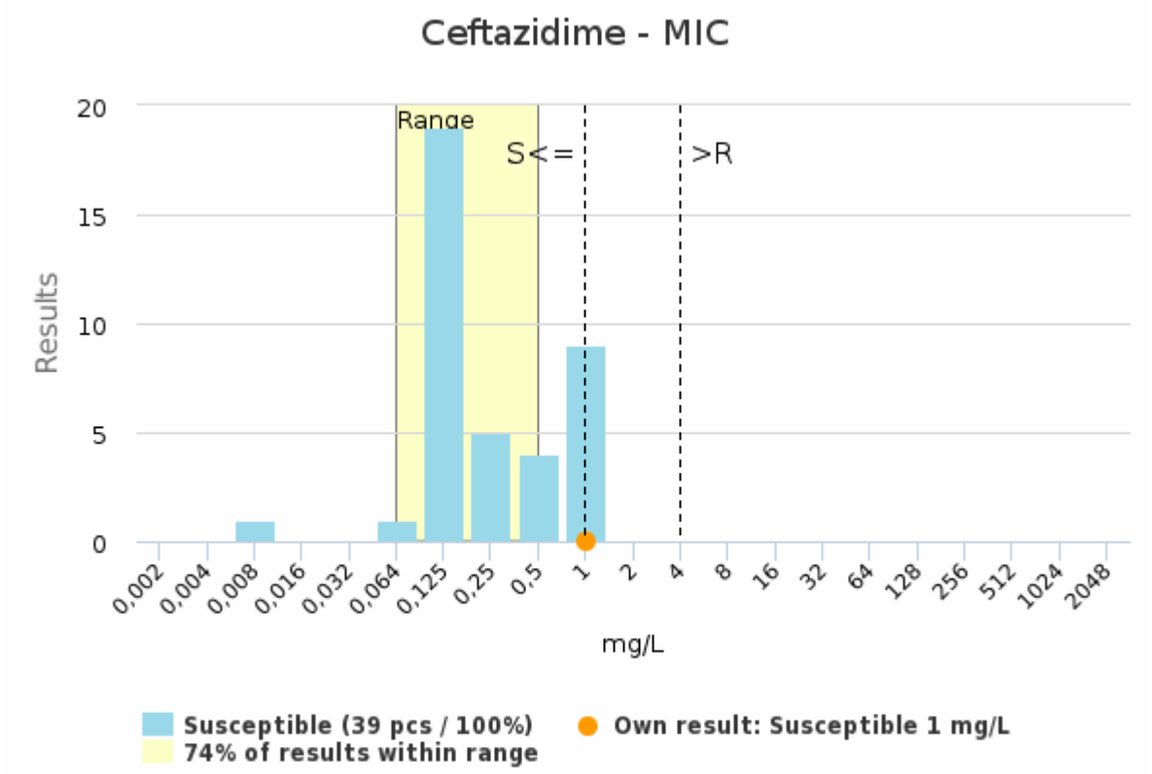
Susceptibility results



	Mo	min	max	n
Ampicillin	4	2	8	40

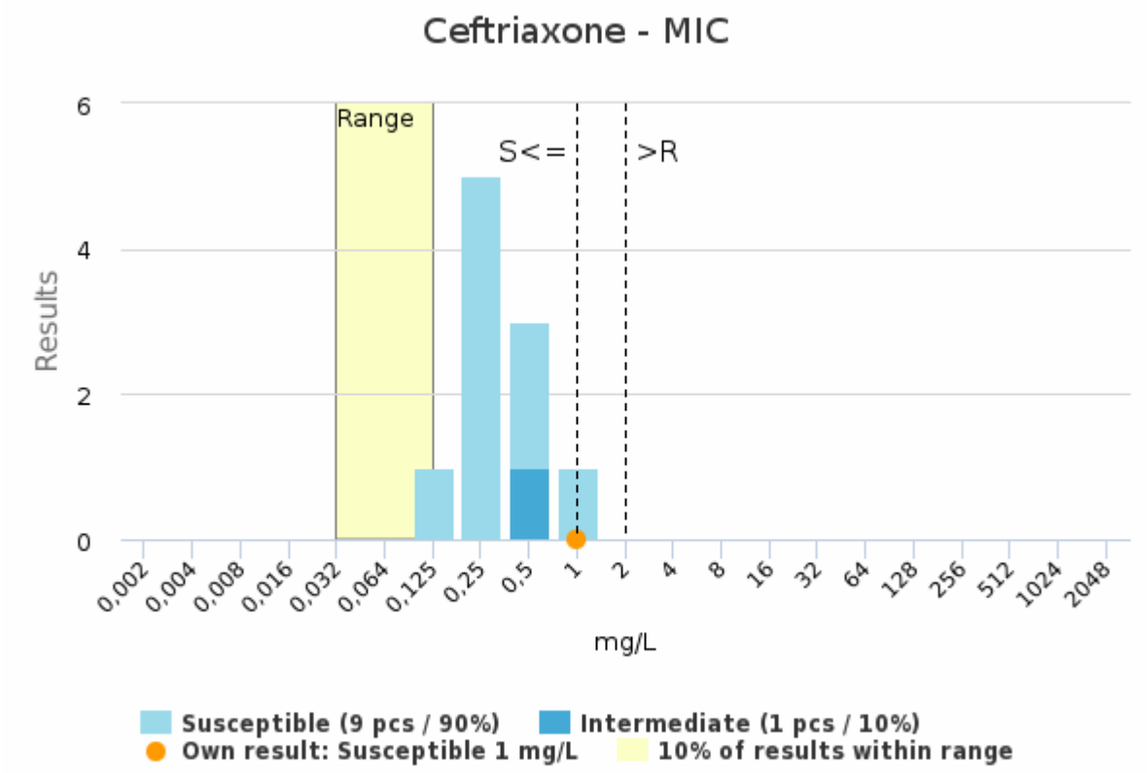


	Mo	min	max	n
Cefepime	1	0.008	1	28

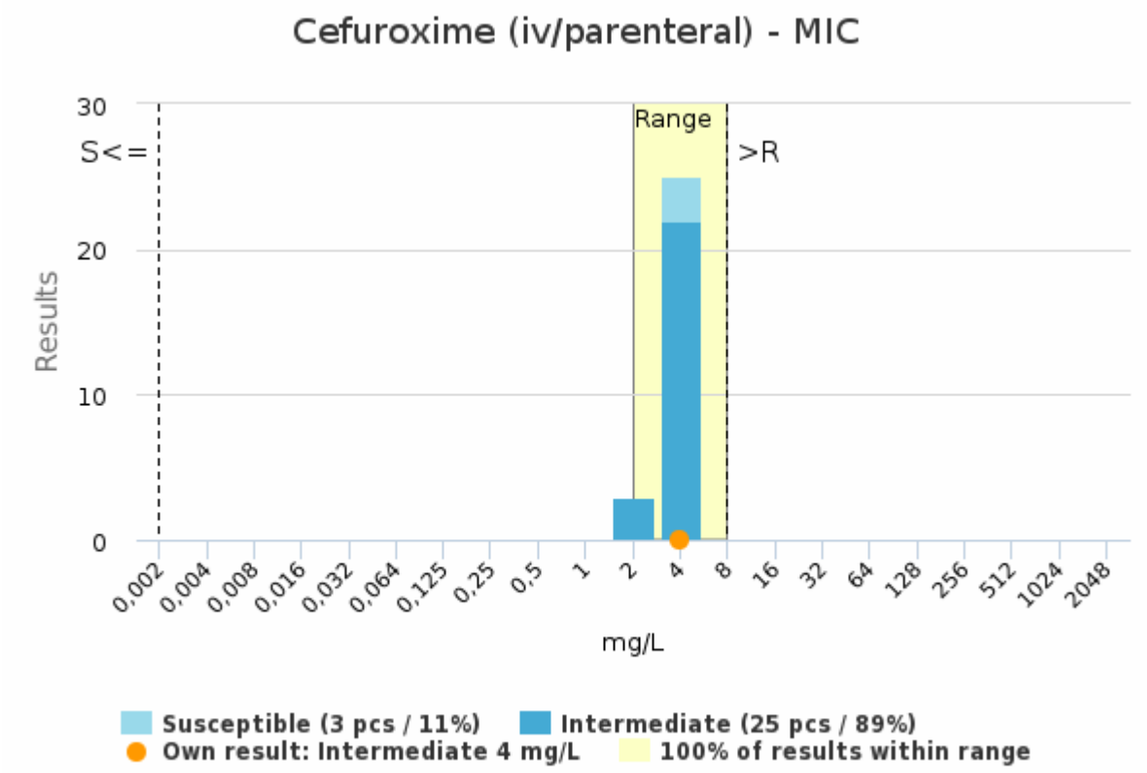


	Mo	min	max	n
Ceftazidime	0.125	0.008	1	39

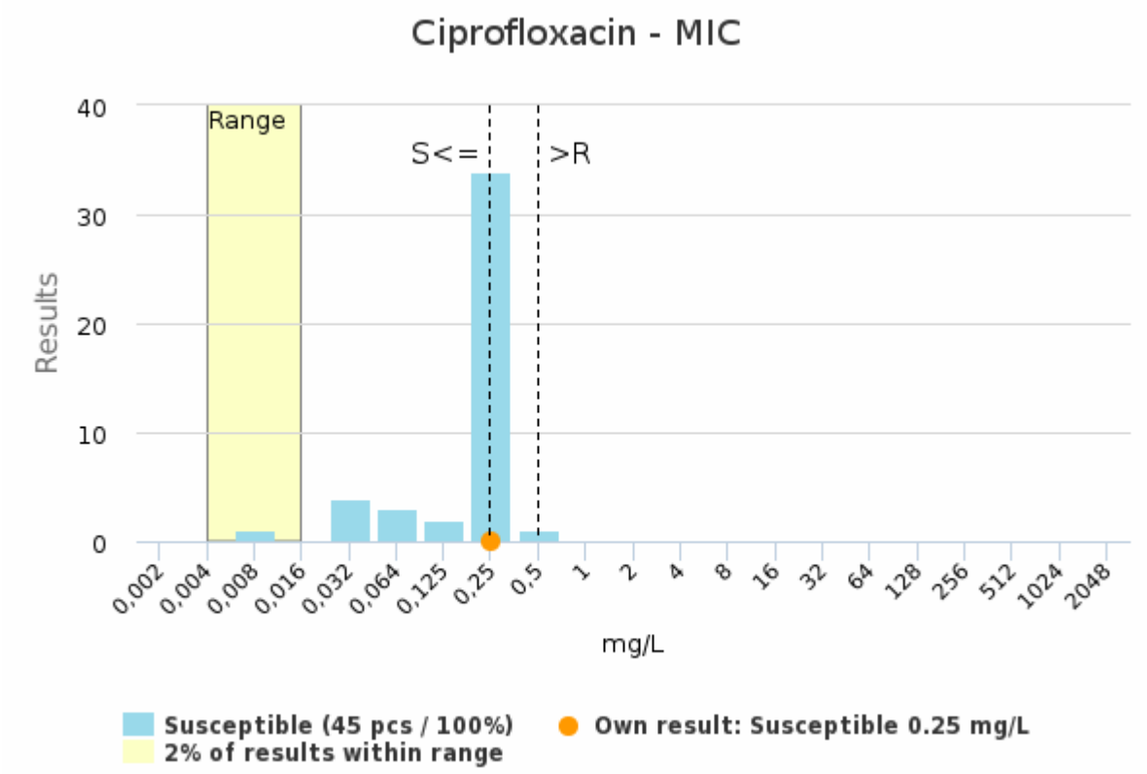
Susceptibility results



	Mo	min	max	n
Ceftriaxone	0.25	0.125	1	10

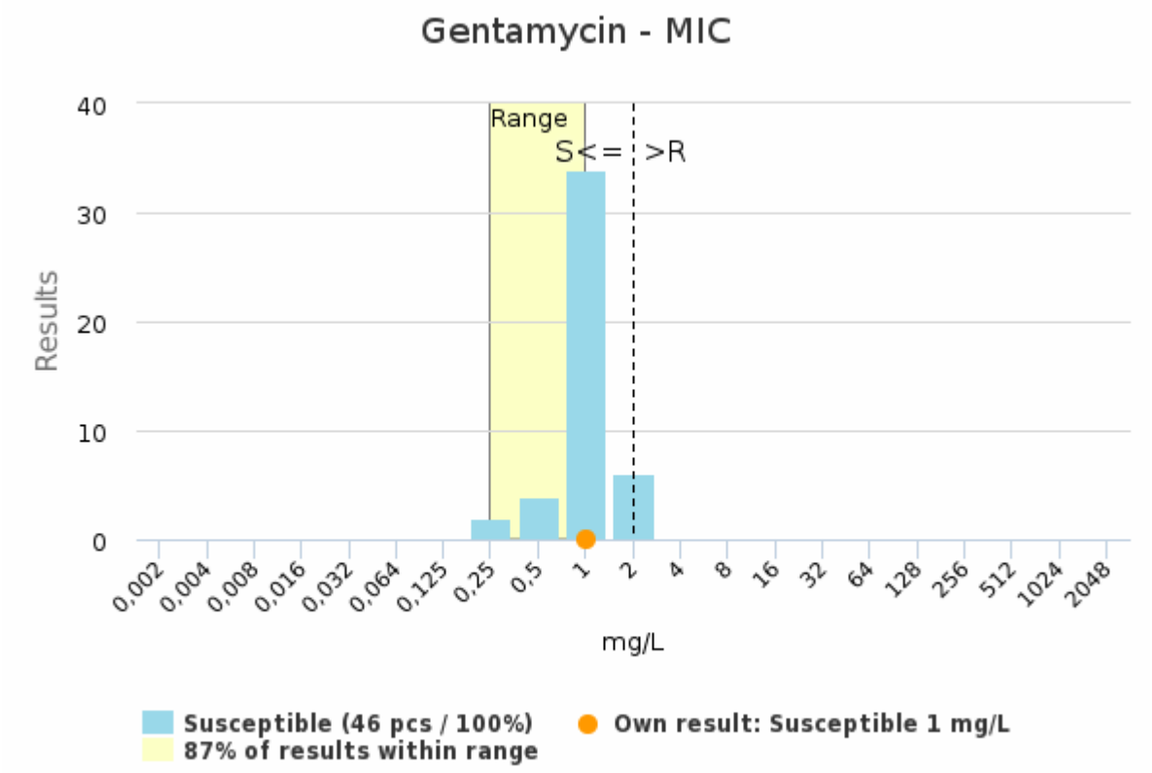


	Mo	min	max	n
Cefuroxime (iv/parenteral)	4	2	4	28

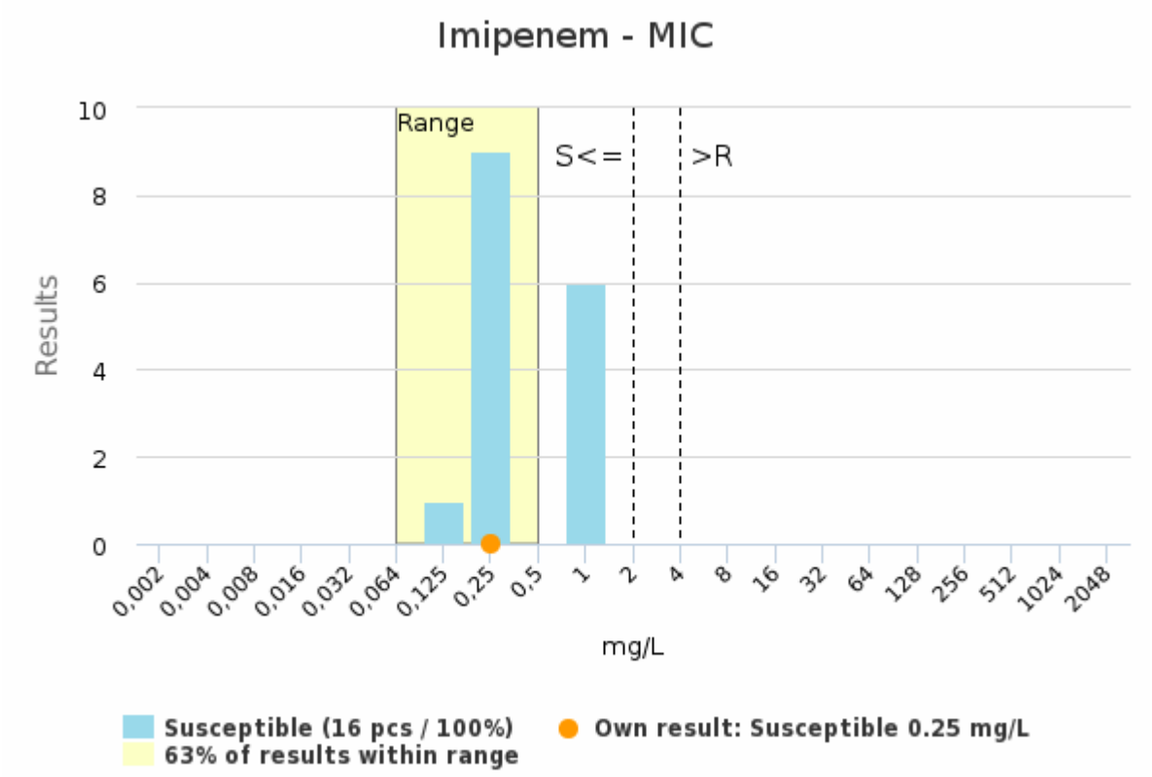


	Mo	min	max	n
Ciprofloxacin	0.25	0.008	0.5	45

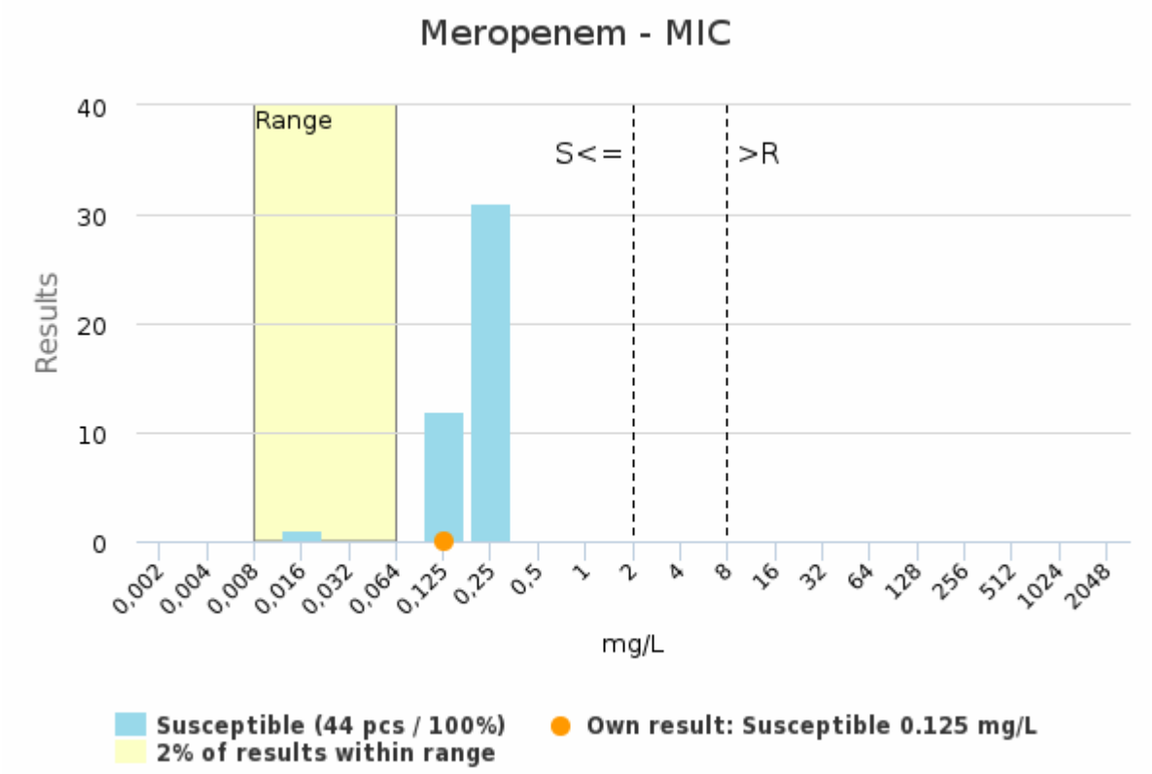
Susceptibility results



	Mo	min	max	n
Gentamycin	1	0.25	2	46

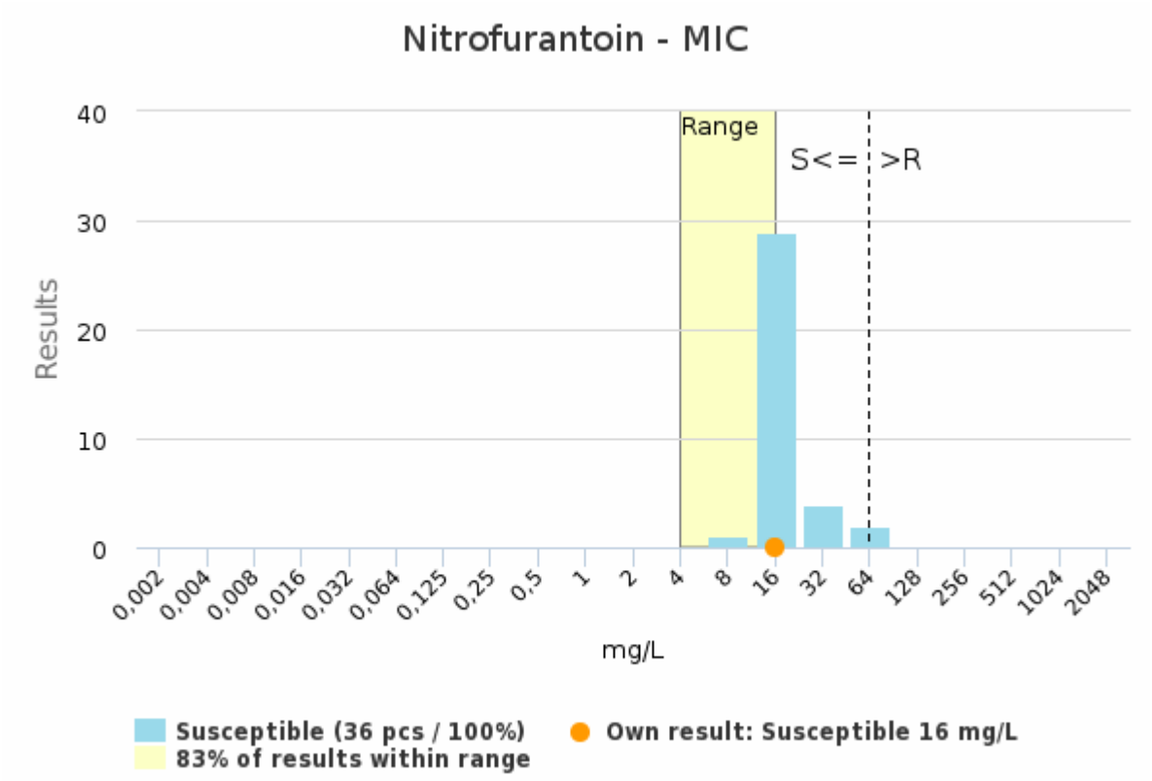


	Mo	min	max	n
Imipenem	0.25	0.125	1	16

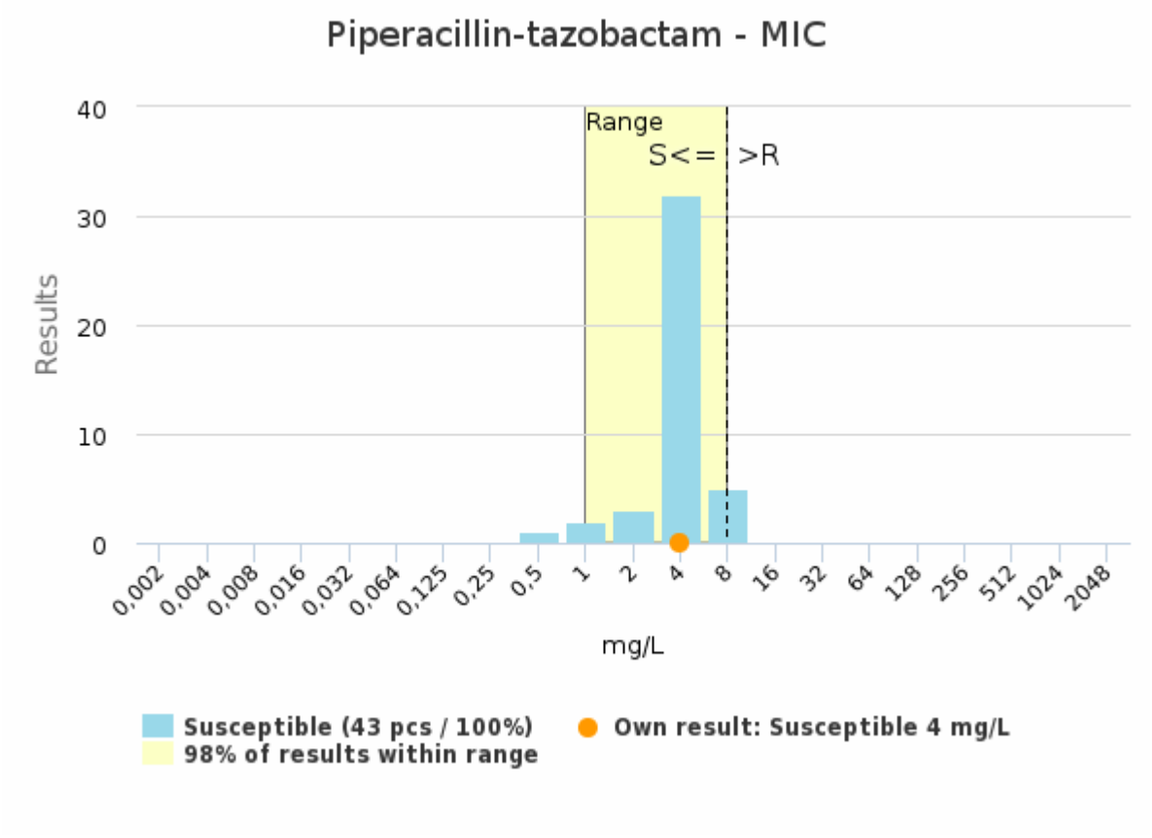


	Mo	min	max	n
Meropenem	0.25	0.016	0.25	44

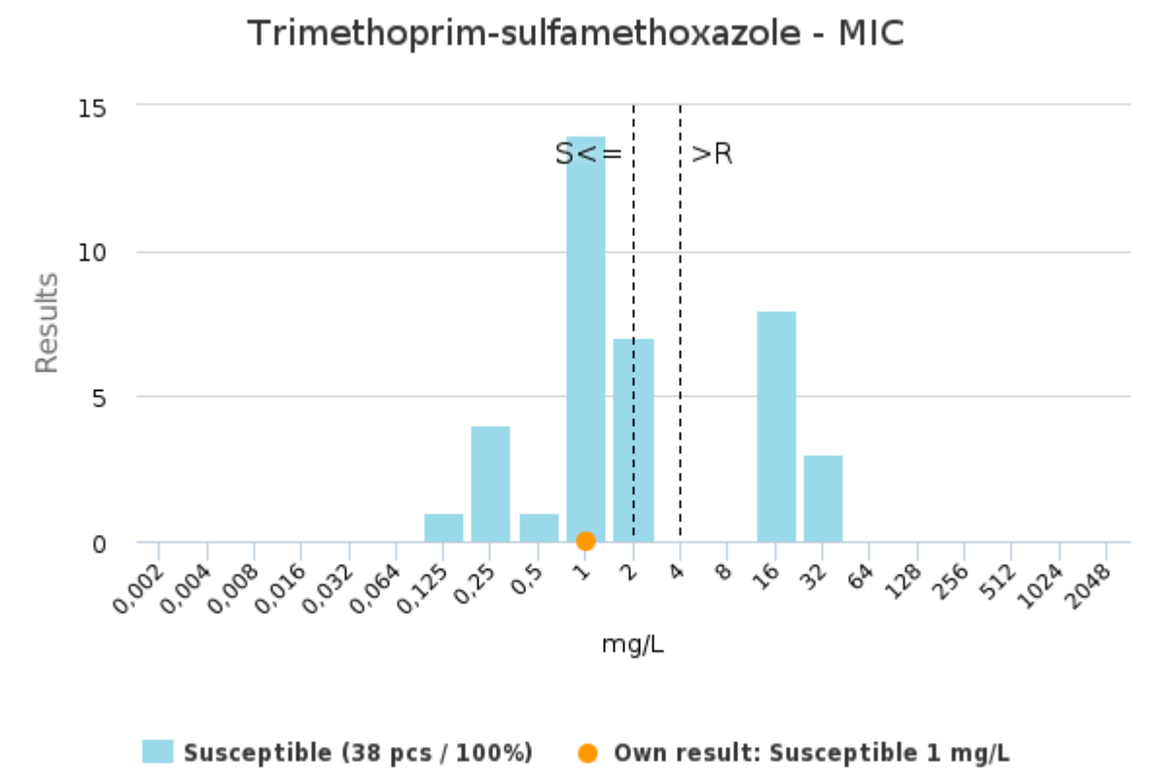
Susceptibility results



	Mo	min	max	n
Nitrofurantoin	16	8	64	36



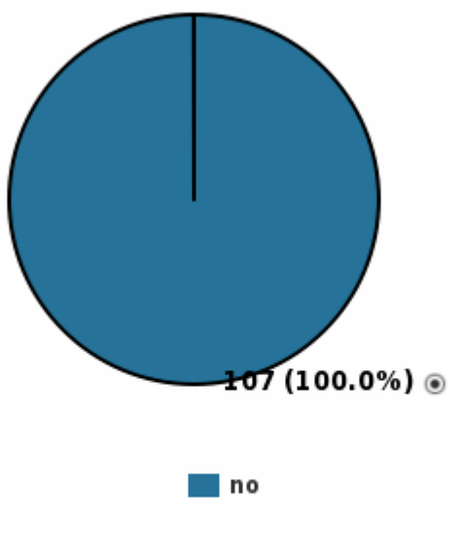
	Mo	min	max	n
Piperacillin-tazobactam	4	0.5	8	43



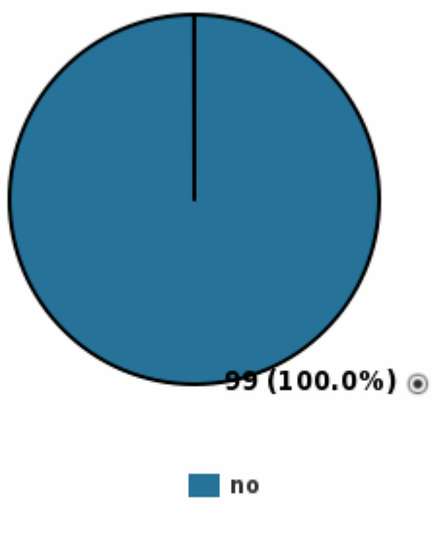
	Mo	min	max	n
Trimethoprim-sulfamethoxazole	1	0.125	32	38

Sample S001 | Additional questions

Is the strain an ESBL producer?



Is the strain a carbapenemase producer?



Report info

Participants

Altogether 123 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

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

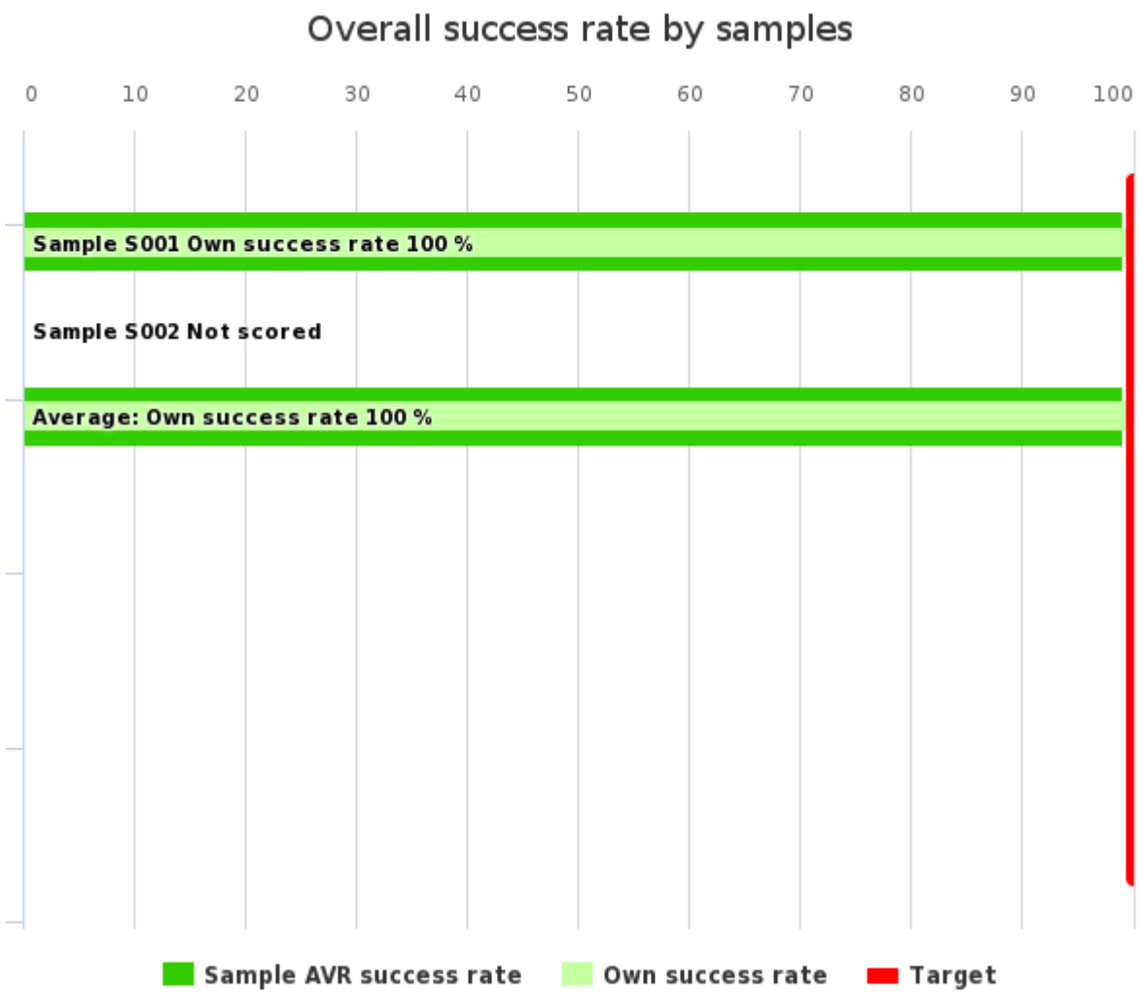
Report to the clinician and identification test results

xxxxx

Client report

	No of participants	No of responded participants	Response percentage
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023	123	118	95.9 %

Summary



Summary	Own score	Max score	Own success rate	Difference	AVR success rate
Sample S001	4	4	100 %	0.9 %	99.1 %
Sample S002	-	-	-	-	-
Average:			100 %	0.9 %	99.1 %

History	Test nr.	Own success rate	Difference	AVR success rate
Round 2022-4	1	100 %	8.6 %	91.4 %
Round 2022-3	1	100 %	4.8 %	95.2 %
Round 2022-2	1	100 %	4.8 %	95.2 %
Round 2022-1	1	25 %	-62.2 %	87.2 %
Round 2021-4	1	100 %	2.6 %	97.4 %
Round 2021-3	1	100 %	7.2 %	92.8 %
Round 2021-2	1	100 %	2 %	98 %
Round 2021-1	1	100 %	5.9 %	94.1 %

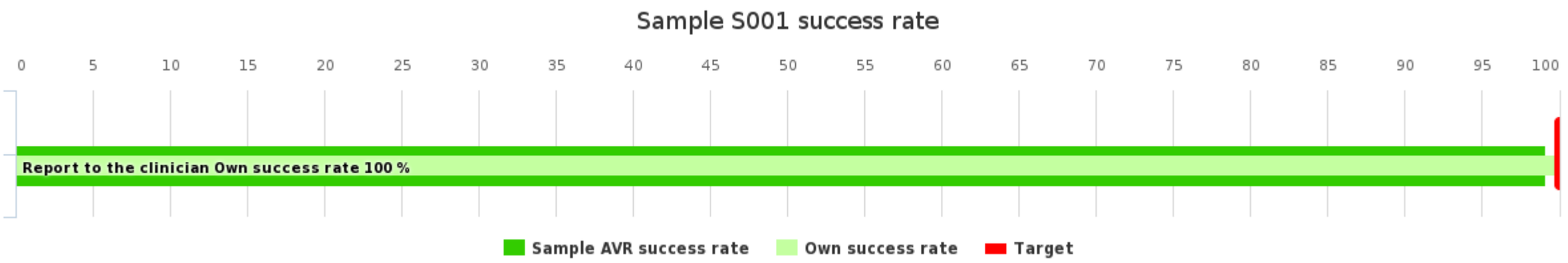
LABQUALITY

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

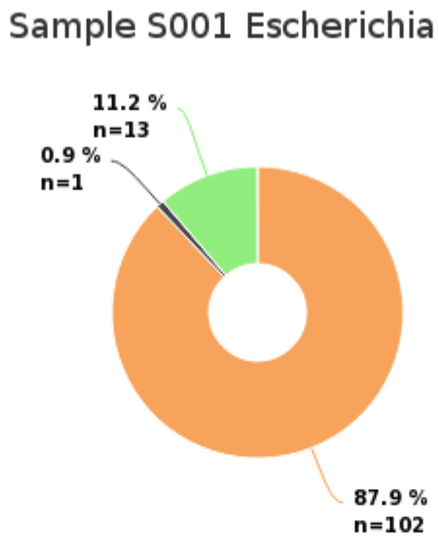
Report to the clinician and identification test results

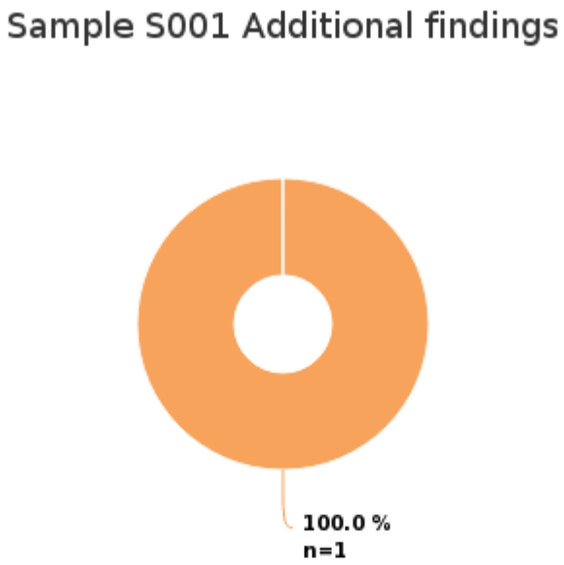
xxxxx

Sample S001 | Escherichia coli



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	99.1 %	117
	Gram staining	-	59
	Identification test kits and analyzers	-	30
	Identification tests: MALDI-TOF	-	62
	Identification tests: NAT and DNA-sequencing	-	1





LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
Escherichia coli	Escherichia coli	Not referred for further action	4	4	100 %	0.9 %	99.1 %
Total:			4	4	100 %	0.9 %	99.1 %

REPORT TO THE CLINICIAN

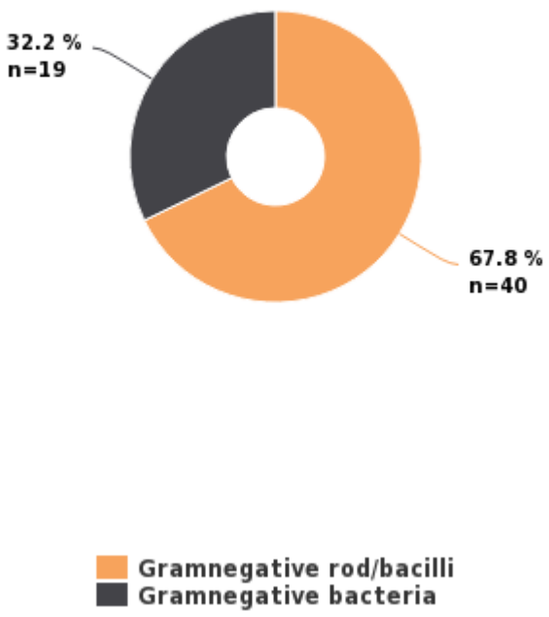
Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Escherichia coli		**116**			**99.1 %**
	◉ Escherichia coli	102	2	◉ 100	
	Acinetobacter sp.	1		1	
	Escherichia coli- Identify E.coli only	13		13	
Additional findings		**1**			**-**
	Enterococcus faecalis	1		1	
Total:		117			99.1 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Escherichia coli			**4**
	Escherichia coli	4	4
	Acinetobacter sp.	0	4
	Escherichia coli- Identify E.coli only	4	4
Additional findings			**-**
	Enterococcus faecalis	-	-

Total:			4

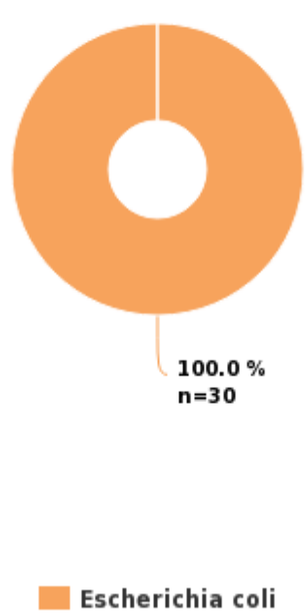
Sample S001 Gram staining, Escherichia coli



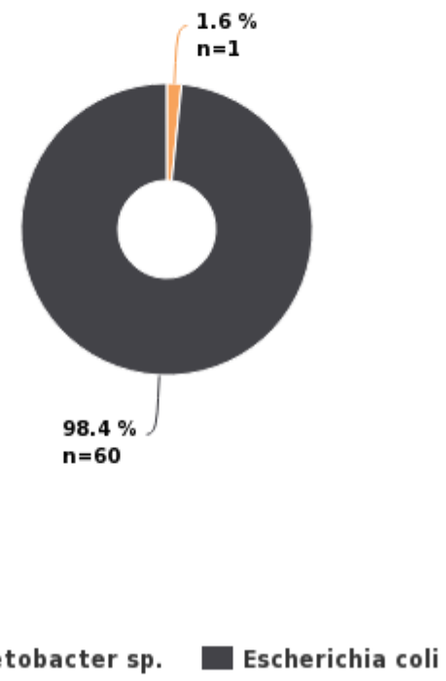
GRAM STAINING

Finding group	Result	Result count
Escherichia coli		**59**
	◉ Gramnegative rod/bacilli	40
	Gramnegative bacteria	19
Total:		59

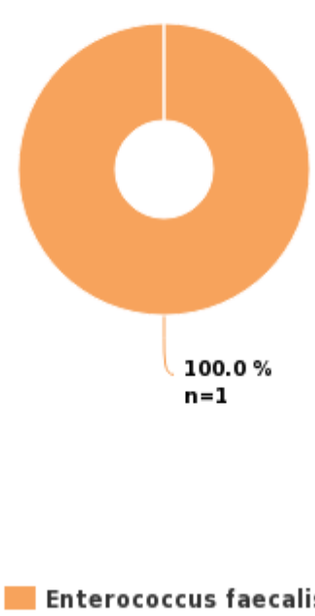
Sample S001 Identification test kits and analyzers, Escherichia coli



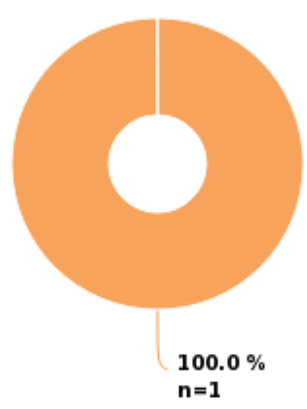
Sample S001 Identification tests: MALDI-TOF, Escherichia coli



Sample S001 Identification tests: MALDI-TOF, Additional findings



Sample S001 Identification tests: NAT and DNA-sequencing, Escherichia coli



Escherichia coli

IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Escherichia coli	API 20E (bioMerieux)	Escherichia coli	5144552	1
	API Rapid 20E (bioMerieux)	Escherichia coli	5144552	1
	BBL Crystal E/NF ID Kit (Becton Dickinson)	Escherichia coli	7620646071	1
	BD Phoenix NMIC/ID panel (Becton Dickinson)	Escherichia coli	N/A	1
	MicroScan Walk-Away (Beckman Coulter)	Escherichia coli	52	1
			N/A	2
	Mikrolatest ENTEROtest 24 (ErbaLachema)	Escherichia coli	N/A	2
	VITEK 2 (bioMerieux)	Escherichia coli	0405611560567611	1
			0405611560567601	1
			0405610560426600	1
			0405610440166601	1
			0401600440004600	2
			23030204Z	1
			GN/N330	1
			N/A	5
	VITEK 2 Compact 15 (bioMerieux)	Escherichia coli	0405611560566601	1
			0405610560567601	1
			0405610560566601	2
			N/A	4
Total:				30

IDENTIFICATION TESTS: MALDI-TOF

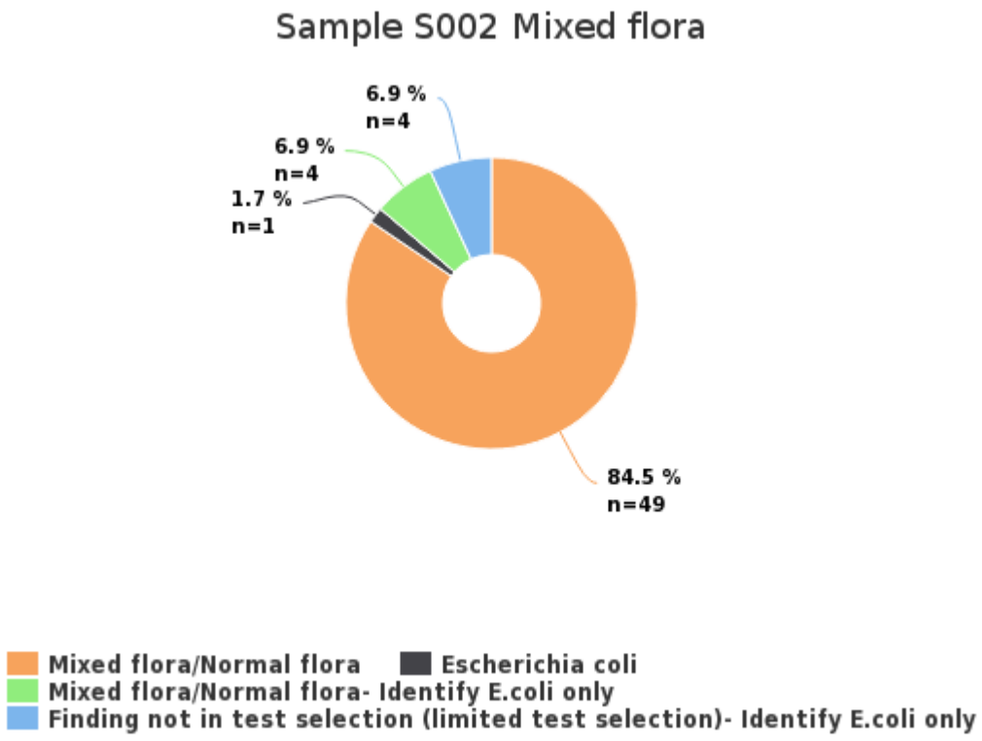
Finding group	Method	Result	Score / Probability %	Score / Probability % count
Escherichia coli	MALDI Biotyper (Bruker)	Acinetobacter sp.	≥2	1
		Escherichia coli	◉ ≥2	34
			≥1.7..<2	2
			N/A	2
	VITEK MS (bioMérieux)	Escherichia coli	99,9 %	21
			99 %	1
Additional findings	MALDI Biotyper (Bruker)	Enterococcus faecalis	≥2	1
Total:				62

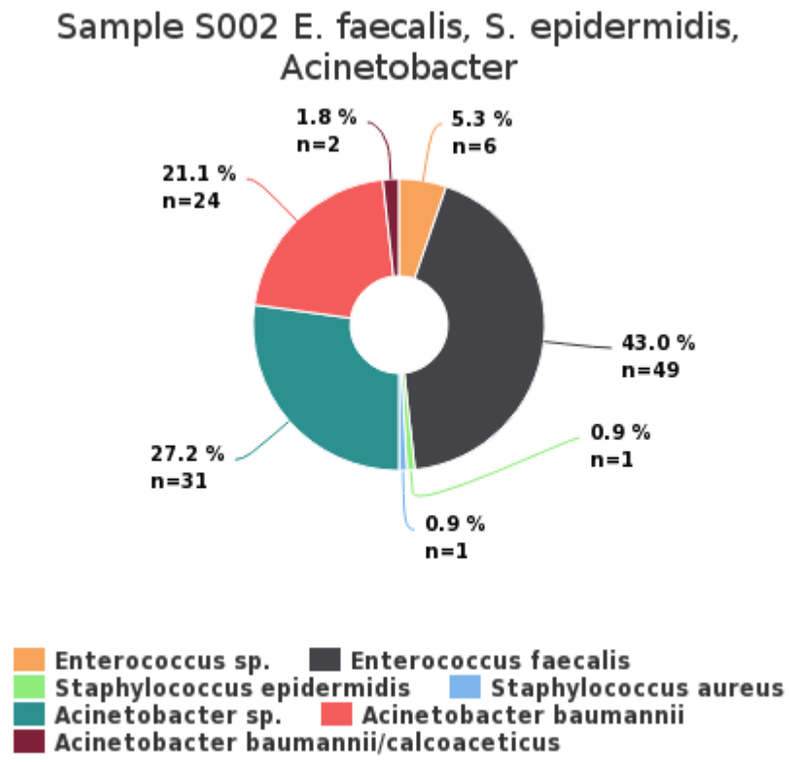
IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

Finding group	Method	Result	Result count
Escherichia coli	NAT, In house	Escherichia coli	1
Total:			1

Sample S002 | Mixed flora

Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	-	172
	Gram staining	-	93
	Identification test kits and analyzers	-	40
	Identification tests: MALDI-TOF	-	111





LABORATORY SPECIFIC SCORING TABLE

Finding group	Finding	Further action	Own score	Max score	Own success rate	Difference	AVR success rate
E. faecalis, S. epidermidis, Acinetobacter	Enterococcus faecalis, Acinetobacter sp.	Not referred for further action, Not referred for further action	-	-			-
Total:			-	-	-	-	

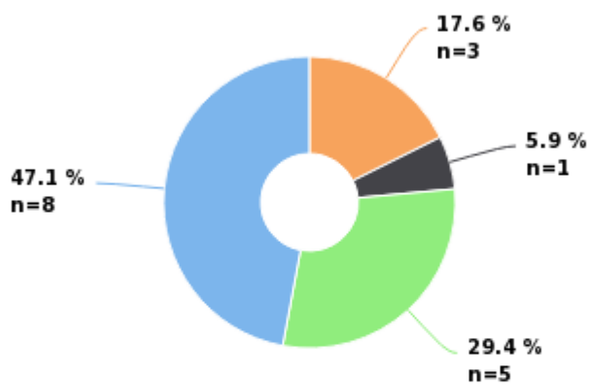
REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Mixed flora		**58**			-
	Mixed flora/Normal flora	49		28	
	Escherichia coli	1		1	
	Mixed flora/Normal flora- Identify E.coli only	4			
	Finding not in test selection (limited test selection)- Identify E.coli only	4	4		
E. faecalis, S. epidermidis, Acinetobacter		**114**			-
	Enterococcus sp.	6	1	4	
	◉ Enterococcus faecalis	49	2	◉ 42	
	Staphylococcus epidermidis	1		1	
	Staphylococcus aureus	1			
	◉ Acinetobacter sp.	31	1	◉ 26	
	Acinetobacter baumannii	24	1	20	
	Acinetobacter baumannii/calcoaceticus	2		2	
Total:		172			

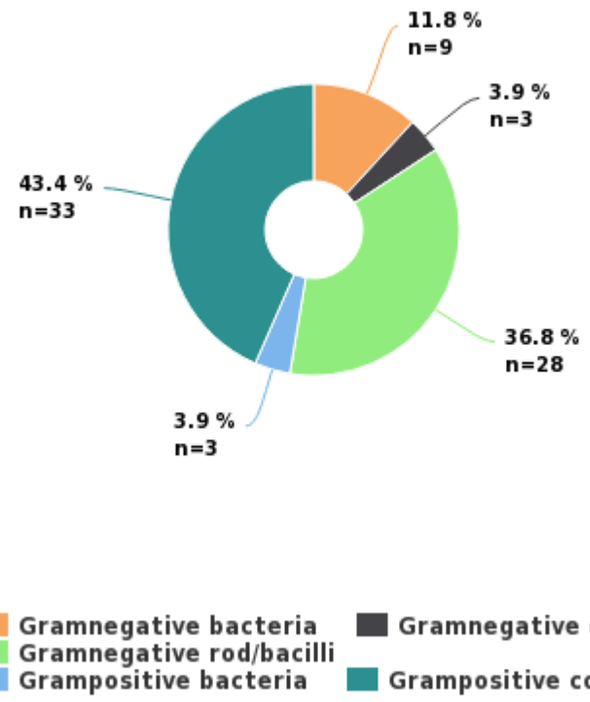
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Sample S002 Gram staining, Mixed flora



Sample S002 Gram staining, E. faecalis, S. epidermidis, Acinetobacter

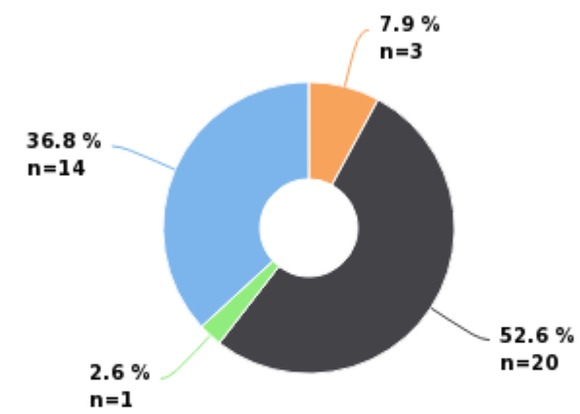


GRAM STAINING

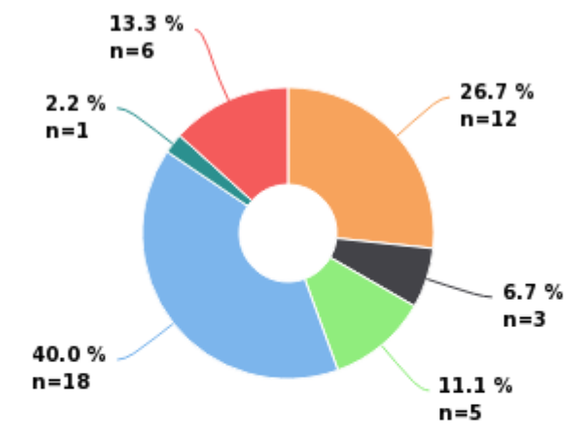
Finding group	Result	Result count
Mixed flora		**17**
	Gramnegative bacteria	3
	Gramnegative cocci	1
	Gramnegative rod/bacilli	5
	Grampositive cocci	8
E. faecalis, S. epidermidis, Acinetobacter		**76**
	Gramnegative bacteria	9
	Gramnegative cocci	3
	◉ Gramnegative rod/bacilli	28
	Grampositive bacteria	3
	◉ Grampositive cocci	33
Total:		93

Sample S002 Identification test kits and analyzers, Mixed flora

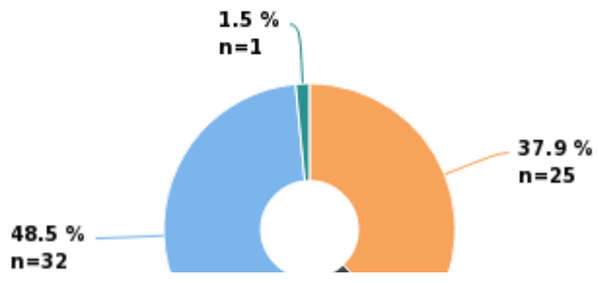
Sample S002 Identification test kits and analyzers, E. faecalis, S. epidermidis, Acinetobacter



Sample S002 Identification tests: MALDI-TOF, Mixed flora

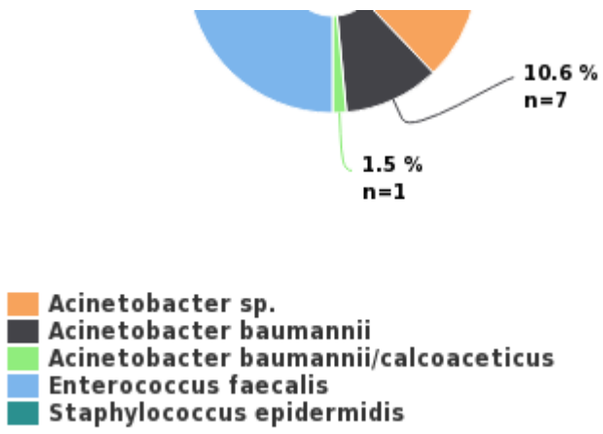


Sample S002 Identification tests: MALDI-TOF, E. faecalis, S. epidermidis, Acinetobacter



Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results



IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Mixed flora	VITEK 2 (bioMerieux)	Acinetobacter baumannii	GN/N331	1
		Enterococcus faecalis	GP/P643	1
E. faecalis, S. epidermidis, Acinetobacter	API 10S (bioMerieux)	Acinetobacter sp.	6000	1
	API 20NE (bioMerieux)	Acinetobacter baumannii	1040073	1
	BBL Crystal E/NF ID Kit (Becton Dickinson)	Acinetobacter baumannii	1405001050	1
	MicroScan Walk-Away (Beckman Coulter)	Acinetobacter baumannii	10202	1
			81	1
		Enterococcus faecalis	10202	1
	VITEK 2 (bioMerieux)	Acinetobacter sp.	0201010101500210	1
			N/A	1
		Acinetobacter baumannii	0241010301500210	1
			0201010301500210	2
			0201010301500200	1
			0201010101500210	1
			23030208H	1
			66861	1
			N/A	3
		Enterococcus faecalis	156002661773671	1
			156002461753471	1
			116012771773471	1
			116002761773671	1
			116002461773671	1
			66861	1
			N/A	3
	VITEK 2 Compact 15 (bioMerieux)	Acinetobacter baumannii	0201010301500210	2
			N/A	4
		Acinetobacter baumannii/calcoaceticus	0241010101500210	1
		Enterococcus faecalis	116012761773471	1
			114002761773661	1
			114002521773671	1
			N/A	1
Total:				40

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Mixed flora	MALDI Biotyper (Bruker)	Acinetobacter sp.	≥2	8
			N/A	1
		Acinetobacter baumannii	≥2	3
		Acinetobacter baumannii/calcoaceticus	≥2	3
		Enterococcus faecalis	≥2	12
			≥1.7..<2	1
			N/A	1
		Escherichia coli	≥2	1
		Staphylococcus epidermidis	≥2	4
			≥1.7..<2	1
	VITEK MS (bioMérieux)	Acinetobacter sp.	99,9 %	3
		Acinetobacter baumannii/calcoaceticus	99,9 %	2
		Enterococcus faecalis	99,9 %	4
		Staphylococcus epidermidis	98,7 %	1

E. faecalis, S. epidermidis, Acinetobacter	MALDI Biotyper (Bruker)	Acinetobacter sp.	◉ ≥2	14
			≥1.7..<2	1
			N/A	1
		Acinetobacter baumannii	≥2	4
		Acinetobacter baumannii/calcoaceticus	≥2	1
		Enterococcus faecalis	◉ ≥2	19
			N/A	1
		Staphylococcus epidermidis	≥2	1
	VITEK MS (bioMérieux)	Acinetobacter sp.	99,9 %	8
			99 %	1
		Acinetobacter baumannii	99,9 %	1
			99 %	2
		Enterococcus faecalis	99,9 %	10
			99 %	2
Total:				111

Report Info

PARTICIPANTS

Altogether 123 laboratories from 19 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

Urine culture, March, 1-2023

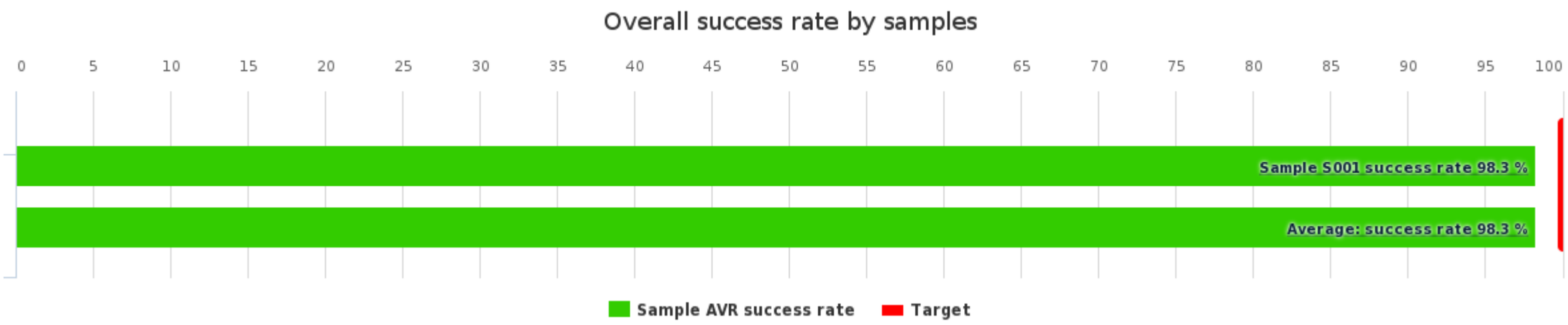
Extent and type of growth

GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023	123	118	95.9 %
Urine culture, quantitative screening, March, 1-2023	103	97	94.2 %

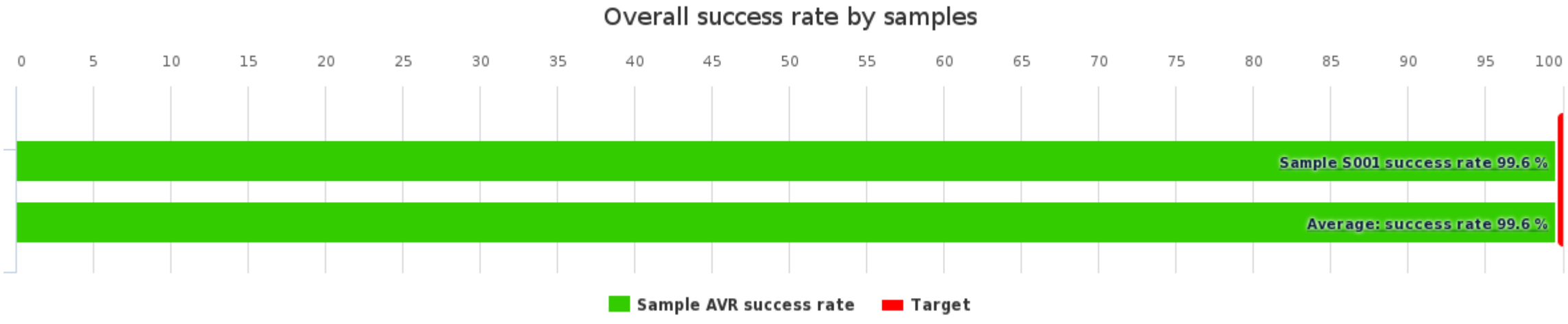
Summary

Urine culture, quantitative screening (5060)



Summary	AVR success rate
Sample S001	98.3 %
Sample S002	-
Average:	98.3 %

Urine culture, quantitative screening, identification and susceptibility (5065)



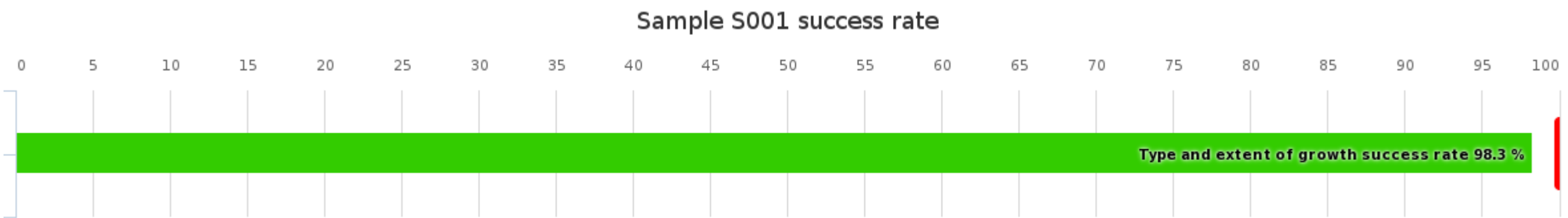
Summary	AVR success rate
Sample S001	99.6 %
Sample S002	-
Average:	99.6 %

Urine culture, March, 1-2023

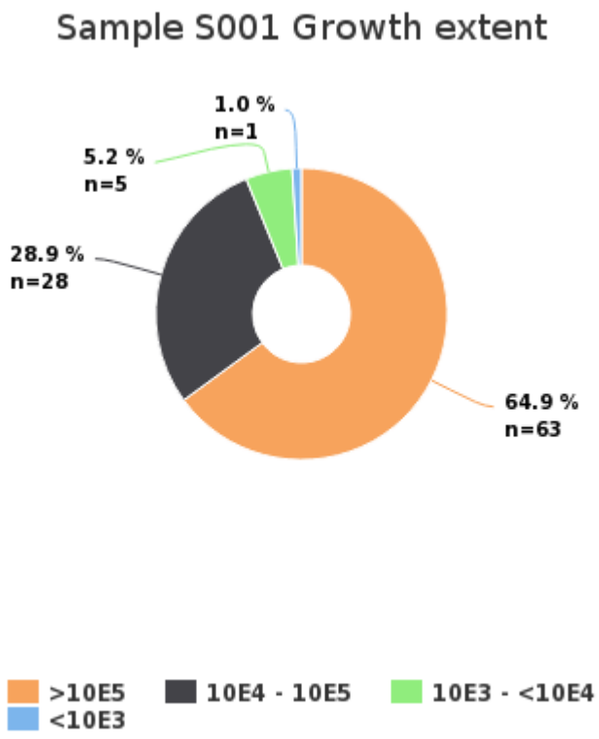
Extent and type of growth

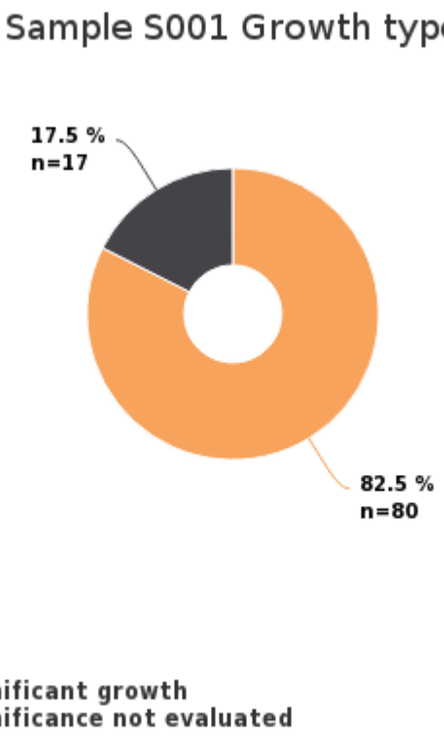
Sample S001 | Significant growth, >10E5 CFU/mL, E. coli

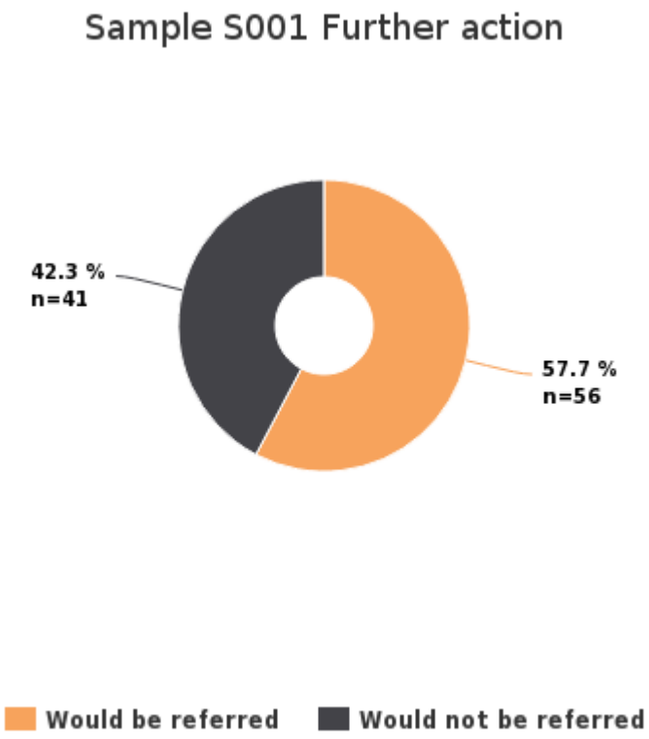
Urine culture, quantitative screening (5060)



Type of growth	Extent of growth	Growth medium	count	Growth medium count	AVR success rate	Score
Significant growth			80		98.1 %	
	>10E5		53		100 %	4
		Chromogenic medium		43		
		Dipslide		3		
		Non-chromogenic medium		7		
	10E4 - 10E5		24		100 %	4
		Chromogenic medium		14		
		Dipslide		2		
		Non-chromogenic medium		8		
	10E3 - <10E4		2		50 %	2
		Chromogenic medium		1		
		Non-chromogenic medium		1		
	<10E3		1		50 %	2
		Chromogenic medium		1		
Significance not evaluated			17		100 %	
	>10E5		10		100 %	2
		Chromogenic medium		7		
		Dipslide		1		
		Non-chromogenic medium		2		
	10E4 - 10E5		4		100 %	2
		Chromogenic medium		2		
		Dipslide		1		
		Non-chromogenic medium		1		
	10E3 - <10E4		3		100 %	2
		Chromogenic medium		3		
Total:			97		98.3 %	







Urine culture, March, 1-2023

Extent and type of growth

GROWTH EXTENT

Extent of growth	count
>10E5	63
10E4 - 10E5	28
10E3 - <10E4	5
<10E3	1
Total:	97

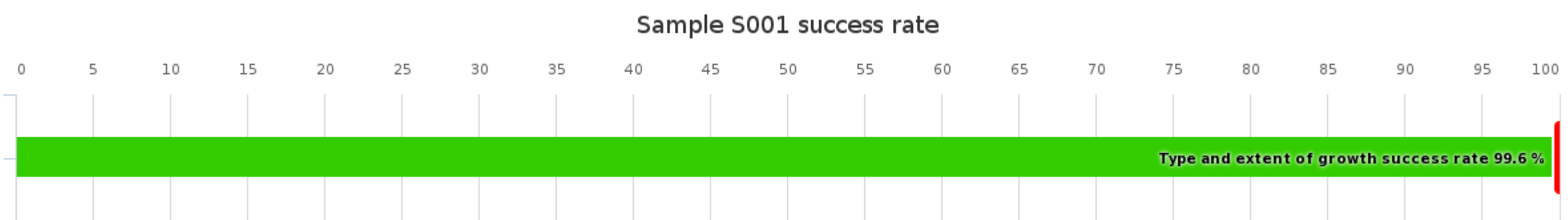
GROWTH TYPE

Type of growth	count
Significant growth	80
Significance not evaluated	17
Total:	97

FURTHER ACTION

Result	count
Would be referred	56
Would not be referred	41
Total:	97

Urine culture, quantitative screening, identification and susceptibility (5065)



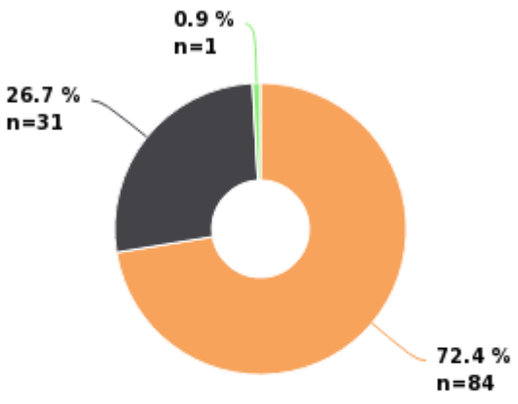
Type of growth	Extent of growth	Growth medium	count	Growth medium count	AVR success rate	Score
Significant growth			116		99.6 %	
	>10E5		84		100 %	4
		Chromogenic medium		69		
		Non-chromogenic medium		15		
	10E4 - 10E5		31		100 %	4
		Chromogenic medium		24		
		Non-chromogenic medium		7		
	10E3 - <10E4		1		50 %	2
		Chromogenic medium		1		
Total:			116		99.6 %	

LABQUALITY

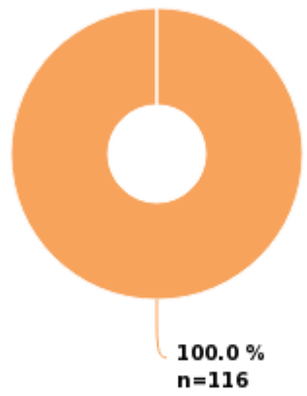
Urine culture, March, 1-2023

Extent and type of growth

Sample S001 Growth extent



Sample S001 Growth type



Sample S001 Further action

>10E5 10E4 - 10E5 10E3 - <10E4 Significant growth Would be referred Would not be referred

GROWTH EXTENT

Extent of growth	count
>10E5	84
10E4 - 10E5	31
10E3 - <10E4	1
Total:	116

GROWTH TYPE

Type of growth	count
Significant growth	116
Total:	116

FURTHER ACTION

Result	count
Would be referred	2
Would not be referred	114
Total:	116

Urine culture, March, 1-2023

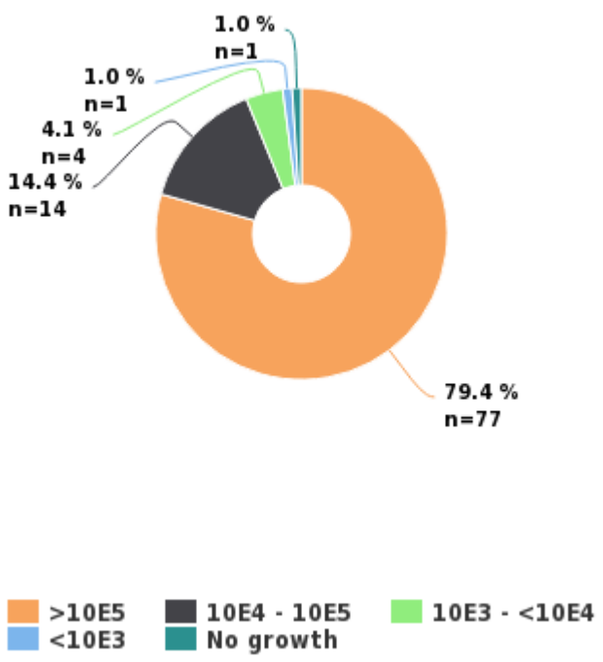
Extent and type of growth

Sample S002 | Mixed flora, >10E5 CFU/mL, E. faecalis, S. epidermidis, Acinetobacter sp.

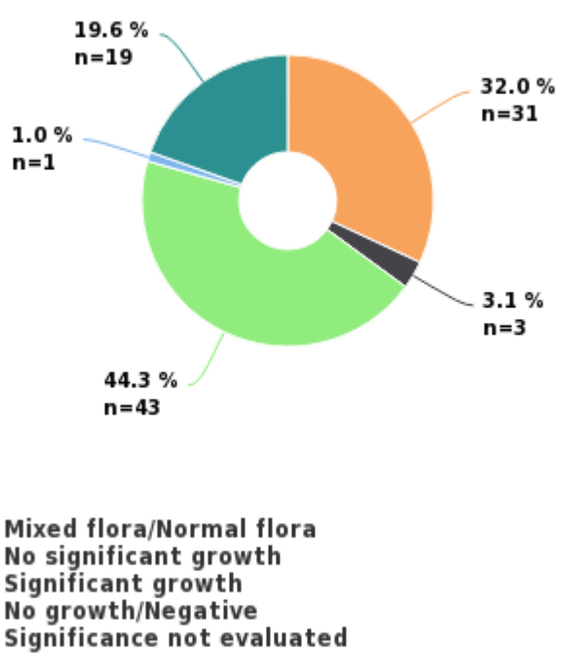
Urine culture, quantitative screening (5060)

Type of growth	Extent of growth	Growth medium	count	Growth medium count	AVR success rate	Score
Mixed flora/Normal flora			31		-	
	>10E5		22		-	-
		Chromogenic medium		20		
		Non-chromogenic medium		2		
	10E4 - 10E5		9		-	-
		Chromogenic medium		5		
		Non-chromogenic medium		4		
No growth/Negative			1		-	
	No growth		1		-	-
		Chromogenic medium		1		
No significant growth			3		-	
	>10E5		3		-	-
		Chromogenic medium		2		
		Non-chromogenic medium		1		
Significant growth			43		-	
	>10E5		37		-	-
		Chromogenic medium		26		
		Dipslide		4		
		Non-chromogenic medium		7		
	10E4 - 10E5		4		-	-
		Chromogenic medium		3		
		Dipslide		1		
	10E3 - <10E4		1		-	-
		Chromogenic medium		1		
	<10E3		1		-	-
		Chromogenic medium		1		
Significance not evaluated			19		-	
	>10E5		15		-	-
		Chromogenic medium		8		
		Dipslide		2		
		Non-chromogenic medium		5		
	10E4 - 10E5		1		-	-
		Chromogenic medium		1		
	10E3 - <10E4		3		-	-
		Chromogenic medium		3		
Total:			97			

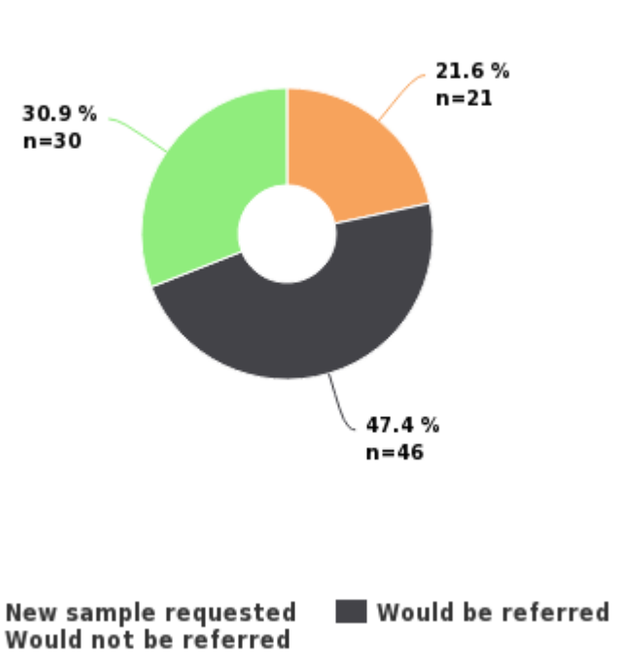
Sample S002 Growth extent



Sample S002 Growth type



Sample S002 Further action



Urine culture, March, 1-2023

Extent and type of growth

GROWTH EXTENT

Extent of growth	count
>10E5	77
10E4 - 10E5	14
10E3 - <10E4	4
<10E3	1
No growth	1
Total:	97

GROWTH TYPE

Type of growth	count
Mixed flora/Normal flora	31
No significant growth	3
Significant growth	43
No growth/Negative	1
Significance not evaluated	19
Total:	97

FURTHER ACTION

Result	count
New sample requested	21
Would be referred	46
Would not be referred	30
Total:	97

Urine culture, quantitative screening, identification and susceptibility (5065)

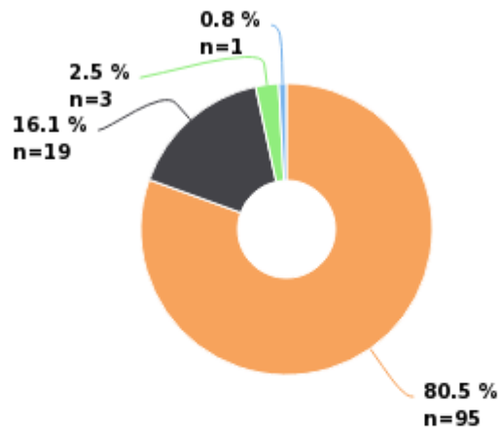
Type of growth	Extent of growth	Growth medium	count	Growth medium count	AVR success rate	Score
Mixed flora/Normal flora			52		-	
	>10E5		45		-	-
		Chromogenic medium		38		
		Non-chromogenic medium		7		
	10E4 - 10E5		6		-	-
		Chromogenic medium		4		
		Non-chromogenic medium		2		
	10E3 - <10E4		1		-	-
		Non-chromogenic medium		1		
No significant growth			6		-	
	>10E5		2		-	-
		Chromogenic medium		2		
	10E4 - 10E5		2		-	-
		Chromogenic medium		2		
	10E3 - <10E4		1		-	-
		Chromogenic medium		1		
	<10E3		1		-	-
		Non-chromogenic medium		1		
Significant growth			60		-	
	>10E5		48		-	-
		Chromogenic medium		41		
		Non-chromogenic medium		7		
	10E4 - 10E5		11		-	-
		Chromogenic medium		9		
		Non-chromogenic medium		2		
	10E3 - <10E4		1		-	-
		Chromogenic medium		1		
Total:			118			

LABQUALITY

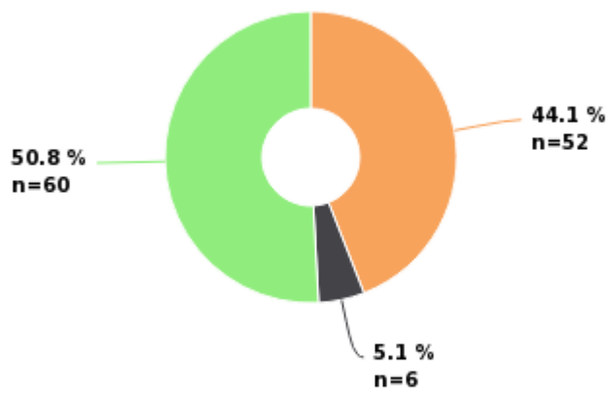
Urine culture, March, 1-2023

Extent and type of growth

Sample S002 Growth extent



Sample S002 Growth type



Sample S002 Further action

GROWTH EXTENT

Extent of growth	count
>10E5	95
10E4 - 10E5	19
10E3 - <10E4	3
<10E3	1
Total:	118

GROWTH TYPE

Type of growth	count
Mixed flora/Normal flora	52
No significant growth	6
Significant growth	60
Total:	118

FURTHER ACTION

Result	count
New sample requested	33
Would be referred	7
Would not be referred	78
Total:	118

LABQUALITY

Urine culture, March, 1-2023

Extent and type of growth

Report Info

PARTICIPANTS

Altogether 226 laboratories from 19 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.
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 ◉.
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SCORING

The results in the "Type of growth" and "Extent of growth" parts 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:
2 points is reached by reporting the expected extent of growth (CFU/mL)
2 points is reached by reporting the expected type of growth
Laboratories that routinely do not evaluate the observed growth but send all samples indicating any growth to the reference laboratory are given 2 points according to correctly identified growth.
For negative answers, the results are evaluated similarly to other screening laboratories

LABQUALITY

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Susceptibility results

Sample S001

Escherichia coli ATCC 25922

		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Amikacin	BSAC	-	-	-	-	-	-	32	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	24	-	1 (100%)	0 (0%)	0 (0%)	1	2	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	23	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	21	2	17 (100%)	0 (0%)	0 (0%)	17	2	34 (100%)	0 (0%)	0 (0%)	34
	All			**19 (100%)**	**0 (0%)**	**0 (0%)**	**19**		**37 (100%)**	**0 (0%)**	**0 (0%)**	**37**
Amoxicillin	EUCAST	16	-	1 (100%)	0 (0%)	0 (0%)	1	4	5 (100%)	0 (0%)	0 (0%)	5
	All			**1 (100%)**	**0 (0%)**	**0 (0%)**	**1**		**5 (100%)**	**0 (0%)**	**0 (0%)**	**5**
Amoxicillin-clavulanate	CA-SFM	21	-	1 (100%)	0 (0%)	0 (0%)	1	4	2 (100%)	0 (0%)	0 (0%)	2
	CLSI	21	-	1 (100%)	0 (0%)	0 (0%)	1	4	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	21	2	48 (98%)	1 (2%)	0 (0%)	49	4	45 (98%)	1 (2%)	0 (0%)	46
	All			**50 (98%)**	**1 (2%)**	**0 (0%)**	**51**		**49 (98%)**	**1 (2%)**	**0 (0%)**	**50**
Ampicillin	BSAC	-	-	-	-	-	-	32	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	19	-	1 (100%)	0 (0%)	0 (0%)	1	4	2 (100%)	0 (0%)	0 (0%)	2
	CLSI	17	-	1 (100%)	0 (0%)	0 (0%)	1	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	18	2	44 (100%)	0 (0%)	0 (0%)	44	4	39 (98%)	1 (3%)	0 (0%)	40
	All			**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**		**44 (98%)**	**1 (2%)**	**0 (0%)**	**45**
Ampicillin-sulbactam	CLSI	-	-	-	-	-	-	2	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	23	4	6 (100%)	0 (0%)	0 (0%)	6	2	5 (100%)	0 (0%)	0 (0%)	5
	All			**6 (100%)**	**0 (0%)**	**0 (0%)**	**6**		**6 (100%)**	**0 (0%)**	**0 (0%)**	**6**
Aztreonam	EUCAST	29	4	2 (67%)	1 (33%)	0 (0%)	3	1	2 (100%)	0 (0%)	0 (0%)	2
	All			**2 (67%)**	**1 (33%)**	**0 (0%)**	**3**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Cefazolin	CLSI	24	-	1 (100%)	0 (0%)	0 (0%)	1	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	22	-	0 (0%)	1 (100%)	0 (0%)	1	-	-	-	-	-
	All			**1 (50%)**	**1 (50%)**	**0 (0%)**	**2**		**1 (100%)**	**0 (0%)**	**0 (0%)**	**1**
Cefepime	CA-SFM	33	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	32	3	8 (100%)	0 (0%)	0 (0%)	8	1	28 (100%)	0 (0%)	0 (0%)	28
	All			**9 (100%)**	**0 (0%)**	**0 (0%)**	**9**		**31 (100%)**	**0 (0%)**	**0 (0%)**	**31**
Cefixime	BSAC	-	-	-	-	-	-	32	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	23	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	24	2	3 (100%)	0 (0%)	0 (0%)	3	-	6 (100%)	0 (0%)	0 (0%)	6
	All			**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**		**8 (100%)**	**0 (0%)**	**0 (0%)**	**8**
Cefotaxime	CA-SFM	-	-	-	-	-	-	0.5	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	30	-	1 (100%)	0 (0%)	0 (0%)	1	2	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	28	3	19 (100%)	0 (0%)	0 (0%)	19	0.25	34 (100%)	0 (0%)	0 (0%)	34
	All			**20 (100%)**	**0 (0%)**	**0 (0%)**	**20**		**36 (100%)**	**0 (0%)**	**0 (0%)**	**36**

		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Cefoxitin	CA-SFM	28	-	1 (100%)	0 (0%)	0 (0%)	1	4	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	27	-	1 (100%)	0 (0%)	0 (0%)	1	4	9 (100%)	0 (0%)	0 (0%)	9
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**11 (100%)**	**0 (0%)**	**0 (0%)**	**11**
Cefpodoxime	CLSI	24	-	1 (100%)	0 (0%)	0 (0%)	1	-	-	-	-	-
	EUCAST	25	1	17 (100%)	0 (0%)	0 (0%)	17	1	1 (100%)	0 (0%)	0 (0%)	1
	All			**18 (100%)**	**0 (0%)**	**0 (0%)**	**18**		**1 (100%)**	**0 (0%)**	**0 (0%)**	**1**
Ceftazidime	CA-SFM	-	-	-	-	-	-	1	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	22	-	1 (100%)	0 (0%)	0 (0%)	1	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	26	2	27 (100%)	0 (0%)	0 (0%)	27	0.125	39 (100%)	0 (0%)	0 (0%)	39
	All			**28 (100%)**	**0 (0%)**	**0 (0%)**	**28**		**42 (100%)**	**0 (0%)**	**0 (0%)**	**42**
Ceftazidime-avibactam	EUCAST	24	-	2 (100%)	0 (0%)	0 (0%)	2	-	-	-	-	-
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**0**	**0**	**0**	**0**
Ceftriaxone	BSAC	-	-	-	-	-	-	64	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	31	-	1 (100%)	0 (0%)	0 (0%)	1	1	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	31	2	15 (100%)	0 (0%)	0 (0%)	15	0.25	9 (90%)	1 (10%)	0 (0%)	10
	All			**16 (100%)**	**0 (0%)**	**0 (0%)**	**16**		**12 (92%)**	**1 (8%)**	**0 (0%)**	**13**

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

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Cefuroxime (iv/parenteral)	CLSI	23	-	1 (100%)	0 (0%)	0 (0%)	1	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	22	2	8 (32%)	17 (68%)	0 (0%)	25	4	3 (11%)	25 (89%)	0 (0%)	28
	All			**9 (35%)**	**17 (65%)**	**0 (0%)**	**26**		**4 (14%)**	**25 (86%)**	**0 (0%)**	**29**
Cefuroxime (oral)	BSAC	-	-	-	-	-	-	32	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	22	2	20 (69%)	8 (28%)	1 (3%)	29	4	23 (85%)	4 (15%)	0 (0%)	27
	All			**20 (69%)**	**8 (28%)**	**1 (3%)**	**29**		**25 (86%)**	**4 (14%)**	**0 (0%)**	**29**
Cephalexin	CLSI	16	-	1 (100%)	0 (0%)	0 (0%)	1	-	3 (100%)	0 (0%)	0 (0%)	3
	EUCAST	17	1	30 (100%)	0 (0%)	0 (0%)	30	8	12 (100%)	0 (0%)	0 (0%)	12
	All			**31 (100%)**	**0 (0%)**	**0 (0%)**	**31**		**15 (100%)**	**0 (0%)**	**0 (0%)**	**15**
Chloramphenicol	CLSI	24	-	1 (100%)	0 (0%)	0 (0%)	1	2	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	28	-	1 (100%)	0 (0%)	0 (0%)	1	-	-	-	-	-
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**1 (100%)**	**0 (0%)**	**0 (0%)**	**1**
Ciprofloxacin	BSAC	-	-	-	-	-	-	4	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	38	-	1 (100%)	0 (0%)	0 (0%)	1	-	-	-	-	-
	CLSI	32	-	1 (100%)	0 (0%)	0 (0%)	1	-	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	33	3	52 (100%)	0 (0%)	0 (0%)	52	0.25	45 (100%)	0 (0%)	0 (0%)	45
	All			**54 (100%)**	**0 (0%)**	**0 (0%)**	**54**		**48 (100%)**	**0 (0%)**	**0 (0%)**	**48**

		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Colistin	EUCAST	-	-	-	-	-	-	0.5	10 (91%)	0 (0%)	1 (9%)	11
	All			**0**	**0**	**0**	**0**		**10 (91%)**	**0 (0%)**	**1 (9%)**	**11**
Doxycycline	CLSI	24	-	1 (100%)	0 (0%)	0 (0%)	1	0.5	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	-	-	-	-	-	-	1	1 (100%)	0 (0%)	0 (0%)	1
	All			**1 (100%)**	**0 (0%)**	**0 (0%)**	**1**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Ertapenem	CA-SFM	36	-	1 (100%)	0 (0%)	0 (0%)	1	0.125	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	0.125	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	32	3	23 (100%)	0 (0%)	0 (0%)	23	0.125	34 (100%)	0 (0%)	0 (0%)	34
	All			**24 (100%)**	**0 (0%)**	**0 (0%)**	**24**		**37 (100%)**	**0 (0%)**	**0 (0%)**	**37**
Fosfomycin	BSAC	-	-	-	-	-	-	256	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	28	-	1 (100%)	0 (0%)	0 (0%)	1	16	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	16	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	29	2	24 (100%)	0 (0%)	0 (0%)	24	16	20 (100%)	0 (0%)	0 (0%)	20
	All			**25 (100%)**	**0 (0%)**	**0 (0%)**	**25**		**23 (100%)**	**0 (0%)**	**0 (0%)**	**23**
Gentamycin	BSAC	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	25	-	1 (100%)	0 (0%)	0 (0%)	1	1	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	22	-	2 (100%)	0 (0%)	0 (0%)	2	1	4 (100%)	0 (0%)	0 (0%)	4
	EUCAST	21	3	36 (100%)	0 (0%)	0 (0%)	36	1	46 (100%)	0 (0%)	0 (0%)	46
	All			**39 (100%)**	**0 (0%)**	**0 (0%)**	**39**		**52 (100%)**	**0 (0%)**	**0 (0%)**	**52**
Imipenem	BSAC	-	-	-	-	-	-	16	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	-	-	-	-	-	-	0.125	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	30	3	12 (100%)	0 (0%)	0 (0%)	12	0.25	16 (100%)	0 (0%)	0 (0%)	16
	All			**12 (100%)**	**0 (0%)**	**0 (0%)**	**12**		**18 (100%)**	**0 (0%)**	**0 (0%)**	**18**
Levofloxacin	BSAC	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	33	-	2 (100%)	0 (0%)	0 (0%)	2	0.5	5 (100%)	0 (0%)	0 (0%)	5
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**6 (100%)**	**0 (0%)**	**0 (0%)**	**6**
Mecillinam	CA-SFM	28	-	1 (100%)	0 (0%)	0 (0%)	1	1	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	26	3	33 (100%)	0 (0%)	0 (0%)	33	1	9 (100%)	0 (0%)	0 (0%)	9
	All			**34 (100%)**	**0 (0%)**	**0 (0%)**	**34**		**10 (100%)**	**0 (0%)**	**0 (0%)**	**10**
Meropenem	CLSI	-	-	-	-	-	-	0.25	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	31	3	31 (100%)	0 (0%)	0 (0%)	31	0.25	44 (100%)	0 (0%)	0 (0%)	44
	All			**31 (100%)**	**0 (0%)**	**0 (0%)**	**31**		**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**
Nitrofurantoin	BSAC	-	-	-	-	-	-	64	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	20	-	1 (100%)	0 (0%)	0 (0%)	1	16	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	22	-	1 (100%)	0 (0%)	0 (0%)	1	16	3 (100%)	0 (0%)	0 (0%)	3
	EUCAST	21	2	61 (100%)	0 (0%)	0 (0%)	61	16	36 (100%)	0 (0%)	0 (0%)	36
	All			**63 (100%)**	**0 (0%)**	**0 (0%)**	**63**		**41 (100%)**	**0 (0%)**	**0 (0%)**	**41**

		DISK						MIC				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Norfloxacin	EUCAST	29	2	8 (100%)	0 (0%)	0 (0%)	8	0.5	9 (100%)	0 (0%)	0 (0%)	9
	All			**8 (100%)**	**0 (0%)**	**0 (0%)**	**8**		**9 (100%)**	**0 (0%)**	**0 (0%)**	**9**
Ofloxacin	BSAC	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	34	-	1 (100%)	0 (0%)	0 (0%)	1	0.25	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	28	-	1 (100%)	0 (0%)	0 (0%)	1	-	-	-	-	-

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

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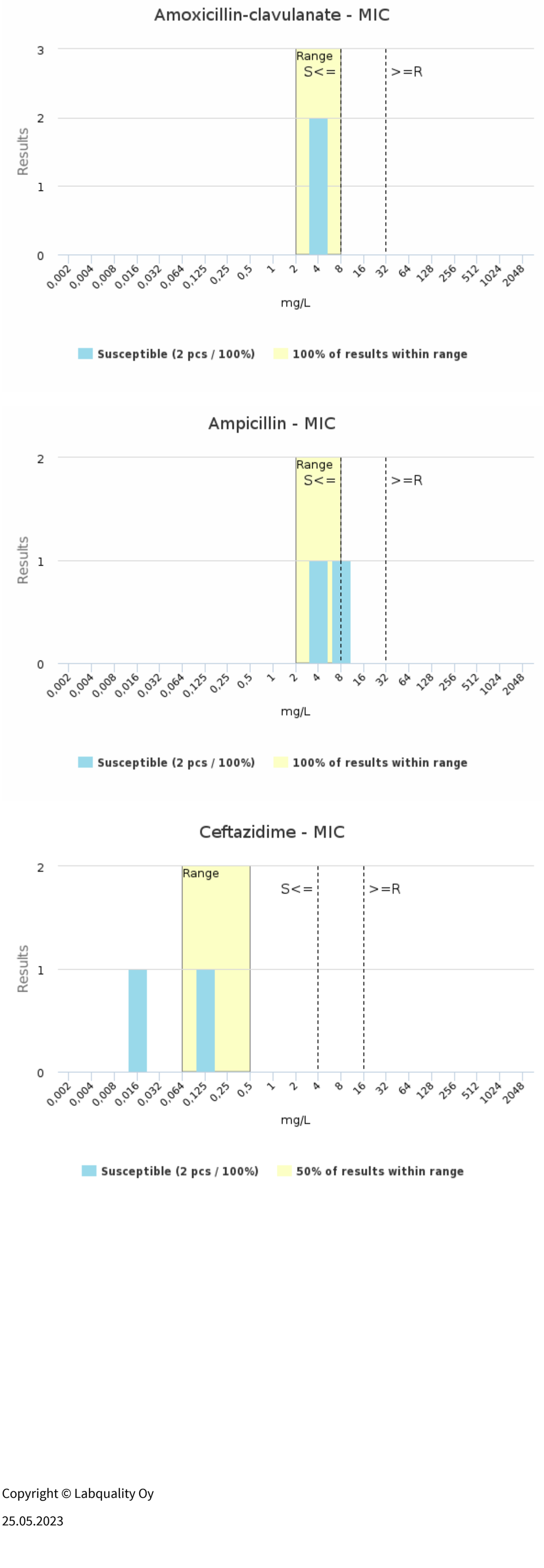
	All			**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Piperacillin	EUCAST	-	-	-	-	-	-	4	2 (100%)	0 (0%)	0 (0%)	2
	All			**0**	**0**	**0**	**0**		**2 (100%)**	**0 (0%)**	**0 (0%)**	**2**
Piperacillin-tazobactam	BSAC	-	-	-	-	-	-	128	1 (100%)	0 (0%)	0 (0%)	1
	CA-SFM	24	-	1 (100%)	0 (0%)	0 (0%)	1	4	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	4	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	24	3	35 (100%)	0 (0%)	0 (0%)	35	4	43 (100%)	0 (0%)	0 (0%)	43
	All			**36 (100%)**	**0 (0%)**	**0 (0%)**	**36**		**46 (100%)**	**0 (0%)**	**0 (0%)**	**46**
Temocillin	CLSI	-	-	-	-	-	-	16	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	19	-	0 (0%)	2 (100%)	0 (0%)	2	16	3 (50%)	3 (50%)	0 (0%)	6
	All			**0 (0%)**	**2 (100%)**	**0 (0%)**	**2**		**4 (57%)**	**3 (43%)**	**0 (0%)**	**7**
Tetracycline	BSAC	-	-	-	-	-	-	16	1 (100%)	0 (0%)	0 (0%)	1
	CLSI	-	-	-	-	-	-	1	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	-	-	-	-	-	-	-	2 (100%)	0 (0%)	0 (0%)	2
	All			**0**	**0**	**0**	**0**		**4 (100%)**	**0 (0%)**	**0 (0%)**	**4**
Ticarcillin	CA-SFM	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	-	-	-	-	-	-	8	2 (100%)	0 (0%)	0 (0%)	2
	All			**0**	**0**	**0**	**0**		**3 (100%)**	**0 (0%)**	**0 (0%)**	**3**
Tigecycline	EUCAST	-	-	-	-	-	-	0.5	9 (100%)	0 (0%)	0 (0%)	9
	All			**0**	**0**	**0**	**0**		**9 (100%)**	**0 (0%)**	**0 (0%)**	**9**
Tobramycin	BSAC	-	-	-	-	-	-	8	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	21	2	8 (100%)	0 (0%)	0 (0%)	8	1	12 (100%)	0 (0%)	0 (0%)	12
	All			**8 (100%)**	**0 (0%)**	**0 (0%)**	**8**		**13 (100%)**	**0 (0%)**	**0 (0%)**	**13**
Trimethoprim	CLSI	-	-	-	-	-	-	0.5	1 (100%)	0 (0%)	0 (0%)	1
	EUCAST	25	2	43 (100%)	0 (0%)	0 (0%)	43	0.5	20 (100%)	0 (0%)	0 (0%)	20
	All			**43 (100%)**	**0 (0%)**	**0 (0%)**	**43**		**21 (100%)**	**0 (0%)**	**0 (0%)**	**21**
		DISK						**MIC**				
Antimicrobial agent	**Guideline**	**x (mm)**	**sd (mm)**	**S**	**I**	**R**	**n**	**Mo (mg/L)**	**S**	**I**	**R**	**n**
Trimethoprim-sulfamethoxazole	CA-SFM	27	-	1 (100%)	0 (0%)	0 (0%)	1	16	2 (100%)	0 (0%)	0 (0%)	2
	CLSI	27	-	1 (100%)	0 (0%)	0 (0%)	1	16	2 (100%)	0 (0%)	0 (0%)	2
	EUCAST	27	3	37 (100%)	0 (0%)	0 (0%)	37	1	38 (100%)	0 (0%)	0 (0%)	38
	All			**39 (100%)**	**0 (0%)**	**0 (0%)**	**39**		**42 (100%)**	**0 (0%)**	**0 (0%)**	**42**

Sample S001 | CLSI



Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

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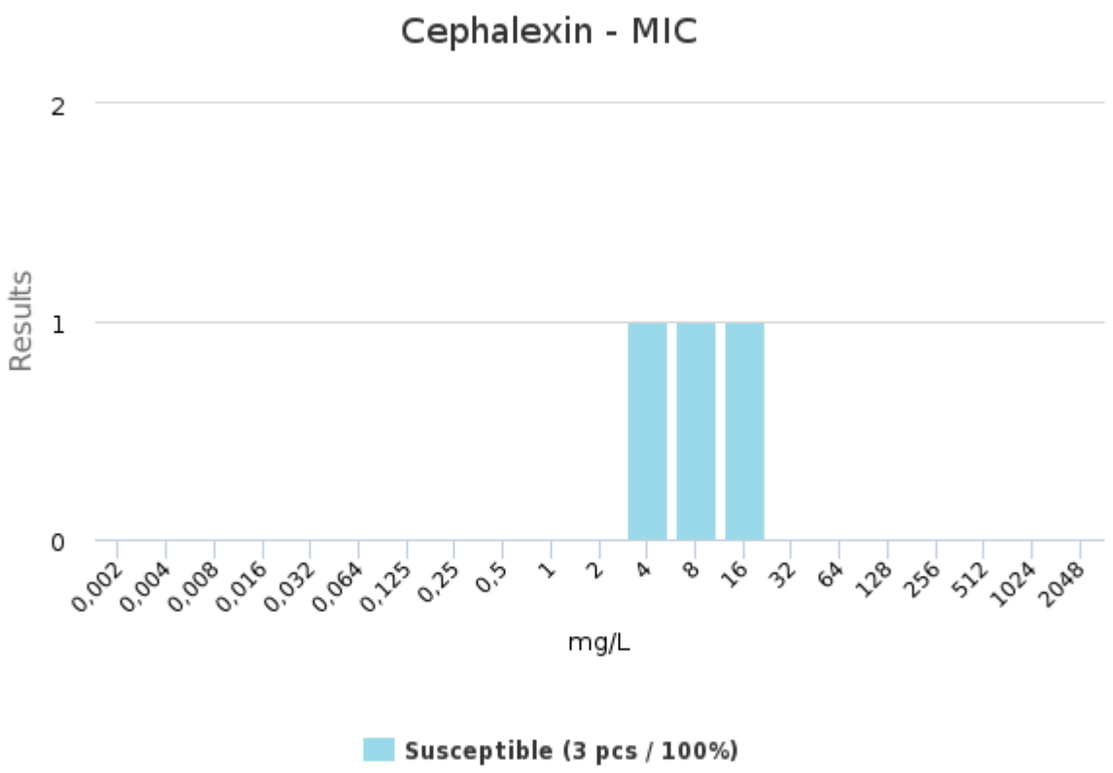
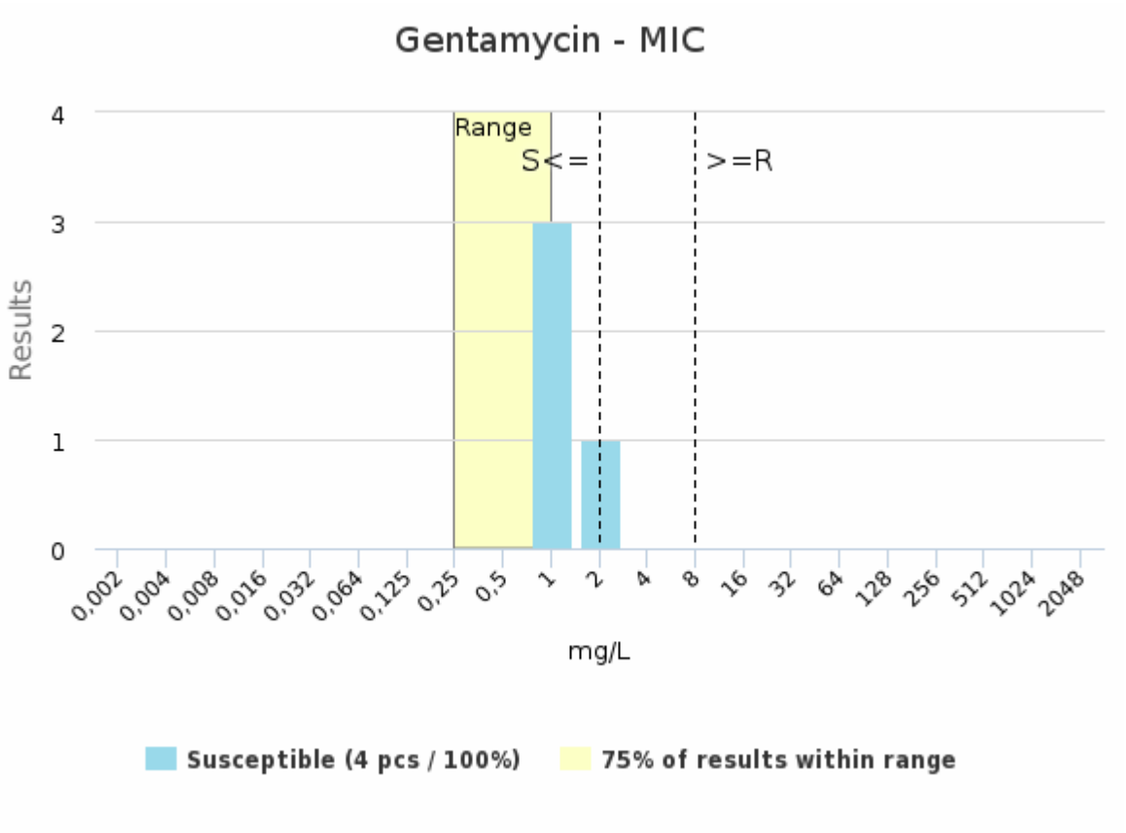
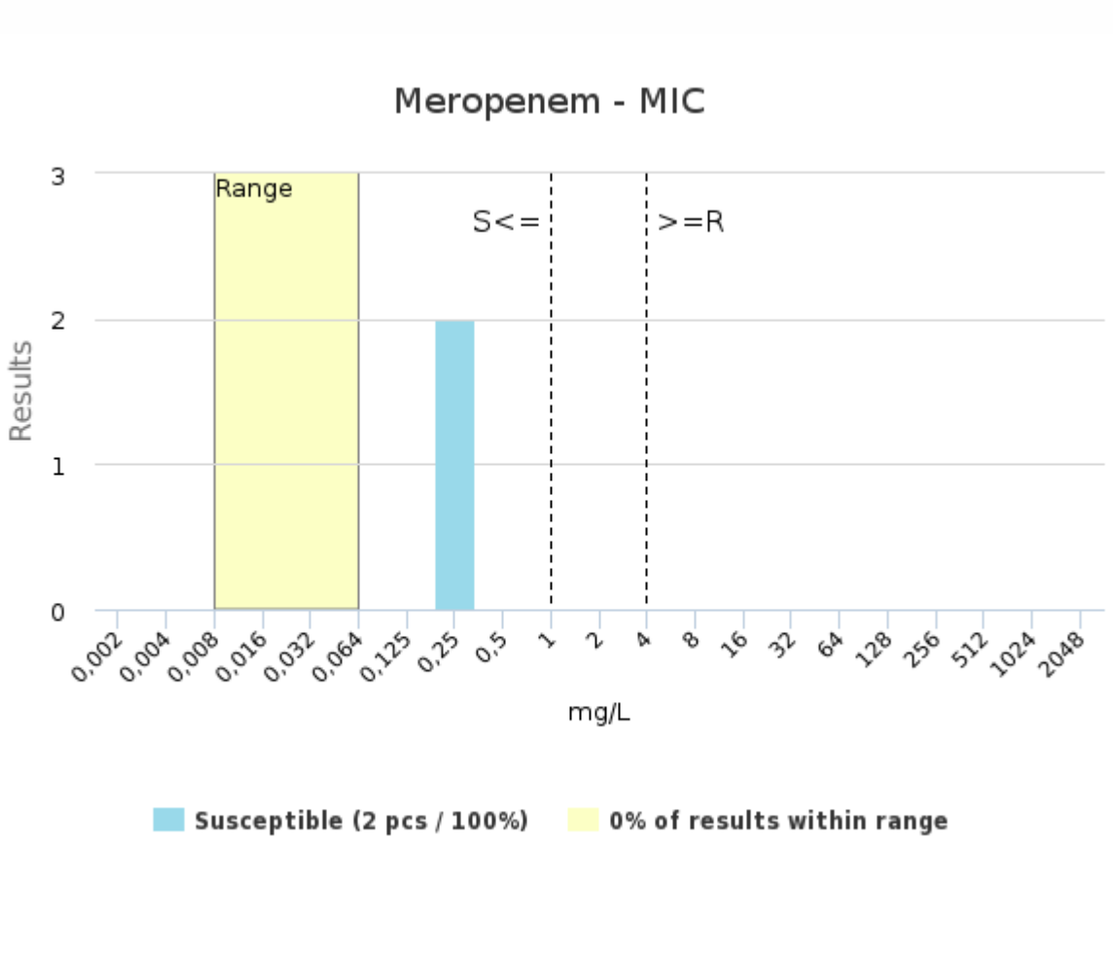
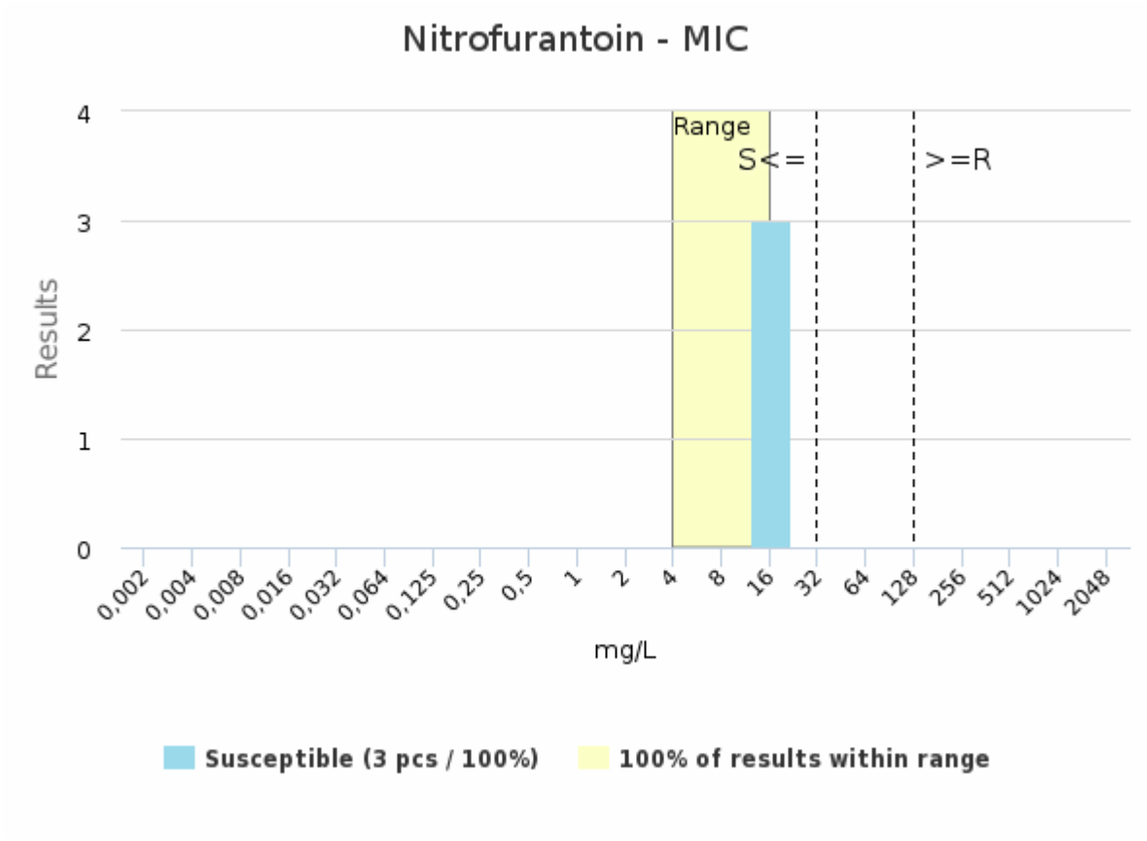






Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

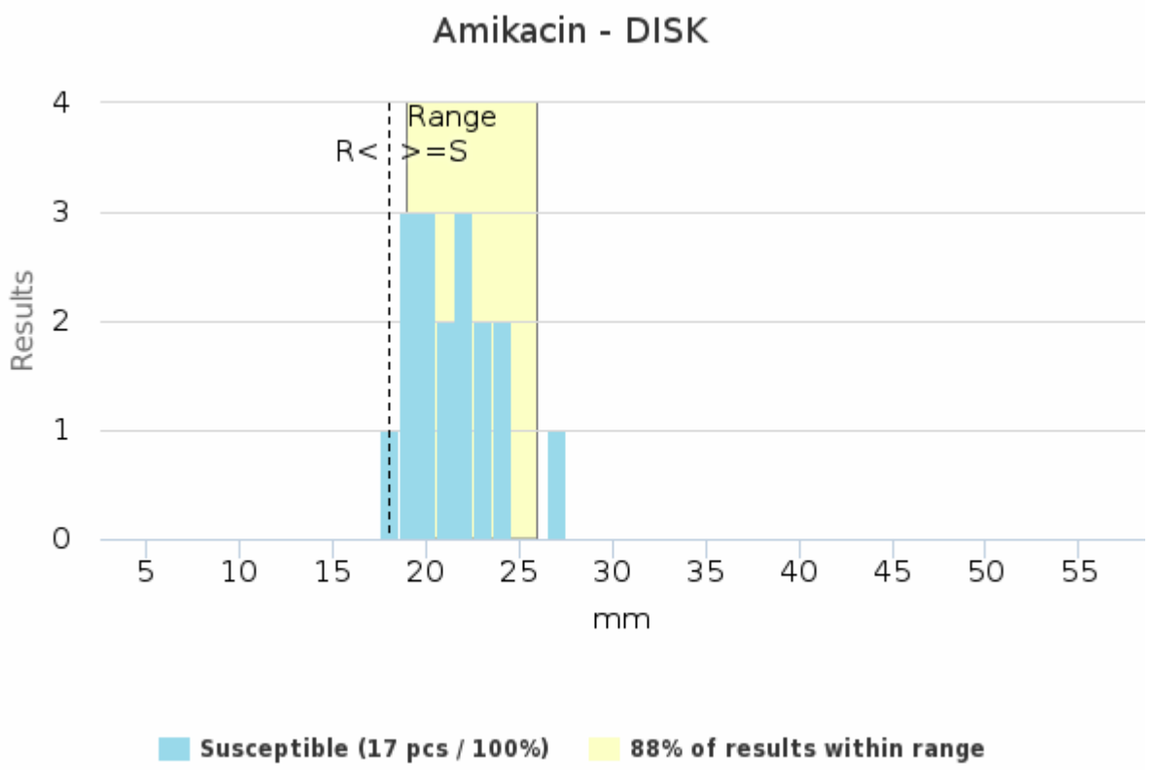
Susceptibility results

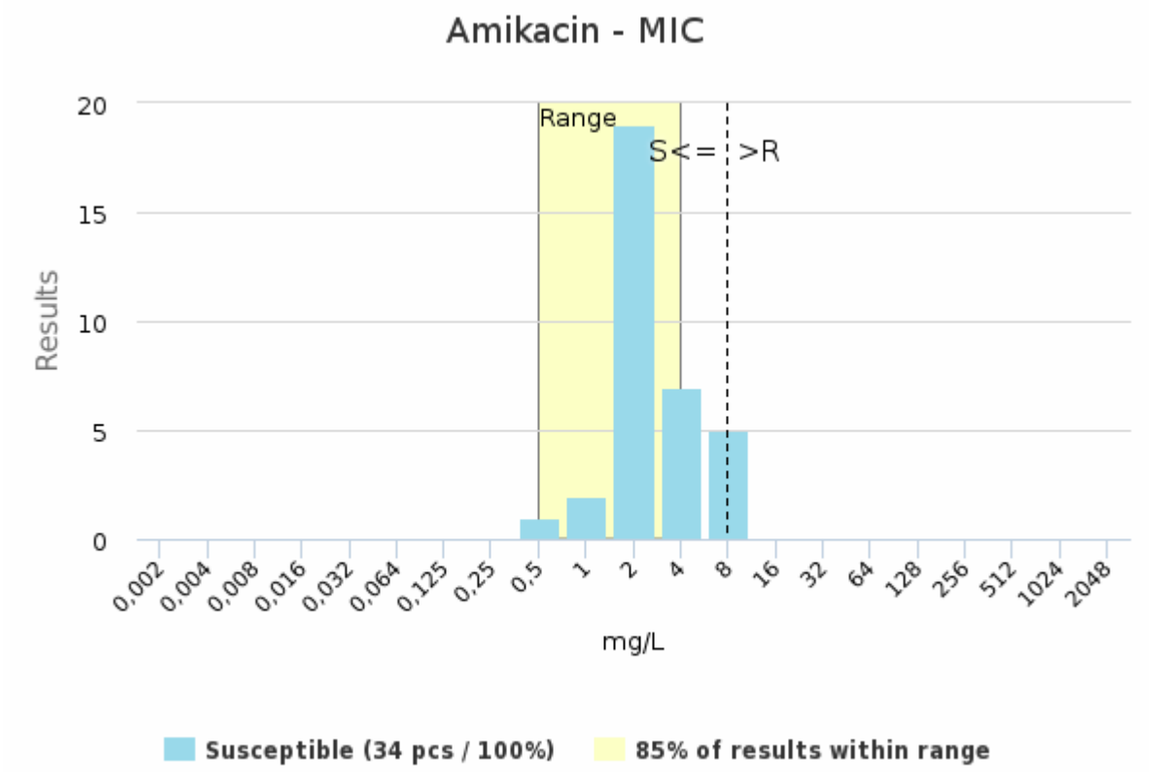


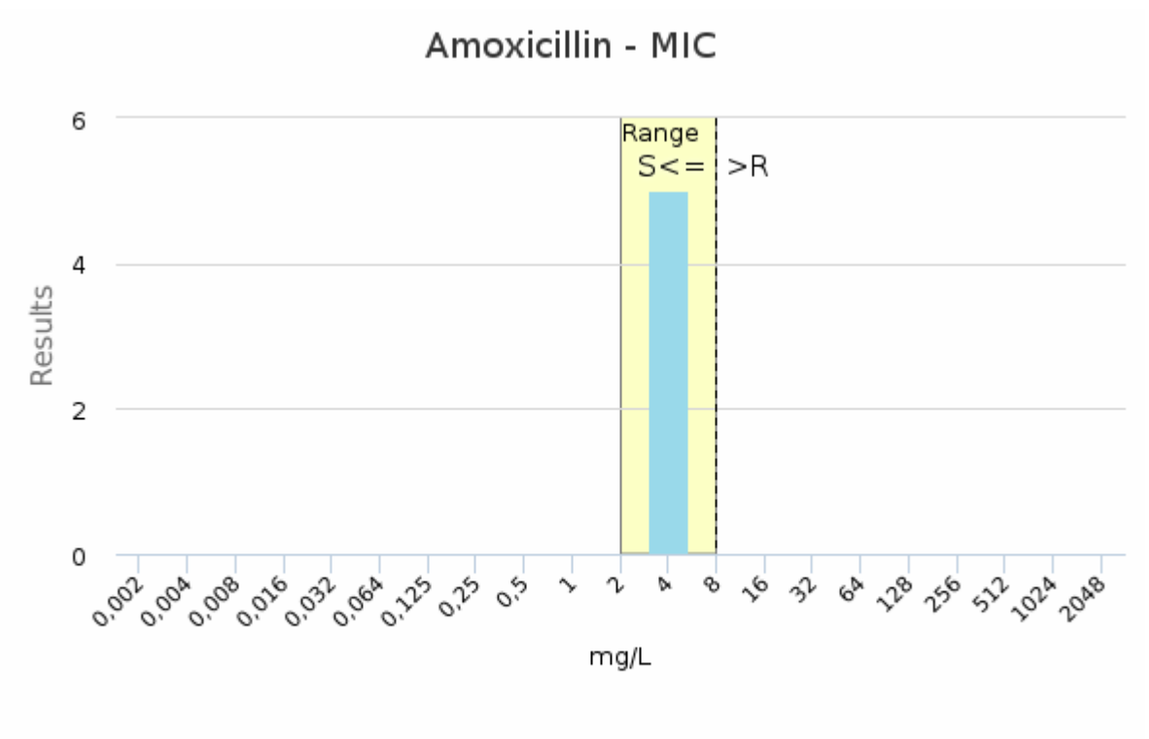
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

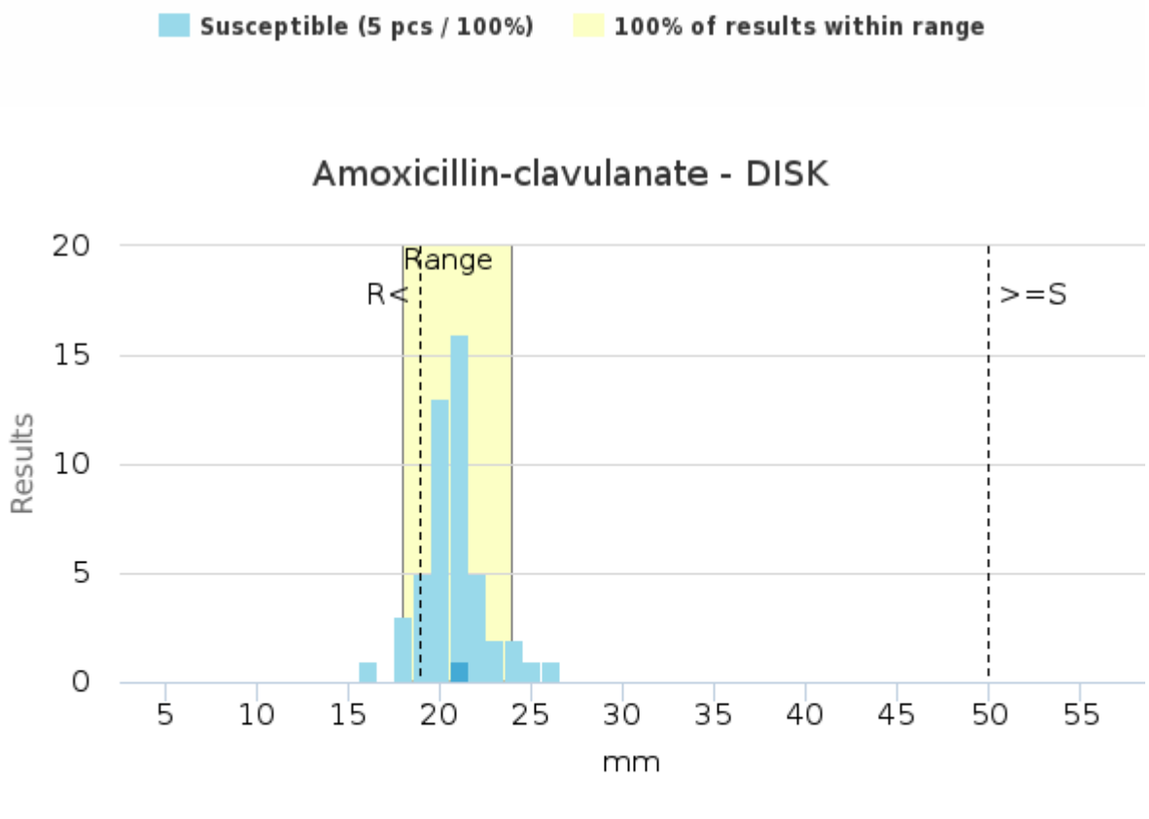
Susceptibility results

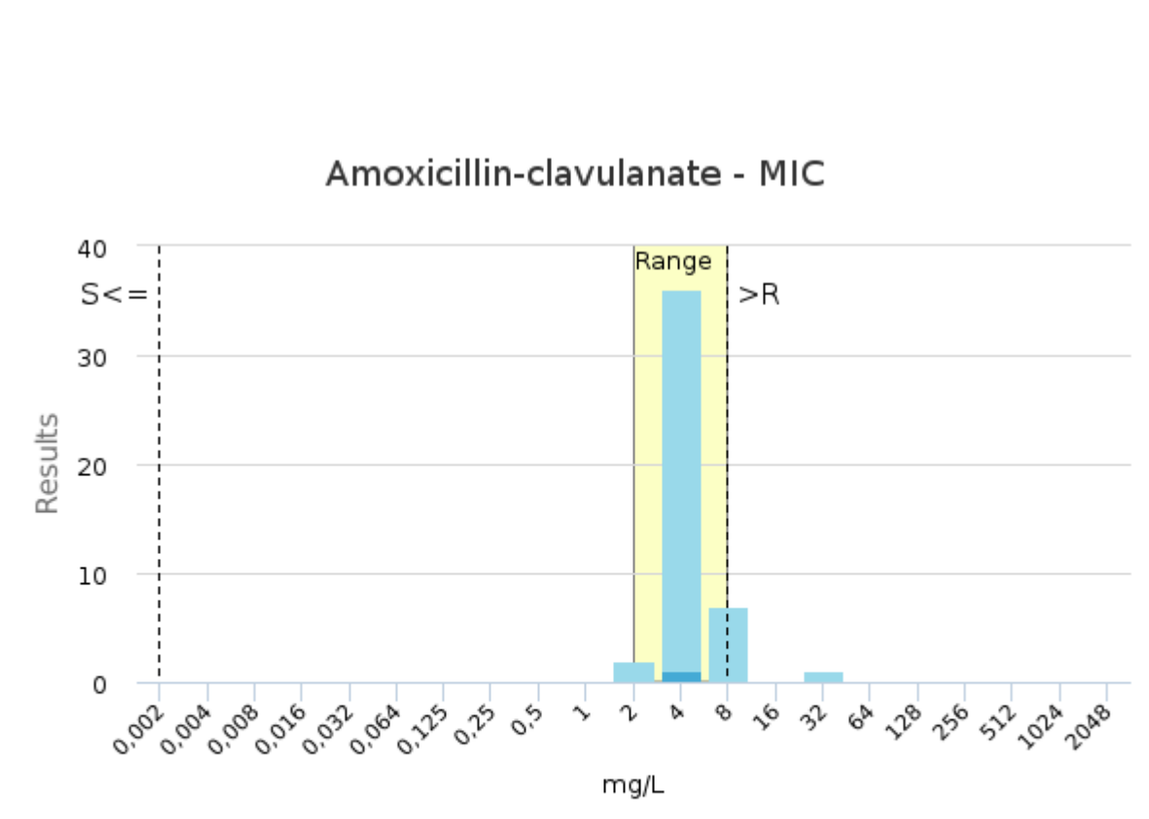
Sample S001 | EUCAST









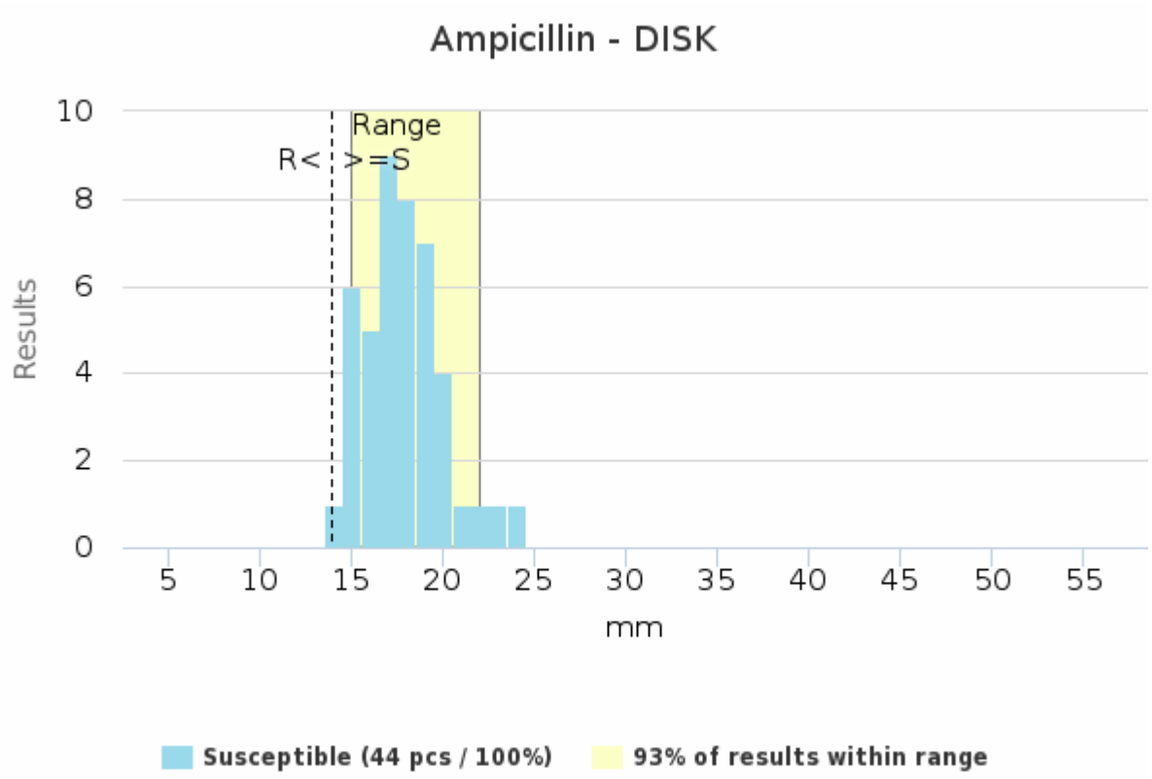


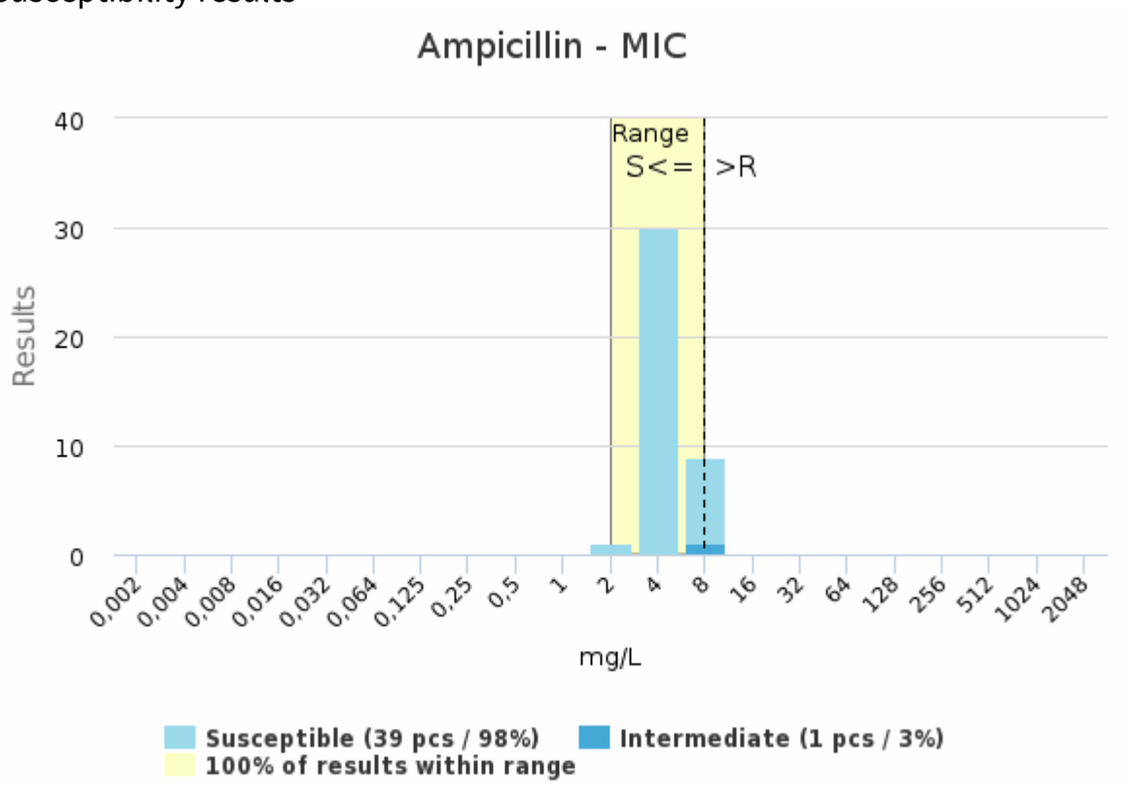
Susceptible (48 pcs / 98%)
Intermediate (1 pcs / 2%)
94% of results within range

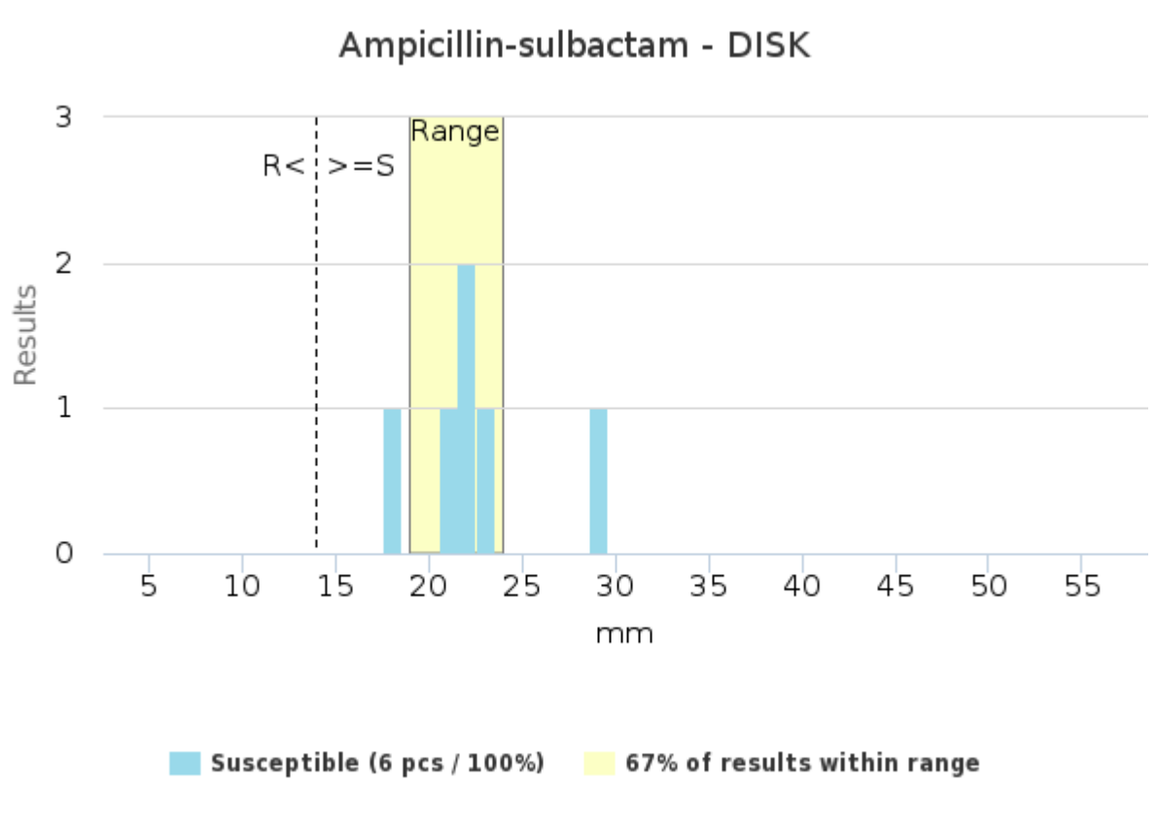
Susceptible (45 pcs / 98%)
Intermediate (1 pcs / 2%)
98% of results within range

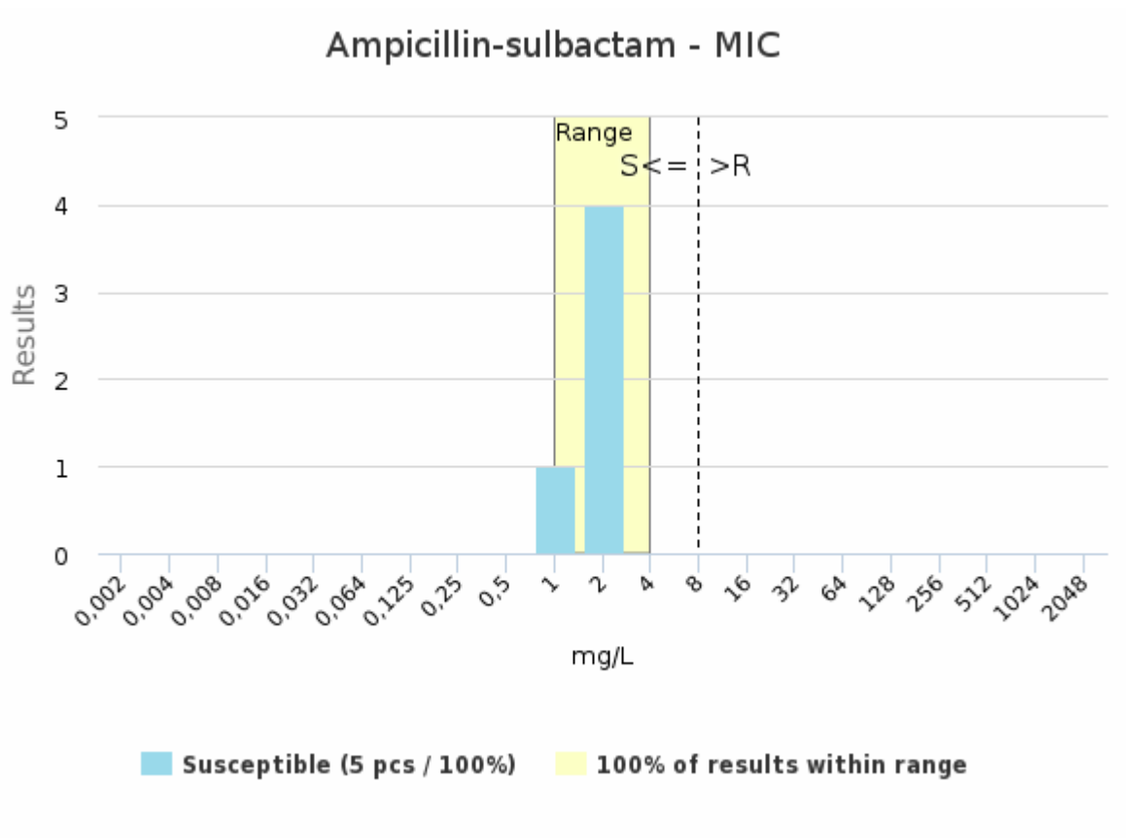
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

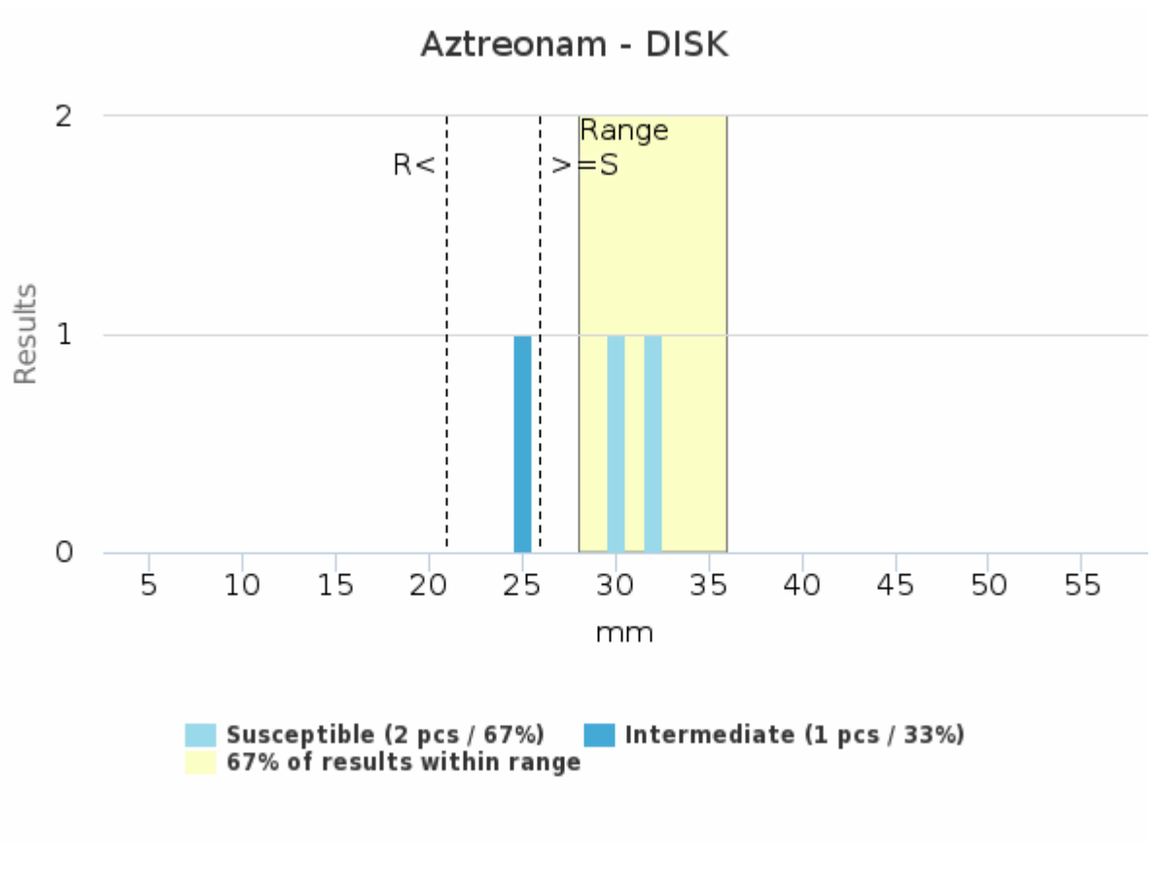
Susceptibility results











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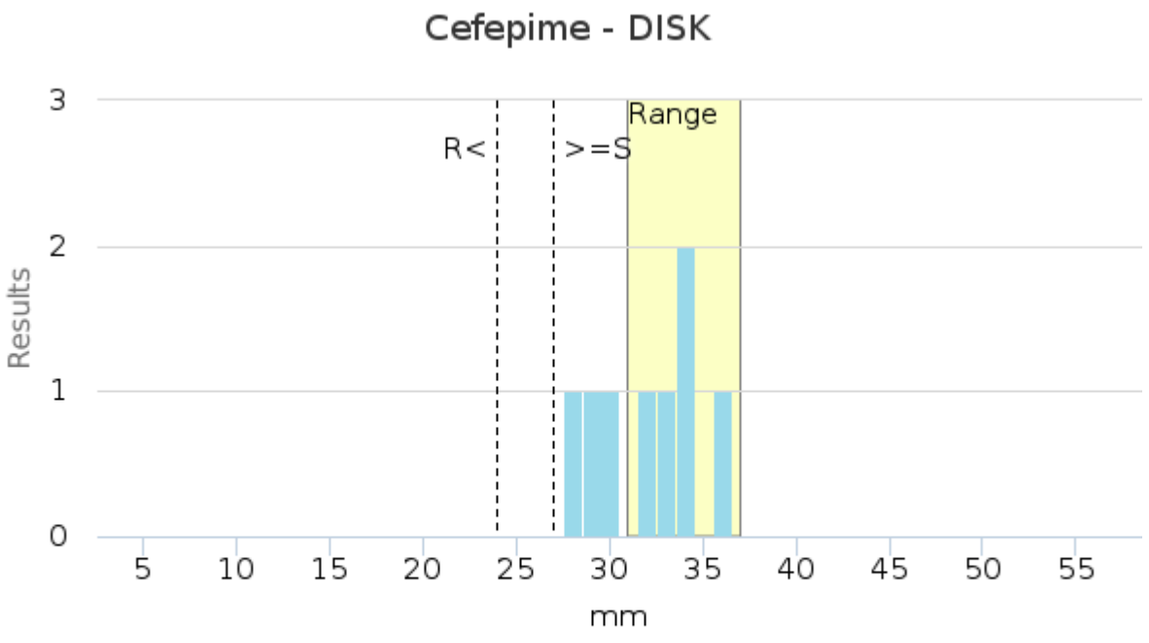
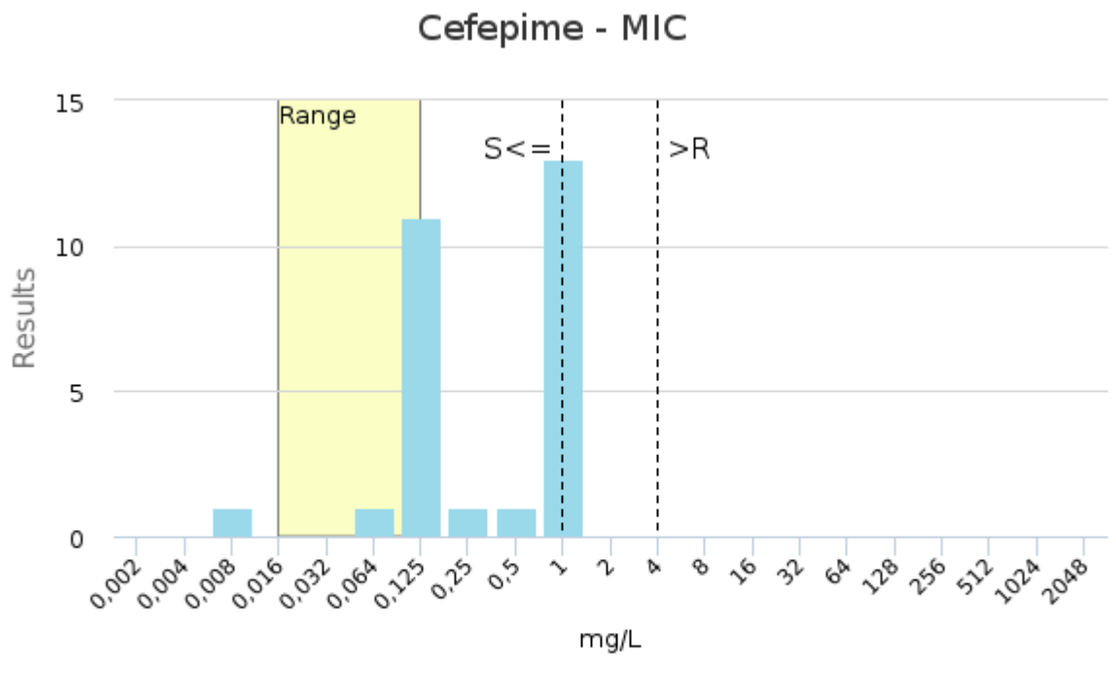
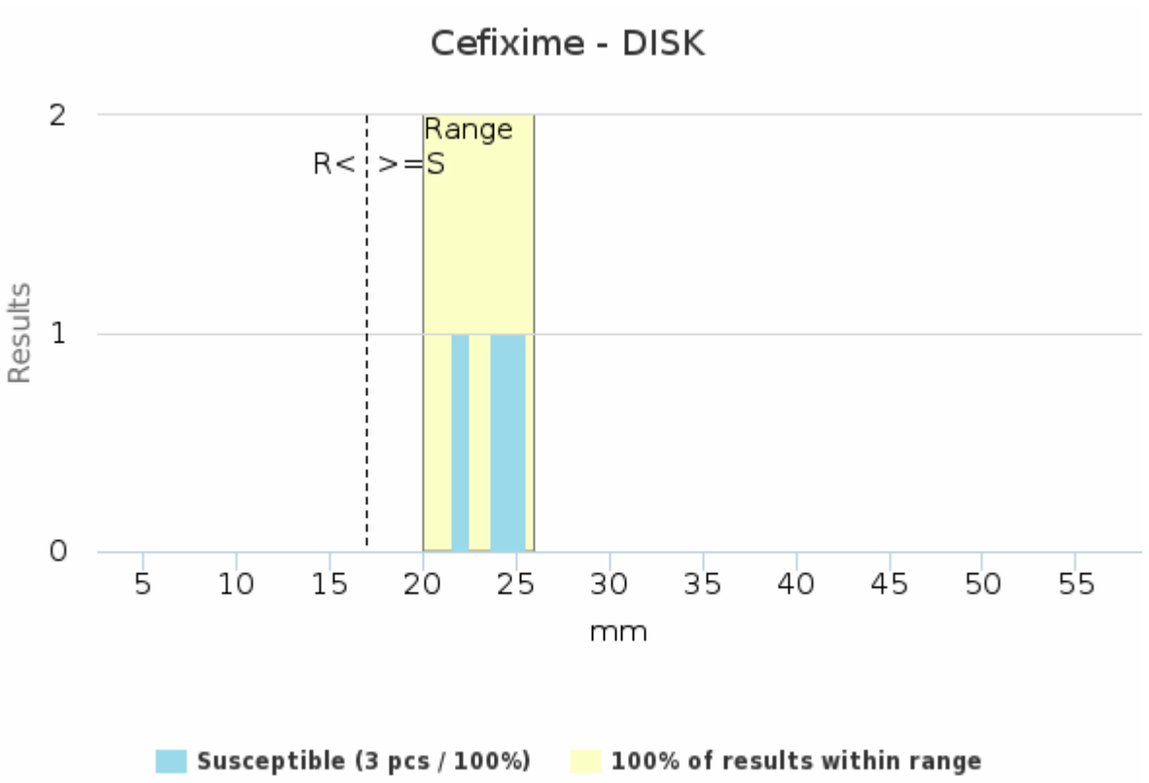
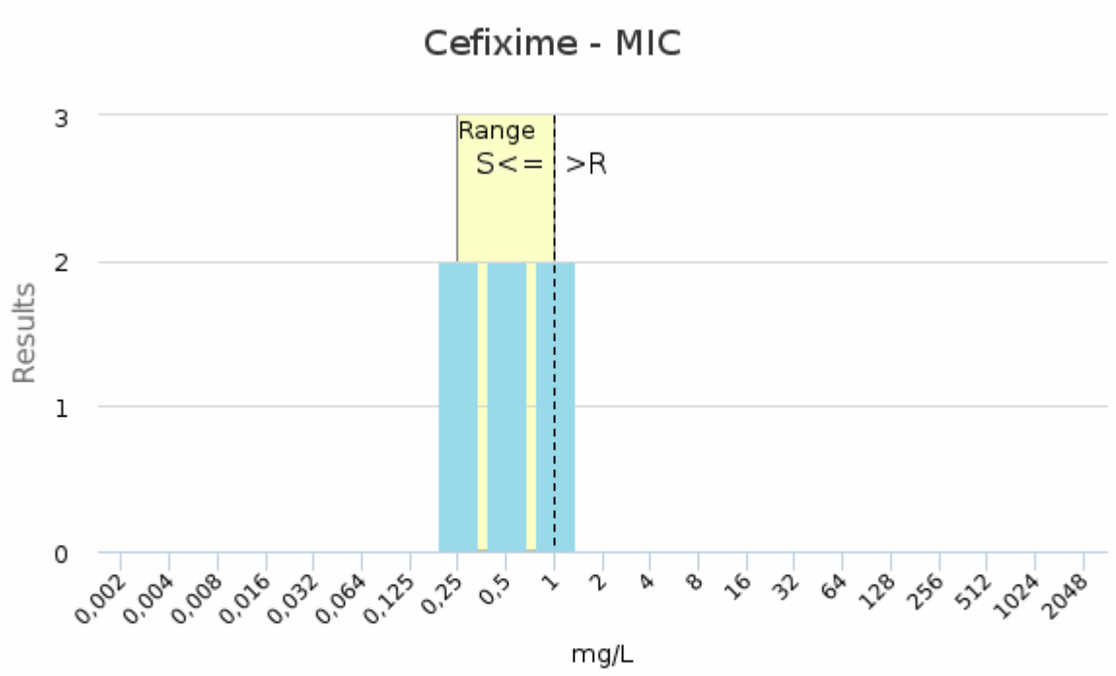
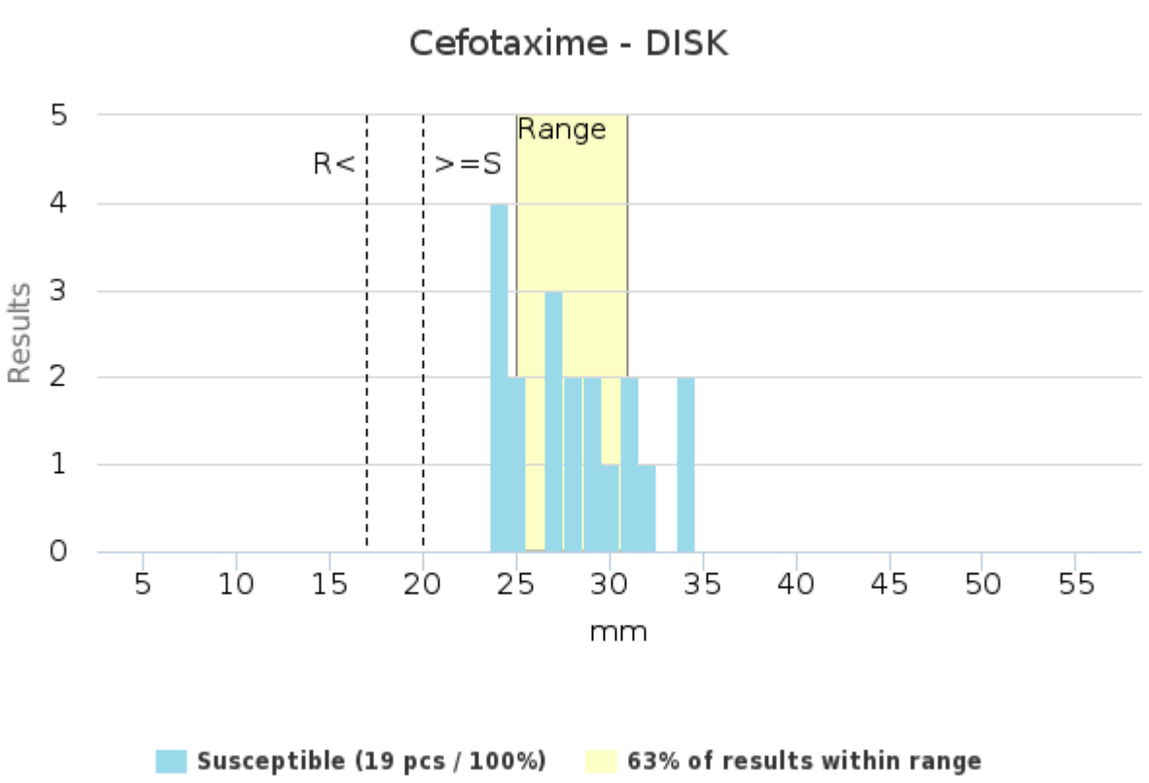
Susceptibility results

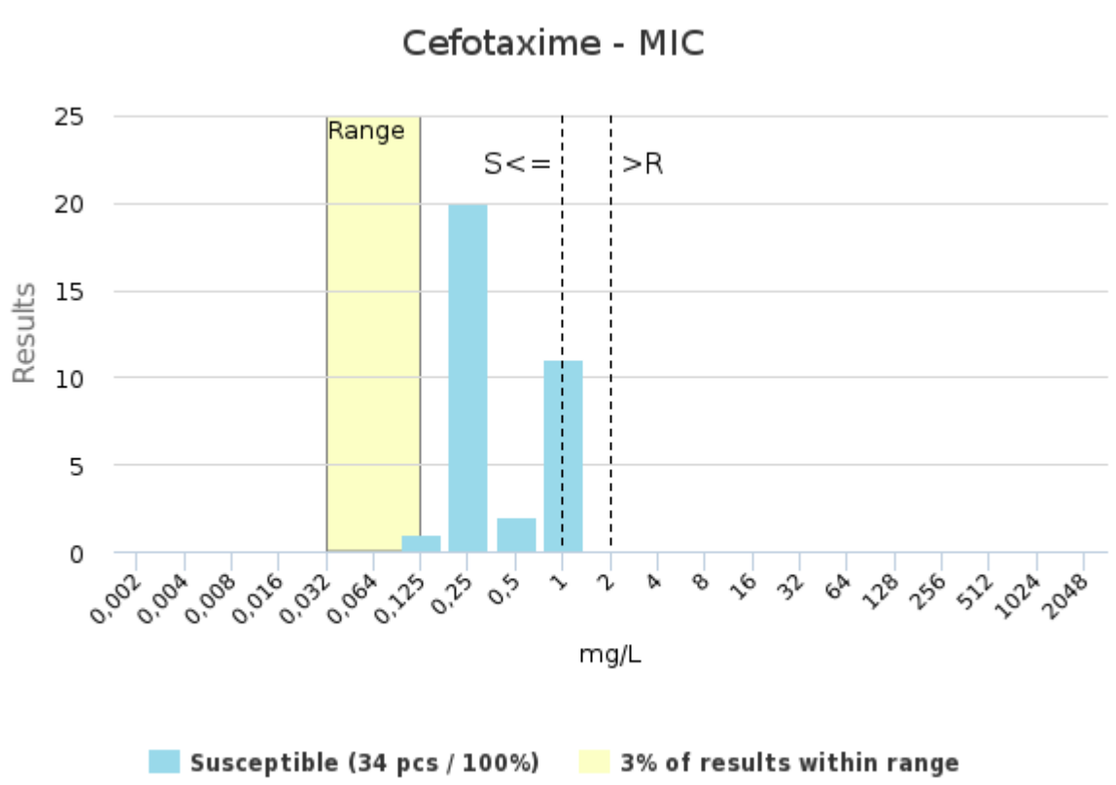












Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

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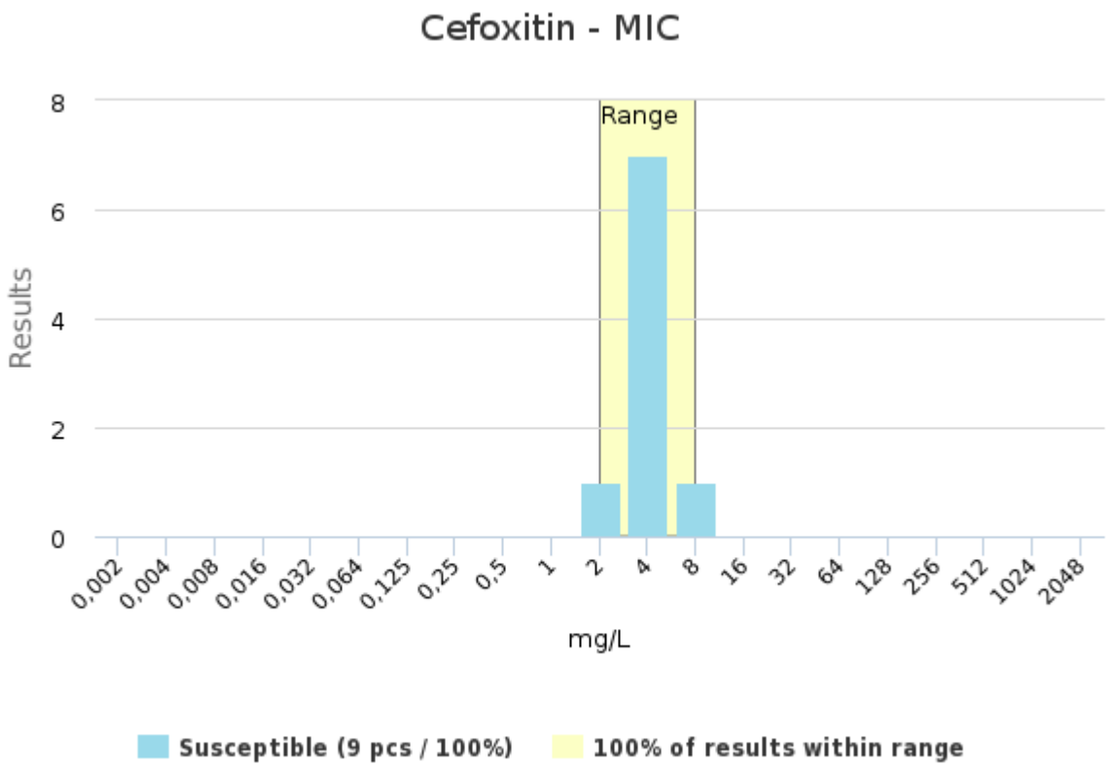
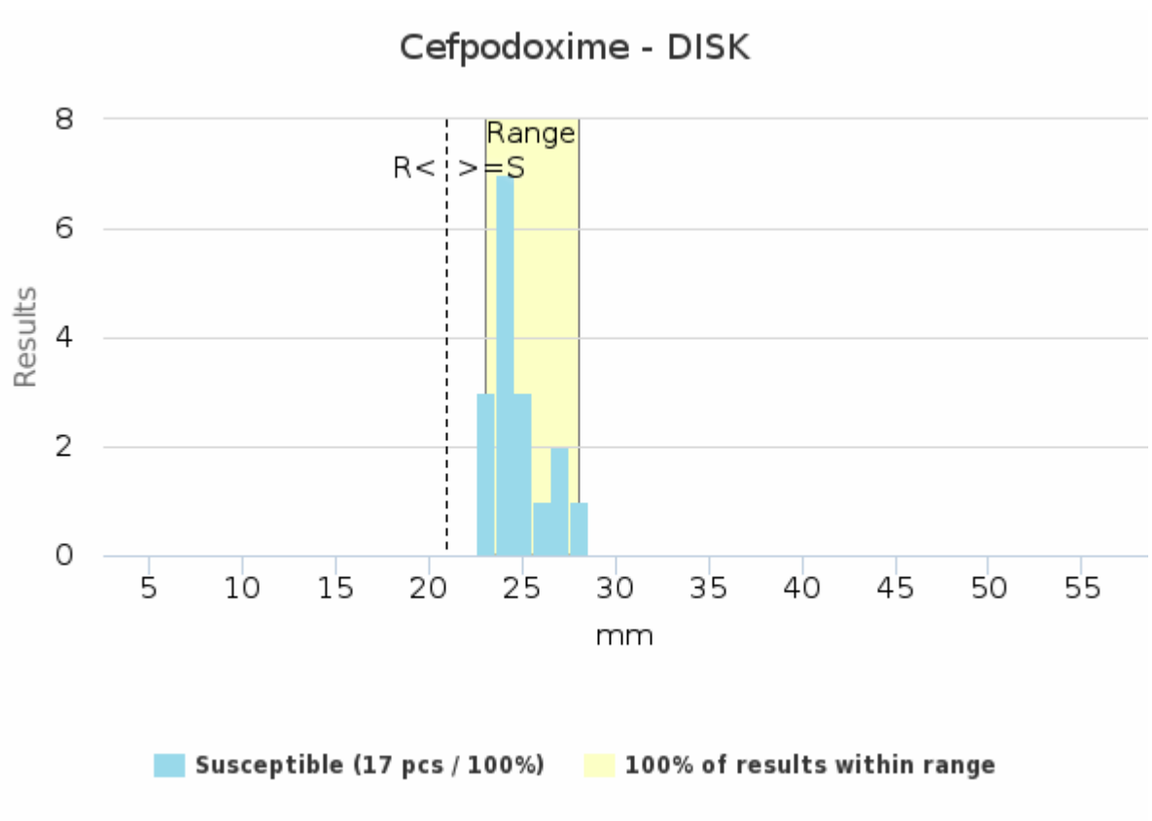
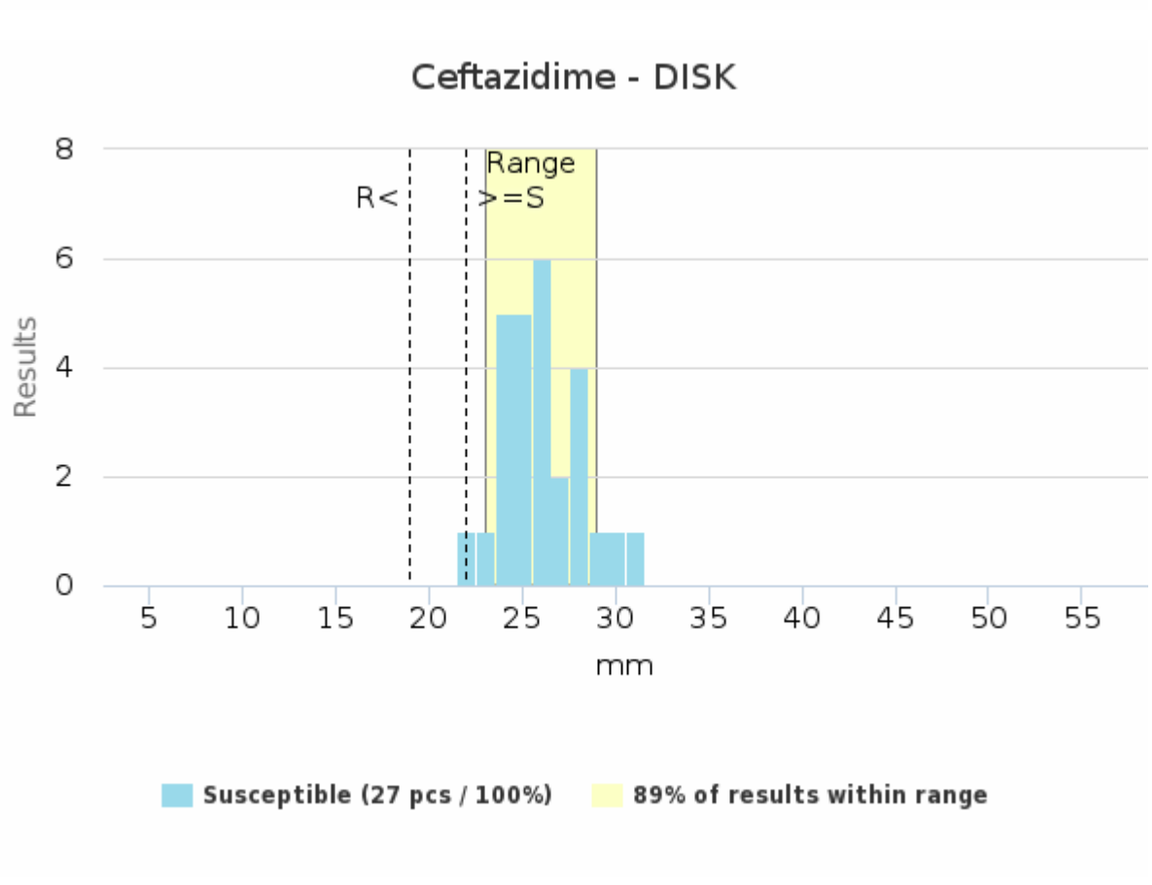
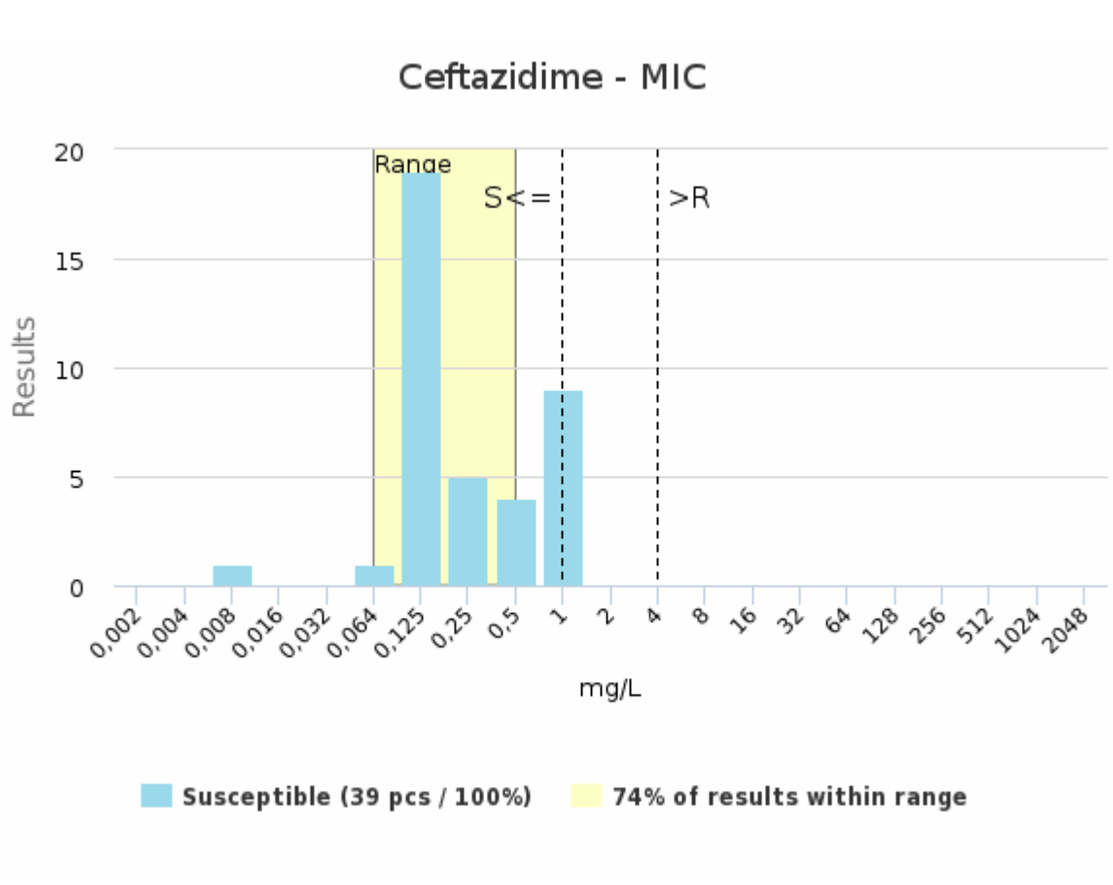


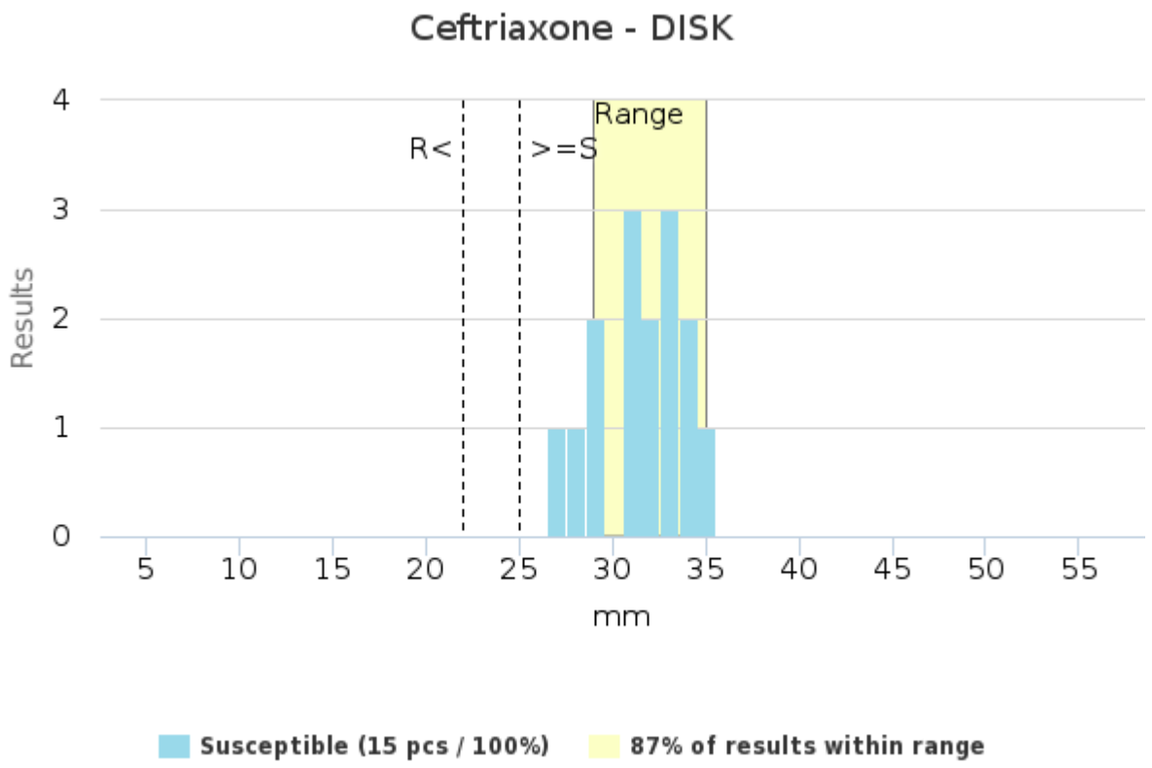


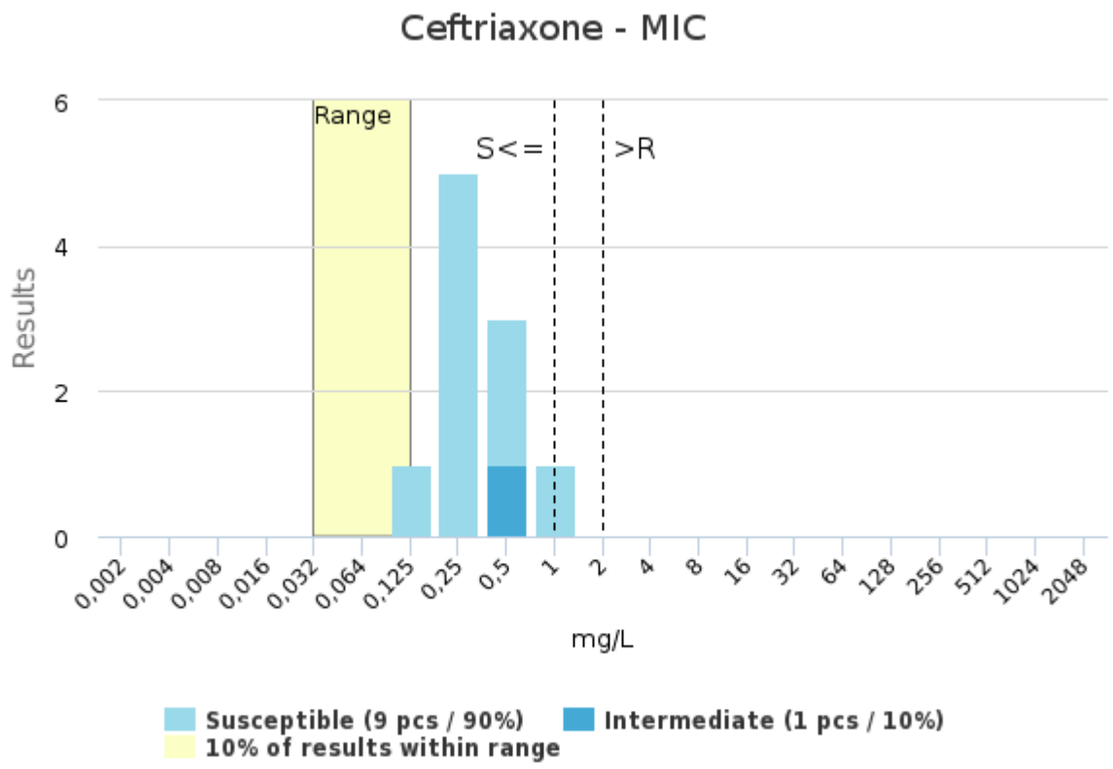


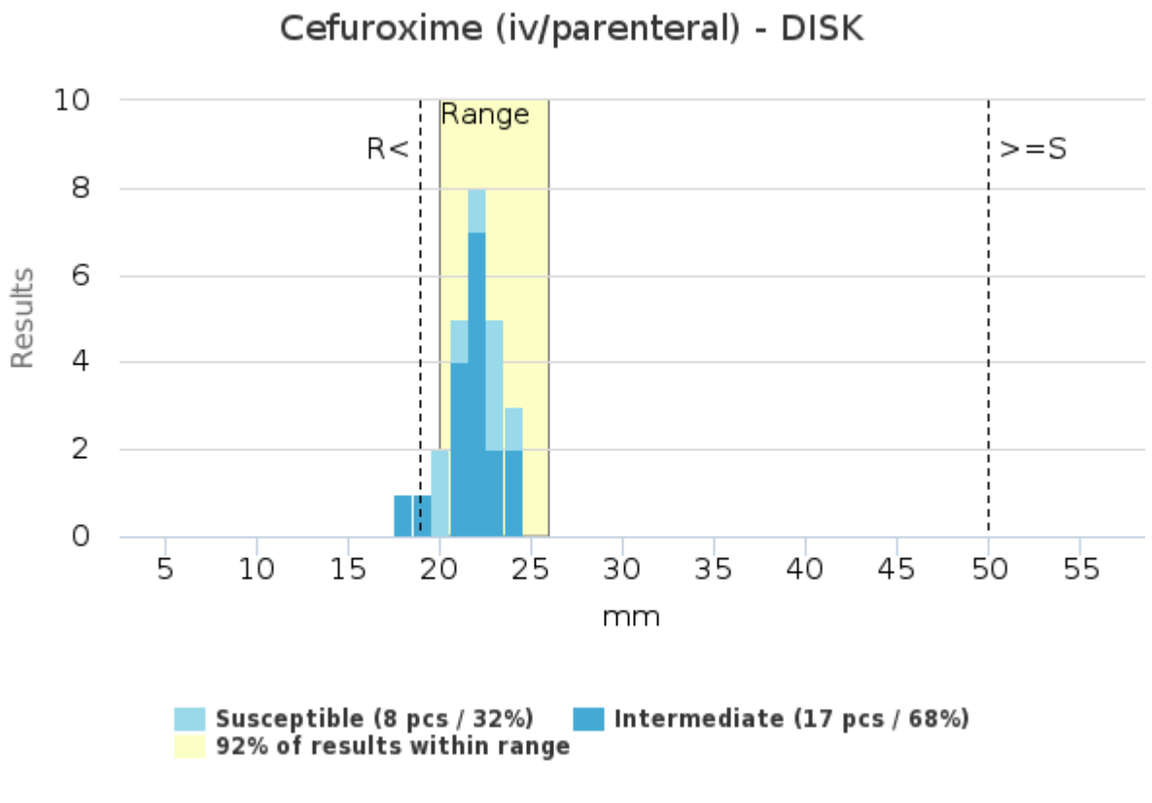


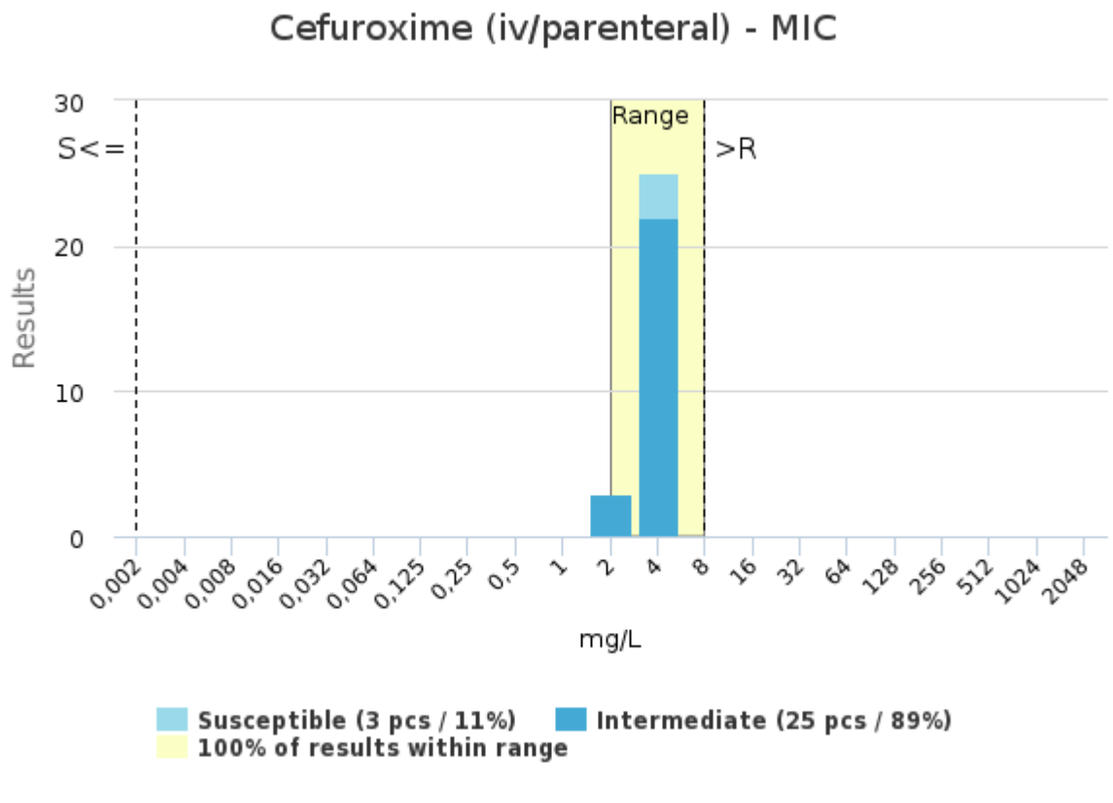
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

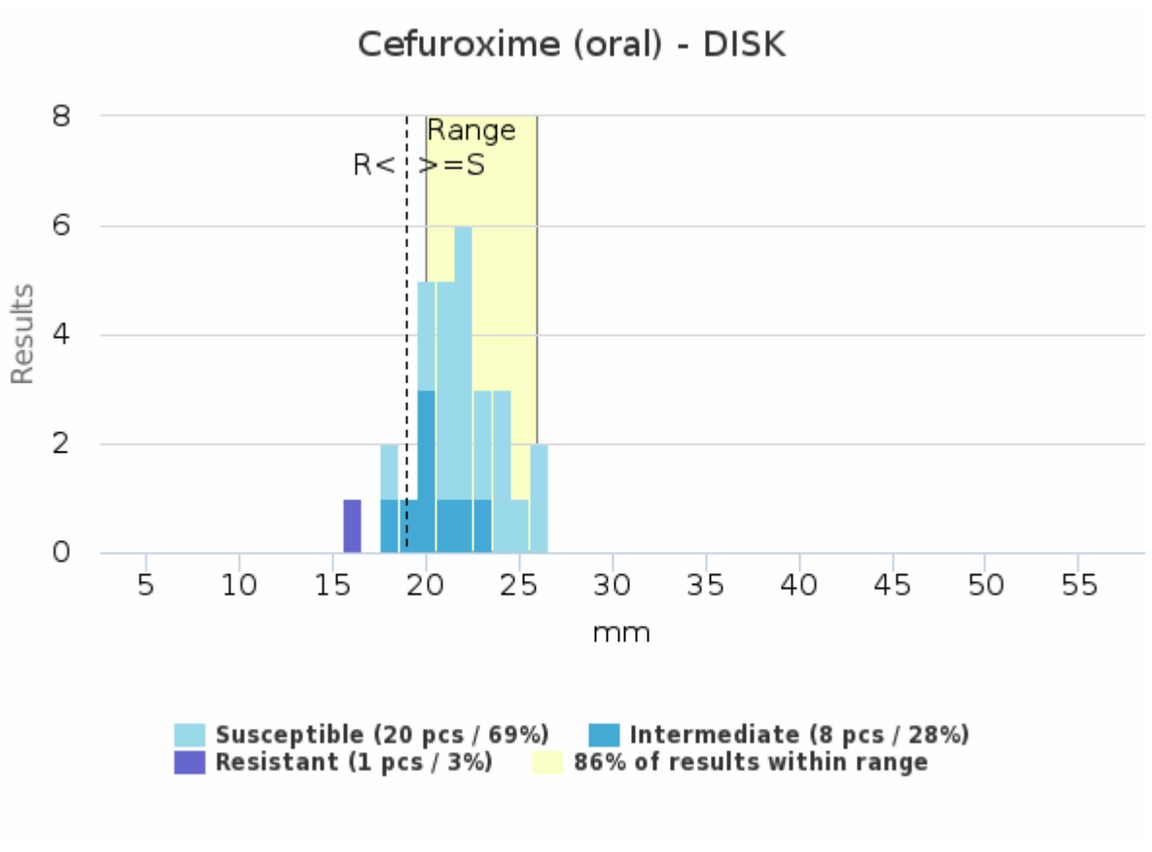
Susceptibility results

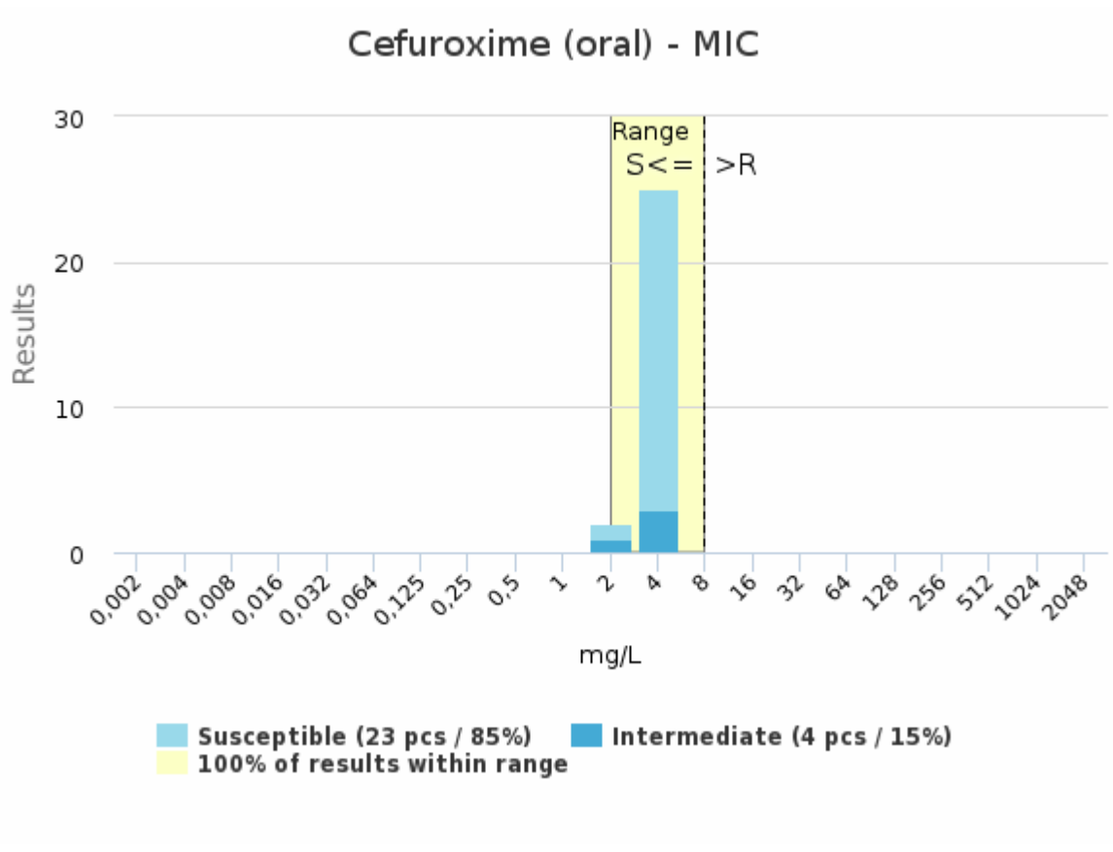






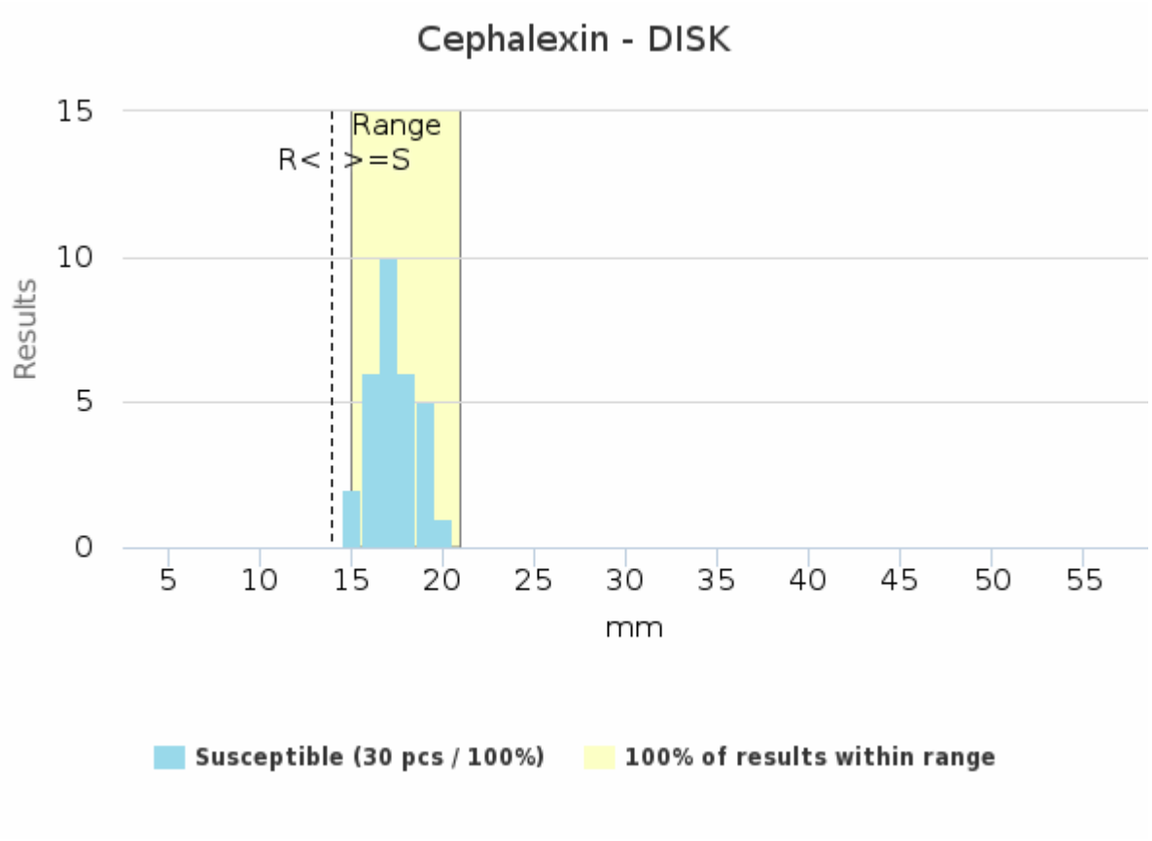


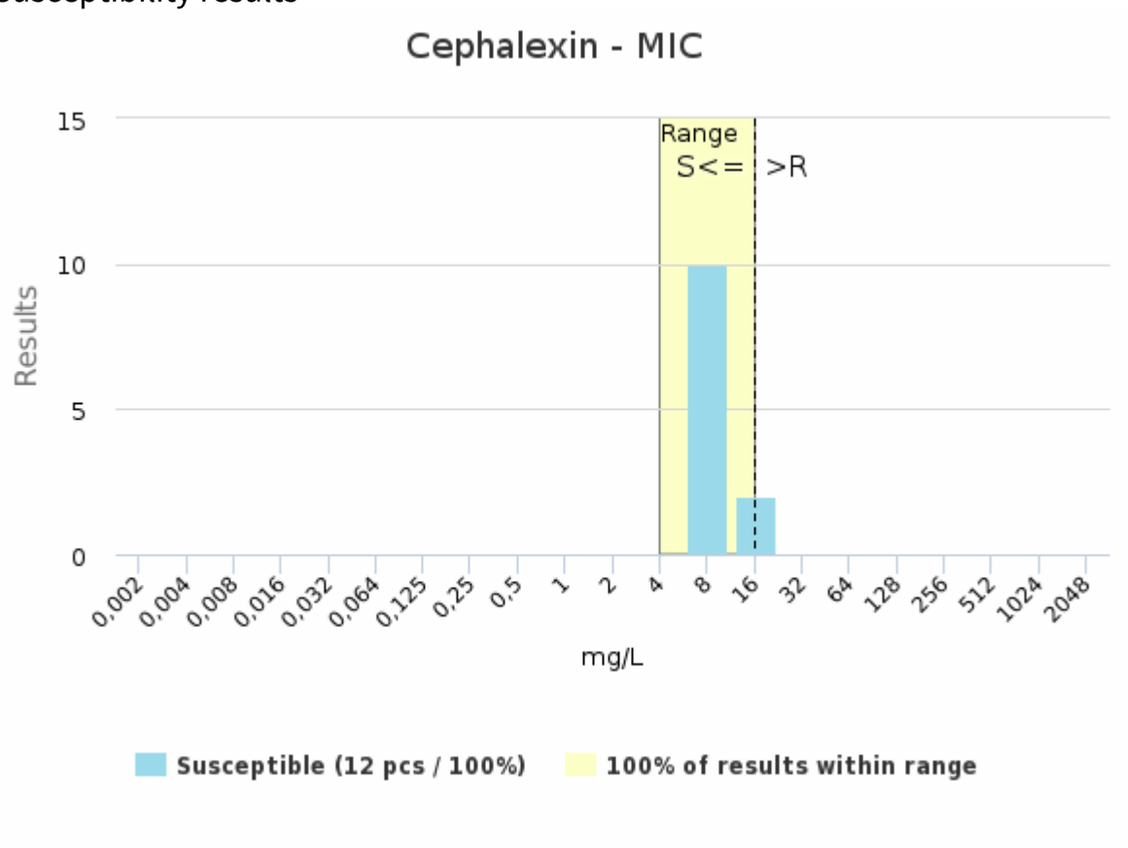


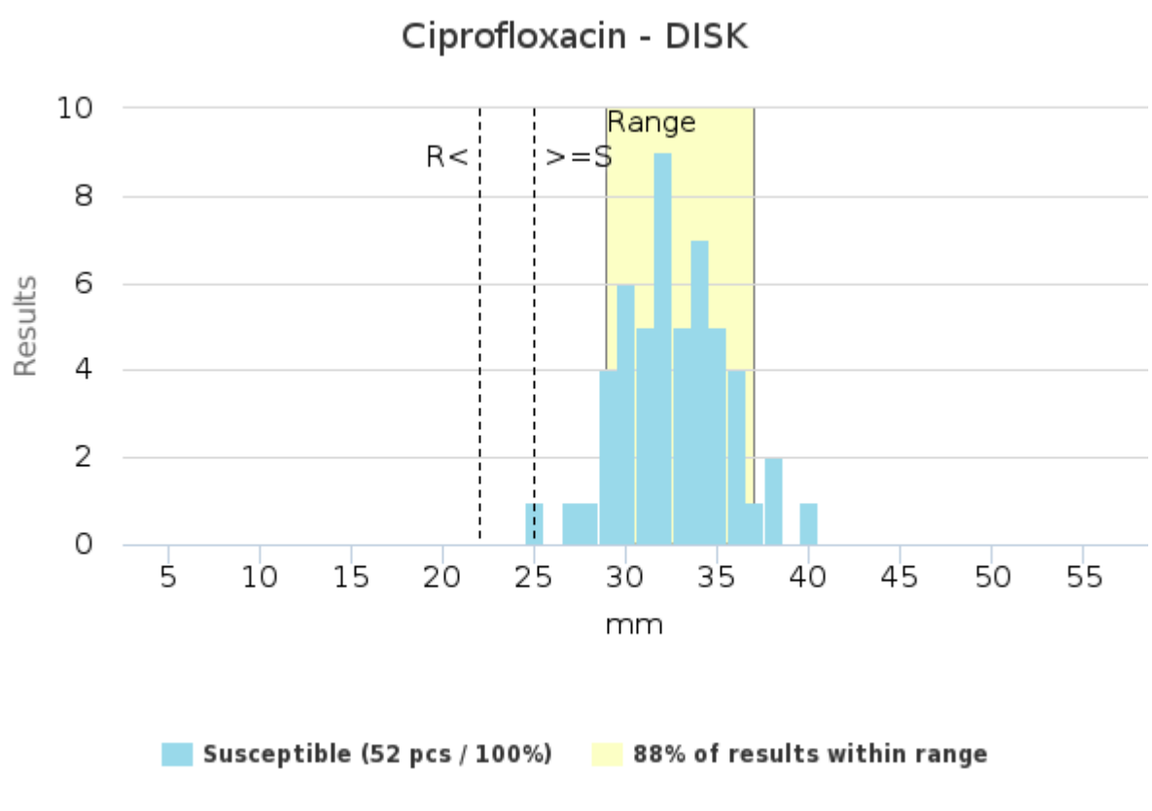


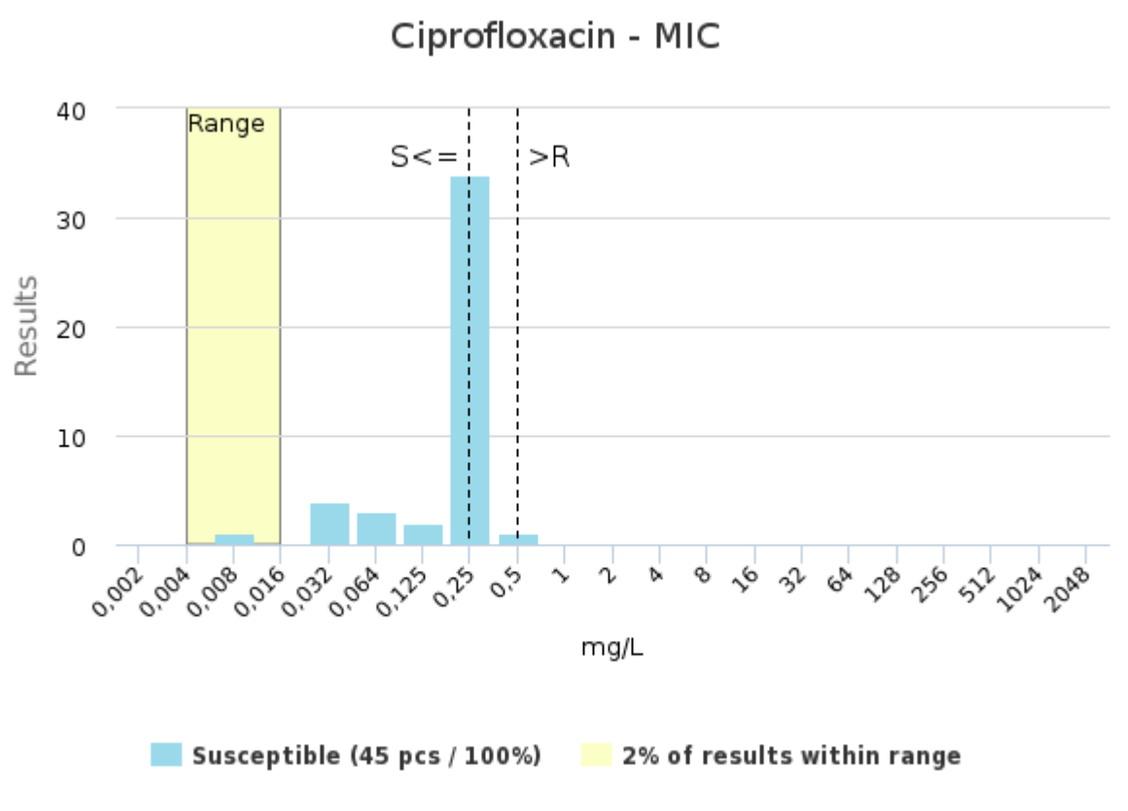
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

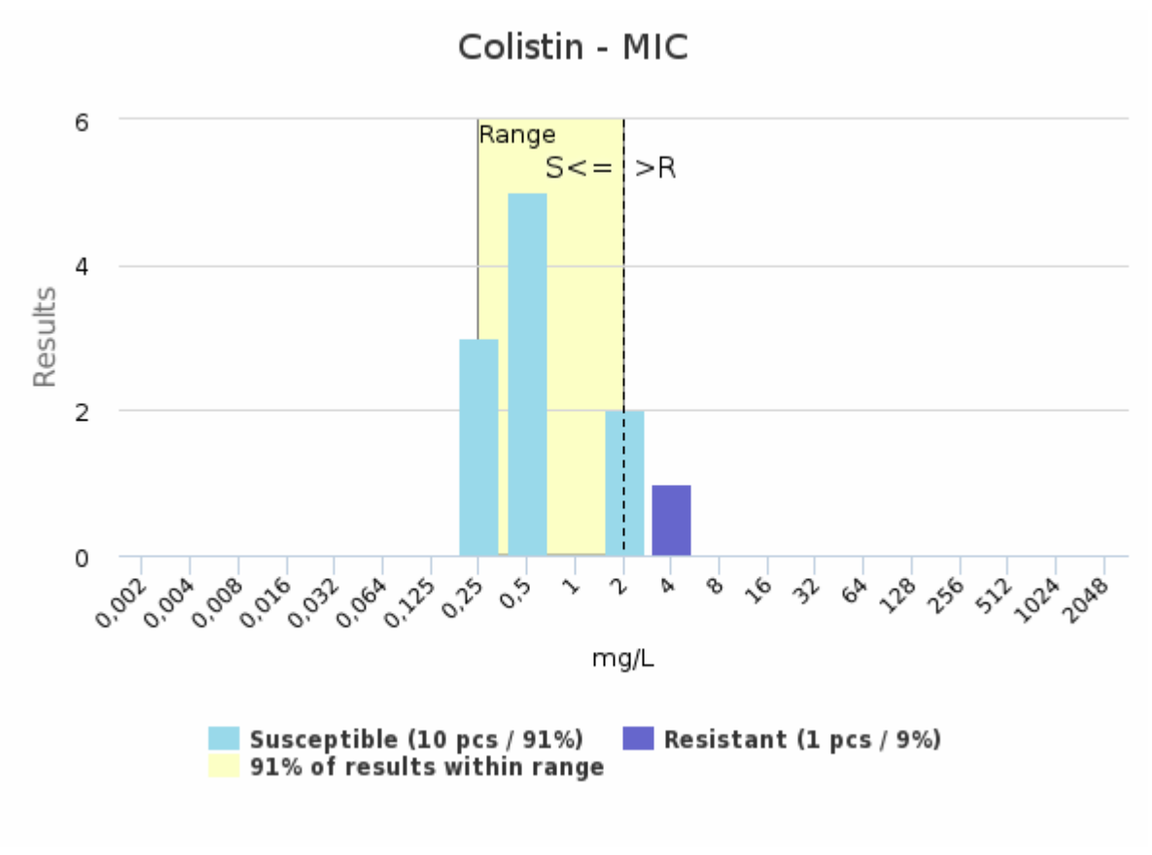
Susceptibility results





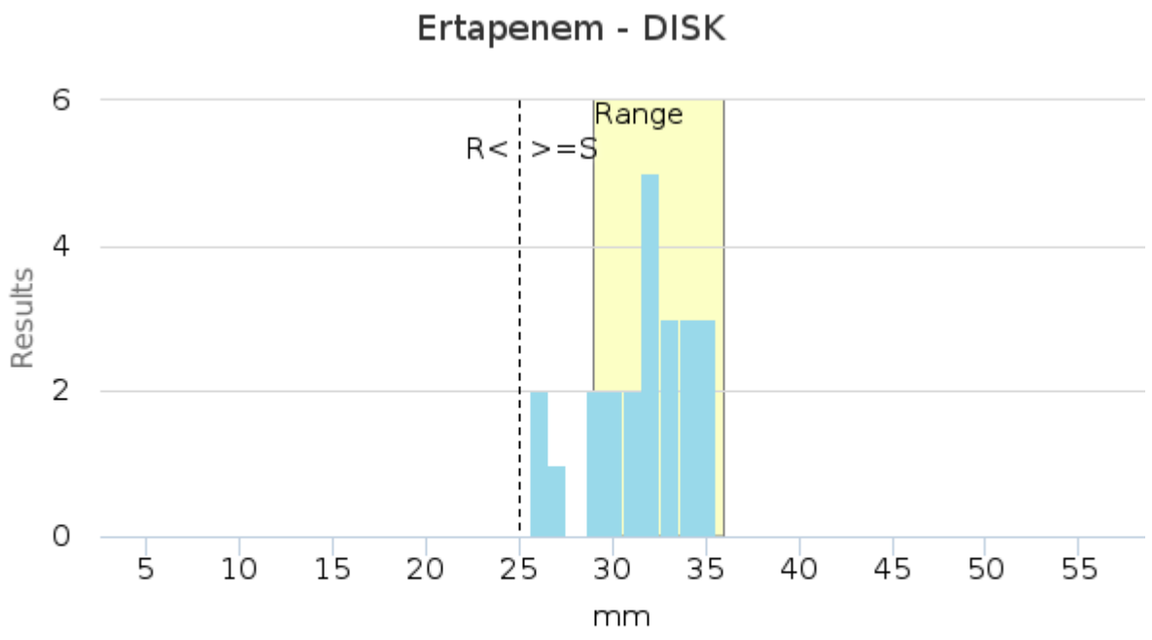


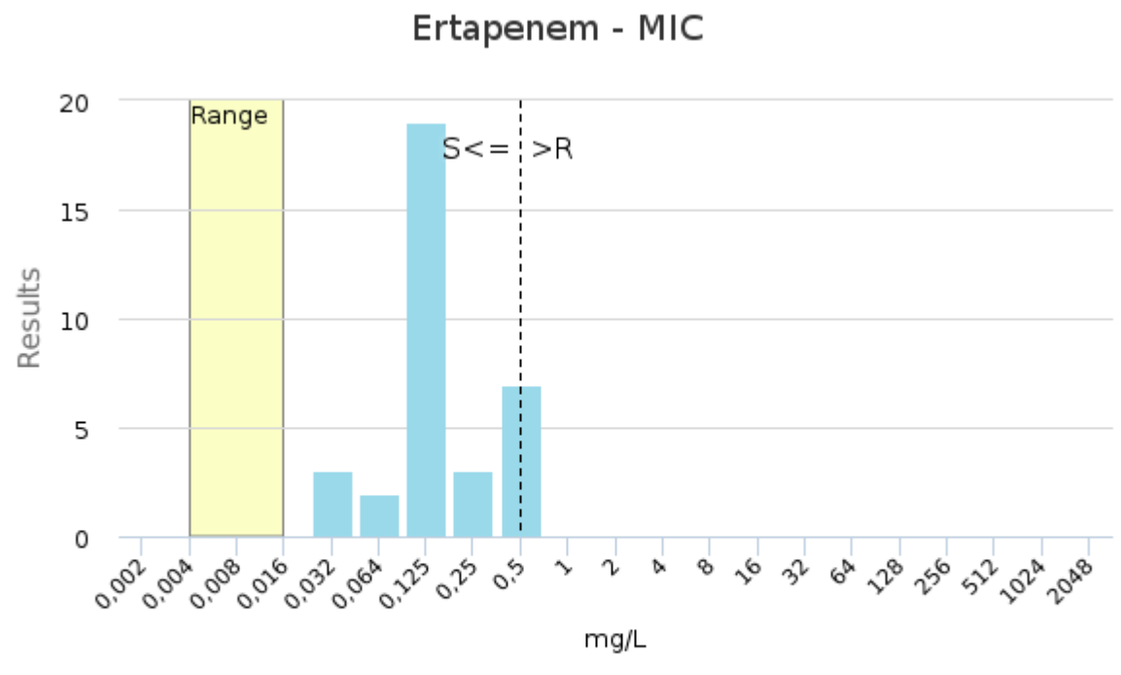


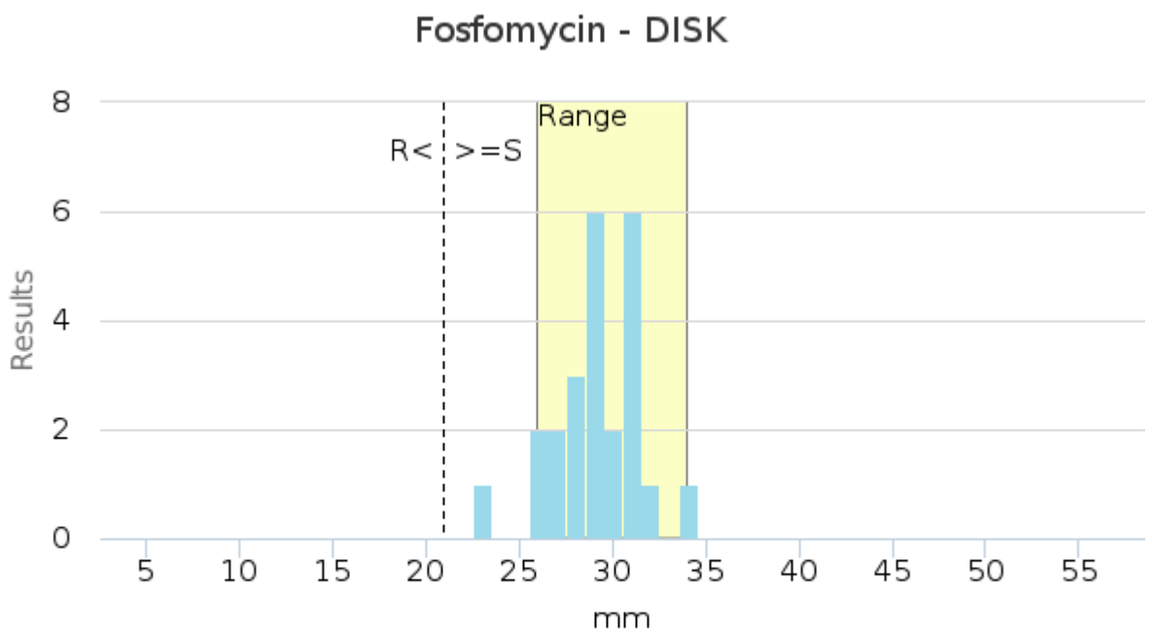


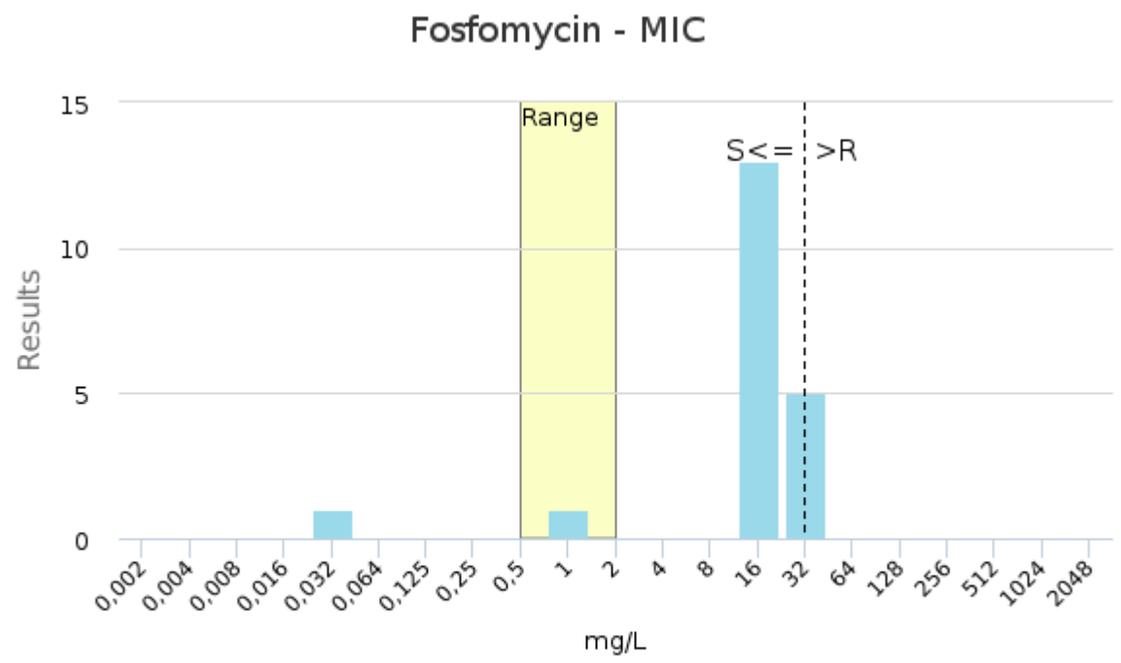
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

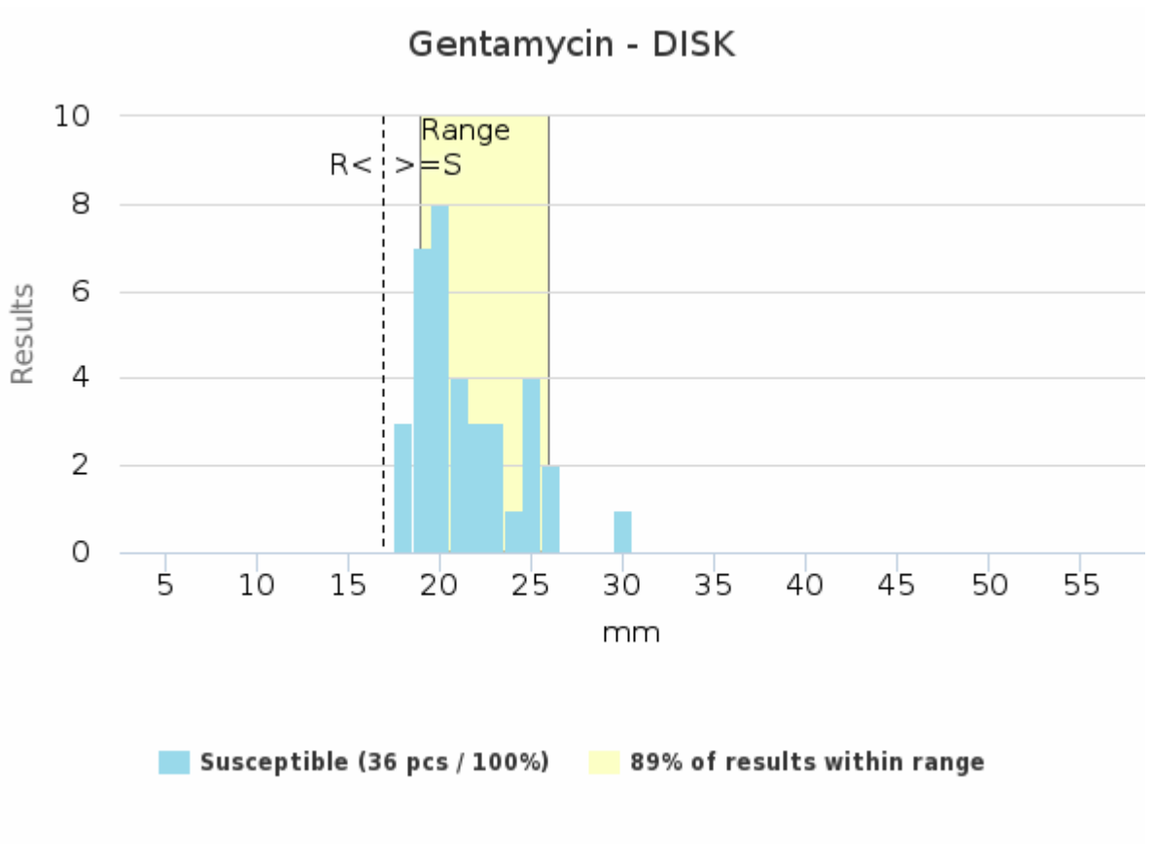
Susceptibility results

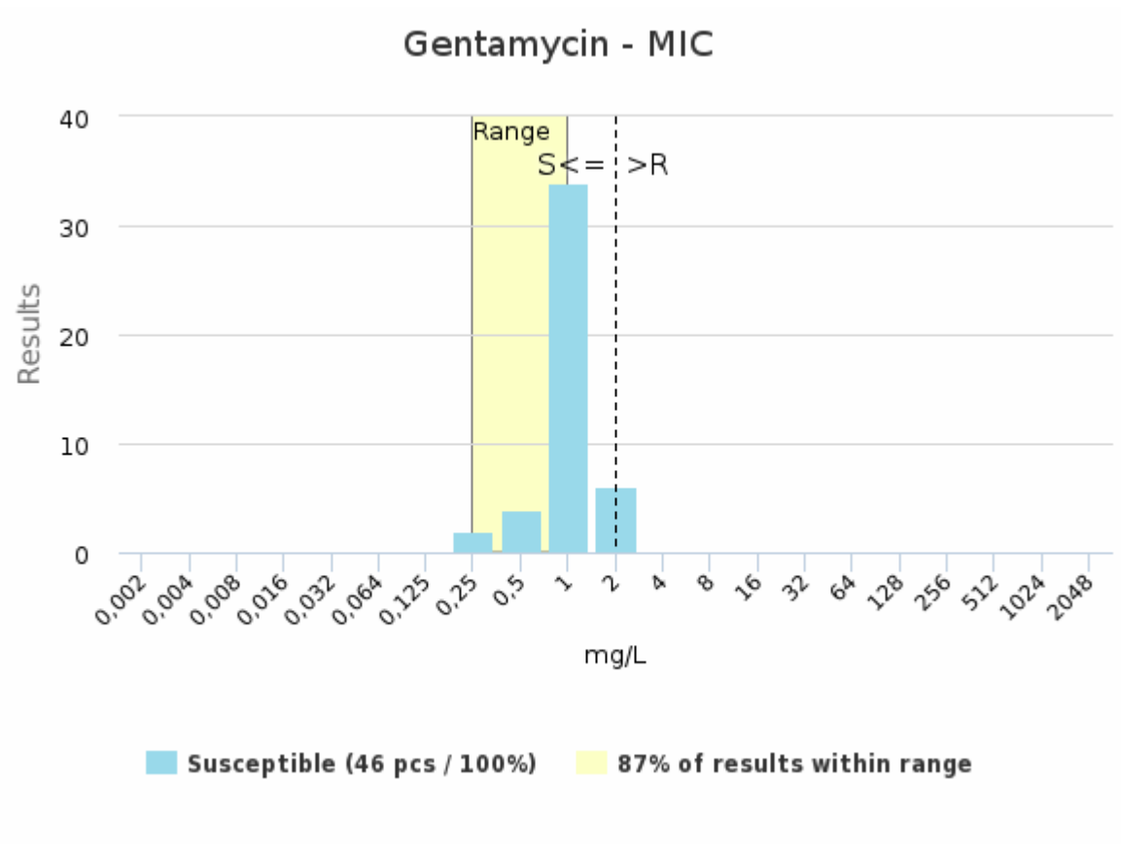






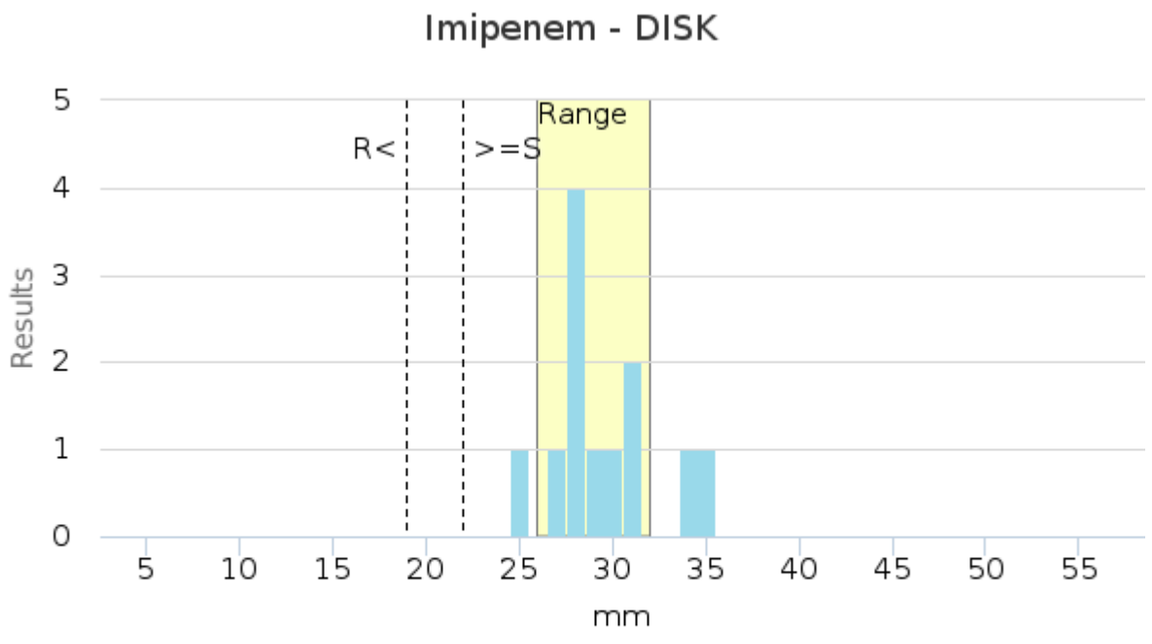


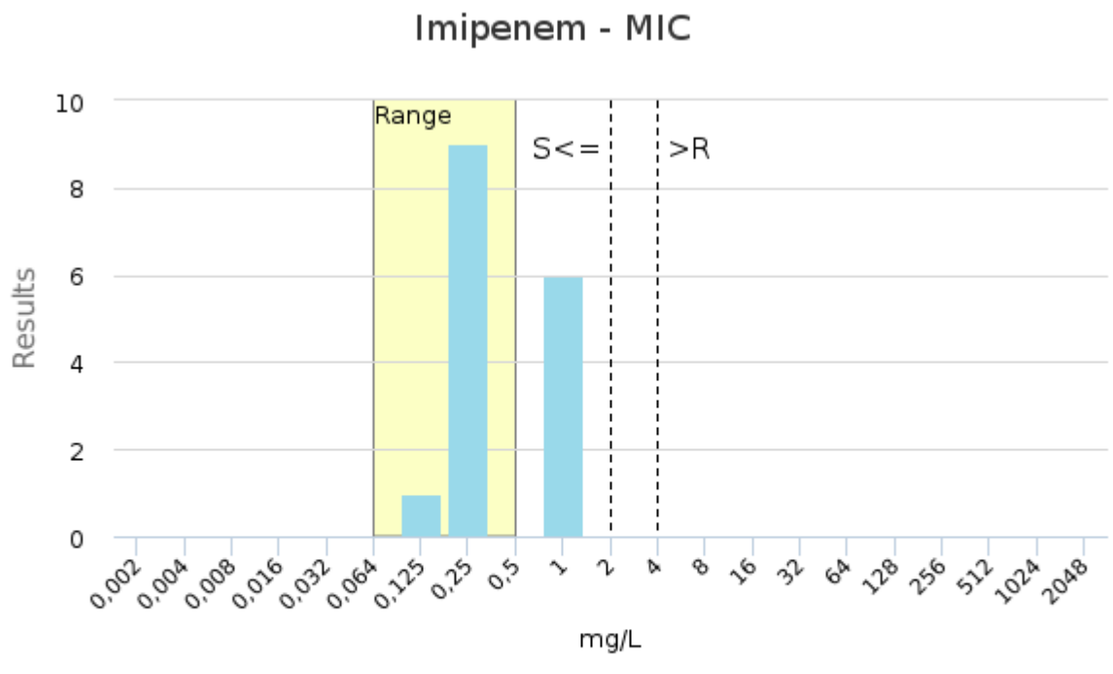


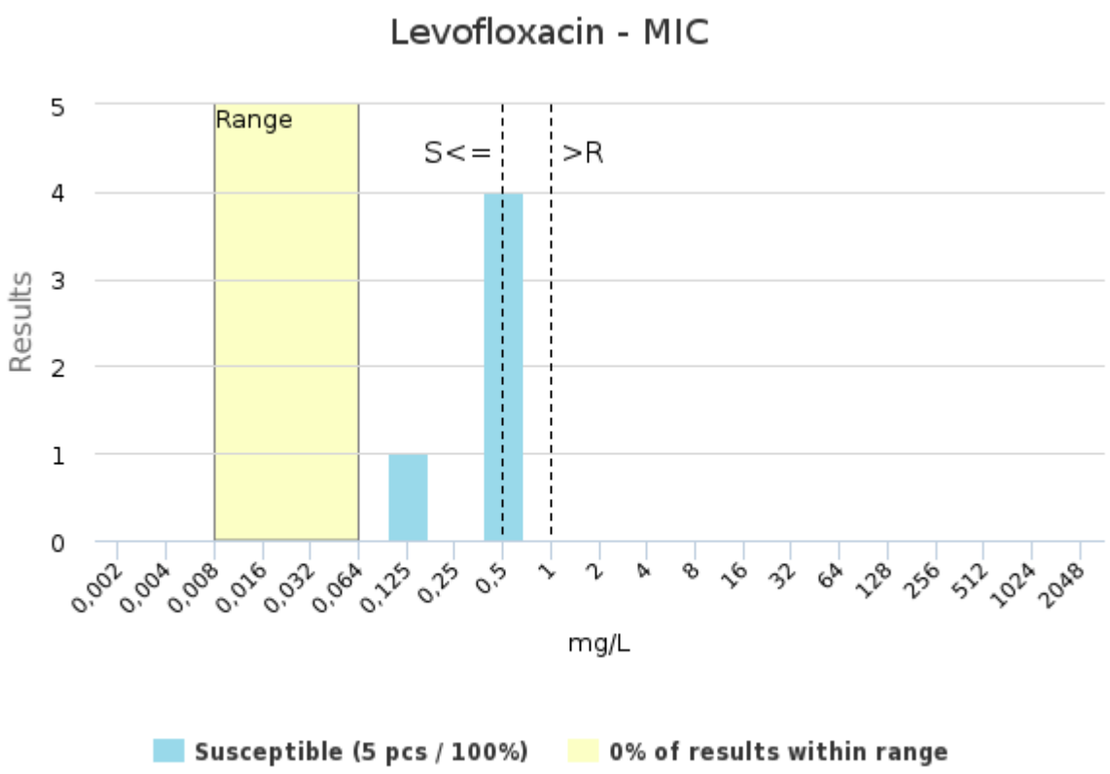


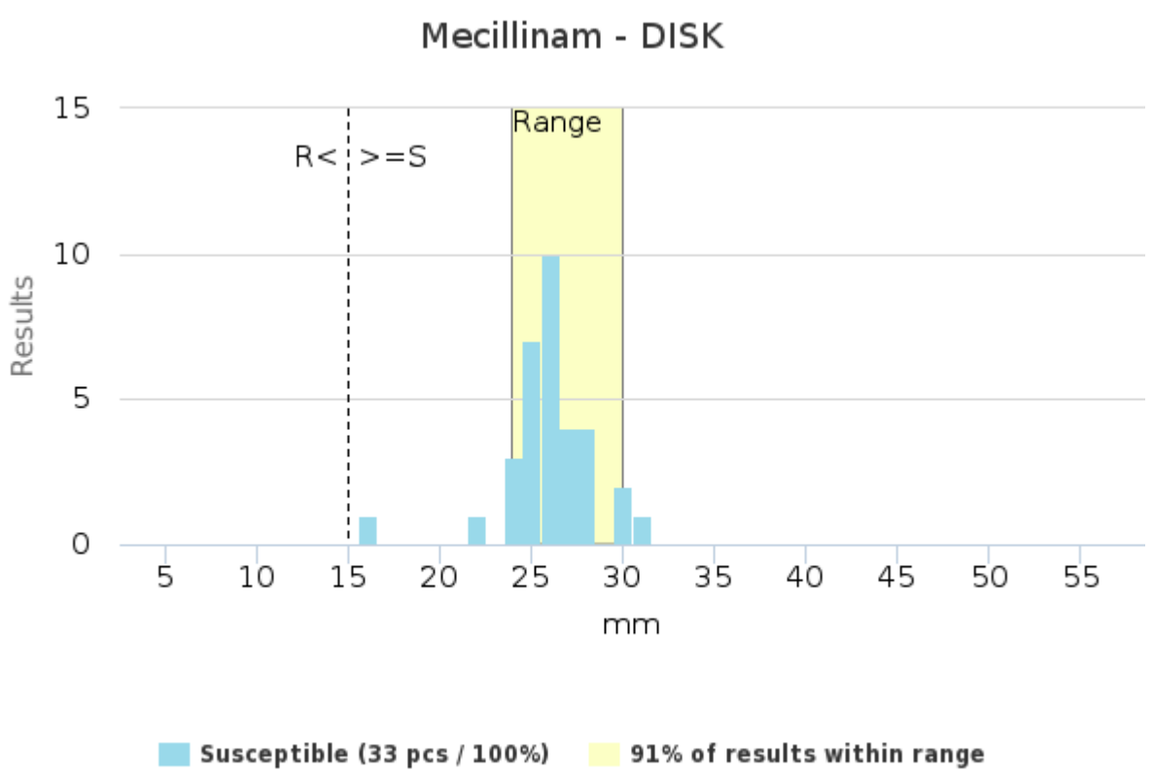
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

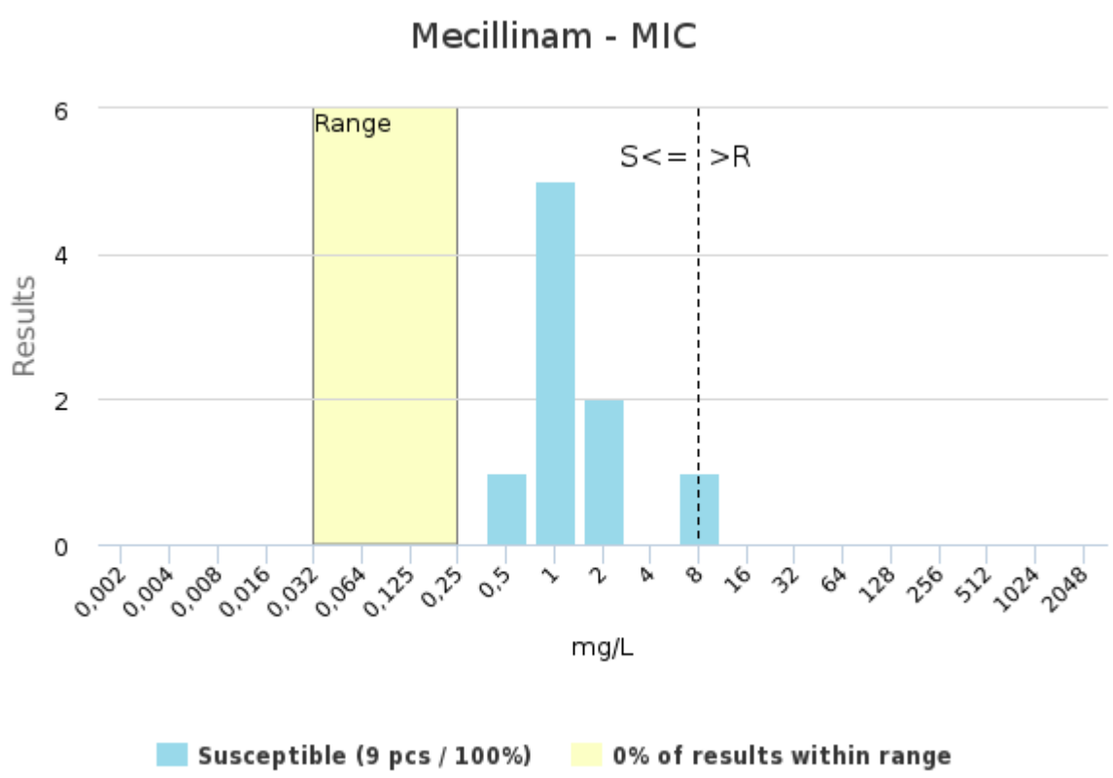
Susceptibility results





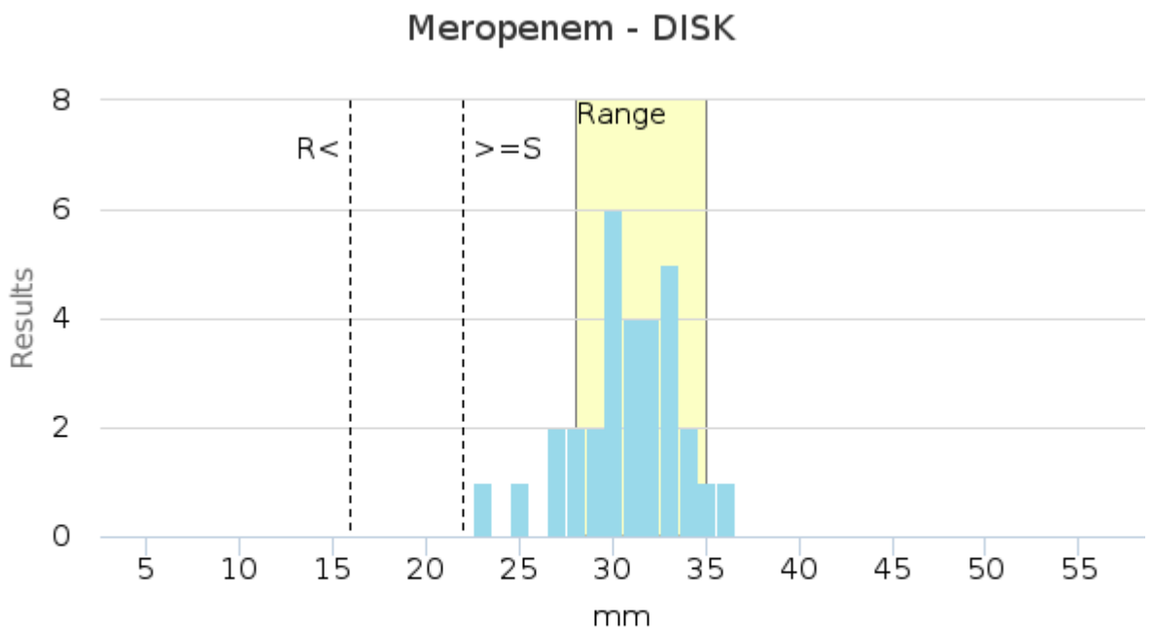


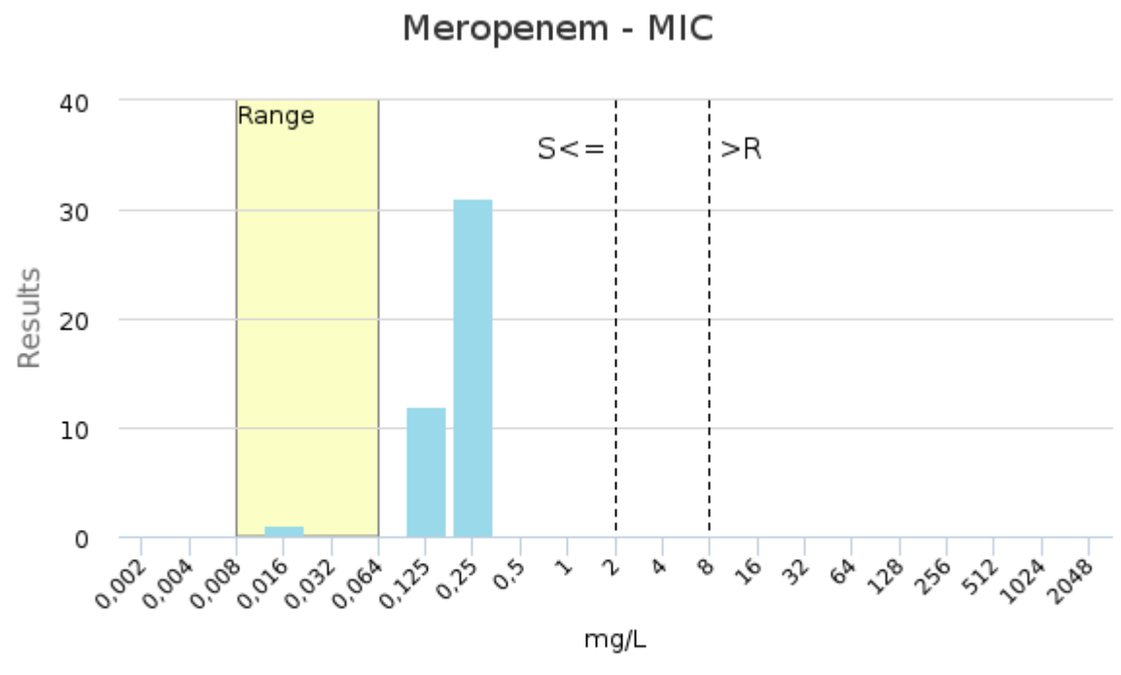


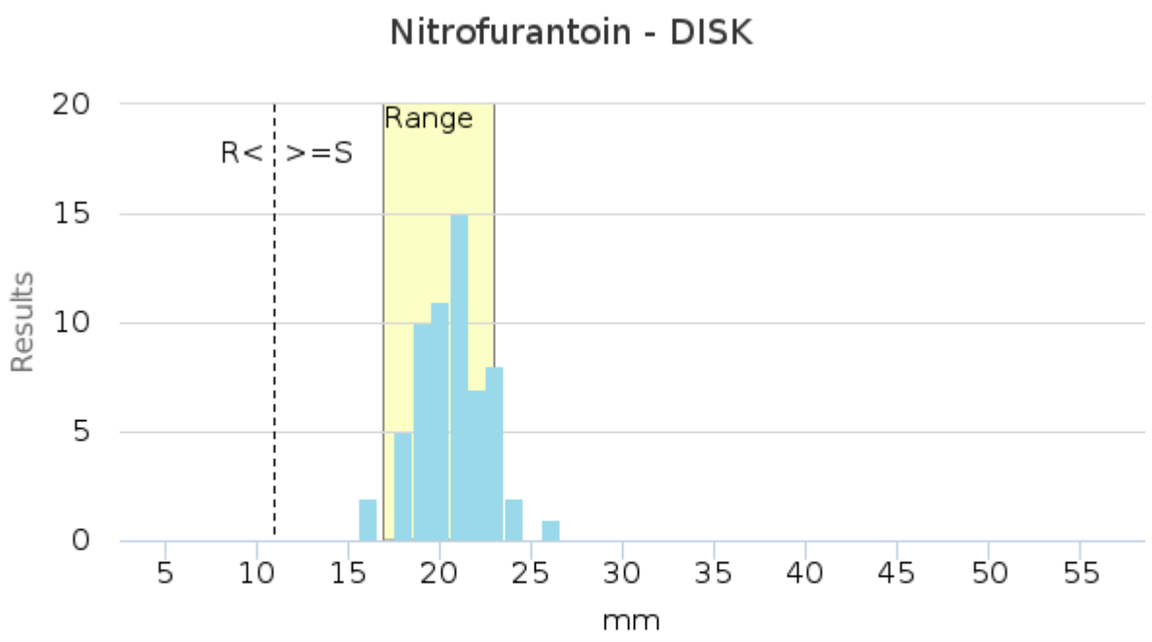


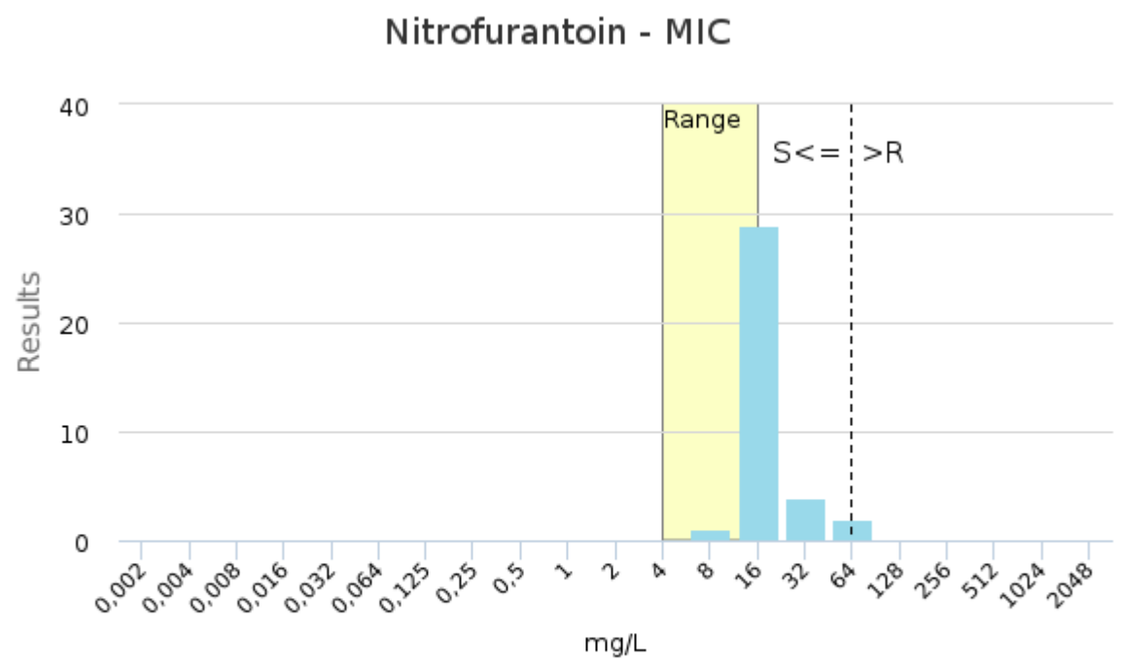
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

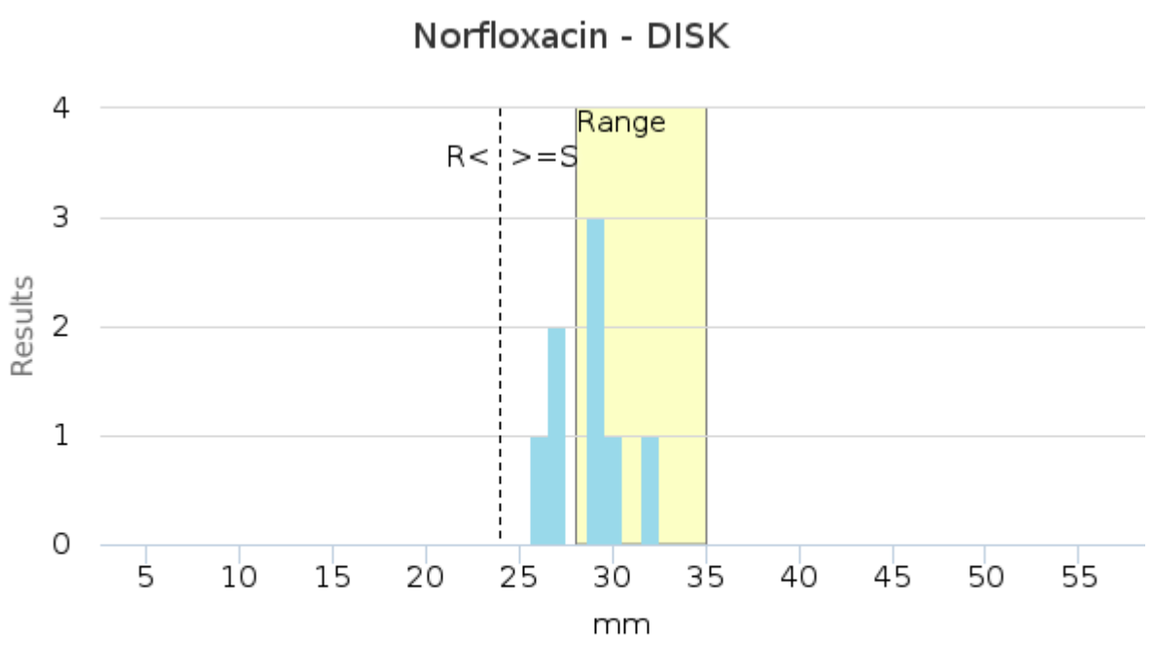
Susceptibility results

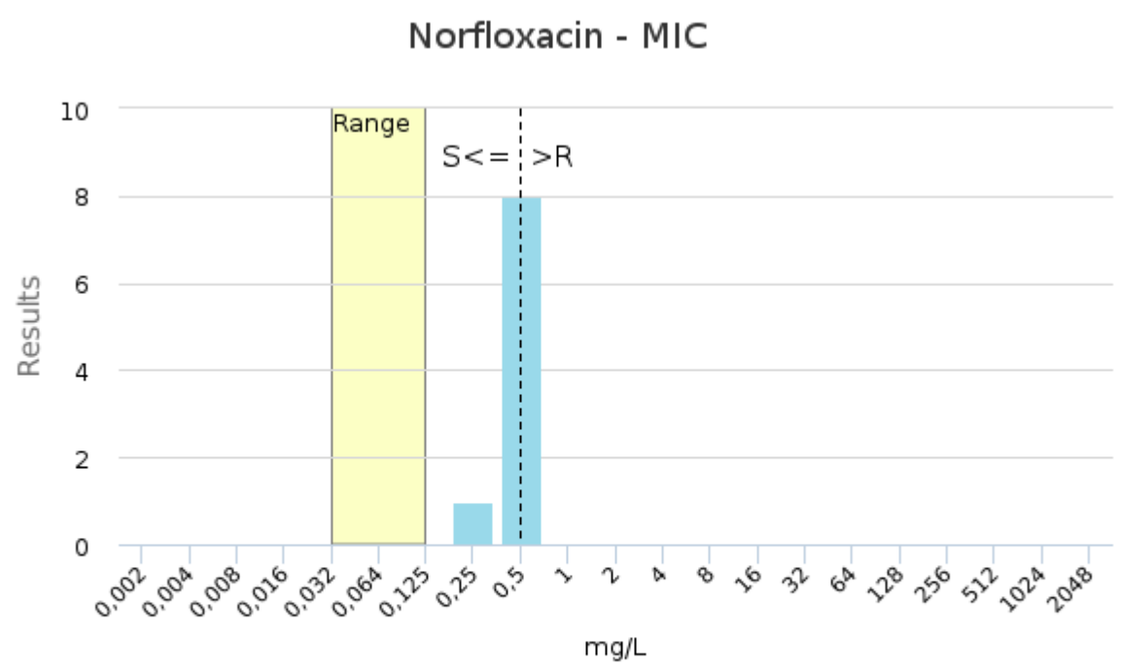






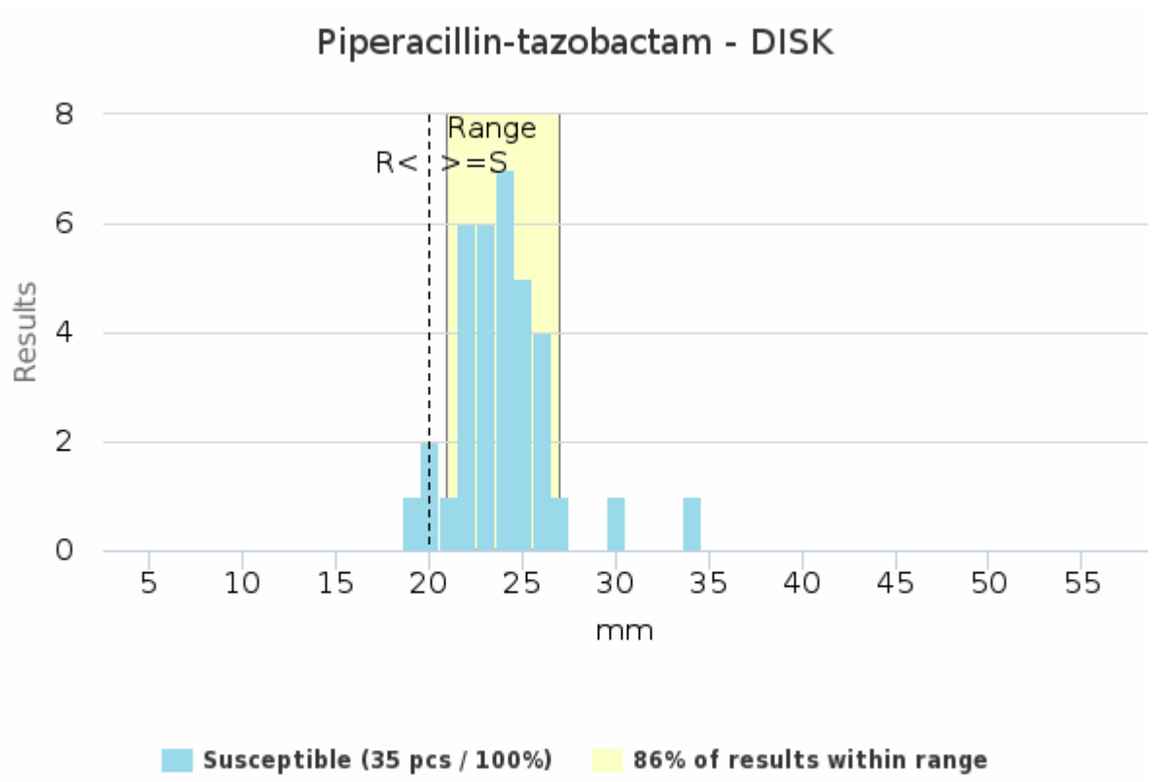


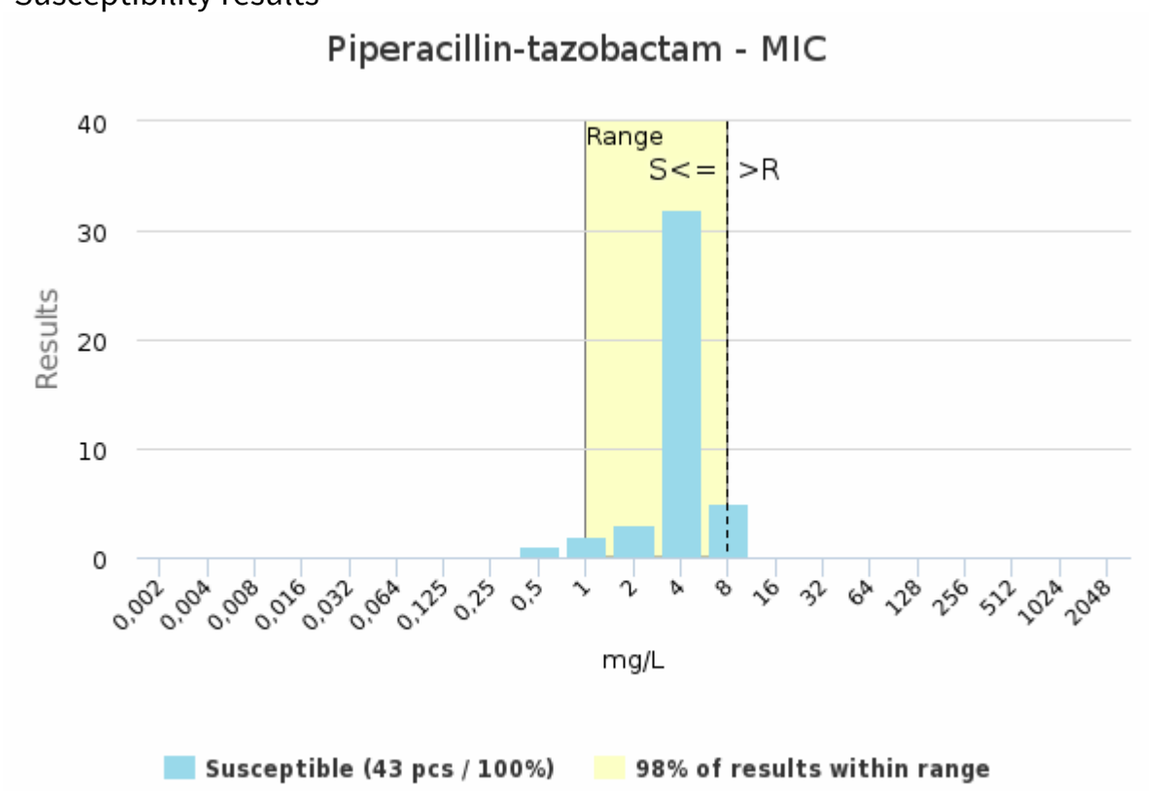


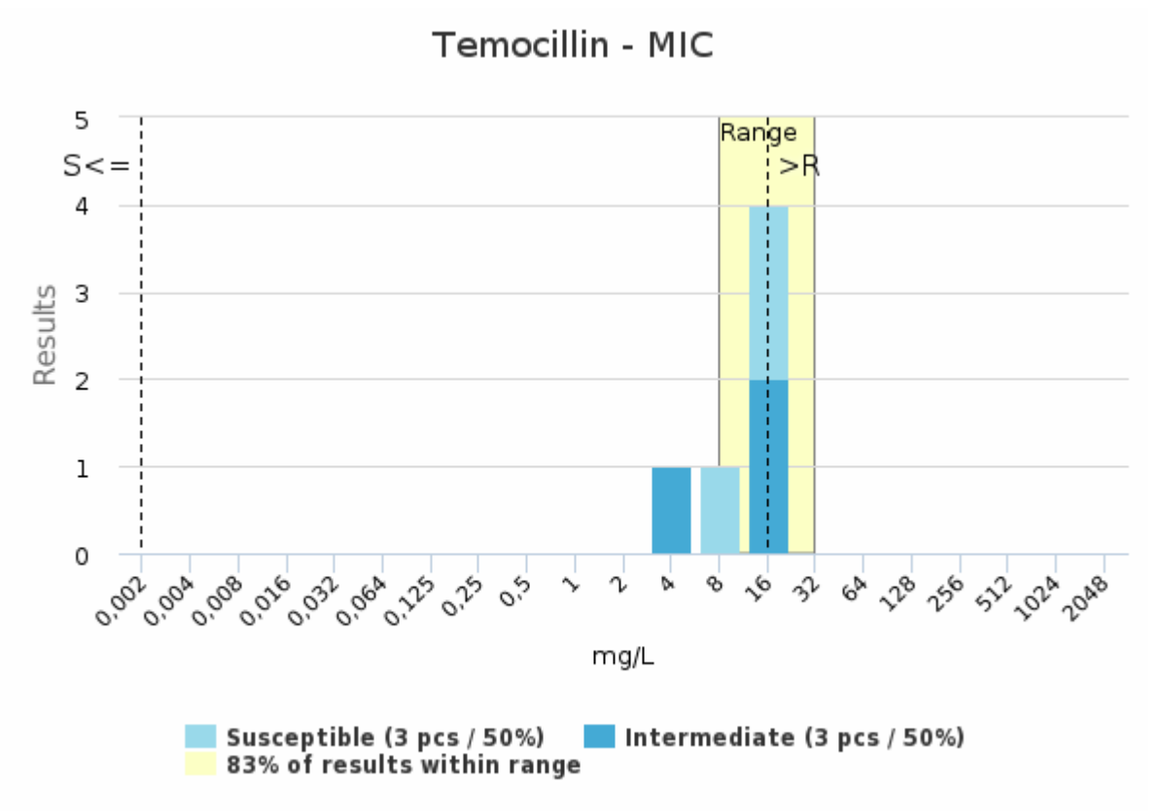


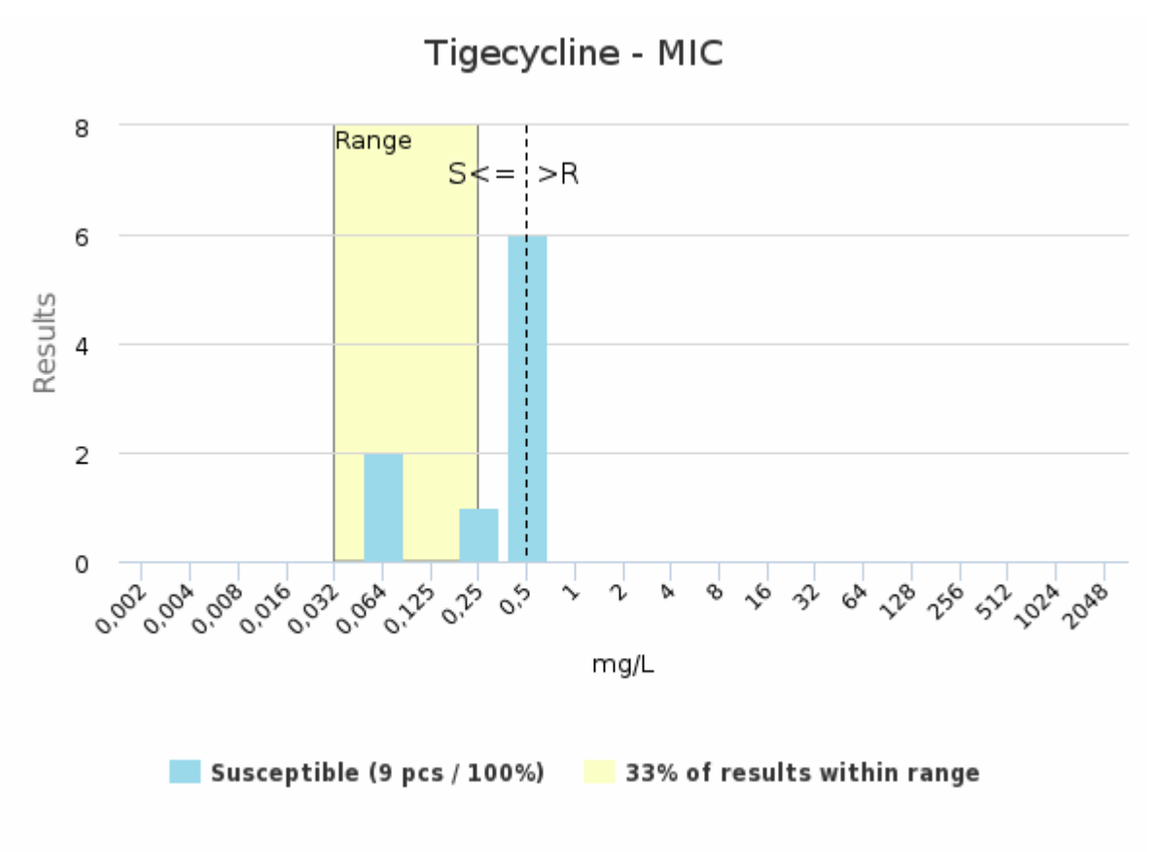
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Susceptibility results



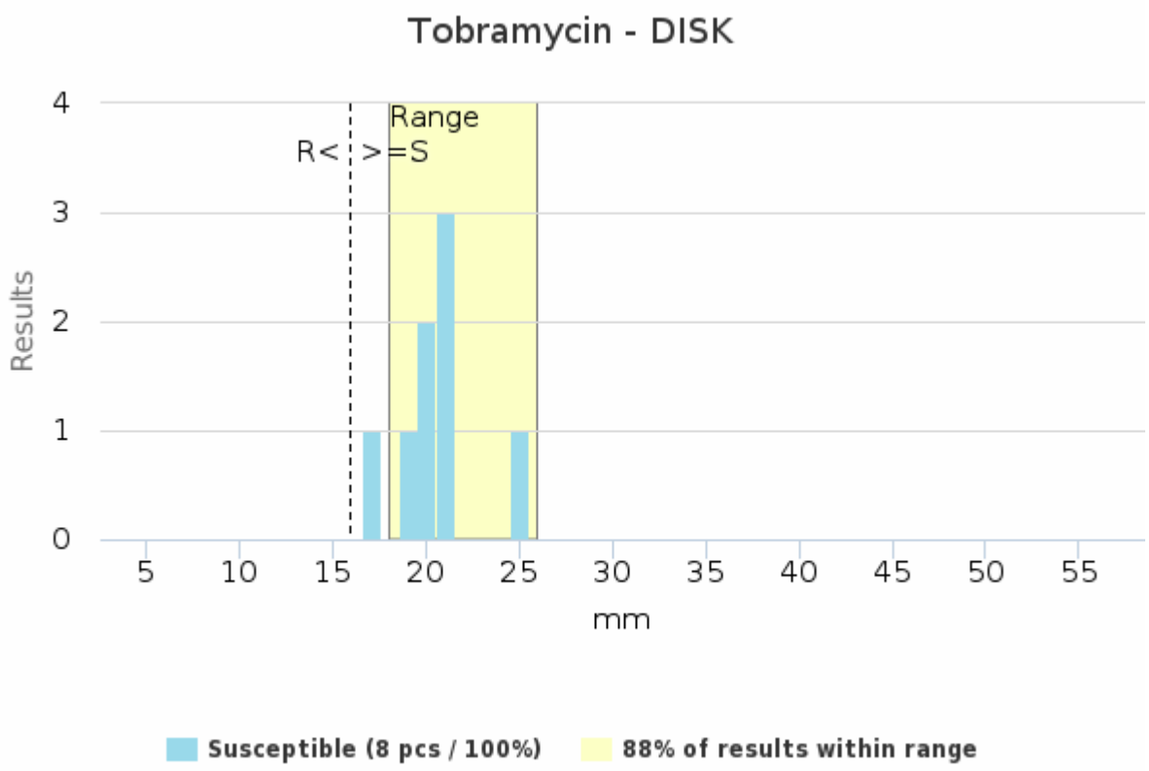


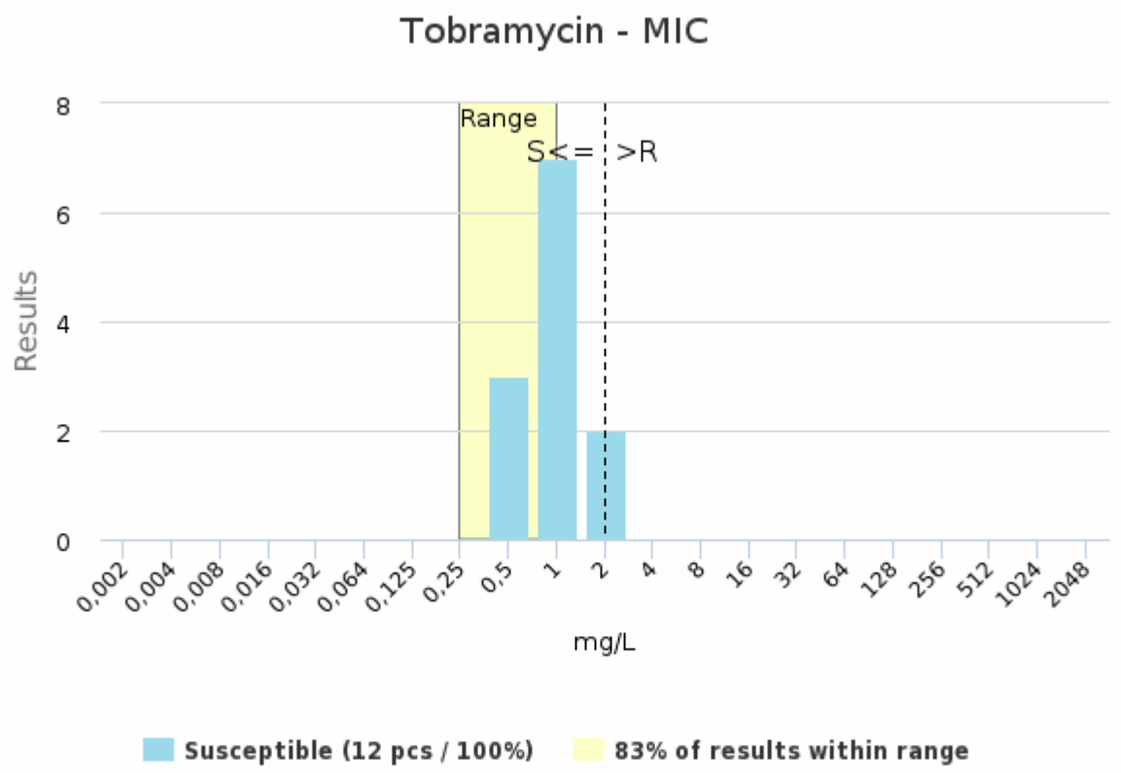


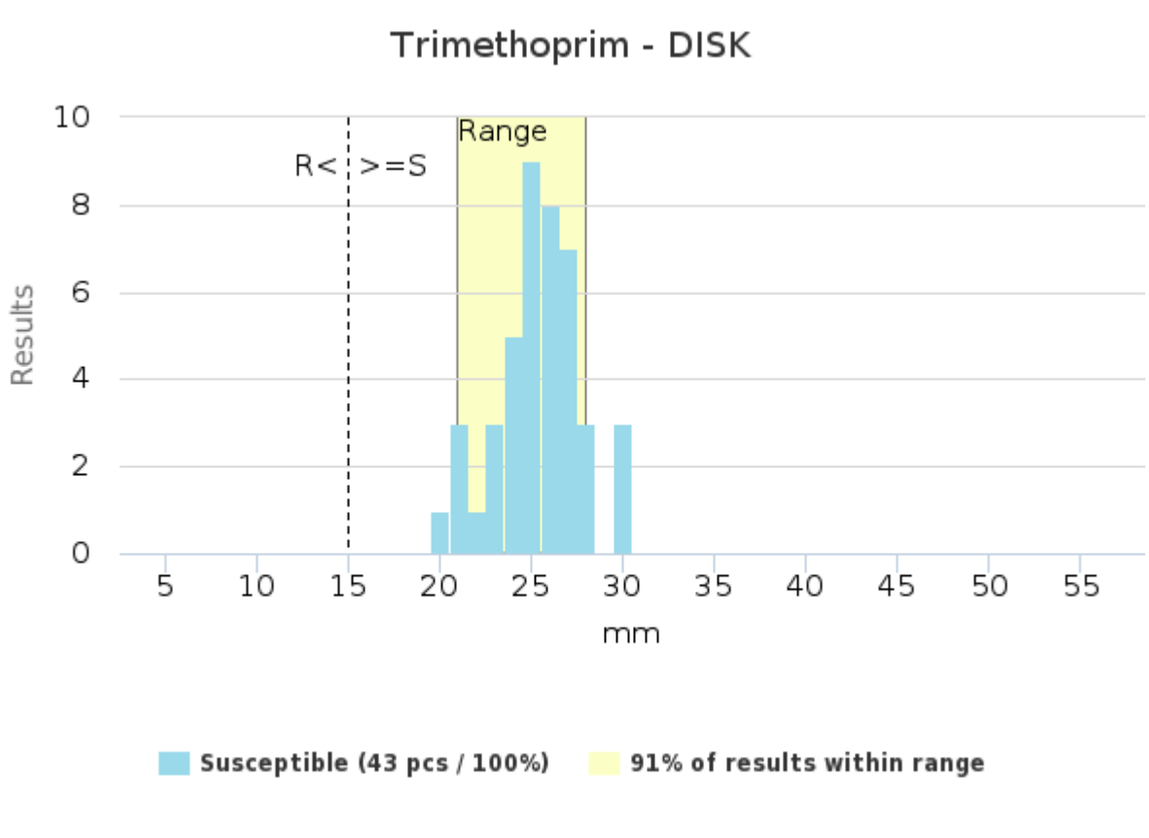


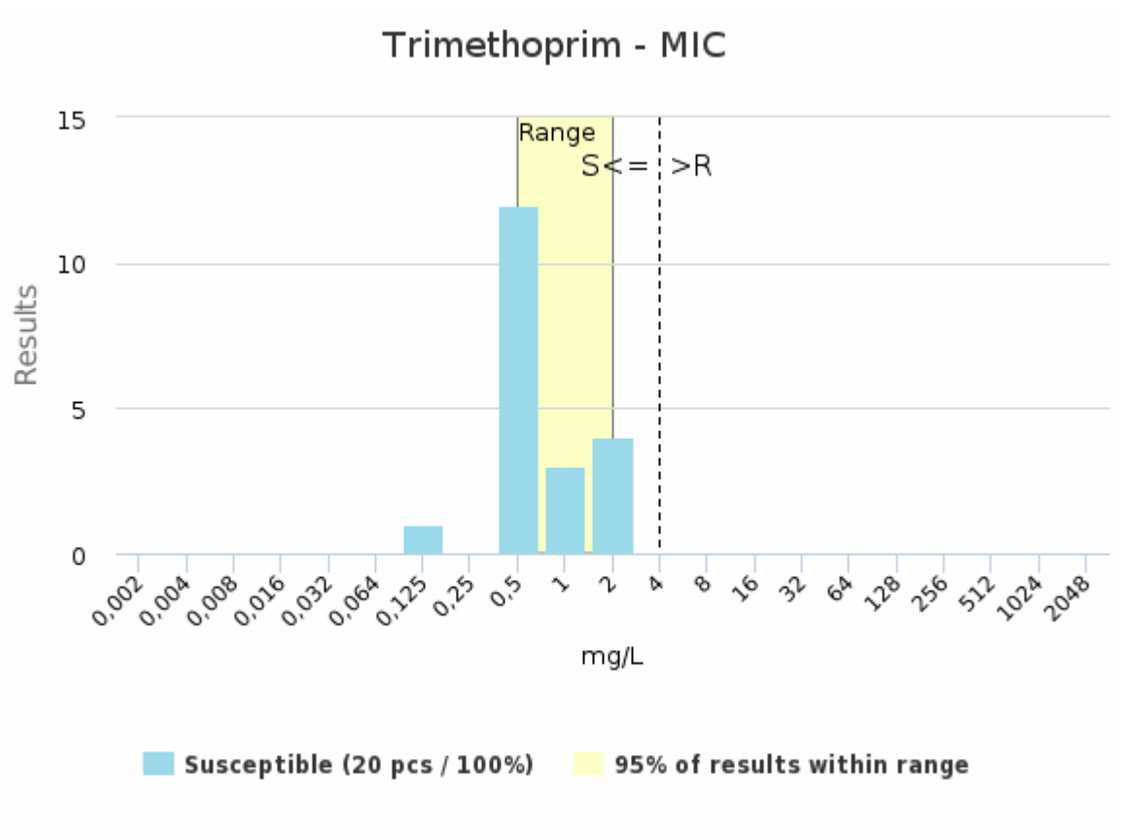
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

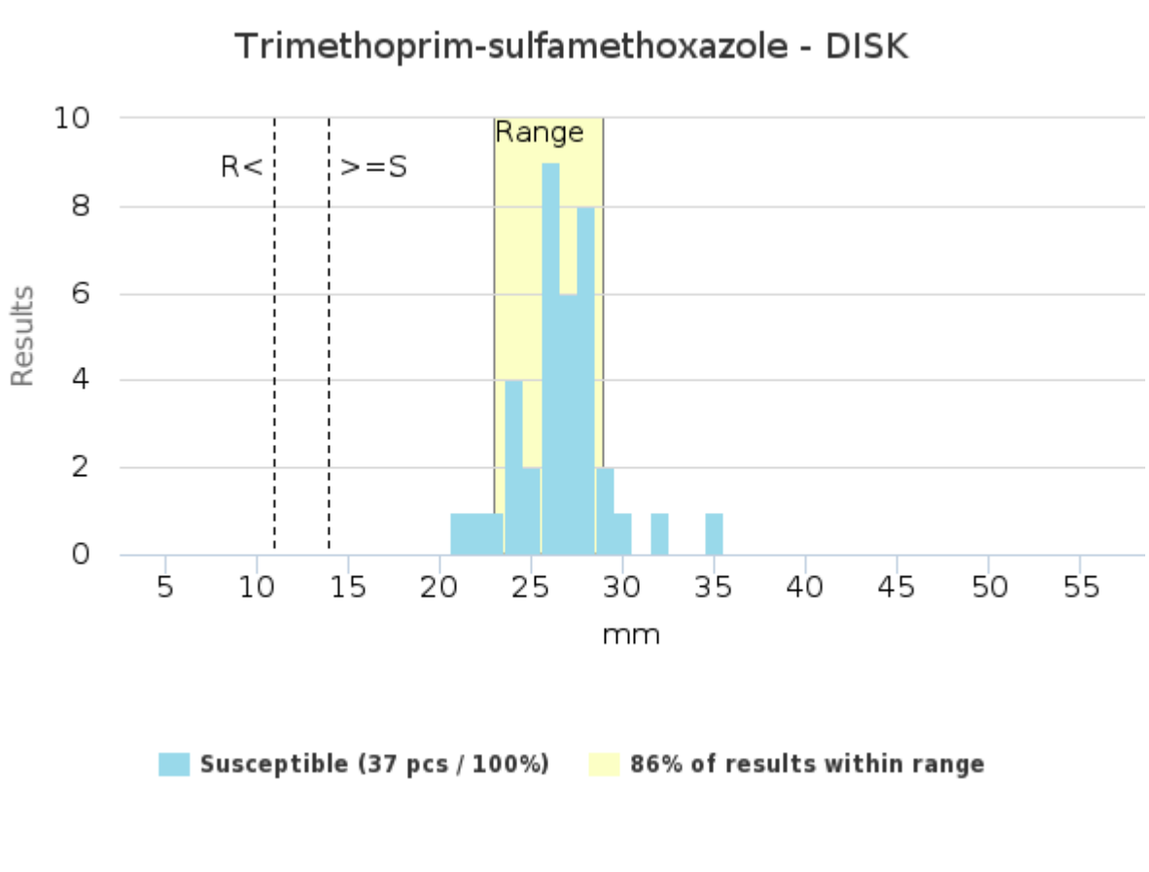
Susceptibility results

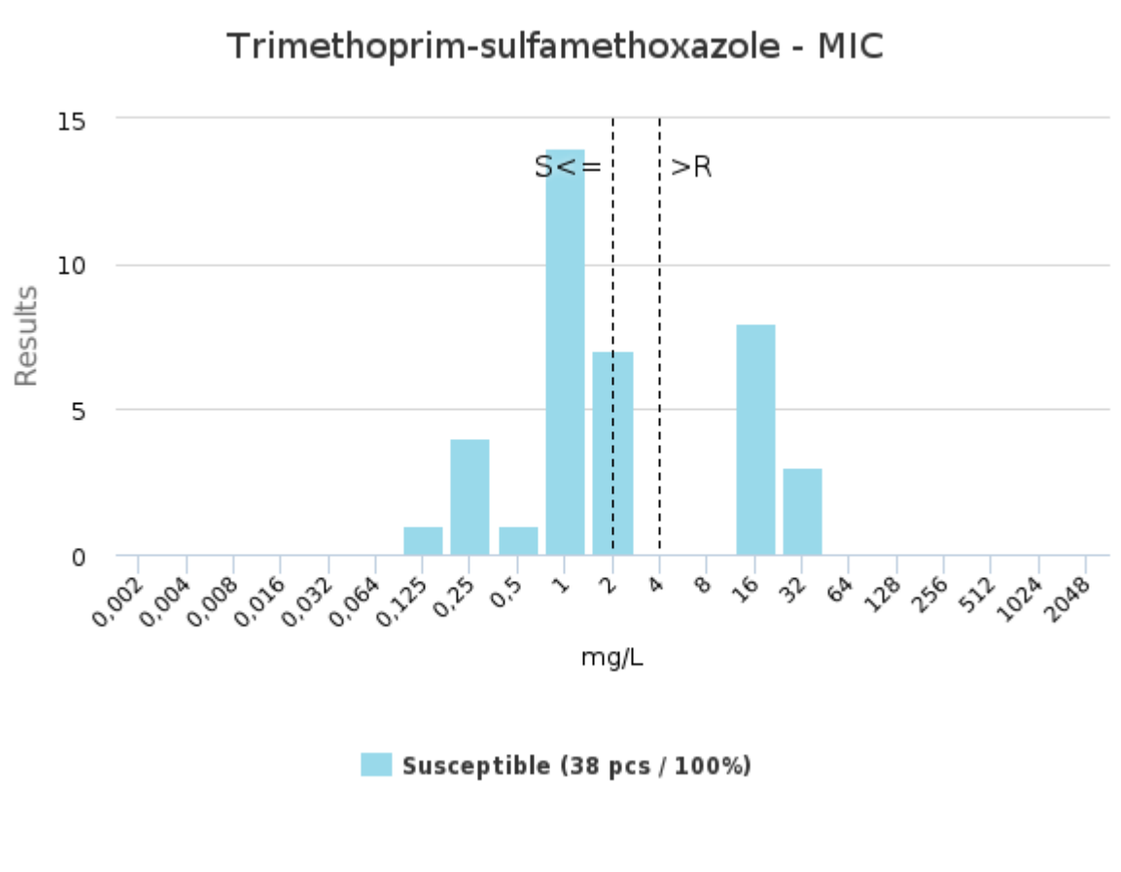










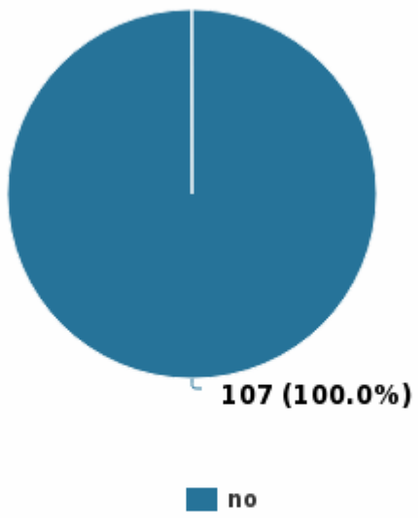


Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

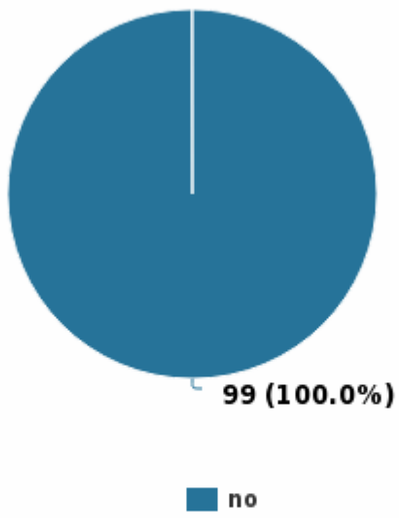
Susceptibility results

Sample S001 | Additional questions

Is the strain an ESBL producer?



Is the strain a carbapenemase producer?



Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Susceptibility results

Report info

Participants

Altogether 123 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.

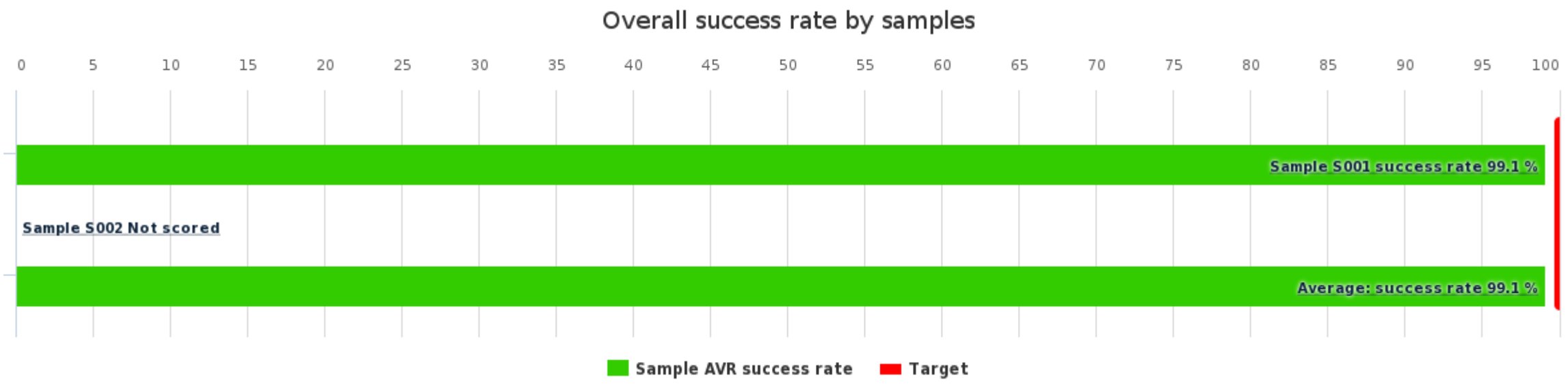
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

GLOBAL REPORT

	No of participants	No of responded participants	Response percentage
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023	123	118	95.9 %

Summary

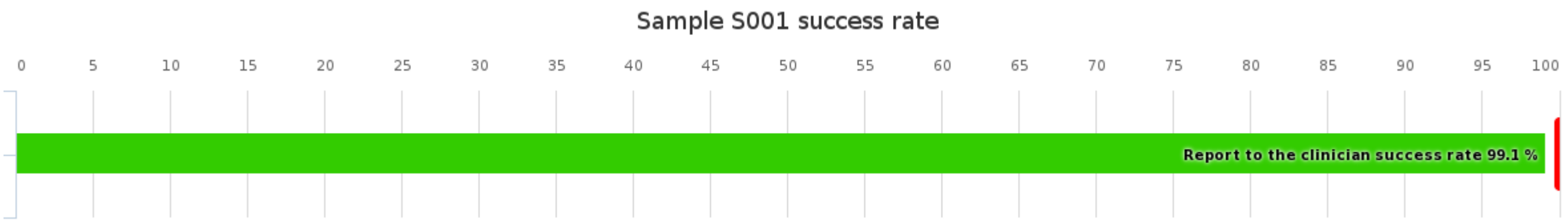


Summary	AVR success rate
Sample S001	99.1 %
Sample S002	-
Average:	99.1 %

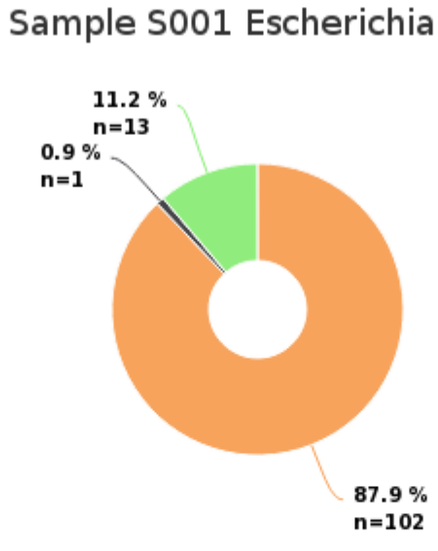
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

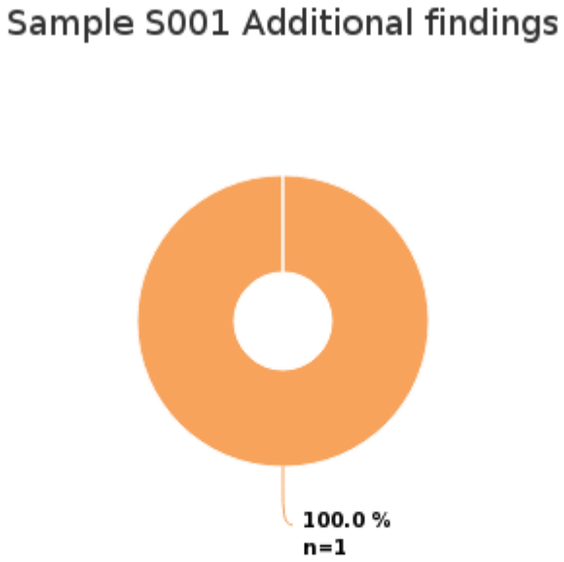
Report to the clinician and identification test results

Sample S001 | Escherichia coli



Sample S001 results	Responded	AVR success rate	Count
	Report to the clinician	99.1 %	117
	Gram staining	-	59
	Identification test kits and analyzers	-	30
	Identification tests: MALDI-TOF	-	62
	Identification tests: NAT and DNA-sequencing	-	1





REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Escherichia coli		**116**			**99.1 %**
	Escherichia coli	102	2	100	
	Acinetobacter sp.	1		1	
	Escherichia coli- Identify E.coli only	13		13	
Additional findings		**1**			**-**
	Enterococcus faecalis	1		1	
Total:		117			99.1 %

SCORING SUMMARY

Finding group	Finding	Finding score	Max score
Escherichia coli			**4**
	Escherichia coli	4	4
	Acinetobacter sp.	0	4
	Escherichia coli- Identify E.coli only	4	4
Additional findings			**-**
	Enterococcus faecalis	-	-
Total:			4

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Sample S001 Gram staining, Escherichia coli

GRAM STAINING

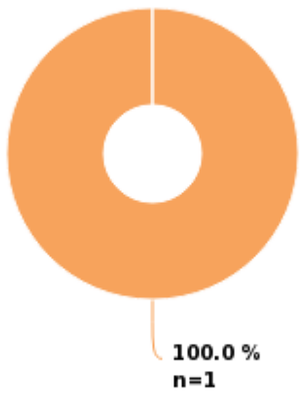
Finding group	Result	Result count
Escherichia coli		**59**
	Gramnegative rod/bacilli	40
	Gramnegative bacteria	19
Total:		59

Sample S001 Identification test kits and analyzers, Escherichia coli

Sample S001 Identification tests: MALDI-TOF, Escherichia coli

Sample S001 Identification tests: MALDI-TOF, Additional findings

Sample S001 Identification tests: NAT and DNA-sequencing, Escherichia coli



Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Escherichia coli

IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Escherichia coli	API 20E (bioMerieux)	Escherichia coli	5144552	1
	API Rapid 20E (bioMerieux)	Escherichia coli	5144552	1
	BBL Crystal E/NF ID Kit (Becton Dickinson)	Escherichia coli	7620646071	1
	BD Phoenix NMIC/ID panel (Becton Dickinson)	Escherichia coli	N/A	1
	MicroScan Walk-Away (Beckman Coulter)	Escherichia coli	52	1
			N/A	2
	Mikrolatest ENTEROtest 24 (ErbaLachema)	Escherichia coli	N/A	2
	VITEK 2 (bioMerieux)	Escherichia coli	0405611560567611	1
			0405611560567601	1
			0405610560426600	1
			0405610440166601	1
			0401600440004600	2
			23030204Z	1
			GN/N330	1
			N/A	5
	VITEK 2 Compact 15 (bioMerieux)	Escherichia coli	0405611560566601	1
			0405610560567601	1
			0405610560566601	2
			N/A	4
Total:				30

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Escherichia coli	MALDI Biotyper (Bruker)	Acinetobacter sp.	≥2	1
		Escherichia coli	≥2	34
			≥1.7..<2	2
			N/A	2
	VITEK MS (bioMérieux)	Escherichia coli	99,9 %	21
			99 %	1
Additional findings	MALDI Biotyper (Bruker)	Enterococcus faecalis	≥2	1
Total:				62

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

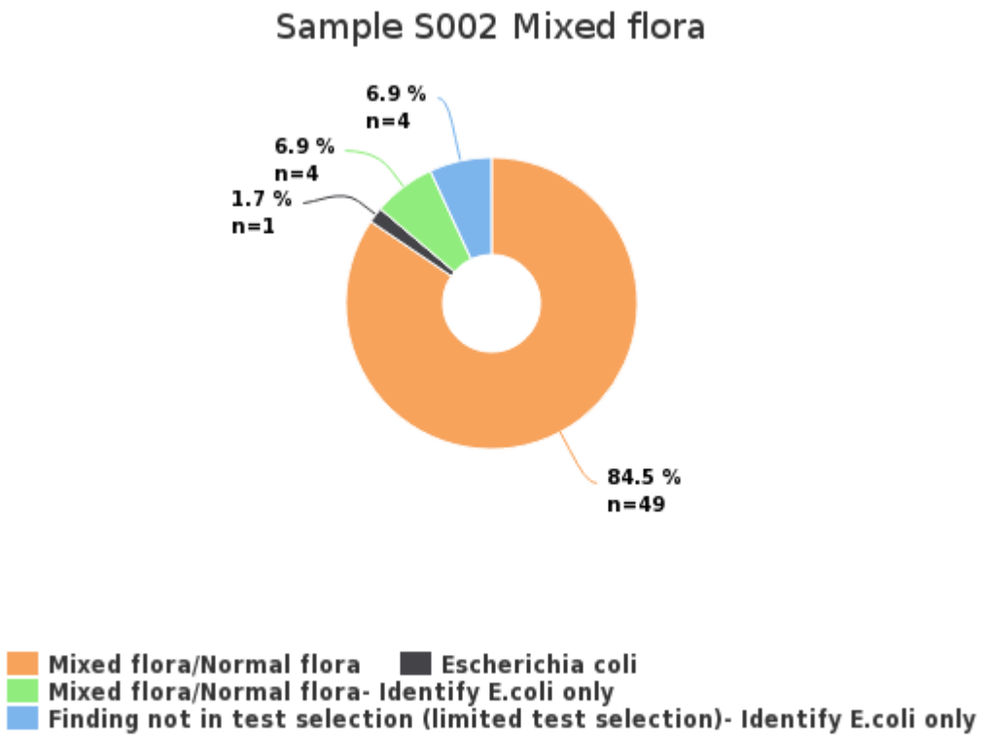
Finding group	Method	Result	Result count
Escherichia coli	NAT, In house	Escherichia coli	1
Total:			1

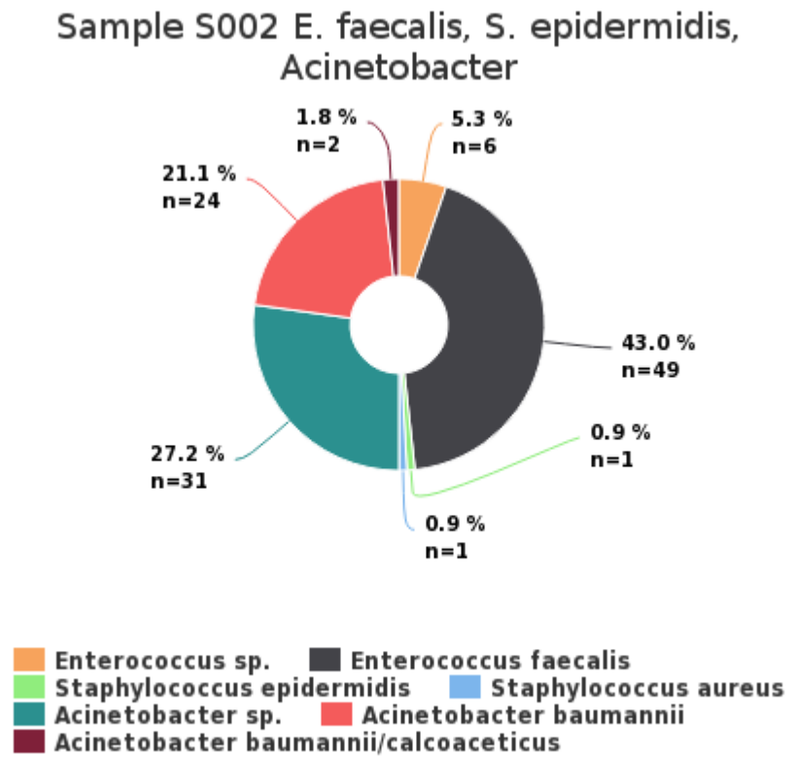
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Sample S002 | Mixed flora

Sample S002 results	Responded	AVR success rate	Count
	Report to the clinician	-	172
	Gram staining	-	93
	Identification test kits and analyzers	-	40
	Identification tests: MALDI-TOF	-	111





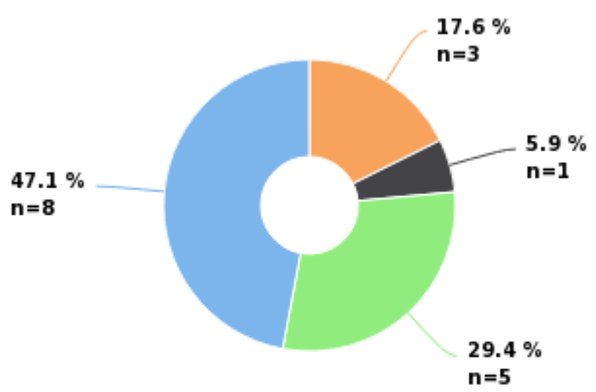
REPORT TO THE CLINICIAN

Finding group	Finding	Finding count	Referred	Not referred	AVR success rate
Mixed flora		**58**			**-**
	Mixed flora/Normal flora	49		28	
	Escherichia coli	1		1	
	Mixed flora/Normal flora- Identify E.coli only	4			
	Finding not in test selection (limited test selection)- Identify E.coli only	4	4		
E. faecalis, S. epidermidis, Acinetobacter		**114**			**-**
	Enterococcus sp.	6	1	4	
	Enterococcus faecalis	49	2	42	
	Staphylococcus epidermidis	1		1	
	Staphylococcus aureus	1			
	Acinetobacter sp.	31	1	26	
	Acinetobacter baumannii	24	1	20	
	Acinetobacter baumannii/calcoaceticus	2		2	
Total:		172			

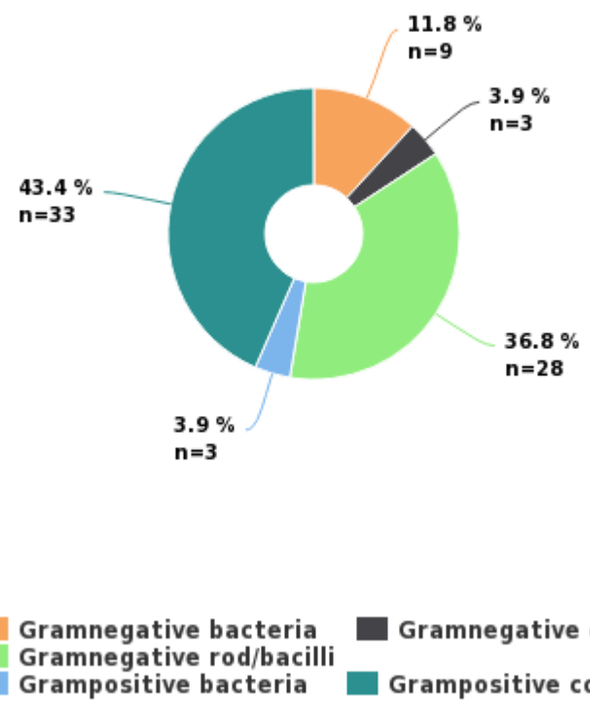
Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Sample S002 Gram staining, Mixed flora



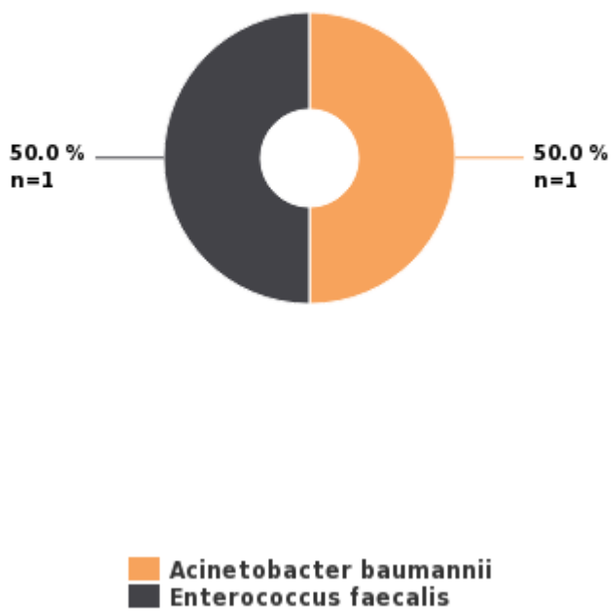
Sample S002 Gram staining, E. faecalis, S. epidermidis, Acinetobacter



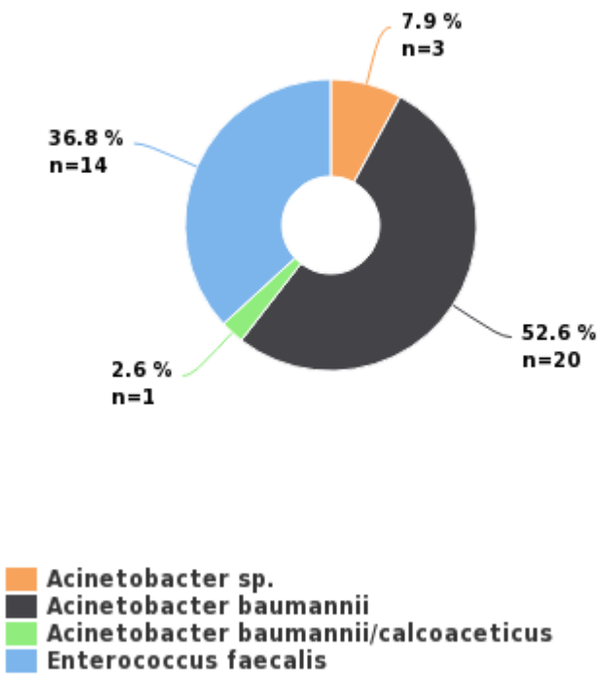
GRAM STAINING

Finding group	Result	Result count
Mixed flora		**17**
	Gramnegative bacteria	3
	Gramnegative cocci	1
	Gramnegative rod/bacilli	5
	Grampositive cocci	8
E. faecalis, S. epidermidis, Acinetobacter		**76**
	Gramnegative bacteria	9
	Gramnegative cocci	3
	Gramnegative rod/bacilli	28
	Grampositive bacteria	3
	Grampositive cocci	33
Total:		93

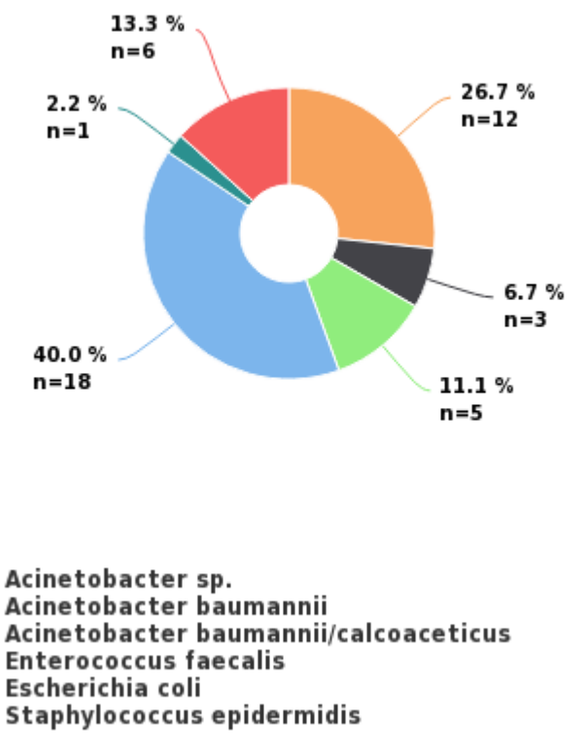
Sample S002 Identification test kits and analyzers, Mixed flora



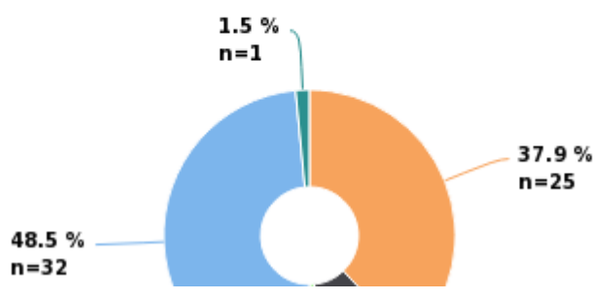
Sample S002 Identification test kits and analyzers, E. faecalis, S. epidermidis, Acinetobacter



Sample S002 Identification tests: MALDI-TOF, Mixed flora

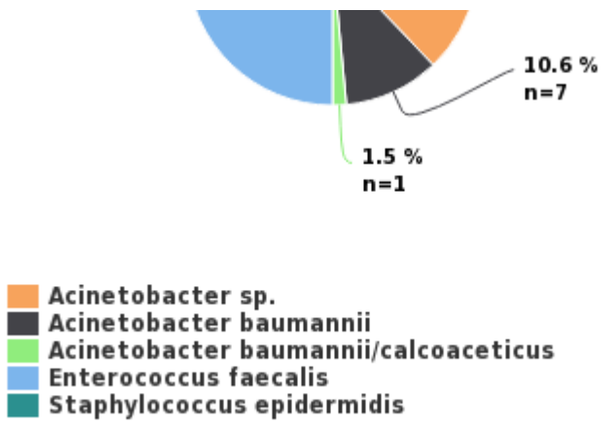


Sample S002 Identification tests: MALDI-TOF, E. faecalis, S. epidermidis, Acinetobacter



Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results



IDENTIFICATION TEST KITS AND ANALYZERS

Finding group	Method	Result	Profile number	Profile number count
Mixed flora	VITEK 2 (bioMerieux)	Acinetobacter baumannii	GN/N331	1
		Enterococcus faecalis	GP/P643	1
E. faecalis, S. epidermidis, Acinetobacter	API 10S (bioMerieux)	Acinetobacter sp.	6000	1
	API 20NE (bioMerieux)	Acinetobacter baumannii	1040073	1
	BBL Crystal E/NF ID Kit (Becton Dickinson)	Acinetobacter baumannii	1405001050	1
	MicroScan Walk-Away (Beckman Coulter)	Acinetobacter baumannii	10202	1
			81	1
		Enterococcus faecalis	10202	1
	VITEK 2 (bioMerieux)	Acinetobacter sp.	0201010101500210	1
			N/A	1
		Acinetobacter baumannii	0241010301500210	1
			0201010301500210	2
			0201010301500200	1
			0201010101500210	1
			23030208H	1
			66861	1
			N/A	3
		Enterococcus faecalis	156002661773671	1
			156002461753471	1
			116012771773471	1
			116002761773671	1
			116002461773671	1
			66861	1
			N/A	3
	VITEK 2 Compact 15 (bioMerieux)	Acinetobacter baumannii	0201010301500210	2
			N/A	4
		Acinetobacter baumannii/calcoaceticus	0241010101500210	1
		Enterococcus faecalis	116012761773471	1
			114002761773661	1
			114002521773671	1
			N/A	1
Total:				40

IDENTIFICATION TESTS: MALDI-TOF

Finding group	Method	Result	Score / Probability %	Score / Probability % count
Mixed flora	MALDI Biotyper (Bruker)	Acinetobacter sp.	≥2	8
		Acinetobacter baumannii	≥2	3
		Acinetobacter baumannii/calcoaceticus	≥2	3
		Enterococcus faecalis	≥2	12
			≥1.7..<2	1
			N/A	1
		Escherichia coli	≥2	1
		Staphylococcus epidermidis	≥2	4
			≥1.7..<2	1
	VITEK MS (bioMérieux)	Acinetobacter sp.	99,9 %	3
		Acinetobacter baumannii/calcoaceticus	99,9 %	2
		Enterococcus faecalis	99,9 %	4
		Staphylococcus epidermidis	98,7 %	1

E. faecalis, S. epidermidis, Acinetobacter	MALDI Biotyper (Bruker)	Acinetobacter sp.	≥2	14
			≥1.7..<2	1
			N/A	1
		Acinetobacter baumannii	≥2	4
		Acinetobacter baumannii/calcoaceticus	≥2	1
		Enterococcus faecalis	≥2	19
			N/A	1
		Staphylococcus epidermidis	≥2	1
	VITEK MS (bioMérieux)	Acinetobacter sp.	99,9 %	8
			99 %	1
		Acinetobacter baumannii	99,9 %	1
			99 %	2
		Enterococcus faecalis	99,9 %	10
			99 %	2
Total:				111

Urine culture, quantitative screening, identification and susceptibility, March, 1-2023

Report to the clinician and identification test results

Report Info

PARTICIPANTS

Altogether 123 laboratories from 19 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

External Quality Assessment Scheme

Urine culture, quantitative screening, identification and susceptibility Round 1, 2023

Specimens
Samples of this EQA round were lyophilized microbial samples. The sample lots were tested in two accredited Finnish reference laboratories 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 (LQ761923011)
Escherichia coli ATCC® 25922™, >10^5 CFU/mL

Sample S002 (LQ761923012)
Enterococcus faecalis C090604, >10^5 CFU/mL
Staphylococcus epidermidis C090609, >10^5 CFU/mL
Acinetobacter sp. C021239, >10^5 CFU/mL

Pre-test methods: the samples were cultured by loop method on CLED and/or chromogenic culture media. The number of microbes obtained in sample S001 was >10^5 CFU/mL in one of the pretest units and 10^4-10^5 CFU/mL in the other. For S002, the number of microbes obtained was >10^5 CFU/mL in both pretest units; one unit identified all three microbes whereas the other identified *E. faecalis* and *Acinetobacter* sp.

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, because it contains important information of the samples and results in each round.

Comments – Experts
Altogether 215 out of 226 laboratories reported their results before the closing date. 17 screening laboratories reported that they do not routinely interpret the clinical significance at all but refer all growing samples to another laboratory. These participants are scored according to correctly identified growth.

Sample S001
Background info: Pyelonephritis of a toddler. The sample contained *Escherichia coli,* significant growth, >10^5 CFU/mL.

Significant growth was detected by all of the laboratories. Both the expected amount of bacteria (>10^5 CFU/mL) and correct interpretation of the clinical significance (significant growth) was reported by 70% (137/196) of the participants. Significant growth with a lower quantity of 10^{4-5} CFU/mL was reported by 28% (55/196) of the participants. The lower category was accepted as well.

2023-05-25

FINAL REPORT

Product no. 5065

Subcontracting: Sample pretesting

Samples sent	2023-03-07
Round closed	2023-04-04
Expected results	2023-04-06
Final report	2023-05-25

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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Of the identifying laboratories, 118 out of 123 returned the answers before due date. The expected result *E. coli* was correctly reported by all of the participants, apart from one laboratory who had mixed up the samples and reported *Acinetobacter* sp. and *E. faecalis* from this sample. The results were overall excellent.

Susceptibility testing results

Escherichia coli ATCC® 25922™ is a susceptibility control strain recommended by the EUCAST. It is a wild type strain with no acquired antimicrobial resistance. The disk diffusion results were mostly within the reference range, and there were only a few major errors. The MIC results of several antibiotics were above the reference range, although the SIR interpretations were still mostly correct. The reason for this is probably the MIC range of many automated systems being higher than the expected MICs of this very susceptible strain.

Table 1. The MIC results of *Escherichia coli* ATCC® 25922™, reported by two Finnish reference laboratories. Both laboratories implement the EUCAST guideline.

Antimicrobial agent	**Ref. lab 1**		**Ref. lab 2**	
	MIC (mg/L)	SIR	MIC (mg/L)	SIR
Amoxicillin-clavulanate	6	S	8	S
Ampicillin	6	S	4	S
Cefotaxime	0.125	S	≤0.5	S
Ceftazidime	0.75	S	≤0.5	S
Ceftriaxone	0.064	S	0.06	S
Cefuroxime	8	I	4	I
Ciprofloxacin	0.016	S	≤0.06	S
Meropenem	0.023	S	≤0.06	S
Piperacillin-tazobactam	3	S	4	S
Tobramycin	2	S	≤1	S
Trimethoprim-sulfa	NA	S	≤0.25	S
Resistance mechanisms	**Result**			
ESBL	NA		negative	

Sample S002

Background info: A 30-year-old female, sample taken at home, bladder time <4 hours. The sample contained *Enterococcus faecalis, Staphylococcus epidermidis* and *Acinetobacter* sp., mixed flora, >10^5 CFU/mL.

Mixed flora was reported by 42% (83/196) of the laboratories, whereas 53% (103/196) interpreted the growth as significant. The expected extent of growth (>10^5 CFU/mL) was reported by 80% (172/215) of the laboratories.

Of the identifying laboratories, 45 % (53/118) reported mixed flora. *Enterococcus* was reported by 55, *Acinetobacter* by 57 and *Staphylococcus* by only two participants. Four reported that the finding does not belong to their examination selection and would have referred the microbe for further identification.

Sample S002 contained three bacterial species belonging to normal urogenital and skin microbiome. The pathogenicity of all these species is very low and there were no such special details in background info based on which identification and susceptibility testing would have been necessary. Interpretation of the results varied as expected, thus both quantitation and identification are left unscored.

Exceptions in scoring

Sample S002 was not scored.

End of report