

External Quality Assessment Scheme

General Bacteriology 2 Round 1, 2023

Specimens

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

Caution

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

Background information

Sample S001

Keratitis in patient using contact lenses.

Sample S002

CSF. Suspected meningitis.

Examinations

Bacterial culture, aerobes, of S001 and S002

Antimicrobial susceptibility testing of S001

Storage and use

After arrival, the samples should be stored at +2...8 °C.

1. Let the samples and the rehydration fluids warm up to room temperature.
2. Cut the foil packet open at the end where you can feel the thicker part of the loop.
3. Remove the plastic sheath from loop. Break the loop shaft off from handle (appr. 2 cm) directly into the tube containing warm rehydration fluid (blue cap).
4. Incubate the tube for 30 minutes in +35...37 °C incubator.
5. Check that the black film inside the loop (containing the lyophilized sample) has dissolved completely.
6. Mix well the contents of the tube and proceed immediately with the examination similar to a patient sample.

Result reporting

Please enter the results via LabScala (www.labscala.com). Give the final answer to the clinician (findings) for specimens S001 and S002. Also report the significance of the finding/s and the possible referring. Results reported in the Final answer to the clinician -section will be scored. Susceptibility testing results may be reported for sample S001.

Reporting of antimicrobial susceptibility testing results

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

2023-03-21

INSTRUCTIONS

Product no. 5081
LQ760123011-012/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 14, 2023.

The expected results of the round are published in LabScala in the View reports section by April 18, 2023.

Inquiries

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rounding can be found on the next page and is also available in LabScala (click the *i*-button in column “MIC result, rounded”).

The rounded MIC value should always be selected from the list on the result form, also when it is the same as the actual obtained MIC result (see examples below guidance table). In the last column report the corresponding SIR interpretation (Sensitive/Intermediate/Resistant). The interpretation should be reported by taking into consideration possible resistance mechanisms of the microbe.

Guidance for the rounding of MIC values

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

Example 1: Obtained test result is 0.002 mg/L, rounded value is 0.002 mg/L

Example 2: Obtained test result is 0.003 mg/L, rounded value is 0.004 mg/L

Example 3: Obtained test result is >16 mg/L, rounded value is 32 mg/L

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

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

S001



S002



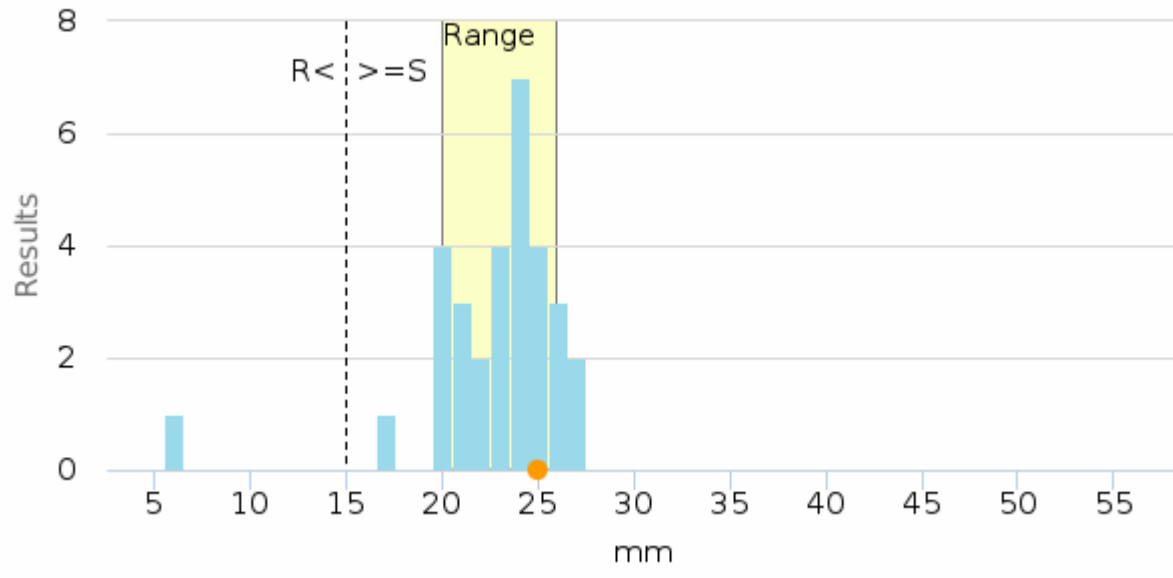
Sample 001

Pseudomonas aeruginosa ATCC 27853

| Antimicrobial agent | Guideline | DISK | | | | | | | MIC | | | | | |
|-------------------------|------------|-----------------|--------|---------|------------------|-----------------|---------------|-----------|-------------------|-----------|------------------|-----------------|---------------|-----------|
| | | Own result (mm) | x (mm) | sd (mm) | S | I | R | n | Own result (mg/L) | Mo (mg/L) | S | I | R | n |
| Amikacin | CLSI | - | - | - | - | - | - | - | - | 4 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | CA-SFM | - | 21 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | - | 2 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 25 | 23 | 4 | 31 (100%) | 0 (0%) | 0 (0%) | 31 | 2 | 2 | 45 (100%) | 0 (0%) | 0 (0%) | 45 |
| | All | | | | 33 (100%) | 0 (0%) | 0 (0%) | 33 | | | 47 (100%) | 0 (0%) | 0 (0%) | 47 |
| Cefepime | CA-SFM | - | 28 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | 2 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 31 | 28 | 3 | 2 (10%) | 18 (90%) | 0 (0%) | 20 | 1 | 2 | 4 (11%) | 32 (89%) | 0 (0%) | 36 |
| | All | | | | 3 (14%) | 19 (86%) | 0 (0%) | 22 | | | 4 (11%) | 33 (89%) | 0 (0%) | 37 |
| Ceftazidime | CLSI | - | - | - | - | - | - | - | - | 1 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | CA-SFM | - | 22 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | 4 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 25 | 24 | 2 | 5 (11%) | 39 (89%) | 0 (0%) | 44 | 2 | 2 | 4 (8%) | 47 (92%) | 0 (0%) | 51 |
| | All | | | | 6 (13%) | 40 (87%) | 0 (0%) | 46 | | | 5 (9%) | 48 (91%) | 0 (0%) | 53 |
| Ciprofloxacin | CLSI | - | - | - | - | - | - | - | - | 0.5 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | CA-SFM | - | 32 | 1 | 1 (33%) | 2 (67%) | 0 (0%) | 3 | - | - | 0 (0%) | 2 (100%) | 0 (0%) | 2 |
| | EUCAST | 32 | 30 | 2 | 7 (15%) | 39 (83%) | 1 (2%) | 47 | 0.25 | 0.25 | 6 (13%) | 41 (85%) | 1 (2%) | 48 |
| | All | | | | 8 (16%) | 41 (82%) | 1 (2%) | 50 | | | 7 (14%) | 43 (84%) | 1 (2%) | 51 |
| Colistin | EUCAST | - | 16 | - | 1 (100%) | 0 (0%) | 0 (0%) | 1 | 1 | 2 | 22 (100%) | 0 (0%) | 0 (0%) | 22 |
| | All | | | | 1 (100%) | 0 (0%) | 0 (0%) | 1 | | | 22 (100%) | 0 (0%) | 0 (0%) | 22 |
| Imipenem | CLSI | - | - | - | - | - | - | - | - | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 |
| | CA-SFM | - | 24 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | 4 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 25 | 24 | 2 | 4 (13%) | 27 (87%) | 0 (0%) | 31 | 2 | 2 | 3 (9%) | 31 (91%) | 0 (0%) | 34 |
| | All | | | | 5 (15%) | 28 (85%) | 0 (0%) | 33 | | | 5 (14%) | 32 (86%) | 0 (0%) | 37 |
| Meropenem | CA-SFM | - | 28 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | - | - | - | - | - | - |
| | EUCAST | - | 29 | 3 | 43 (100%) | 0 (0%) | 0 (0%) | 43 | 0.25 | 0.5 | 49 (100%) | 0 (0%) | 0 (0%) | 49 |
| | All | | | | 45 (100%) | 0 (0%) | 0 (0%) | 45 | | | 49 (100%) | 0 (0%) | 0 (0%) | 49 |
| Piperacillin-tazobactam | CA-SFM | - | 25 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | - | - | - | - | - |
| | EUCAST | 27 | 26 | 2 | 6 (14%) | 37 (86%) | 0 (0%) | 43 | 4 | 4 | 7 (15%) | 39 (85%) | 0 (0%) | 46 |
| | All | | | | 7 (16%) | 38 (84%) | 0 (0%) | 45 | | | 7 (15%) | 39 (85%) | 0 (0%) | 46 |
| Tobramycin | CA-SFM | - | 22 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | - | 1 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | - | 23 | 3 | 42 (100%) | 0 (0%) | 0 (0%) | 42 | 1 | 1 | 36 (100%) | 0 (0%) | 0 (0%) | 36 |
| | All | | | | 44 (100%) | 0 (0%) | 0 (0%) | 44 | | | 37 (100%) | 0 (0%) | 0 (0%) | 37 |

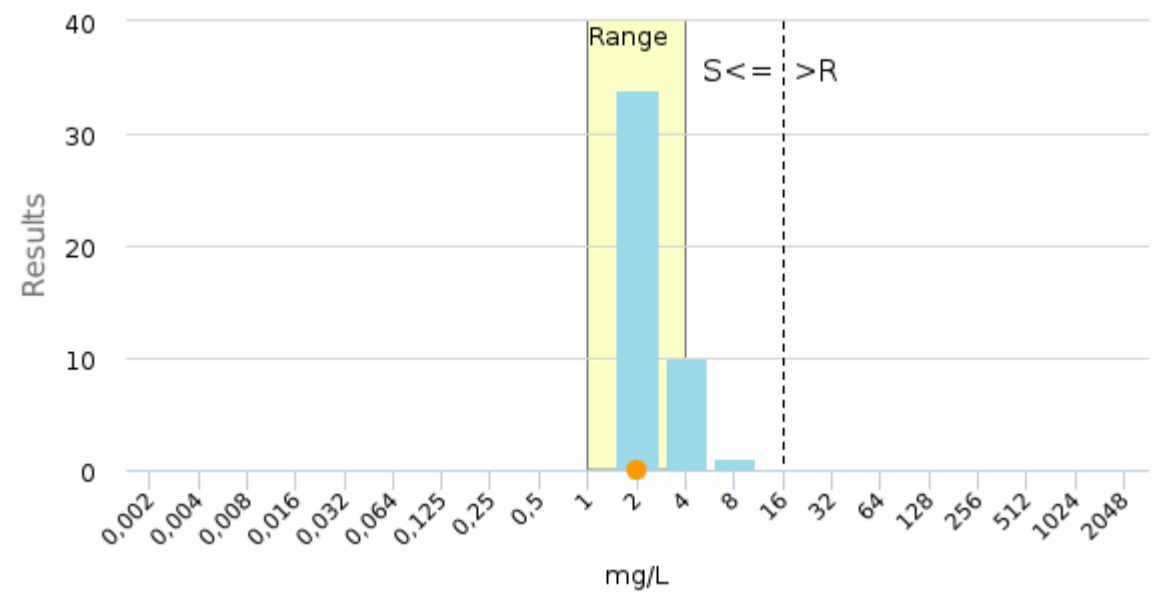
Sample 001 | EUCAST

Amikacin - DISK



Susceptible (31 pcs / 100%)
87% of results within range
Own result: Susceptible 25 mm

Amikacin - MIC

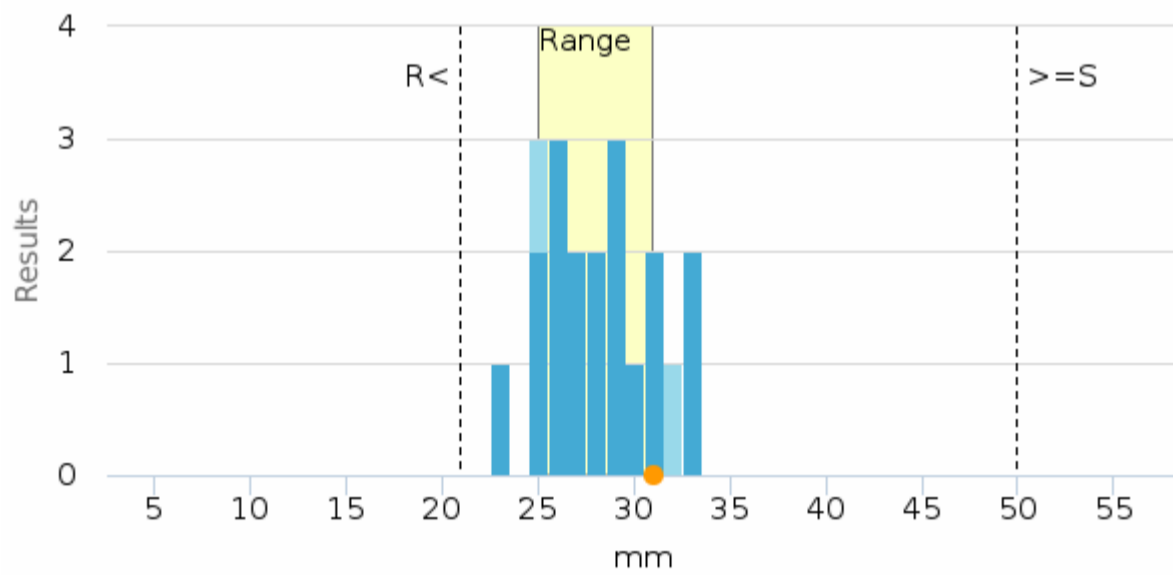


Susceptible (45 pcs / 100%)
98% of results within range
Own result: Susceptible 2 mg/L

| | x | sd | min | max | n |
|----------|----|----|-----|-----|----|
| Amikacin | 23 | 4 | 6 | 27 | 31 |

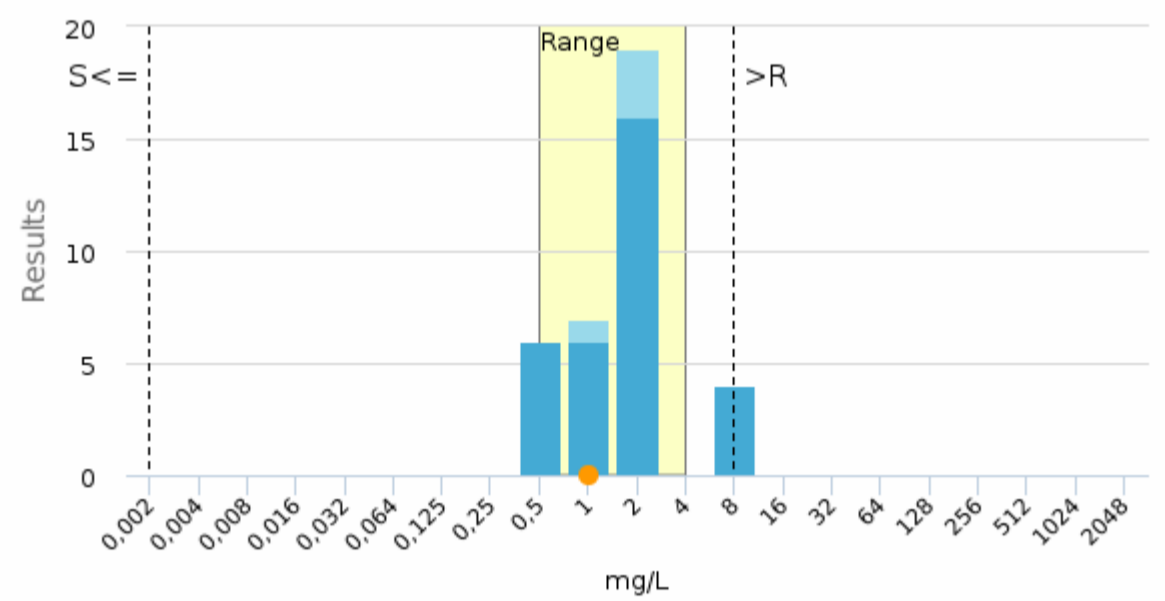
| | Mo | min | max | n |
|----------|----|-----|-----|----|
| Amikacin | 2 | 2 | 8 | 45 |

Cefepime - DISK



Susceptible (2 pcs / 10%)
Intermediate (18 pcs / 90%)
Own result: Intermediate 31 mm
80% of results within range

Cefepime - MIC

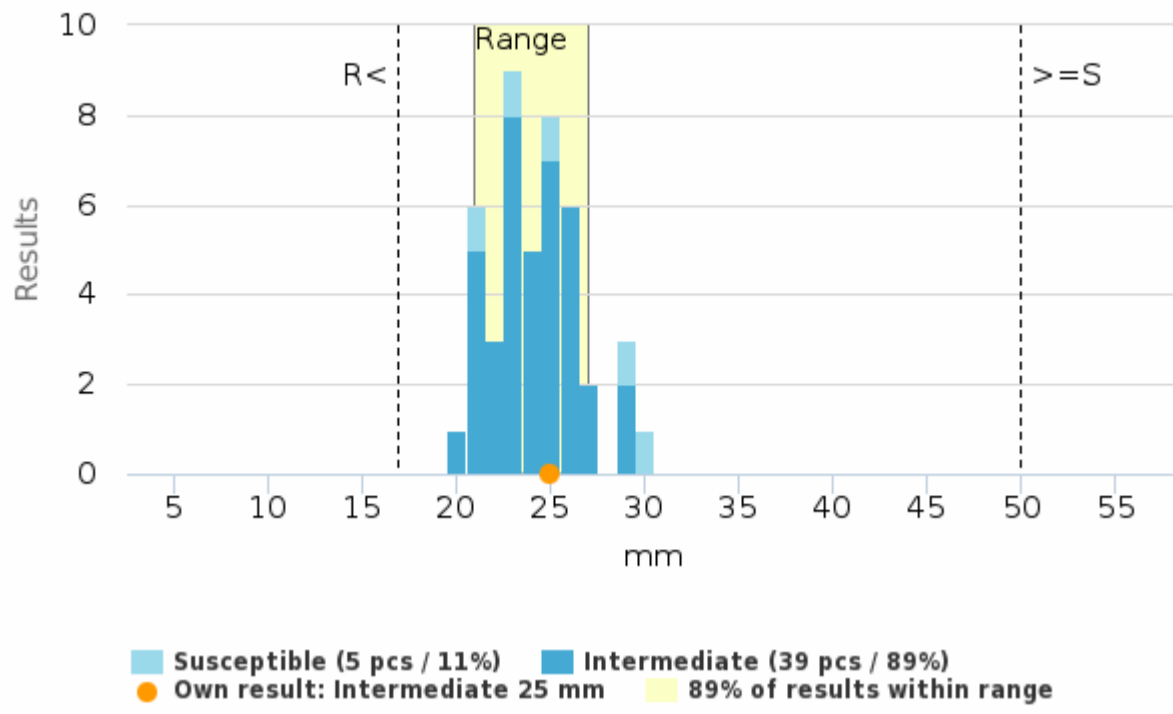


Susceptible (4 pcs / 11%)
Intermediate (32 pcs / 89%)
Own result: Intermediate 1 mg/L
89% of results within range

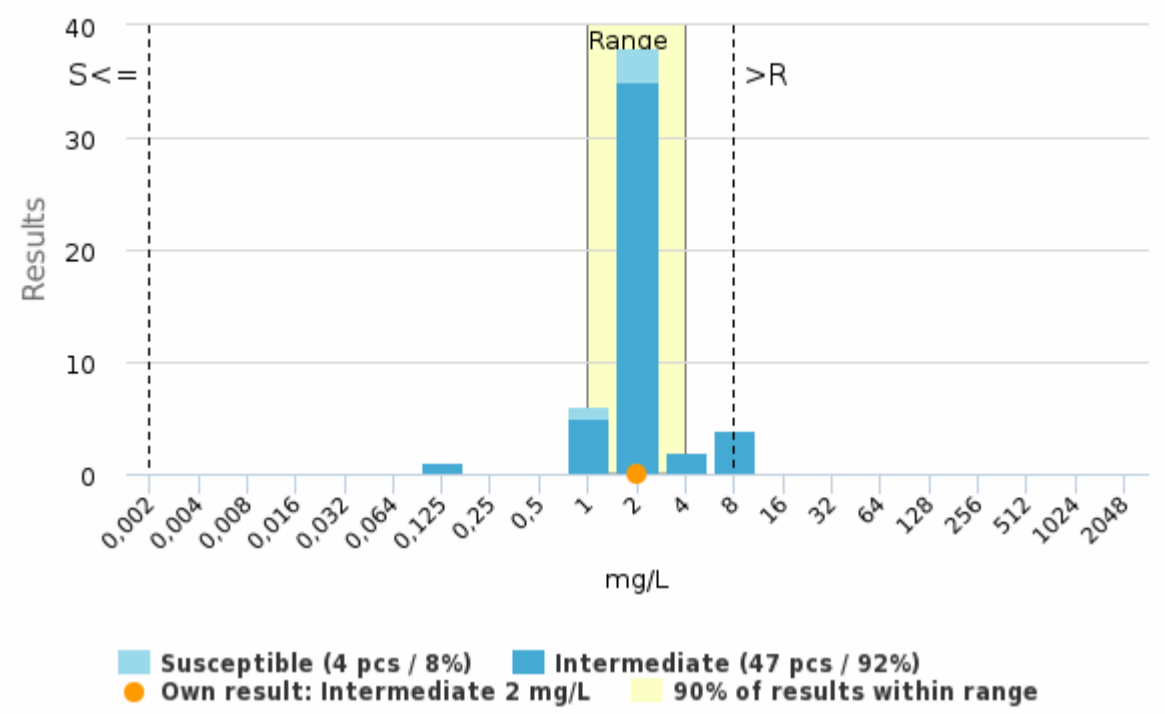
| | x | sd | min | max | n |
|----------|----|----|-----|-----|----|
| Cefepime | 28 | 3 | 23 | 33 | 20 |

| | Mo | min | max | n |
|----------|----|-----|-----|----|
| Cefepime | 2 | 0.5 | 8 | 36 |

Ceftazidime - DISK



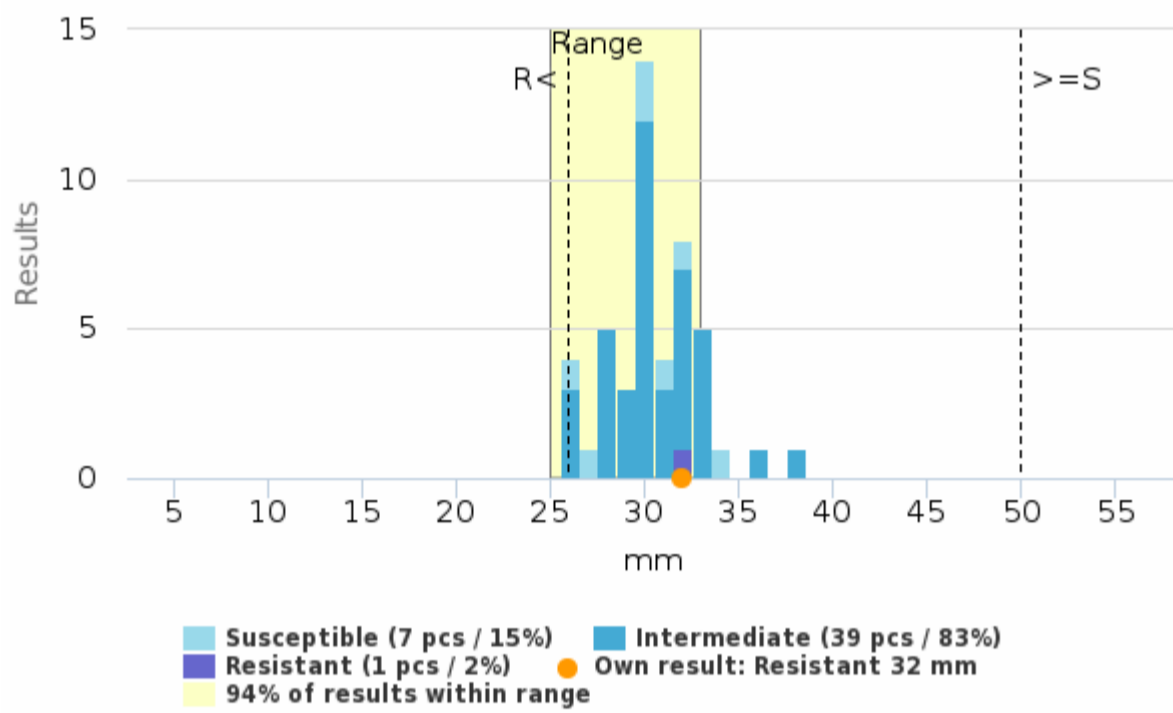
Ceftazidime - MIC



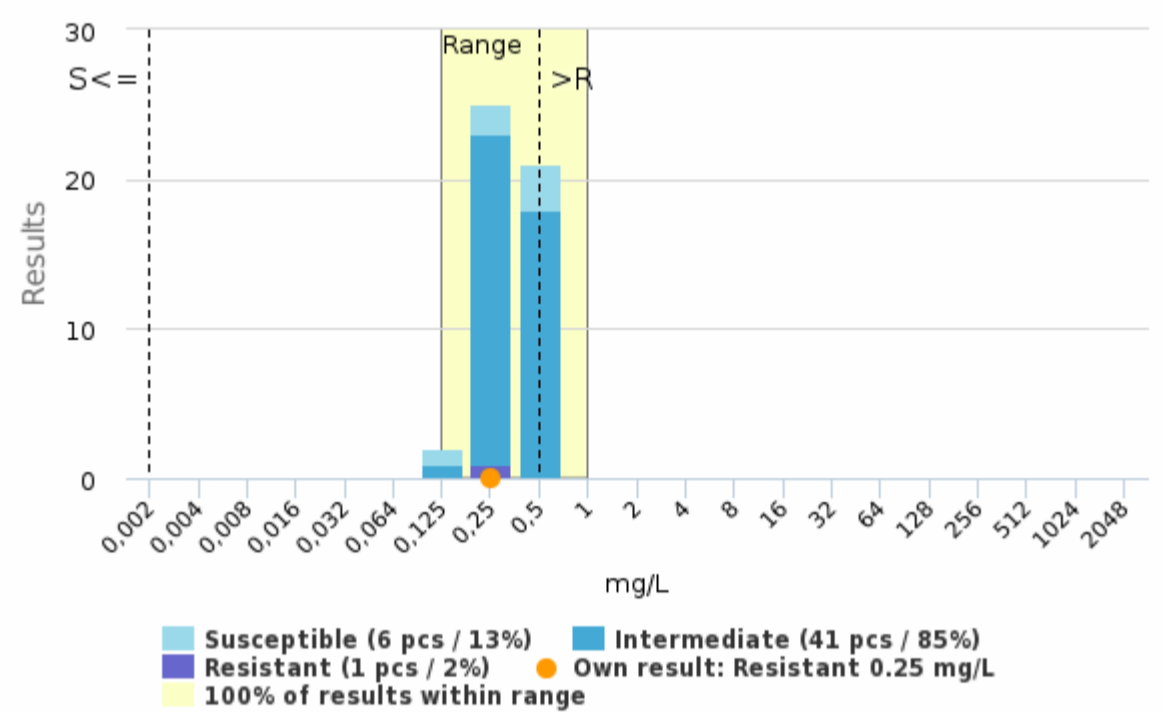
| | x | sd | min | max | n |
|-------------|----|----|-----|-----|----|
| Ceftazidime | 24 | 2 | 20 | 30 | 44 |

| | Mo | min | max | n |
|-------------|----|-------|-----|----|
| Ceftazidime | 2 | 0.125 | 8 | 51 |

Ciprofloxacin - DISK



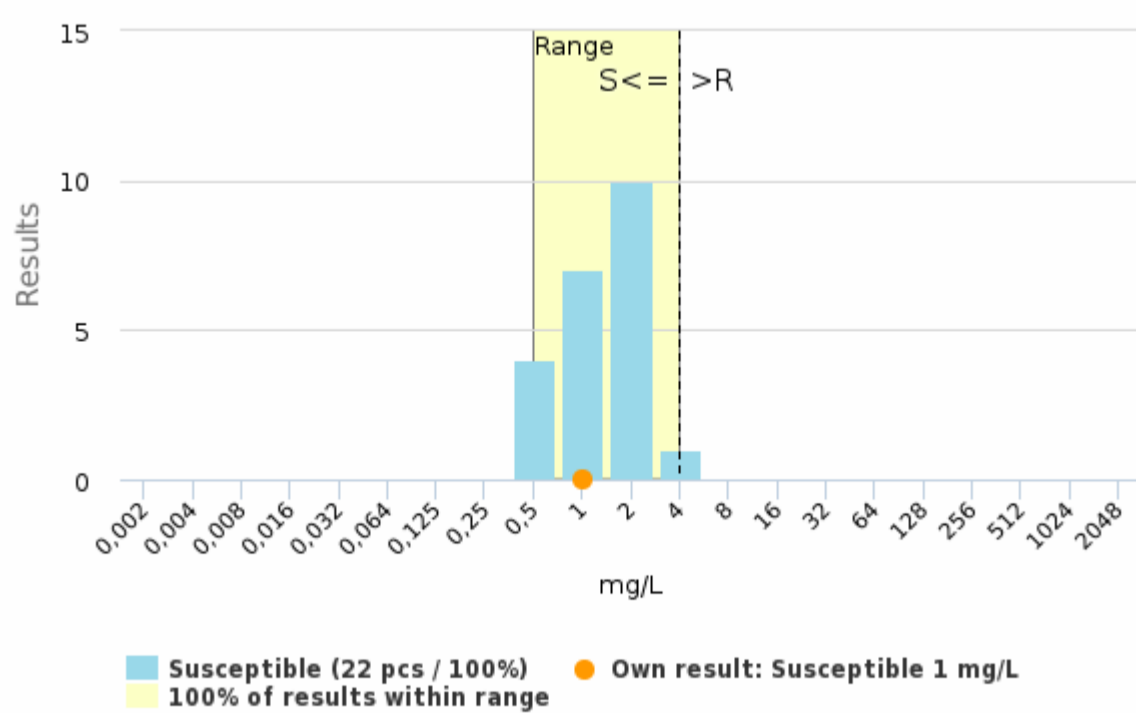
Ciprofloxacin - MIC



| | x | sd | min | max | n |
|---------------|----|----|-----|-----|----|
| Ciprofloxacin | 30 | 2 | 26 | 38 | 47 |

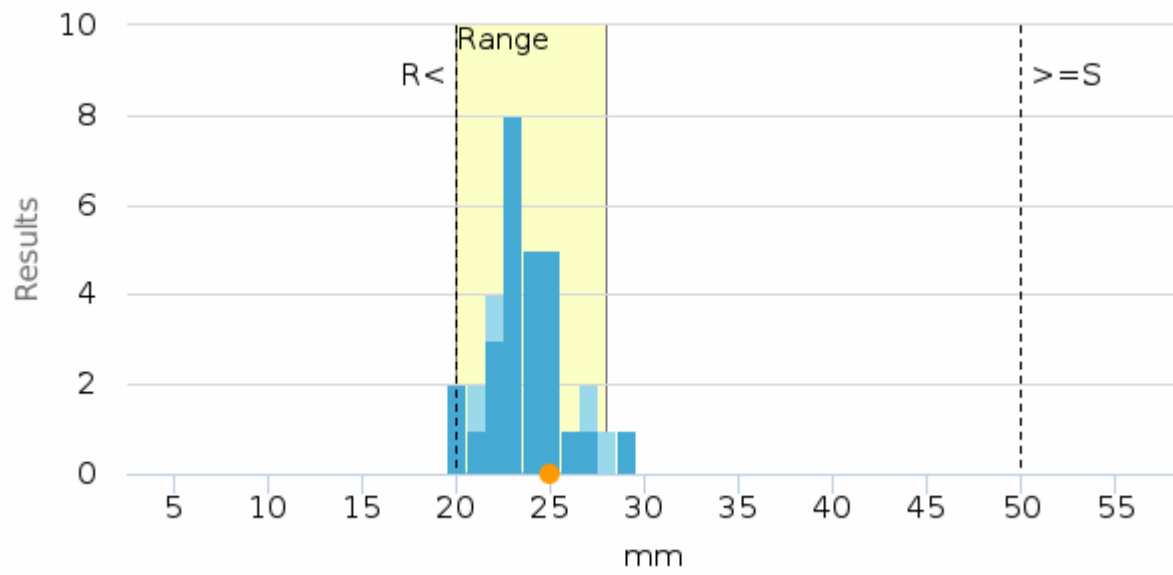
| | Mo | min | max | n |
|---------------|------|-------|-----|----|
| Ciprofloxacin | 0.25 | 0.125 | 0.5 | 48 |

Colistin - MIC



| | Mo | min | max | n |
|----------|----|-----|-----|----|
| Colistin | 2 | 0.5 | 4 | 22 |

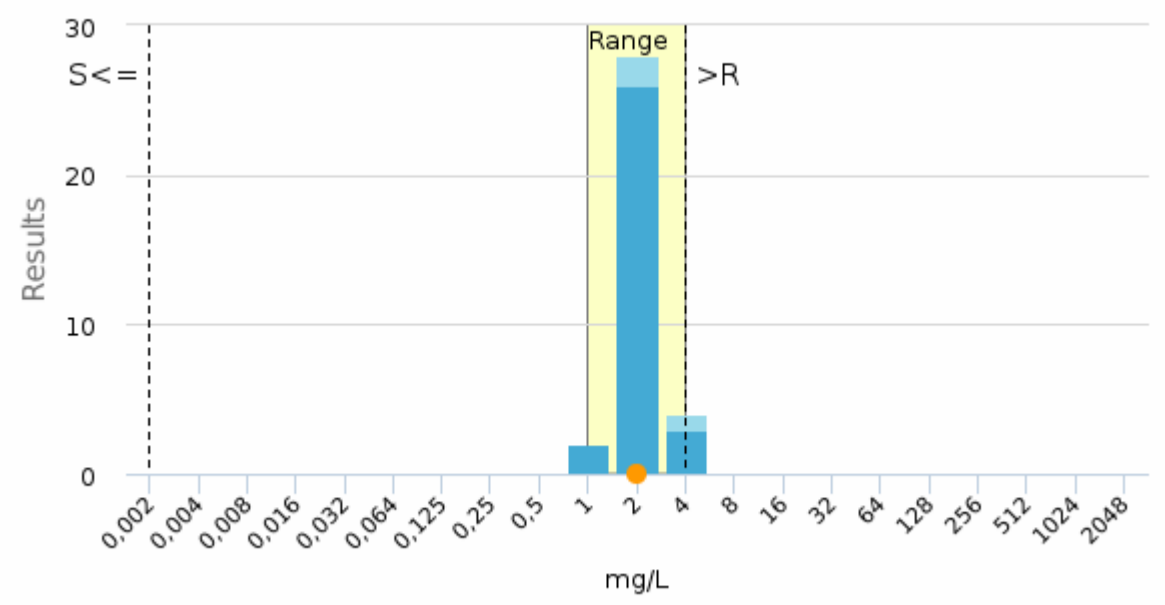
Imipenem - DISK



Susceptible (4 pcs / 13%) Intermediate (27 pcs / 87%)
Own result: Intermediate 25 mm 97% of results within range

| | x | sd | min | max | n |
|----------|----|----|-----|-----|----|
| Imipenem | 24 | 2 | 20 | 29 | 31 |

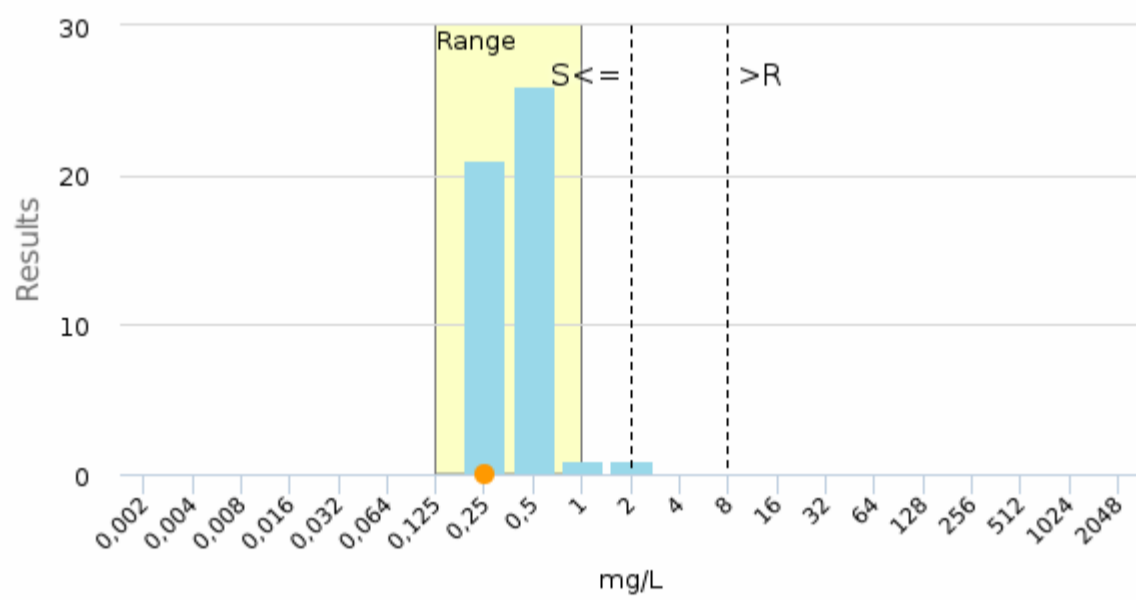
Imipenem - MIC



Susceptible (3 pcs / 9%) Intermediate (31 pcs / 91%)
Own result: Intermediate 2 mg/L 100% of results within range

| | Mo | min | max | n |
|----------|----|-----|-----|----|
| Imipenem | 2 | 1 | 4 | 34 |

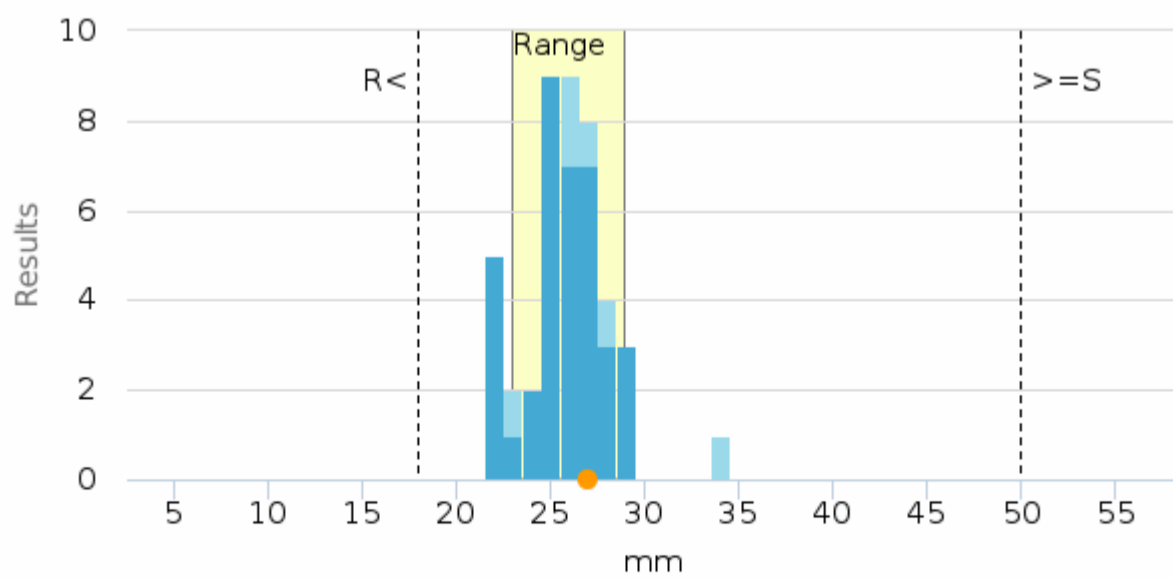
Meropenem - MIC



Susceptible (49 pcs / 100%) Own result: Susceptible 0.25 mg/L
98% of results within range

| | Mo | min | max | n |
|-----------|-----|------|-----|----|
| Meropenem | 0.5 | 0.25 | 2 | 49 |

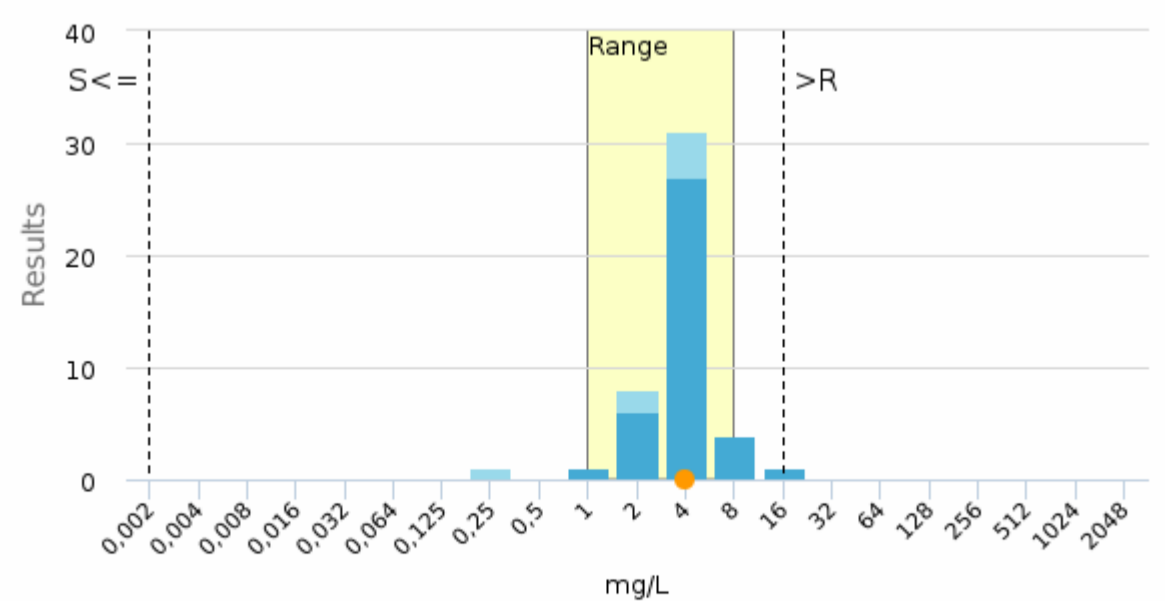
Piperacillin-tazobactam - DISK



Susceptible (6 pcs / 14%) Intermediate (37 pcs / 86%)
Own result: Intermediate 27 mm 86% of results within range

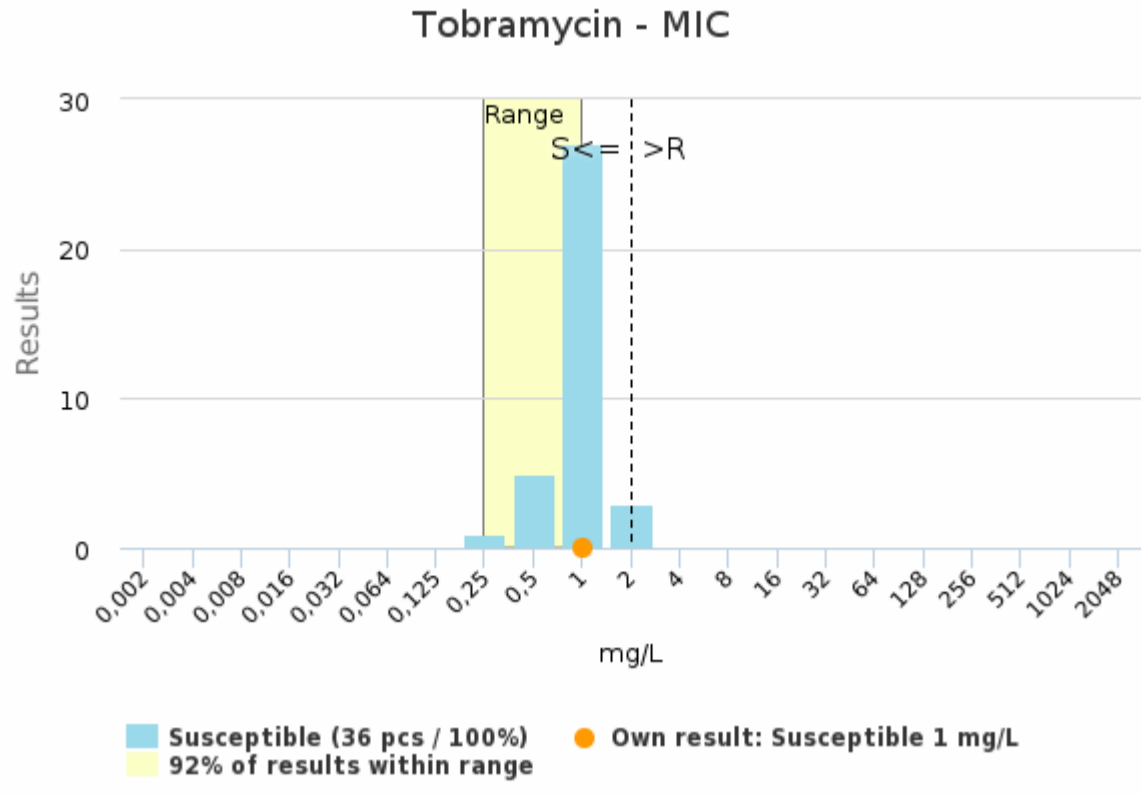
| | x | sd | min | max | n |
|-------------------------|----|----|-----|-----|----|
| Piperacillin-tazobactam | 26 | 2 | 22 | 34 | 43 |

Piperacillin-tazobactam - MIC



Susceptible (7 pcs / 15%) Intermediate (39 pcs / 85%)
Own result: Intermediate 4 mg/L 96% of results within range

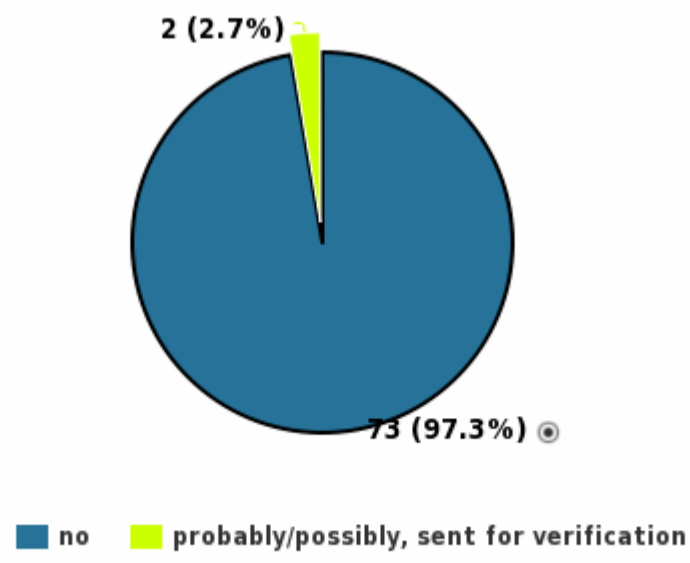
| | Mo | min | max | n |
|-------------------------|----|------|-----|----|
| Piperacillin-tazobactam | 4 | 0.25 | 16 | 46 |



| | Mo | min | max | n |
|------------|----|------|-----|----|
| Tobramycin | 1 | 0.25 | 2 | 36 |

Sample 001 | Additional questions

Is the strain a carbapenemase producer?



Report info**Participants**

Altogether 94 laboratories from 22 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 (\bar{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.

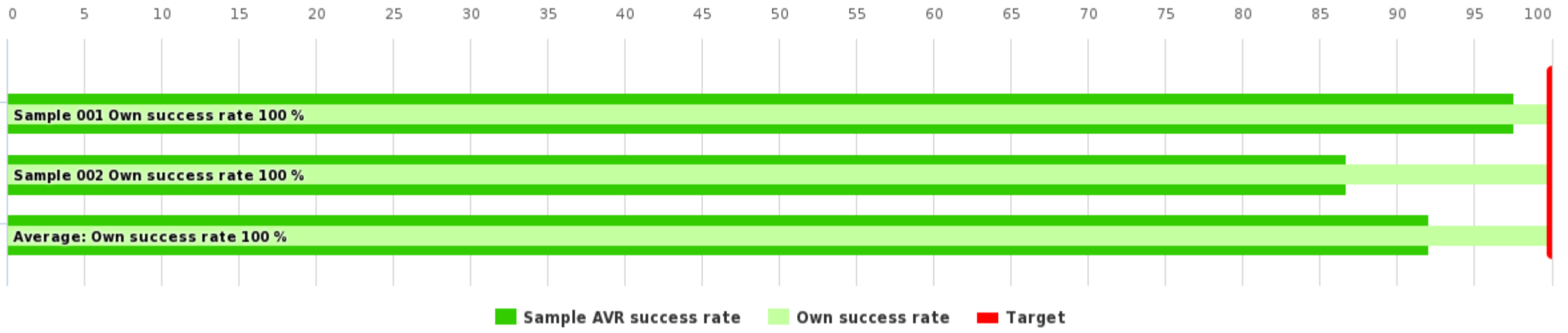
Client report

| | No of participants | No of responded participants | Response percentage |
|---|--------------------|------------------------------|---------------------|
| General Bacteriology 2 (aerobes), March, 1-2023 | 35 | 33 | 94.3 % |

Summary

General Bacteriology 2 (aerobes) (5081)

Overall success rate by samples



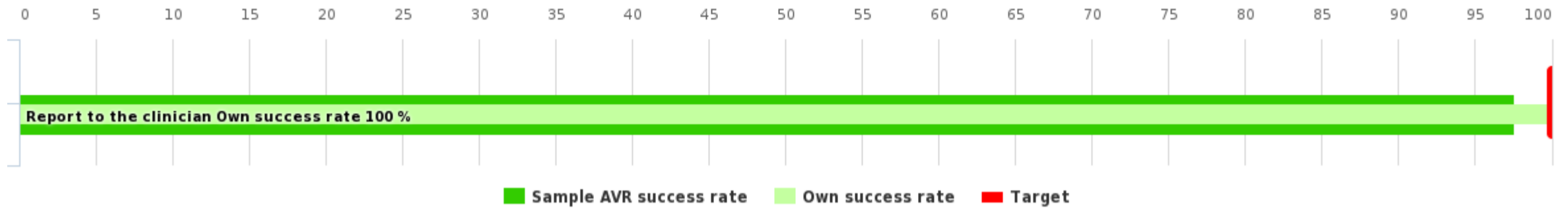
| Summary | Own score | Max score | Own success rate | Difference | AVR success rate |
|------------|-----------|-----------|------------------|------------|------------------|
| Sample 001 | 5 | 5 | 100 % | 2.4 % | 97.6 % |
| Sample 002 | 5 | 5 | 100 % | 13.3 % | 86.7 % |
| Average: | | | 100 % | 7.9 % | 92.1 % |

| History | Test nr. | Own success rate | Difference | AVR success rate |
|-------------------|----------|------------------|------------|------------------|
| History not found | | | | |

Sample 001 | Pseudomonas aeruginosa

General Bacteriology 2 (aerobes) (5081)

Sample 001 success rate



| Sample 001 results | Responded | Own score | Max score | Own success rate | Difference | AVR success rate | Count |
|--------------------|-------------------------|-----------|-----------|------------------|------------|------------------|-------|
| | Report to the clinician | 5 | 5 | 100 % | 2.4 % | 97.6 % | 34 |
| Total: | | 5 | 5 | 100 % | 2.4 % | 97.6 % | 34 |

Sample 001 Pseudomonas aeruginosa



Pseudomonas aeruginosa

Sample 001 Additional finding



Staphylococcus aureus

LABORATORY SPECIFIC SCORING TABLE

| Finding group | Finding | Clinical significance | Further action | Own score | Max score | Own success rate | Difference | AVR success rate |
|------------------------|------------------------|-----------------------|----------------|-----------|-----------|------------------|------------|------------------|
| Pseudomonas aeruginosa | Pseudomonas aeruginosa | Significant pathogen | Not referred | 5 | 5 | 100 % | 2.4 % | 97.6 % |
| Total: | | | | 5 | 5 | 100 % | 2.4 % | 97.6 % |

REPORT TO THE CLINICIAN

| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Referred | Not referred | AVR success rate |
|------------------------|------------------------|---------------|----------------------|-------------------|----------|--------------|------------------|
| Pseudomonas aeruginosa | | 33 | | | | | 97.6 % |
| | Pseudomonas aeruginosa | 33 | 29 | 4 | 1 | 32 | |
| Additional finding | | 1 | | | | | - |
| | Staphylococcus aureus | 1 | 1 | | | 1 | |
| Total: | | 34 | | | | | 97.6 % |

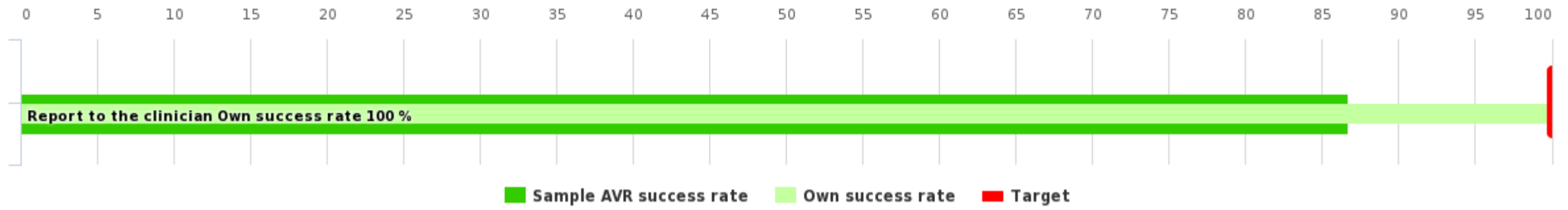
SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|------------------------|------------------------|---------------|----------------------|-----------|
| Pseudomonas aeruginosa | | | | 5 |
| | Pseudomonas aeruginosa | 4 | 1 | 5 |
| Additional finding | | | | - |
| | Staphylococcus aureus | - | | - |
| Total: | | | | 5 |

Sample 002 | Neisseria meningitidis

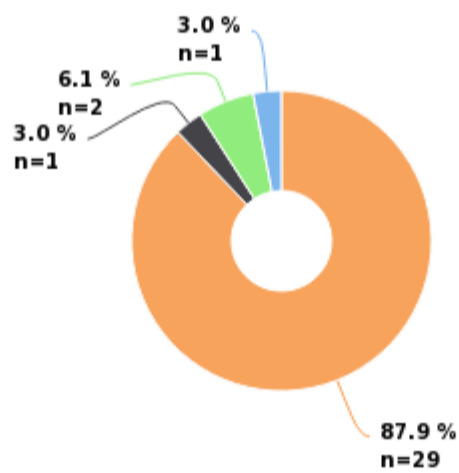
General Bacteriology 2 (aerobes) (5081)

Sample 002 success rate



| Sample 002 results | Responded | Own score | Max score | Own success rate | Difference | AVR success rate | Count |
|--------------------|-------------------------|-----------|-----------|------------------|------------|------------------|-------|
| | Report to the clinician | 5 | 5 | 100 % | 13.3 % | 86.7 % | 33 |
| Total: | | 5 | 5 | 100 % | 13.3 % | 86.7 % | 33 |

Sample 002 Neisseria meningitidis



■ Neisseria meningitidis
 ■ Moraxella sp.
 ■ Haemophilus influenzae
 ■ No growth/Negative

LABORATORY SPECIFIC SCORING TABLE

| Finding group | Finding | Clinical significance | Further action | Own score | Max score | Own success rate | Difference | AVR success rate |
|------------------------|------------------------|-----------------------|----------------|-----------|-----------|------------------|------------|------------------|
| Neisseria meningitidis | Neisseria meningitidis | Significant pathogen | Not referred | 5 | 5 | 100 % | 13.3 % | 86.7 % |
| Total: | | | | 5 | 5 | 100 % | 13.3 % | 86.7 % |

REPORT TO THE CLINICIAN

| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|------------------------|------------------------|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Neisseria meningitidis | | 33 | | | | | | 86.7 % |
| | Neisseria meningitidis | 29 | 27 | 2 | | 13 | 16 | |
| | Moraxella sp. | 1 | 1 | | | | 1 | |
| | Haemophilus influenzae | 2 | 1 | 1 | | | 2 | |
| | No growth/Negative | 1 | | | 1 | | 1 | |
| Total: | | 33 | | | | | | 86.7 % |

SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|------------------------|------------------------|---------------|----------------------|-----------|
| Neisseria meningitidis | | | | 5 |
| | Neisseria meningitidis | 4 | 1 | 5 |
| | Moraxella sp. | 0 | | 5 |
| | Haemophilus influenzae | 0 | | 5 |
| | No growth/Negative | 0 | | 5 |
| Total: | | | | 5 |

Report Info**PARTICIPANTS**

Altogether 94 laboratories from 22 countries participated in this EQA round.

REPORT INFO

On the front page you can see summaries of overall success rate and sample specific success rates which have been calculated from the scores. The reported results and the scores are presented in the same report but in separate tables. The global summary report contains the results of schemes General Bacteriology 1 (5080) and General Bacteriology 2 (5081), but in separate tables. The participant specific summary includes the results of your own reference group (product) merely.

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 "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 scoring range/finding is 0-5 points. The scoring comprises the following elements:

species identification, a maximum of 4 points is given (see below)

the interpretation of the significance of the finding, a maximum of 1 point is given

in case of insufficient species identification, an additional score (maximum 1 point) might be given to participants that would have referred the isolate for further identification

The following general rules are applied regarding the scoring of the species identification:

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

Sample 001

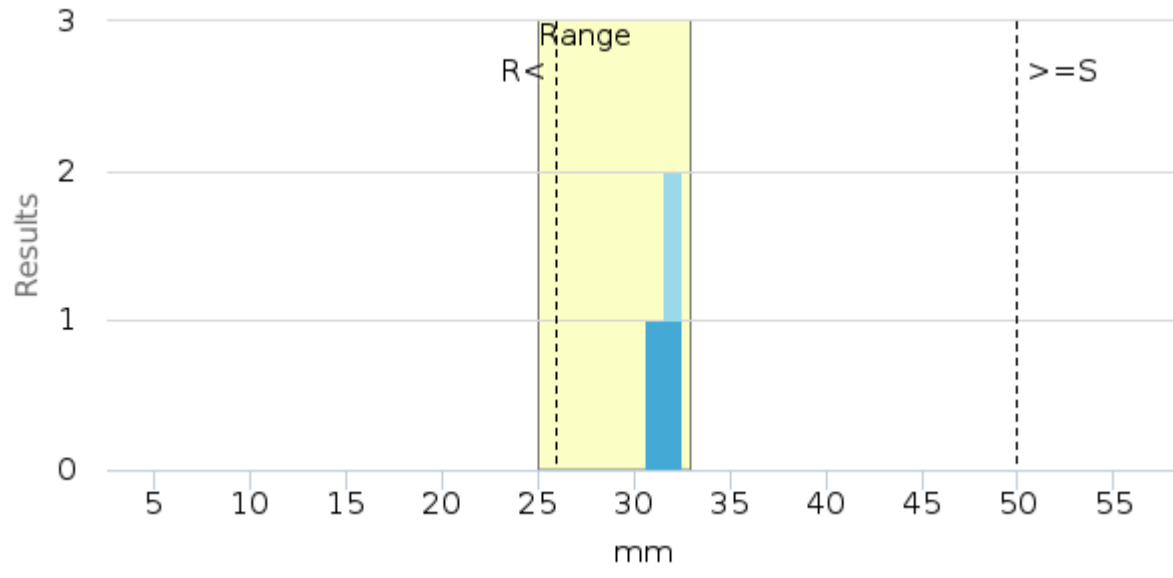
Pseudomonas aeruginosa ATCC 27853

| Antimicrobial agent | Guideline | DISK | | | | | | MIC | | | | |
|-------------------------|------------|--------|---------|------------------|-----------------|-----------------|-----------|-----------|------------------|-----------------|-----------------|-----------|
| | | x (mm) | sd (mm) | S | I | R | n | Mo (mg/L) | S | I | R | n |
| Amikacin | CA-SFM | 21 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | 2 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | CLSI | - | - | - | - | - | - | 4 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 23 | 4 | 31 (100%) | 0 (0%) | 0 (0%) | 31 | 2 | 45 (100%) | 0 (0%) | 0 (0%) | 45 |
| | All | | | 33 (100%) | 0 (0%) | 0 (0%) | 33 | | 47 (100%) | 0 (0%) | 0 (0%) | 47 |
| Aztreonam | CA-SFM | 28 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | - | - | - | - |
| | CLSI | - | - | - | - | - | - | 4 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 26 | 3 | 2 (15%) | 11 (85%) | 0 (0%) | 13 | 4 | 2 (11%) | 16 (89%) | 0 (0%) | 18 |
| | All | | | 3 (20%) | 12 (80%) | 0 (0%) | 15 | | 3 (16%) | 16 (84%) | 0 (0%) | 19 |
| Cefepime | CA-SFM | 28 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | 2 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 28 | 3 | 2 (10%) | 18 (90%) | 0 (0%) | 20 | 2 | 4 (11%) | 32 (89%) | 0 (0%) | 36 |
| | All | | | 3 (14%) | 19 (86%) | 0 (0%) | 22 | | 4 (11%) | 33 (89%) | 0 (0%) | 37 |
| Ceftazidime | CA-SFM | 22 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | 4 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | CLSI | - | - | - | - | - | - | 1 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 24 | 2 | 5 (11%) | 39 (89%) | 0 (0%) | 44 | 2 | 4 (8%) | 47 (92%) | 0 (0%) | 51 |
| | All | | | 6 (13%) | 40 (87%) | 0 (0%) | 46 | | 5 (9%) | 48 (91%) | 0 (0%) | 53 |
| Ceftazidime-avibactam | EUCAST | 25 | 2 | 4 (80%) | 1 (20%) | 0 (0%) | 5 | 2 | 8 (100%) | 0 (0%) | 0 (0%) | 8 |
| | All | | | 4 (80%) | 1 (20%) | 0 (0%) | 5 | | 8 (100%) | 0 (0%) | 0 (0%) | 8 |
| Ceftolozane-tazobactam | CA-SFM | 25 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | - | - | - | - | - |
| | EUCAST | 27 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | 0.5 | 13 (100%) | 0 (0%) | 0 (0%) | 13 |
| | All | | | 4 (100%) | 0 (0%) | 0 (0%) | 4 | | 13 (100%) | 0 (0%) | 0 (0%) | 13 |
| Chloramphenicol | EUCAST | 6 | 0 | 0 (0%) | 0 (0%) | 7 (100%) | 7 | 32 | 0 (0%) | 0 (0%) | 1 (100%) | 1 |
| | All | | | 0 (0%) | 0 (0%) | 7 (100%) | 7 | | 0 (0%) | 0 (0%) | 1 (100%) | 1 |
| Ciprofloxacin | CA-SFM | 32 | 1 | 1 (33%) | 2 (67%) | 0 (0%) | 3 | - | 0 (0%) | 2 (100%) | 0 (0%) | 2 |
| | CLSI | - | - | - | - | - | - | 0.5 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 30 | 2 | 7 (15%) | 39 (83%) | 1 (2%) | 47 | 0.25 | 6 (13%) | 41 (85%) | 1 (2%) | 48 |
| | All | | | 8 (16%) | 41 (82%) | 1 (2%) | 50 | | 7 (14%) | 43 (84%) | 1 (2%) | 51 |
| Colistin | EUCAST | 16 | - | 1 (100%) | 0 (0%) | 0 (0%) | 1 | 2 | 22 (100%) | 0 (0%) | 0 (0%) | 22 |
| | All | | | 1 (100%) | 0 (0%) | 0 (0%) | 1 | | 22 (100%) | 0 (0%) | 0 (0%) | 22 |
| Ertapenem | EUCAST | - | - | - | - | - | - | - | 0 (0%) | 0 (0%) | 2 (100%) | 2 |
| | All | | | 0 | 0 | 0 | 0 | | 0 (0%) | 0 (0%) | 2 (100%) | 2 |
| Antimicrobial agent | Guideline | DISK | | | | | | MIC | | | | |
| | | x (mm) | sd (mm) | S | I | R | n | Mo (mg/L) | S | I | R | n |
| Gentamycin | CLSI | - | - | - | - | - | - | 1 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 19 | 2 | 11 (100%) | 0 (0%) | 0 (0%) | 11 | 1 | 15 (83%) | 3 (17%) | 0 (0%) | 18 |
| | All | | | 11 (100%) | 0 (0%) | 0 (0%) | 11 | | 16 (84%) | 3 (16%) | 0 (0%) | 19 |
| Imipenem | CA-SFM | 24 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | 4 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | CLSI | - | - | - | - | - | - | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 |
| | EUCAST | 24 | 2 | 4 (13%) | 27 (87%) | 0 (0%) | 31 | 2 | 3 (9%) | 31 (91%) | 0 (0%) | 34 |
| | All | | | 5 (15%) | 28 (85%) | 0 (0%) | 33 | | 5 (14%) | 32 (86%) | 0 (0%) | 37 |
| Levofloxacin | CA-SFM | 23 | - | 1 (100%) | 0 (0%) | 0 (0%) | 1 | 1 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 24 | 2 | 4 (17%) | 19 (83%) | 0 (0%) | 23 | 1 | 2 (9%) | 21 (91%) | 0 (0%) | 23 |
| | All | | | 5 (21%) | 19 (79%) | 0 (0%) | 24 | | 2 (8%) | 22 (92%) | 0 (0%) | 24 |
| Meropenem | CA-SFM | 28 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | - | - | - | - | - |
| | EUCAST | 29 | 3 | 43 (100%) | 0 (0%) | 0 (0%) | 43 | 0.5 | 49 (100%) | 0 (0%) | 0 (0%) | 49 |
| | All | | | 45 (100%) | 0 (0%) | 0 (0%) | 45 | | 49 (100%) | 0 (0%) | 0 (0%) | 49 |
| Piperacillin | CA-SFM | 23 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | 4 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 25 | 6 | 2 (25%) | 5 (63%) | 1 (13%) | 8 | 4 | 1 (13%) | 7 (88%) | 0 (0%) | 8 |
| | All | | | 3 (30%) | 6 (60%) | 1 (10%) | 10 | | 1 (11%) | 8 (89%) | 0 (0%) | 9 |
| Piperacillin-tazobactam | CA-SFM | 25 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | - | - | - | - |
| | EUCAST | 26 | 2 | 6 (14%) | 37 (86%) | 0 (0%) | 43 | 4 | 7 (15%) | 39 (85%) | 0 (0%) | 46 |
| | All | | | 7 (16%) | 38 (84%) | 0 (0%) | 45 | | 7 (15%) | 39 (85%) | 0 (0%) | 46 |
| Tetracycline | EUCAST | - | - | - | - | - | - | - | 0 (0%) | 0 (0%) | 2 (100%) | 2 |
| | All | | | 0 | 0 | 0 | 0 | | 0 (0%) | 0 (0%) | 2 (100%) | 2 |
| Ticarcillin | CA-SFM | 23 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | - | - | - | - | - |
| | EUCAST | - | - | - | - | - | - | - | 0 (0%) | 1 (50%) | 1 (50%) | 2 |
| | All | | | 1 (50%) | 1 (50%) | 0 (0%) | 2 | | 0 (0%) | 1 (50%) | 1 (50%) | 2 |

| | | | | | | | | | | | | |
|------------------------------------|------------|----|---|------------------|----------------|---------------|-----------|----|------------------|-----------------|---------------|-----------|
| Tikarcillin-clavulanic acid | CA-SFM | 23 | - | 1 (50%) | 1 (50%) | 0 (0%) | 2 | 16 | 0 (0%) | 1 (100%) | 0 (0%) | 1 |
| | EUCAST | 23 | - | 0 (0%) | 1 (100%) | 0 (0%) | 1 | 16 | 0 (0%) | 2 (100%) | 0 (0%) | 2 |
| | All | | | 1 (33%) | 2 (67%) | 0 (0%) | 3 | | 0 (0%) | 3 (100%) | 0 (0%) | 3 |
| Tobramycin | CA-SFM | 22 | - | 2 (100%) | 0 (0%) | 0 (0%) | 2 | 1 | 1 (100%) | 0 (0%) | 0 (0%) | 1 |
| | EUCAST | 23 | 3 | 42 (100%) | 0 (0%) | 0 (0%) | 42 | 1 | 36 (100%) | 0 (0%) | 0 (0%) | 36 |
| | All | | | 44 (100%) | 0 (0%) | 0 (0%) | 44 | | 37 (100%) | 0 (0%) | 0 (0%) | 37 |

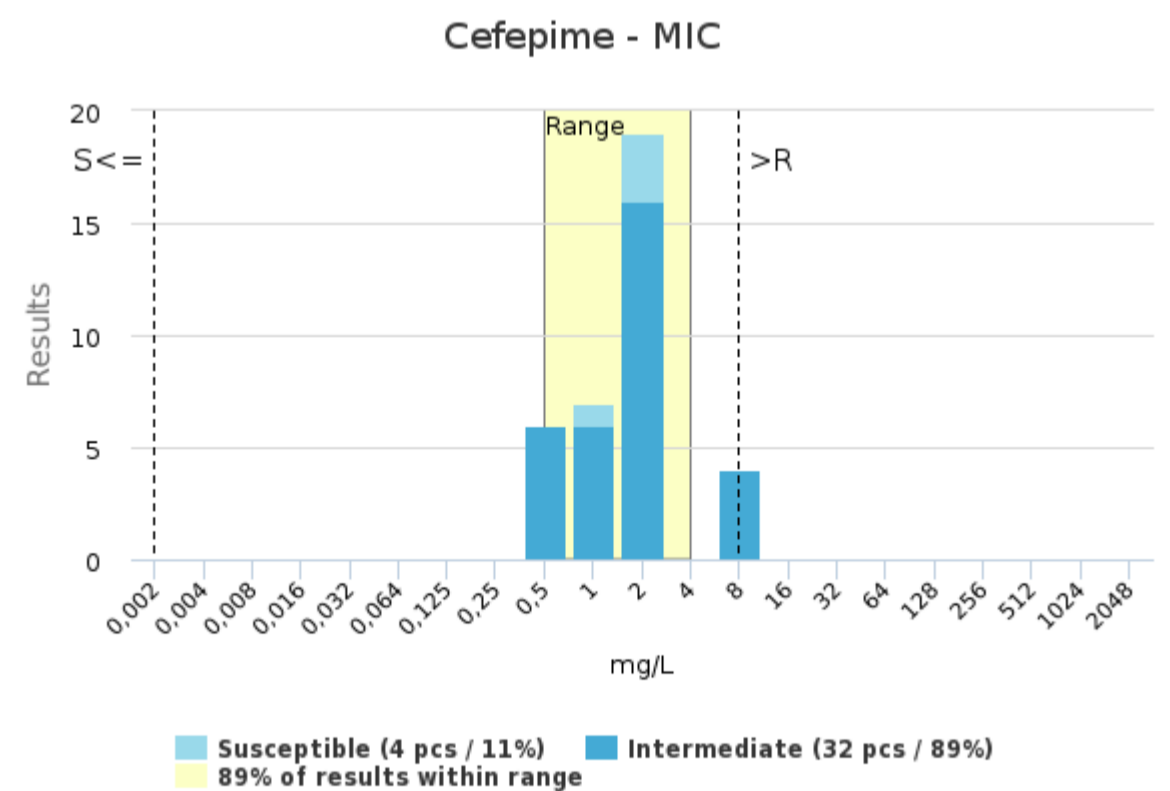
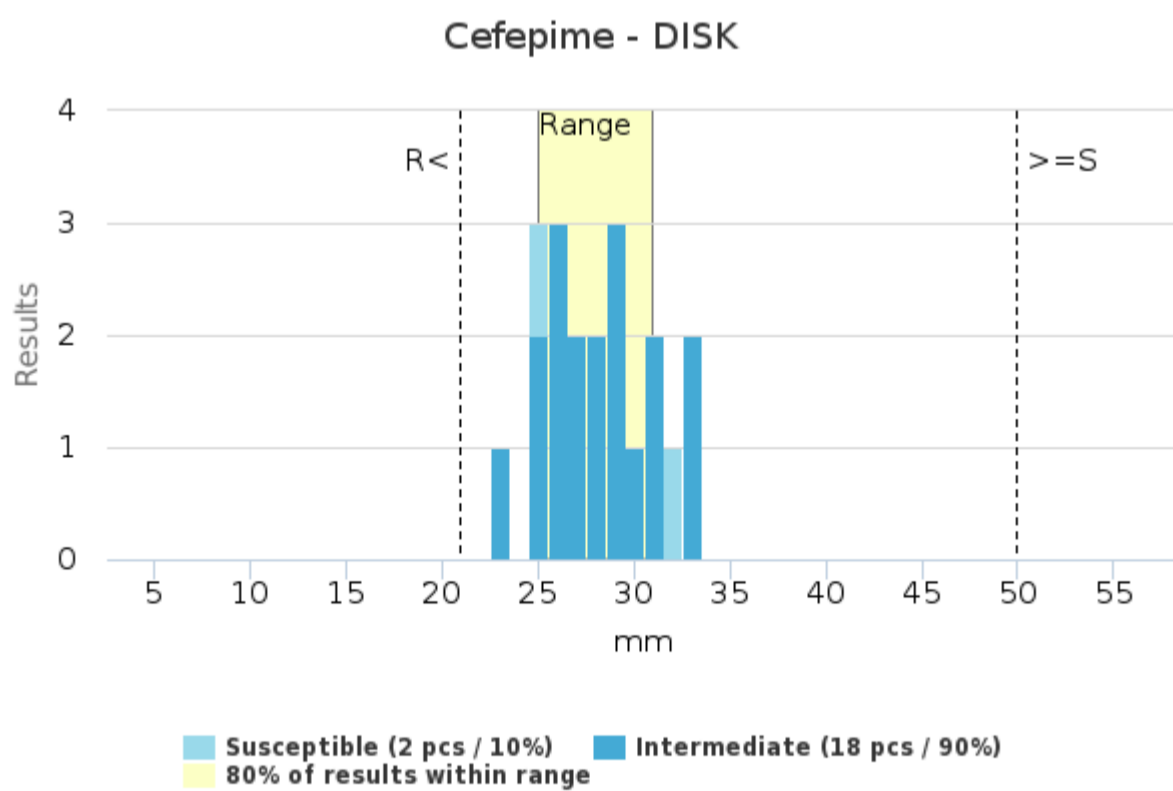
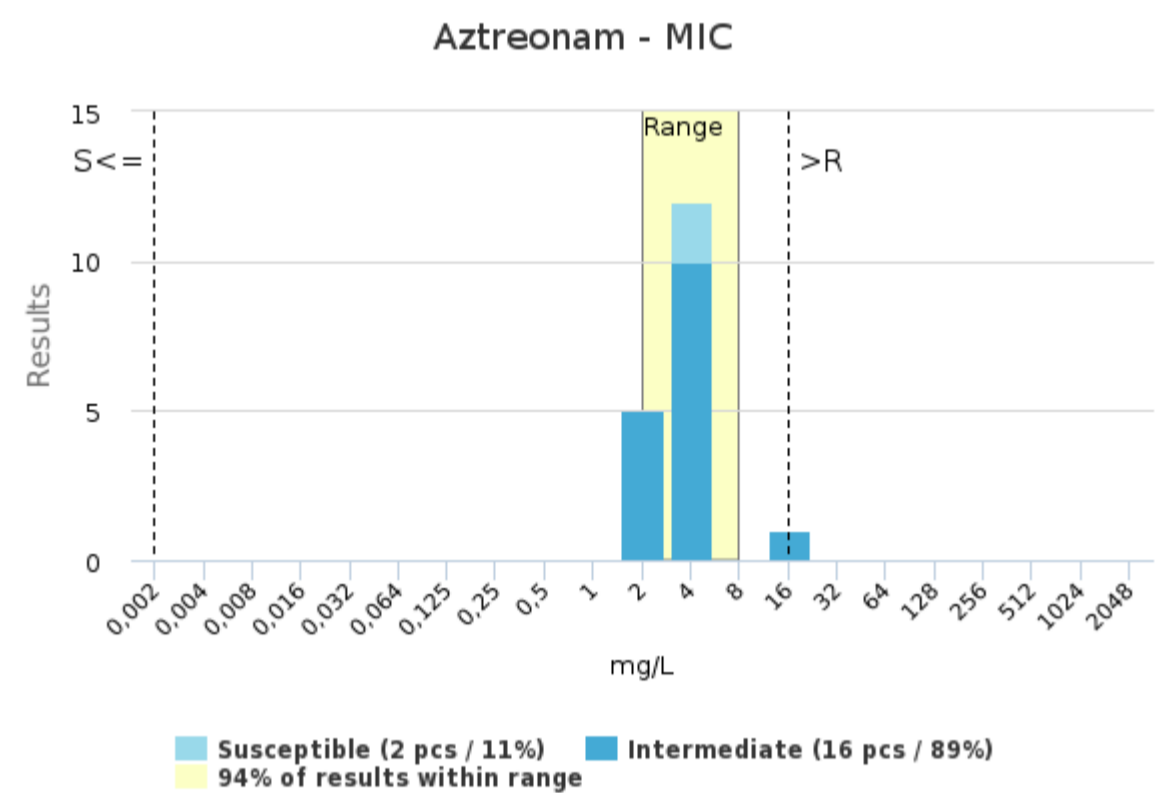
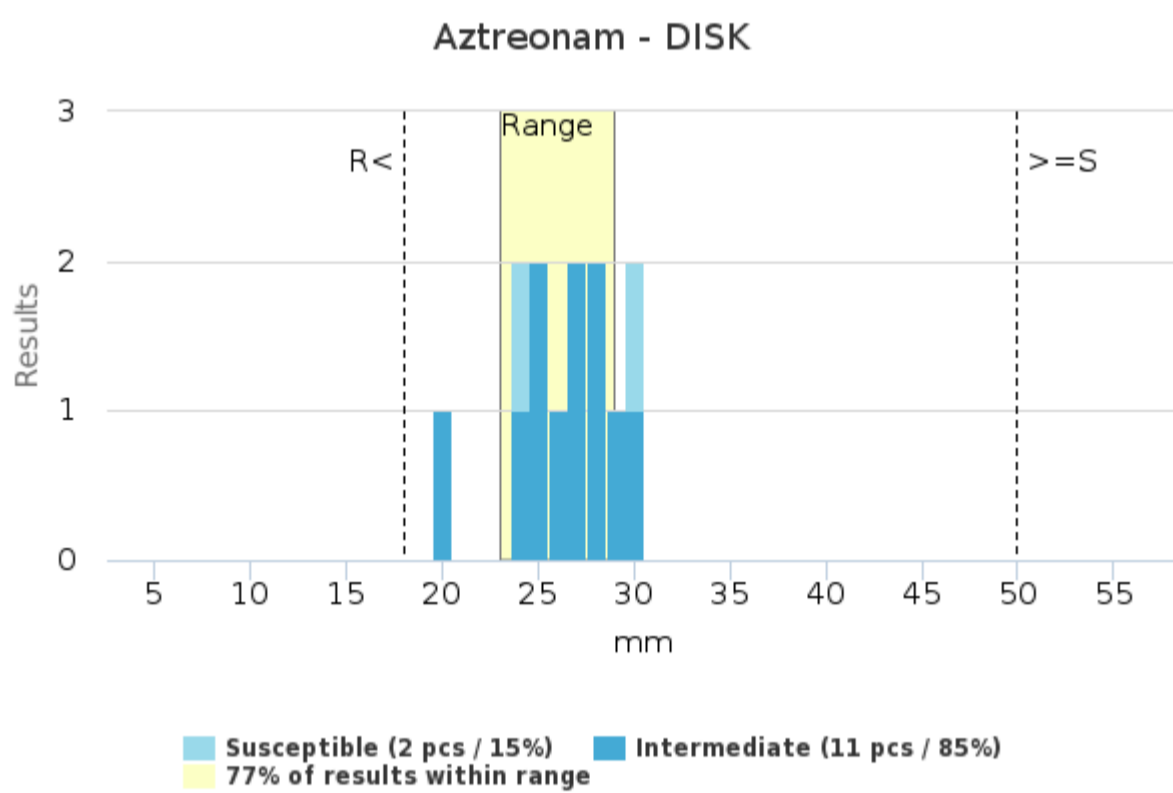
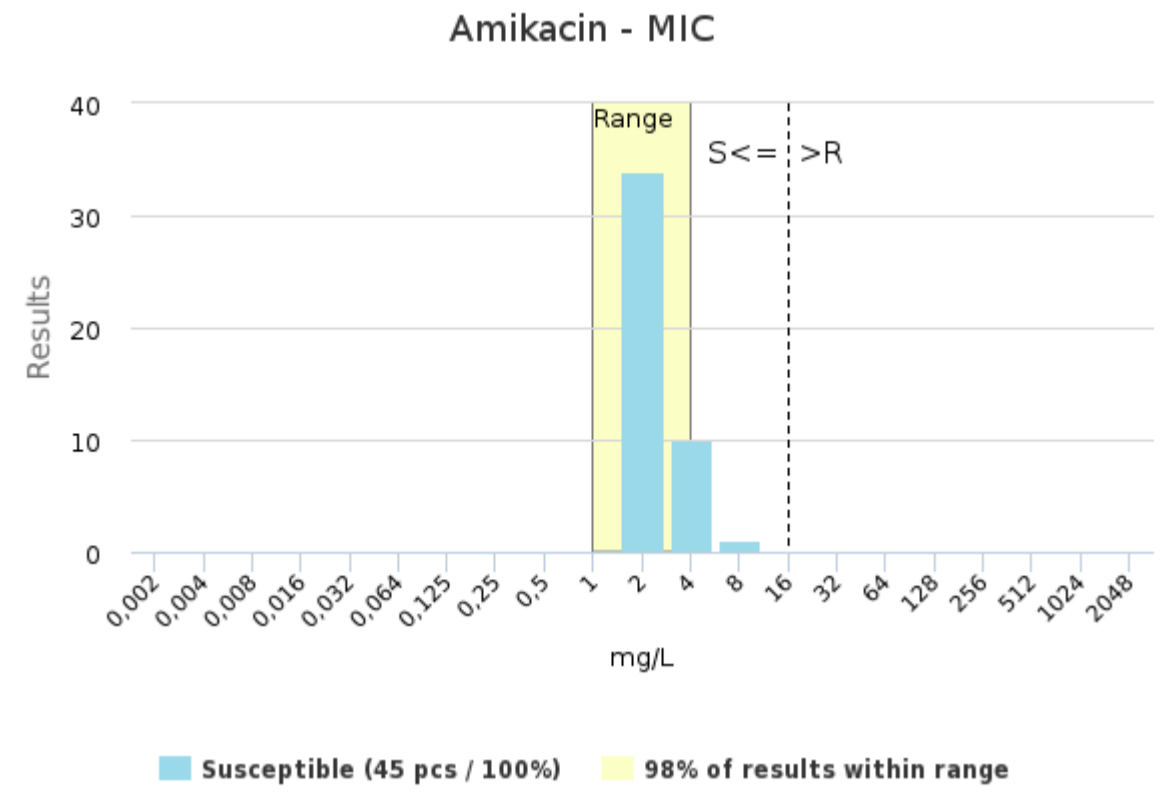
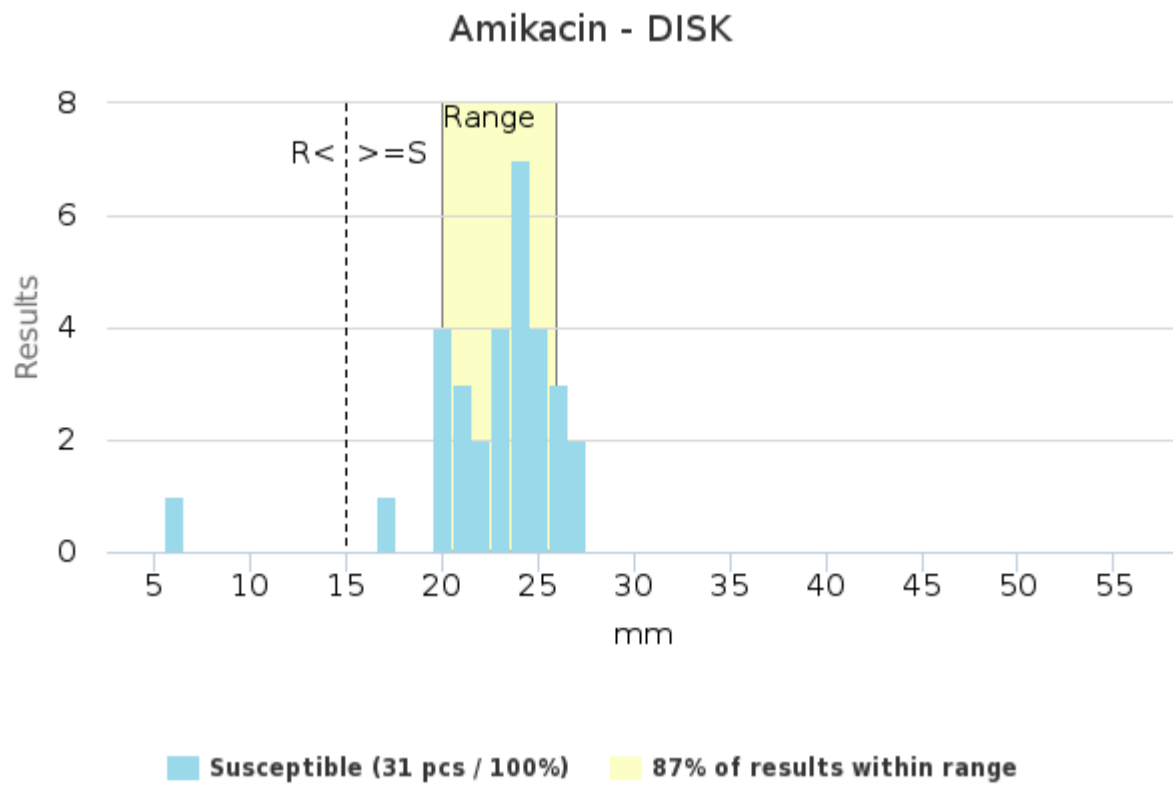
Sample 001 | CA-SFM

Ciprofloxacin - DISK

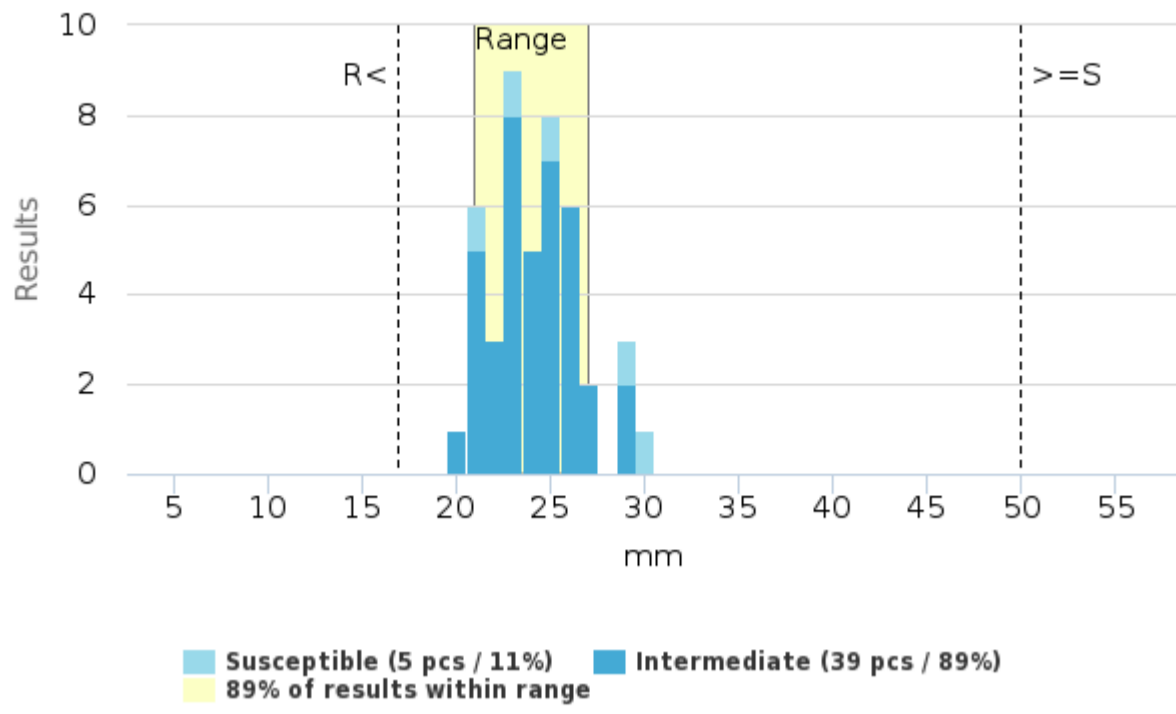


■ Susceptible (1 pcs / 33%)
 ■ Intermediate (2 pcs / 67%)
■ 100% of results within range

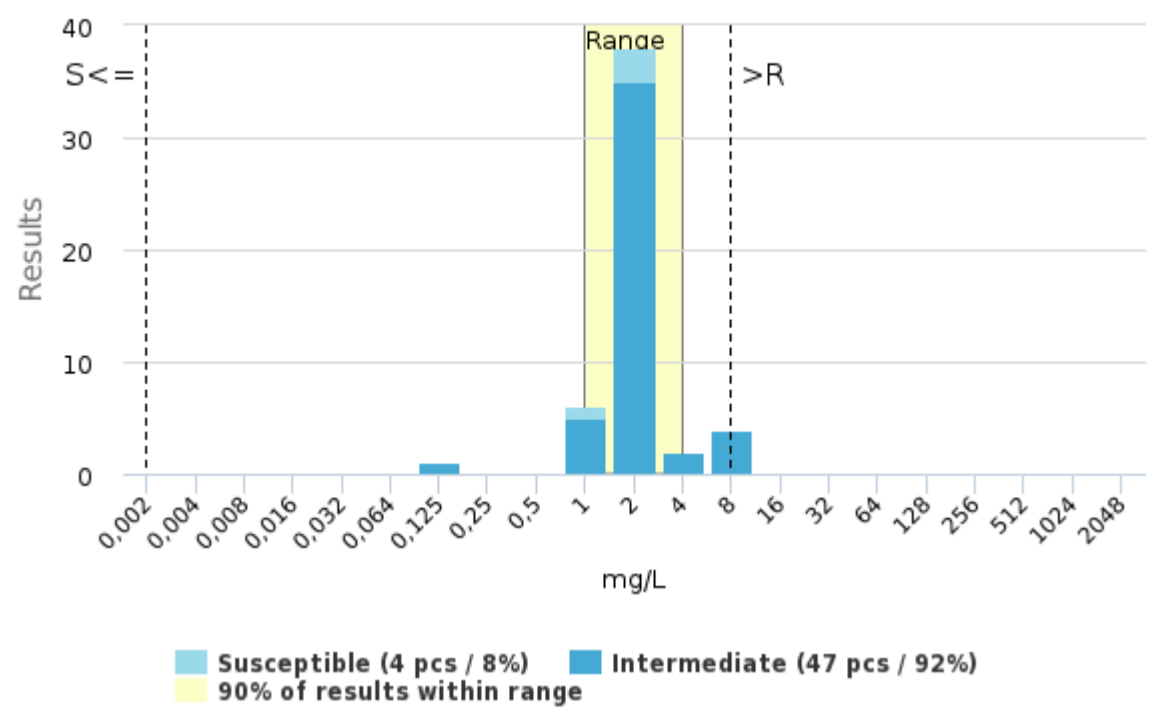
Sample 001 | EUCAST



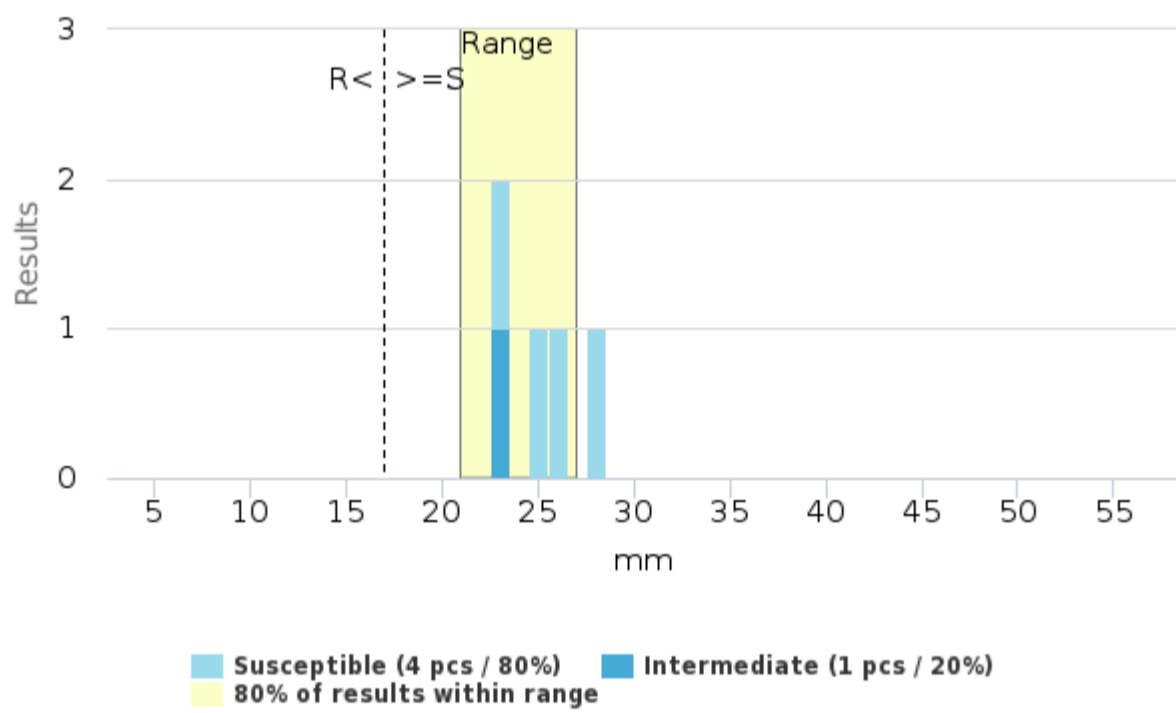
Ceftazidime - DISK



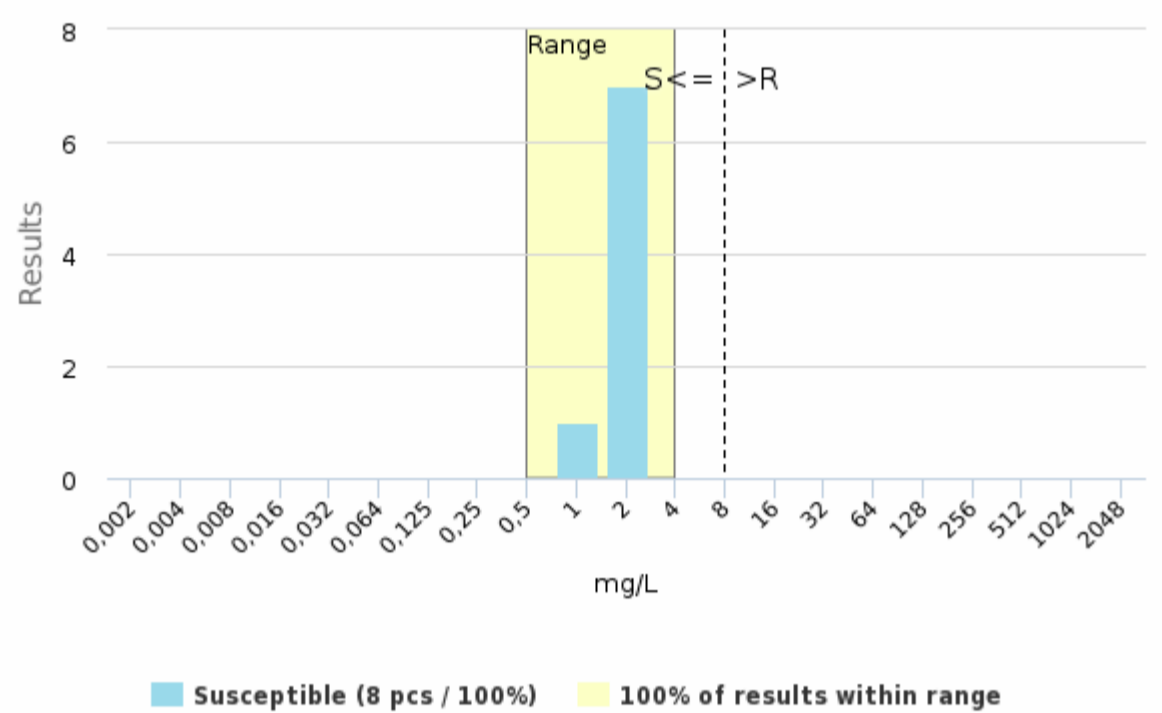
Ceftazidime - MIC



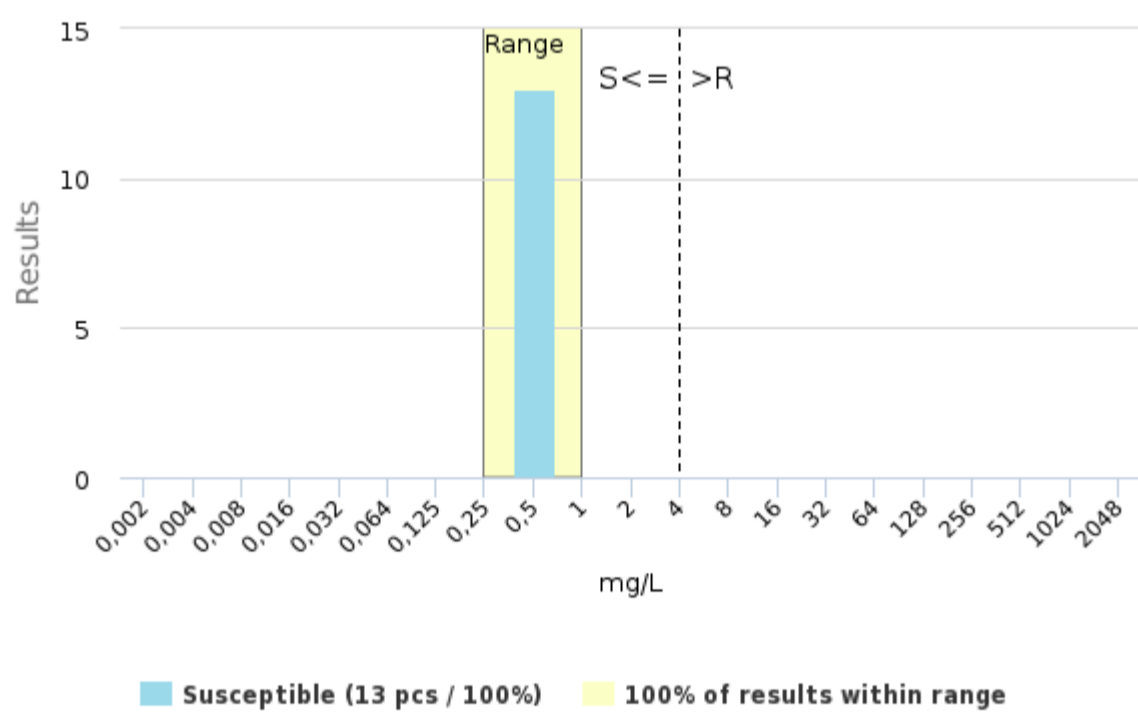
Ceftazidime-avibactam - DISK



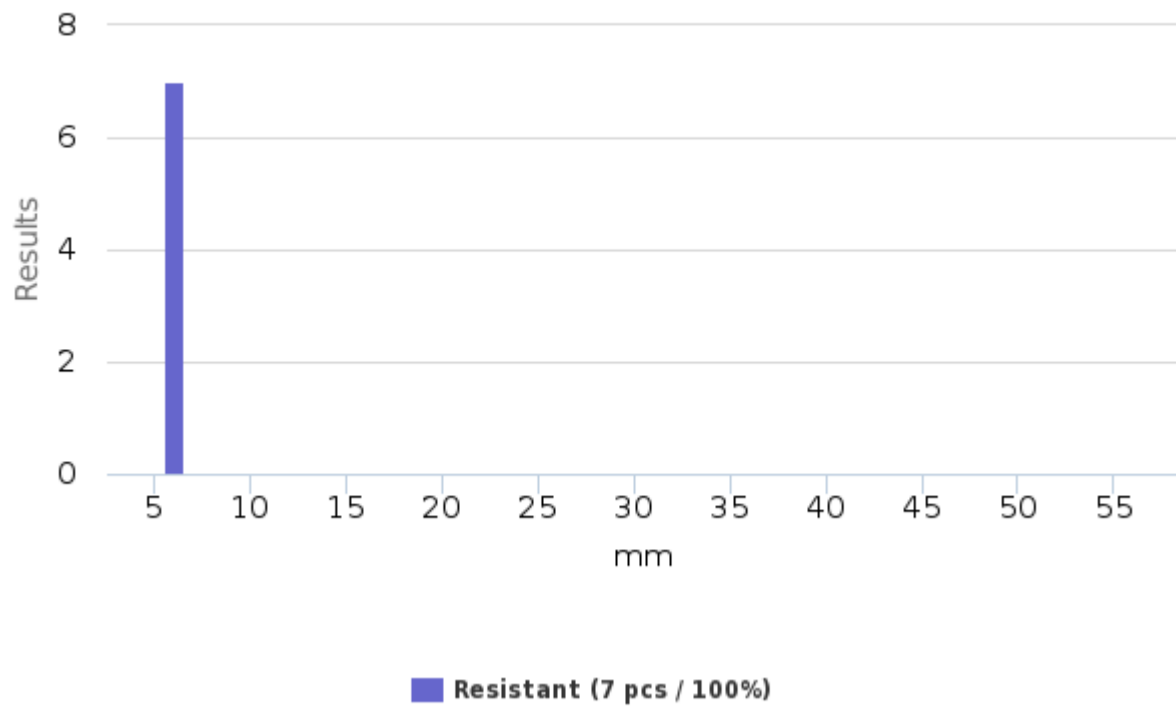
Ceftazidime-avibactam - MIC



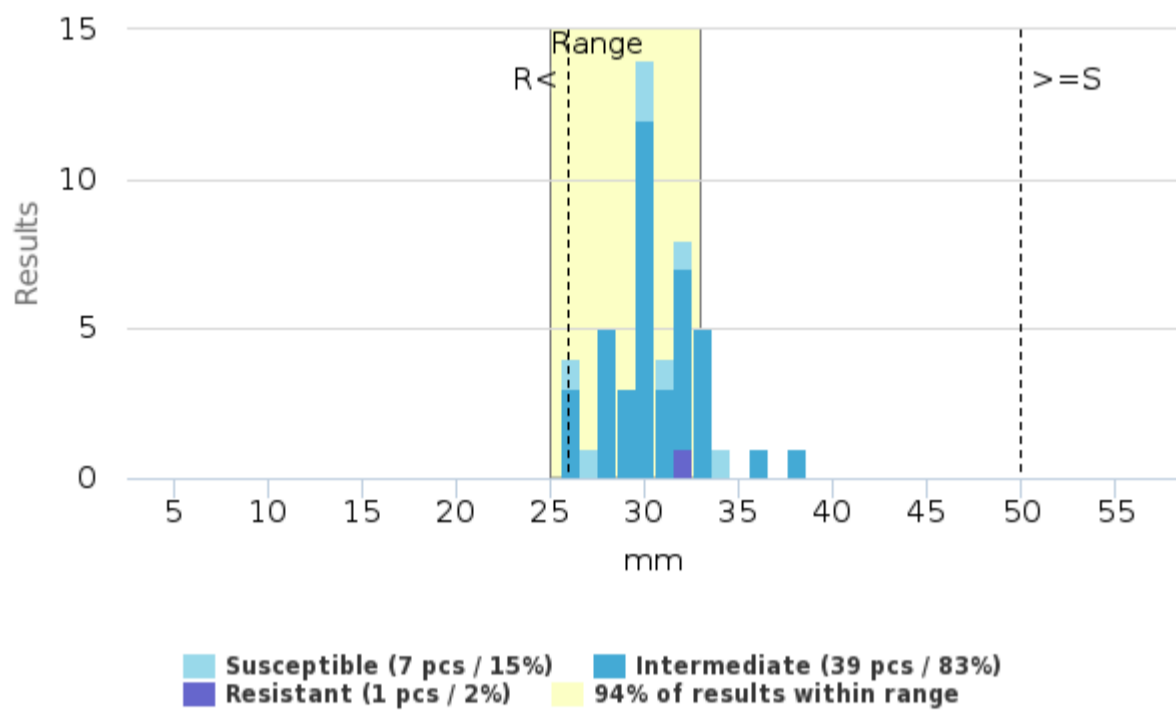
Ceftolozane-tazobactam - MIC



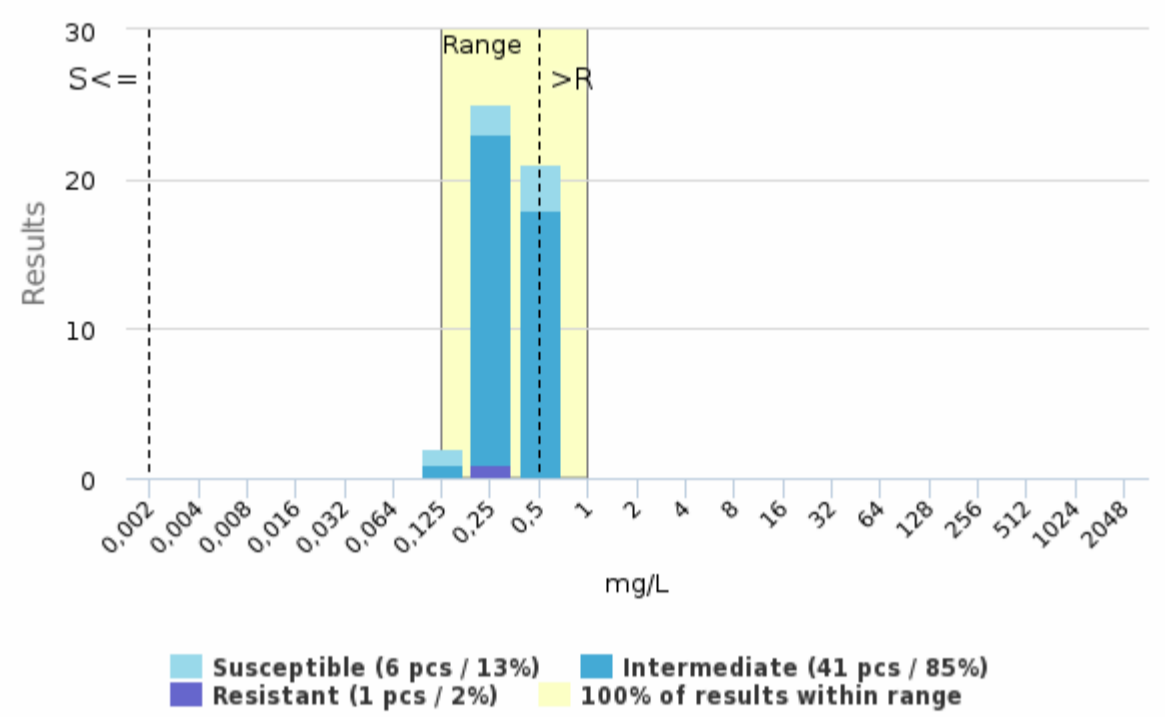
Chloramphenicol - DISK



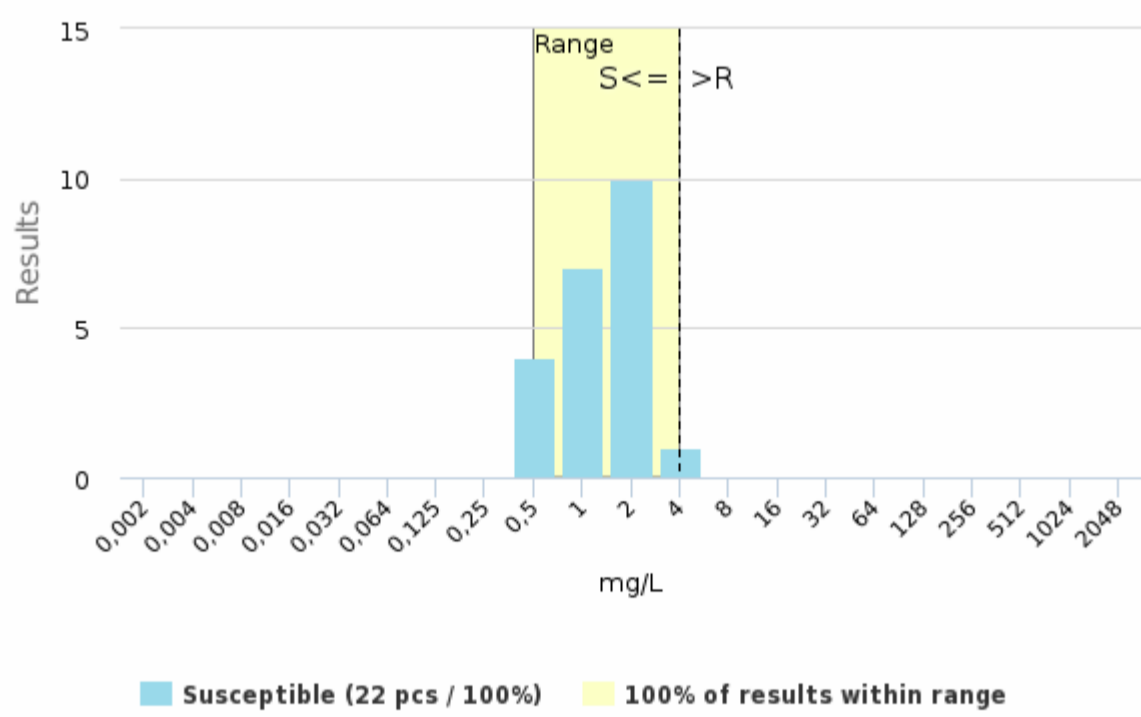
Ciprofloxacin - DISK



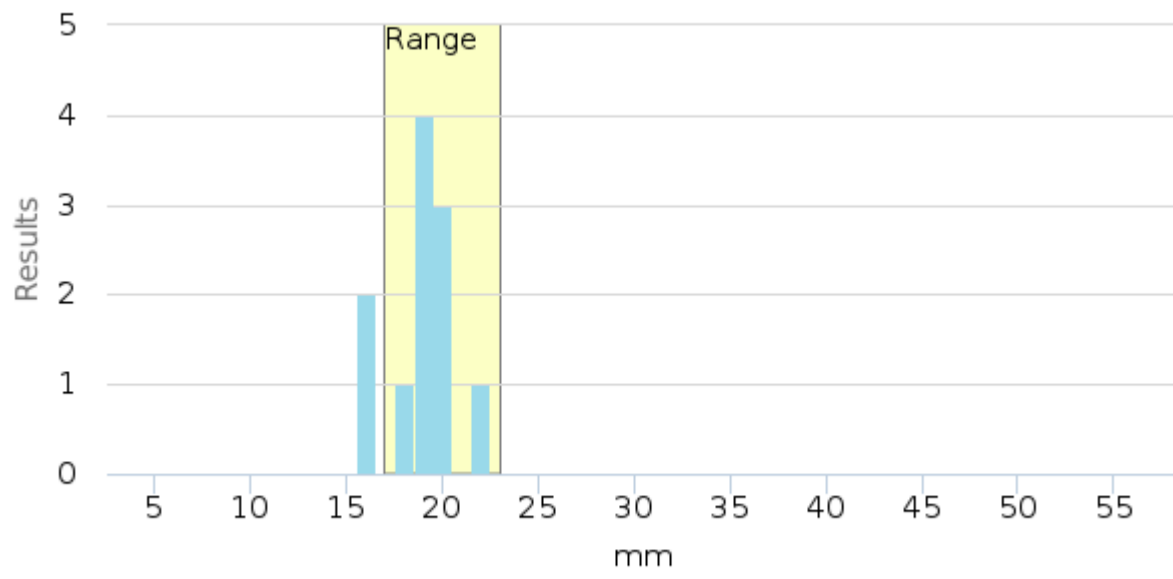
Ciprofloxacin - MIC



Colistin - MIC

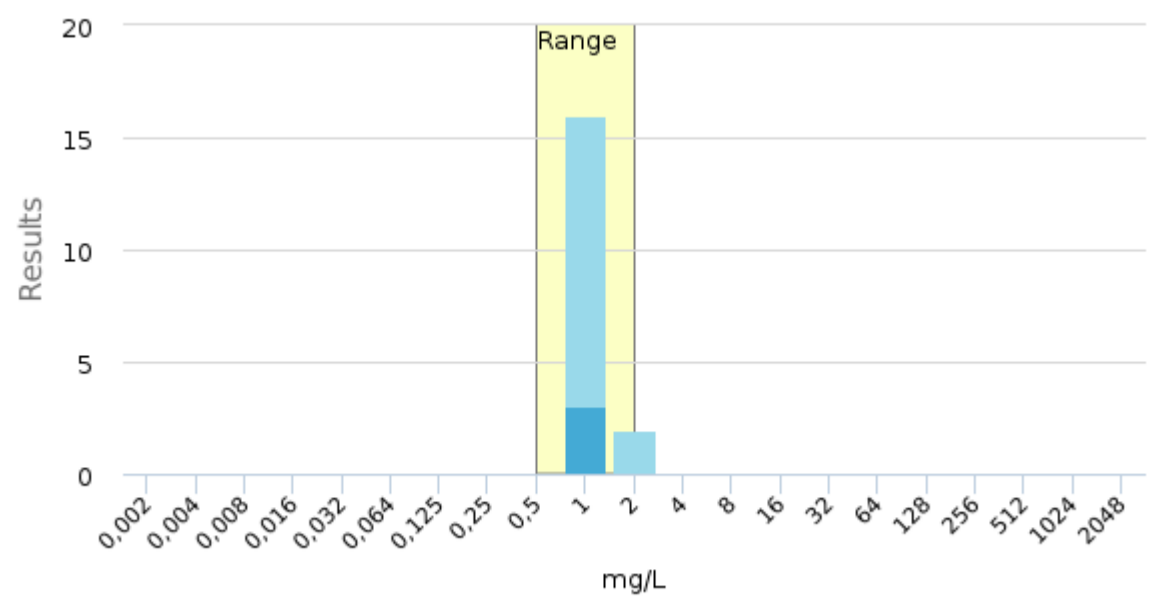


Gentamycin - DISK



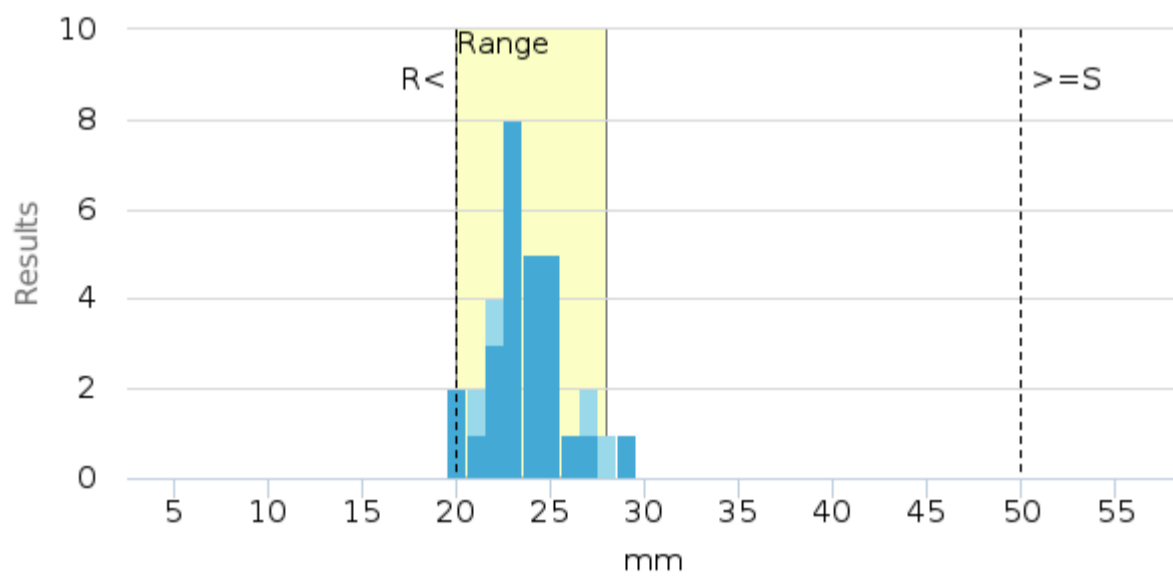
Susceptible (11 pcs / 100%) 82% of results within range

Gentamycin - MIC



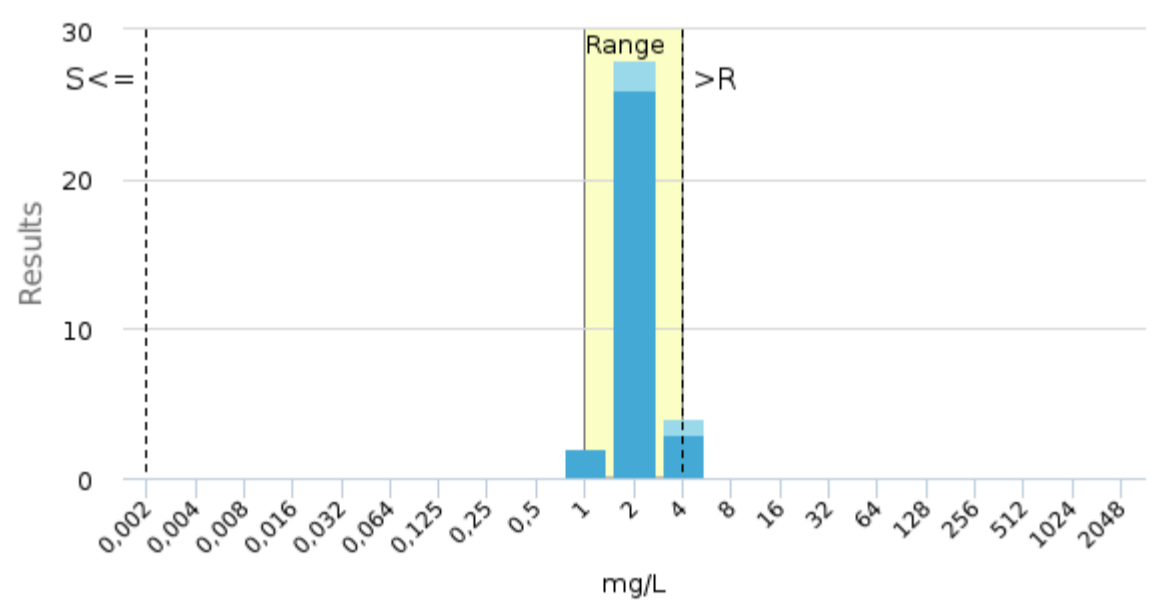
Susceptible (15 pcs / 83%) Intermediate (3 pcs / 17%)
100% of results within range

Imipenem - DISK



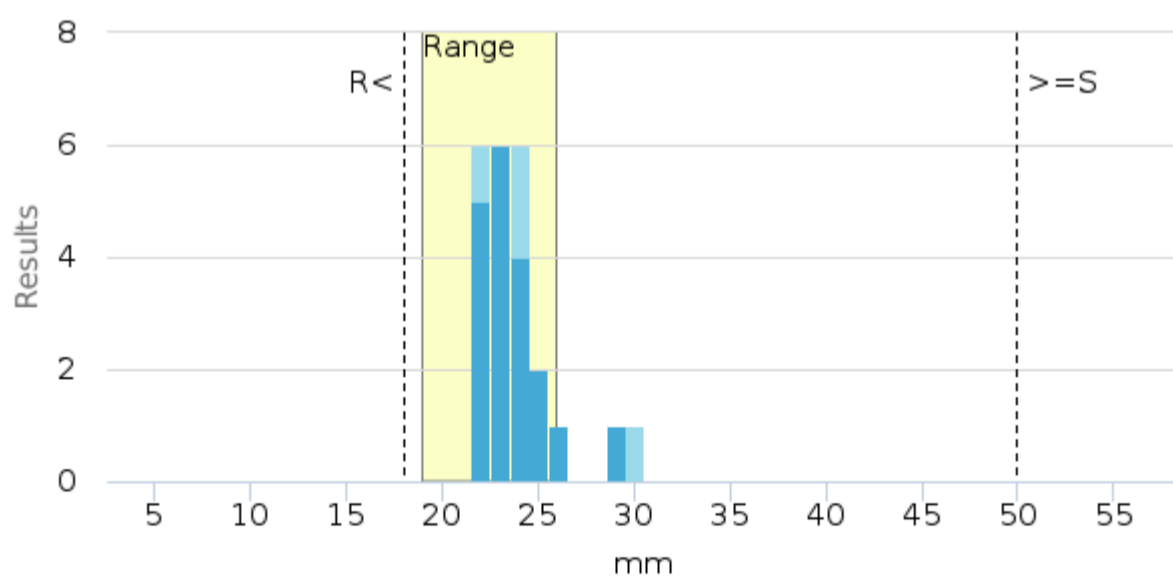
Susceptible (4 pcs / 13%) Intermediate (27 pcs / 87%)
97% of results within range

Imipenem - MIC



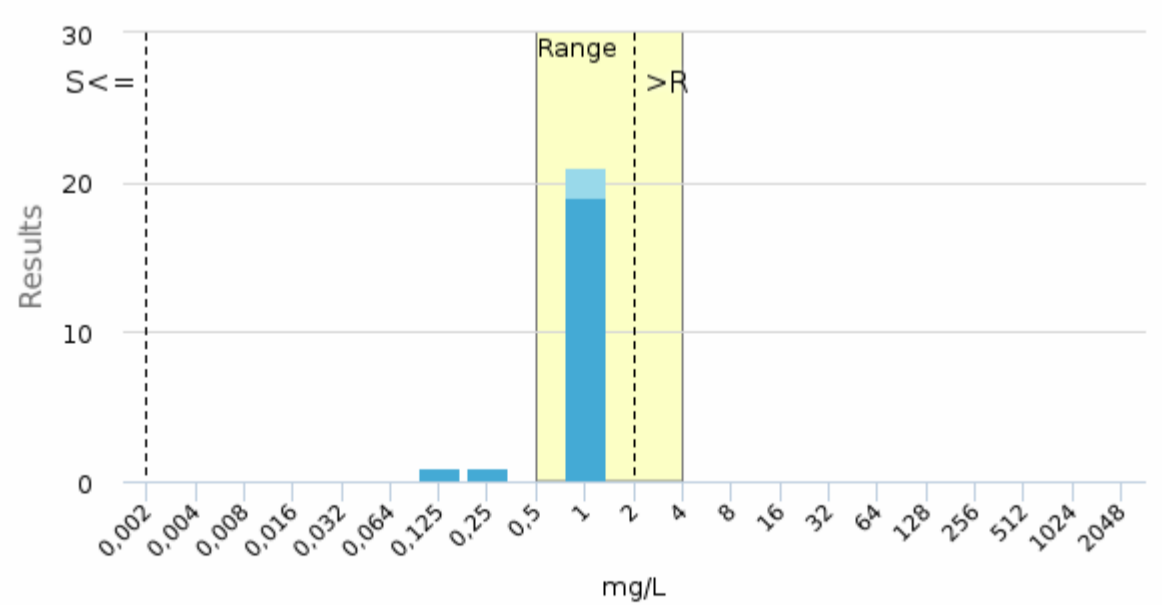
Susceptible (3 pcs / 9%) Intermediate (31 pcs / 91%)
100% of results within range

Levofloxacin - DISK



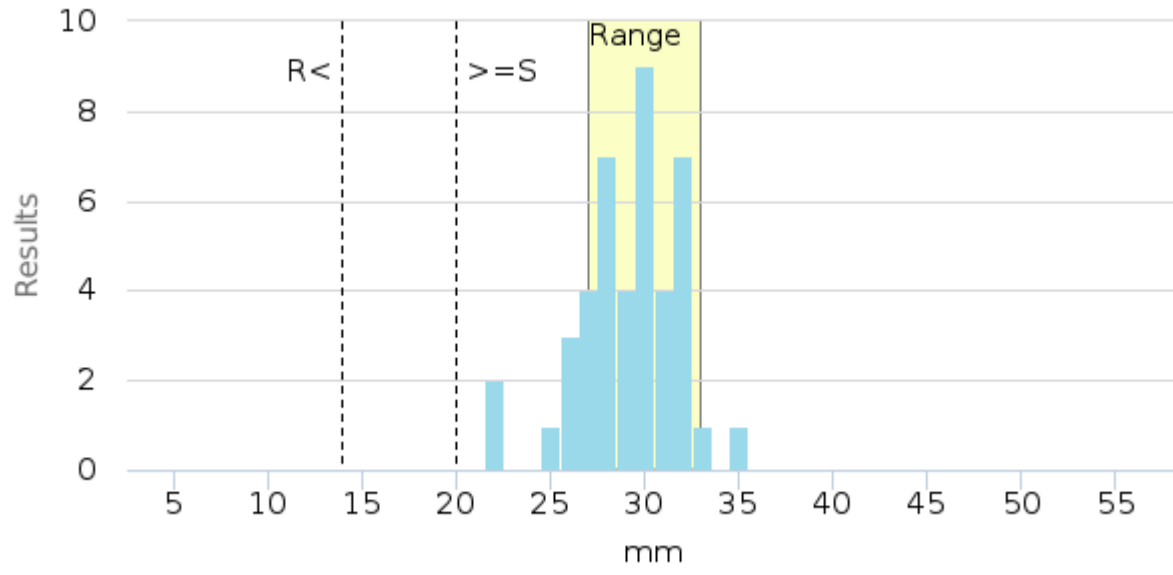
Susceptible (4 pcs / 17%) Intermediate (19 pcs / 83%)
91% of results within range

Levofloxacin - MIC



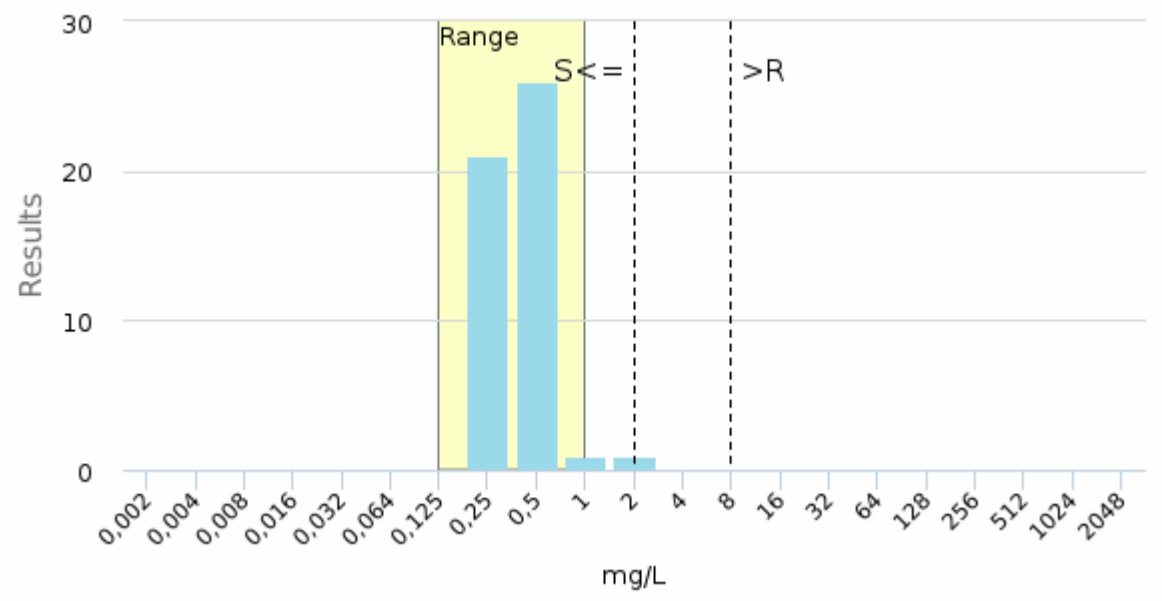
Susceptible (2 pcs / 9%) Intermediate (21 pcs / 91%)
91% of results within range

Meropenem - DISK



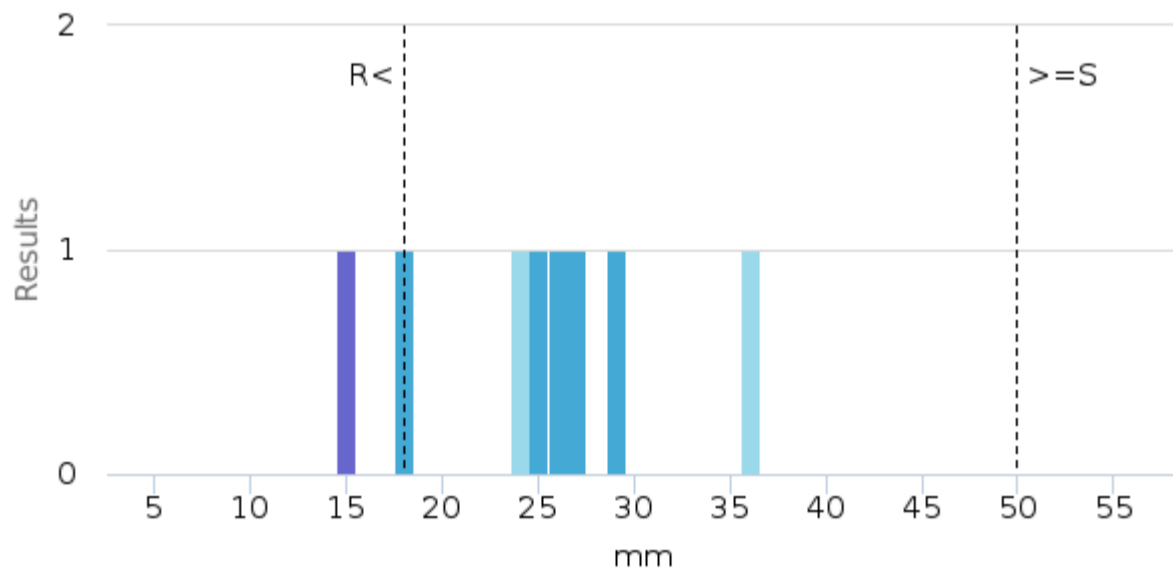
Susceptible (43 pcs / 100%) 84% of results within range

Meropenem - MIC



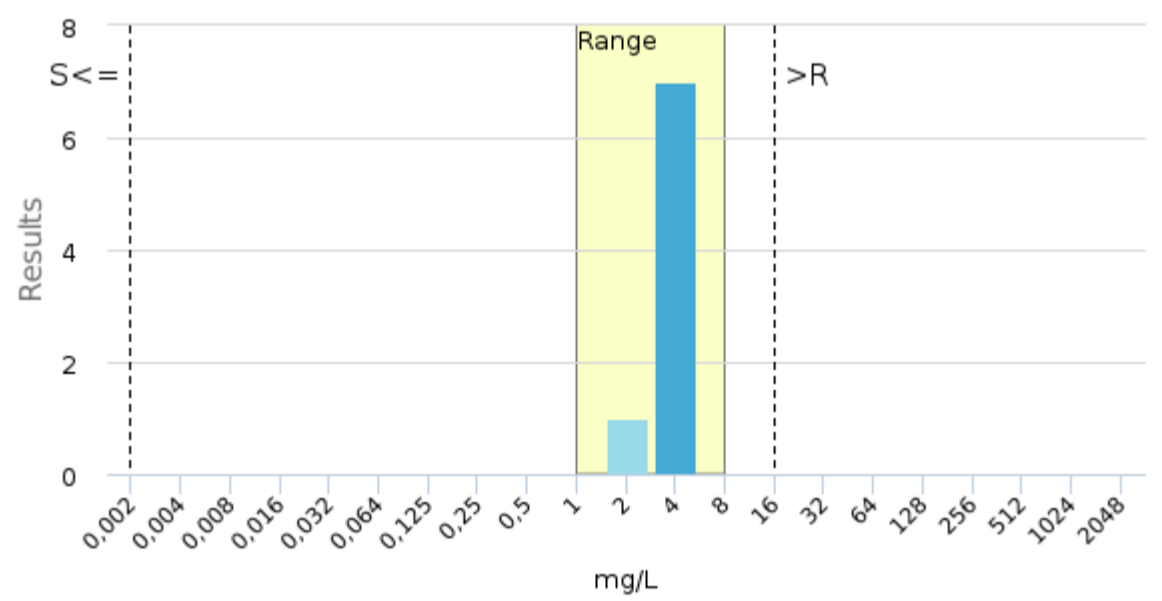
Susceptible (49 pcs / 100%) 98% of results within range

Piperacillin - DISK



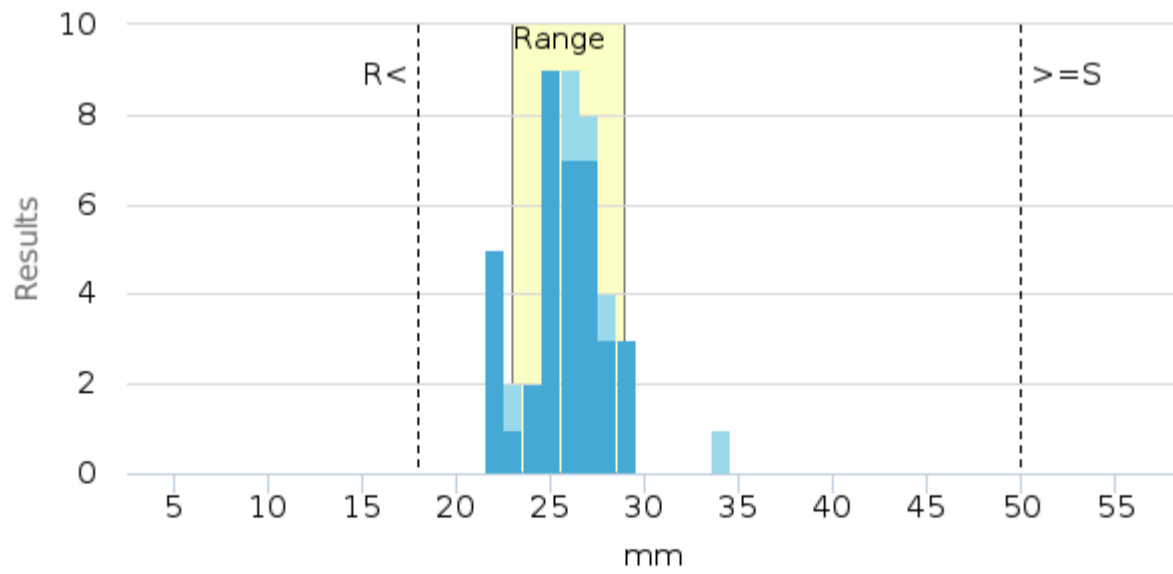
Susceptible (2 pcs / 25%) Intermediate (5 pcs / 63%)
Resistant (1 pcs / 13%)

Piperacillin - MIC



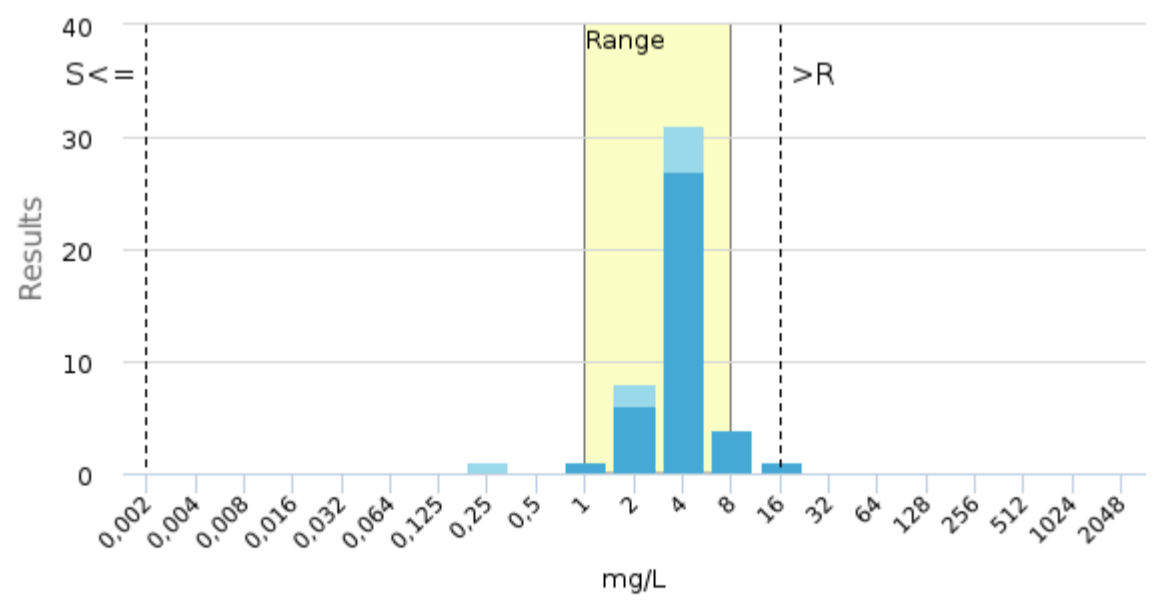
Susceptible (1 pcs / 13%) Intermediate (7 pcs / 88%)
100% of results within range

Piperacillin-tazobactam - DISK

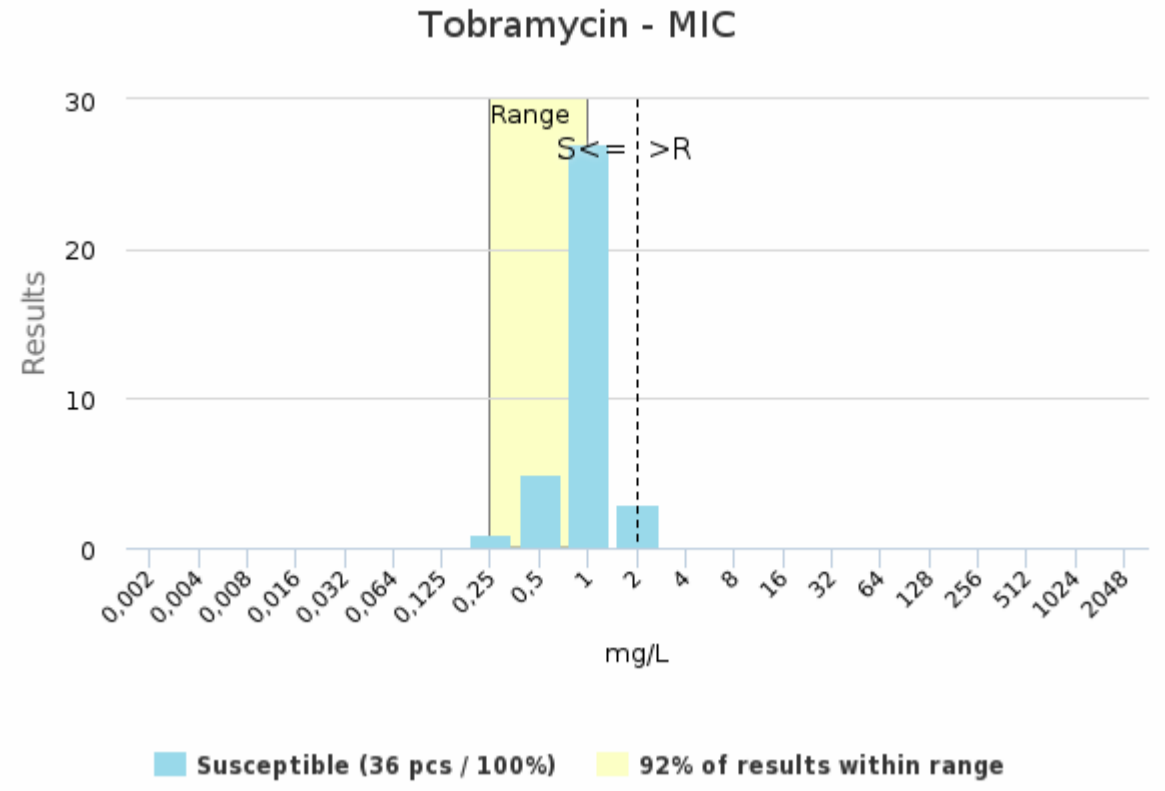
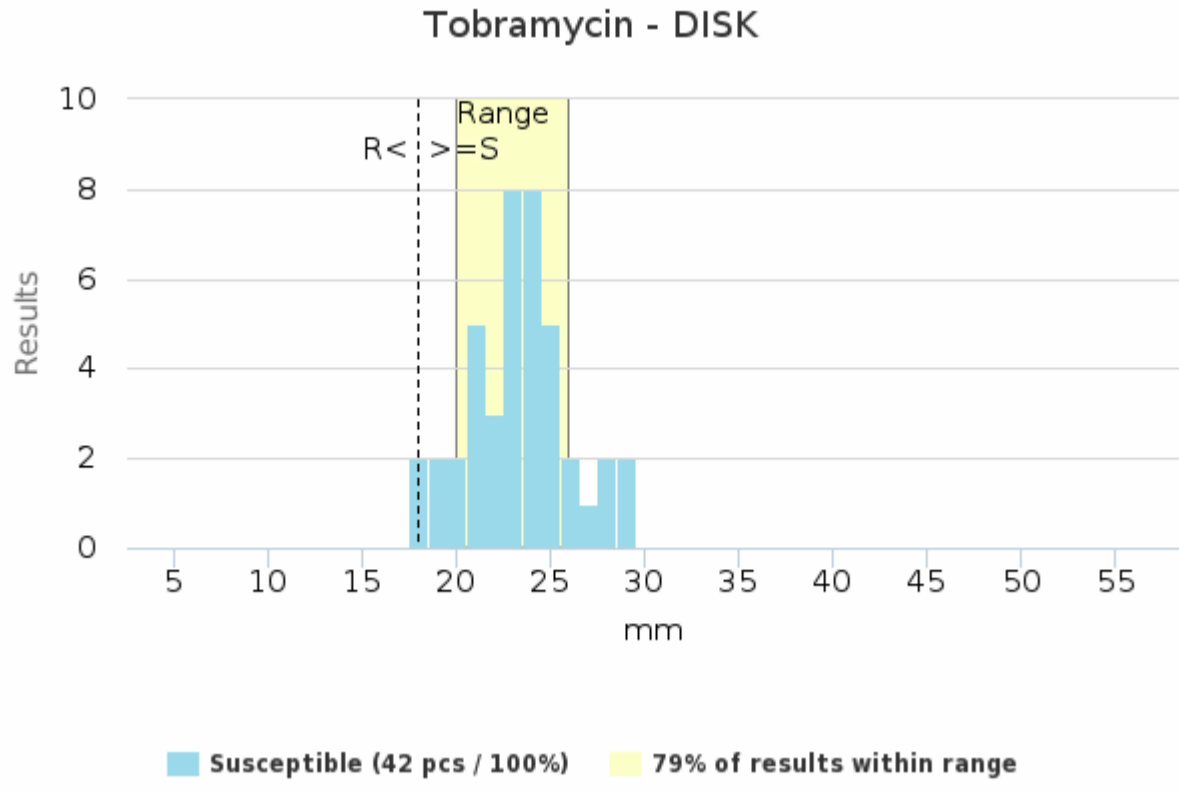


Susceptible (6 pcs / 14%) Intermediate (37 pcs / 86%)
86% of results within range

Piperacillin-tazobactam - MIC

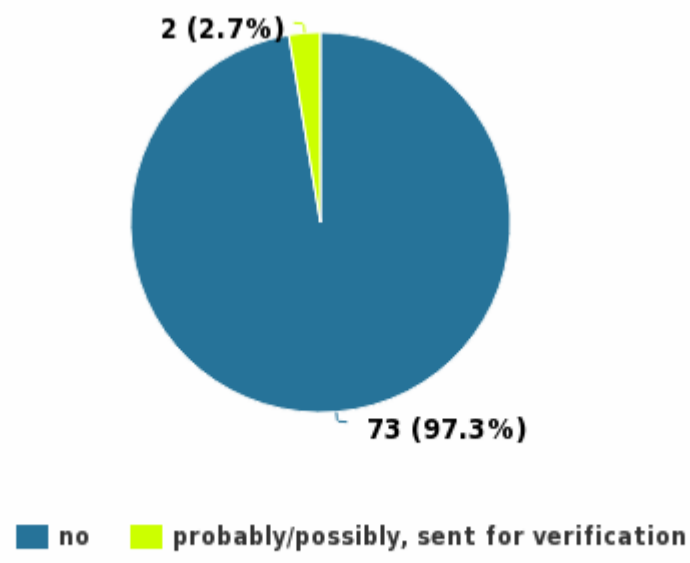


Susceptible (7 pcs / 15%) Intermediate (39 pcs / 85%)
96% of results within range



Sample 001 | Additional questions

Is the strain a carbapenemase producer?



Report info**Participants**

Altogether 94 laboratories from 22 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 (\bar{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.

GLOBAL REPORT

| | No of participants | No of responded participants | Response percentage |
|---|--------------------|------------------------------|---------------------|
| General Bacteriology 1 (aerobes and anaerobes), March, 1-2023 | 59 | 58 | 98.3 % |
| General Bacteriology 2 (aerobes), March, 1-2023 | 35 | 33 | 94.3 % |

Summary

General Bacteriology 1 (aerobes and anaerobes) (5080)

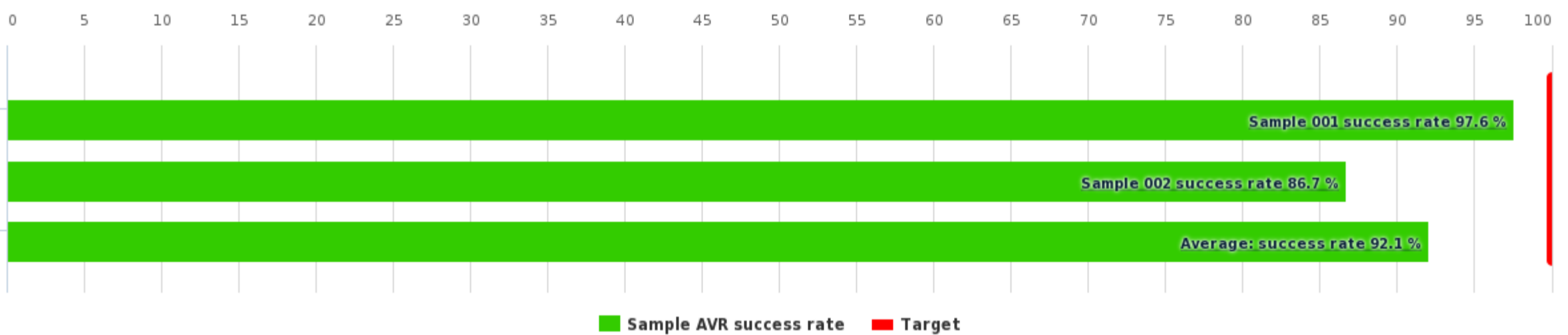
Overall success rate by samples



| Summary | AVR success rate |
|------------|------------------|
| Sample 001 | 99.3 % |
| Sample 002 | 97.9 % |
| Sample 003 | 90.7 % |
| Sample 004 | 86.7 % |
| Average: | 93.6 % |

General Bacteriology 2 (aerobes) (5081)

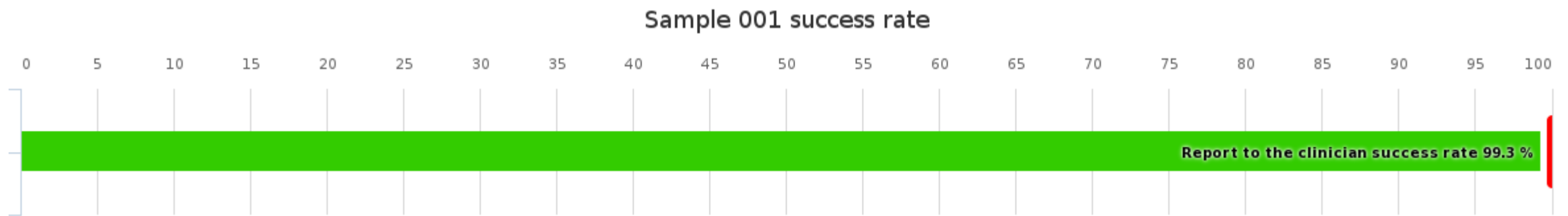
Overall success rate by samples



| Summary | AVR success rate |
|------------|------------------|
| Sample 001 | 97.6 % |
| Sample 002 | 86.7 % |
| Average: | 92.1 % |

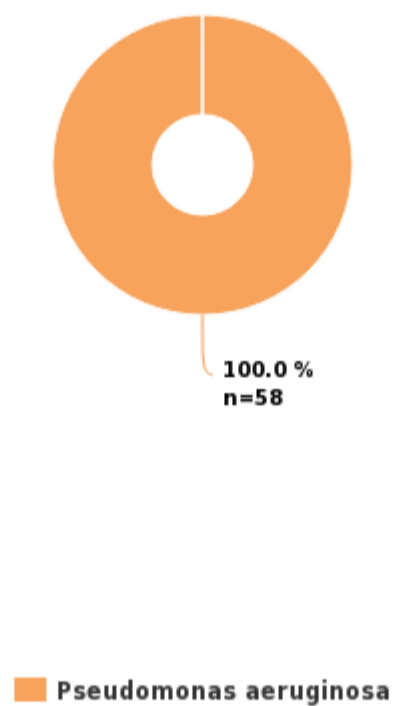
Sample 001 | Pseudomonas aeruginosa

General Bacteriology 1 (aerobes and anaerobes) (5080)



| Sample 001 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 99.3 % | 58 |
| Total: | | 99.3 % | 58 |

Sample 001 Pseudomonas aeruginosa



REPORT TO THE CLINICIAN

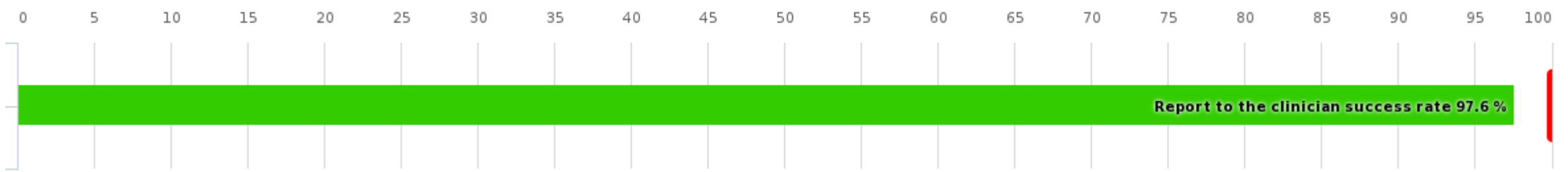
| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|------------------------|------------------------|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Pseudomonas aeruginosa | Pseudomonas aeruginosa | 58 | 56 | 1 | 1 | 2 | 56 | 99.3 % |
| Total: | | 58 | | | | | | 99.3 % |

SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|------------------------|------------------------|---------------|----------------------|-----------|
| Pseudomonas aeruginosa | Pseudomonas aeruginosa | 4 | 1 | 5 |
| Total: | | | | 5 |

General Bacteriology 2 (aerobes) (5081)

Sample 001 success rate



| Sample 001 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 97.6 % | 34 |
| Total: | | 97.6 % | 34 |

Sample 001 Pseudomonas aeruginosa



■ Pseudomonas aeruginosa

Sample 001 Additional finding



■ Staphylococcus aureus

REPORT TO THE CLINICIAN

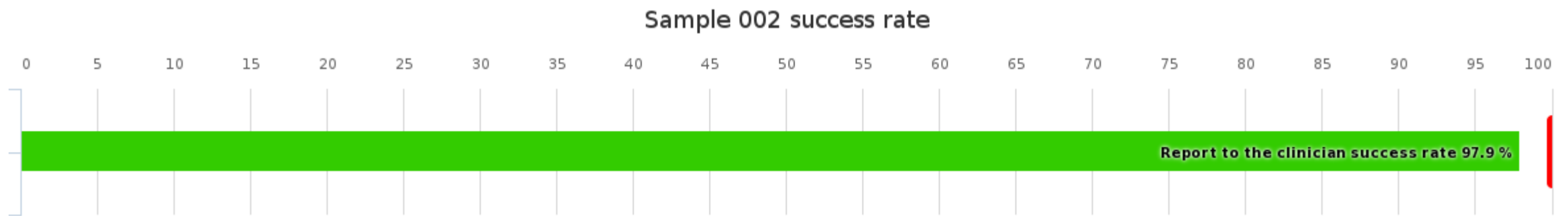
| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Referred | Not referred | AVR success rate |
|------------------------|------------------------|---------------|----------------------|-------------------|----------|--------------|------------------|
| Pseudomonas aeruginosa | | 33 | | | | | 97.6 % |
| | Pseudomonas aeruginosa | 33 | 29 | 4 | 1 | 32 | |
| Additional finding | | 1 | | | | | - |
| | Staphylococcus aureus | 1 | 1 | | | 1 | |
| Total: | | 34 | | | | | 97.6 % |

SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|------------------------|------------------------|---------------|----------------------|-----------|
| Pseudomonas aeruginosa | | | | 5 |
| | Pseudomonas aeruginosa | 4 | 1 | 5 |
| Additional finding | | | | - |
| | Staphylococcus aureus | - | | - |
| Total: | | | | 5 |

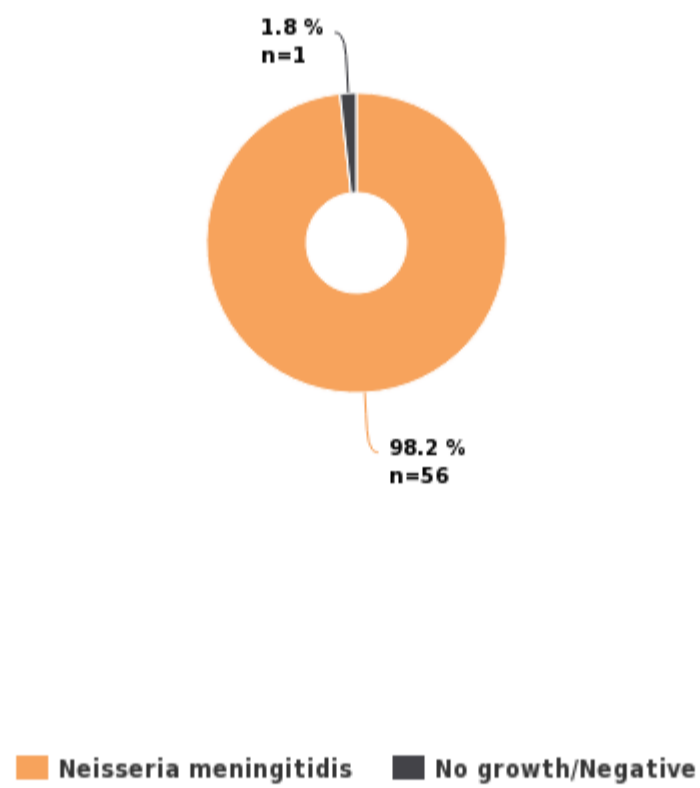
Sample 002 | Neisseria meningitidis

General Bacteriology 1 (aerobes and anaerobes) (5080)



| Sample 002 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 97.9 % | 57 |
| Total: | | 97.9 % | 57 |

Sample 002 Neisseria meningitidis



REPORT TO THE CLINICIAN

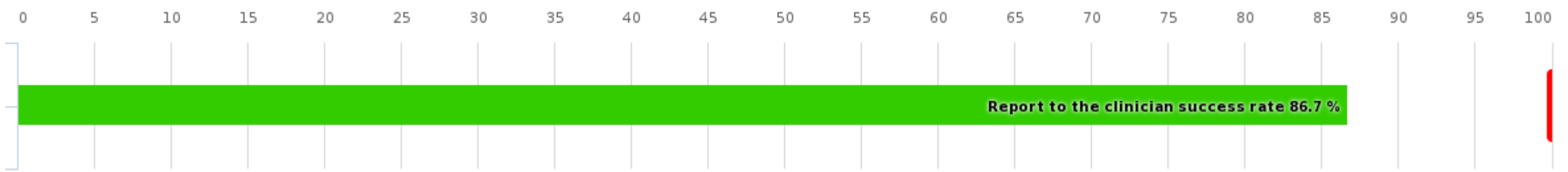
| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|------------------------|------------------------|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Neisseria meningitidis | | 57 | | | | | | 97.9 % |
| | Neisseria meningitidis | 56 | 55 | 1 | | 38 | 18 | |
| | No growth/Negative | 1 | | | 1 | | 1 | |
| Total: | | 57 | | | | | | 97.9 % |

SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|------------------------|------------------------|---------------|----------------------|-----------|
| Neisseria meningitidis | | | | 5 |
| | Neisseria meningitidis | 4 | 1 | 5 |
| | No growth/Negative | 0 | | 5 |
| Total: | | | | 5 |

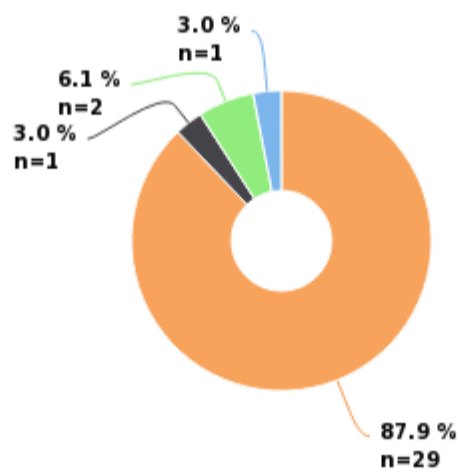
General Bacteriology 2 (aerobes) (5081)

Sample 002 success rate



| Sample 002 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 86.7 % | 33 |
| Total: | | 86.7 % | 33 |

Sample 002 Neisseria meningitidis



■ Neisseria meningitidis
 ■ Moraxella sp.
 ■ Haemophilus influenzae
■ No growth/Negative

REPORT TO THE CLINICIAN

| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|-------------------------------|------------------------|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Neisseria meningitidis | | 33 | | | | | | 86.7 % |
| | Neisseria meningitidis | 29 | 27 | 2 | | 13 | 16 | |
| | Moraxella sp. | 1 | 1 | | | | 1 | |
| | Haemophilus influenzae | 2 | 1 | 1 | | | 2 | |
| | No growth/Negative | 1 | | | 1 | | 1 | |
| Total: | | 33 | | | | | | 86.7 % |

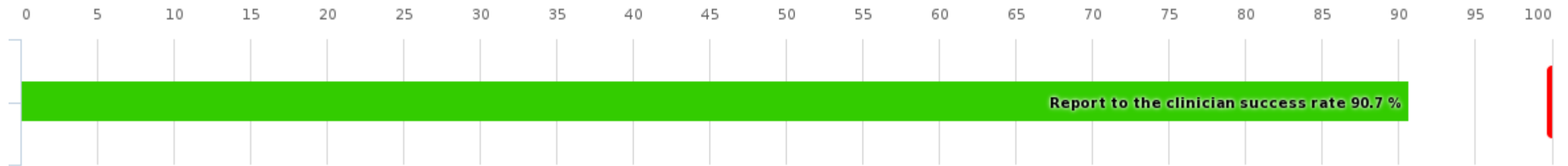
SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Max score |
|-------------------------------|------------------------|---------------|----------------------|-----------|
| Neisseria meningitidis | | | | 5 |
| | Neisseria meningitidis | 4 | 1 | 5 |
| | Moraxella sp. | 0 | | 5 |
| | Haemophilus influenzae | 0 | | 5 |
| | No growth/Negative | 0 | | 5 |
| Total: | | | | 5 |

Sample 003 | Aerococcus urinae

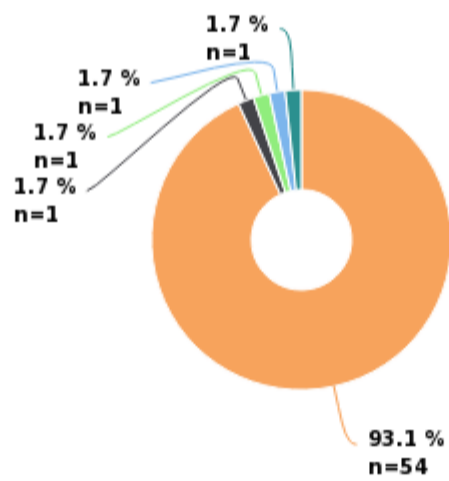
General Bacteriology 1 (aerobes and anaerobes) (5080)

Sample 003 success rate

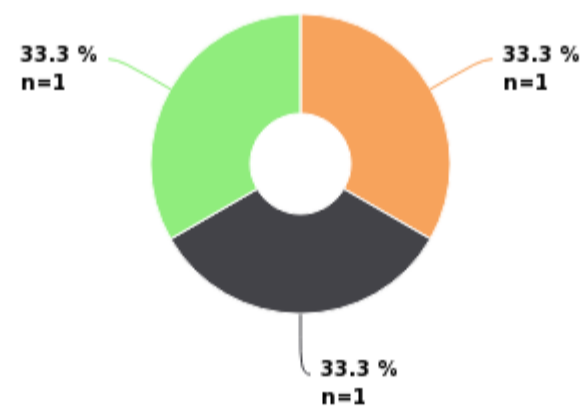


| Sample 003 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 90.7 % | 61 |
| Total: | | 90.7 % | 61 |

Sample 003 Aerococcus urinae



Sample 003 Additional finding



■ Aerococcus urinae
 ■ Aerobe grampositive cocci in clusters
■ Streptococcus sp., alpha-hemolytic
 ■ Abiotrophia defectiva
■ No growth/Negative

■ Streptococcus mitis-group
 ■ Streptococcus salivarius
■ Staphylococcus warneri

REPORT TO THE CLINICIAN

| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|---------------------------|---------------------------------------|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Aerococcus urinae | Aerococcus urinae | 58 | | | | | | 90.7 % |
| | Aerococcus urinae | 54 | 45 | 9 | | 3 | 51 | |
| | Aerobe grampositive cocci in clusters | 1 | 1 | | | 1 | | |
| | Streptococcus sp., alpha-hemolytic | 1 | 1 | | | | 1 | |
| | Abiotrophia defectiva | 1 | | | | | | |
| No growth/Negative | 1 | | | | 1 | 1 | | |
| Additional finding | | 3 | | | | | | - |
| | Streptococcus mitis-group | 1 | | | 1 | | 1 | |
| | Streptococcus salivarius | 1 | | 1 | | | 1 | |
| | Staphylococcus warneri | 1 | 1 | | | | 1 | |
| Total: | | 61 | | | | | | 90.7 % |

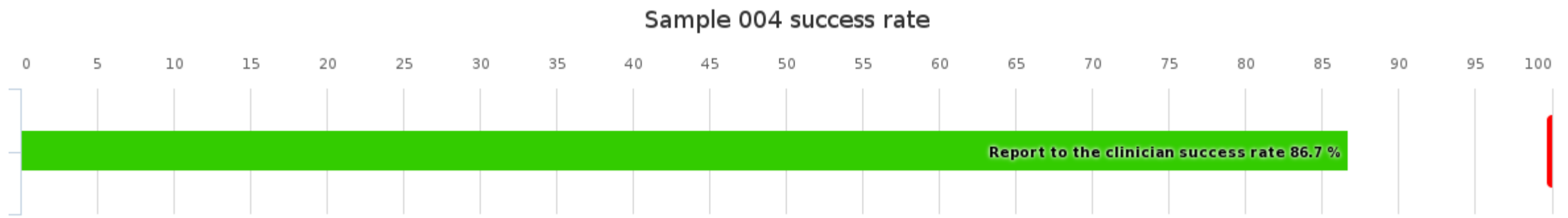
SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Referred | Max score |
|--------------------------|---------------------------------------|---------------|----------------------|----------|-----------|
| Aerococcus urinae | | | | | 5 |
| | Aerococcus urinae | 4 | 1 | | 5 |
| | Aerobe grampositive cocci in clusters | 1 | | 1 | 5 |

| | | | | | |
|---------------------------|------------------------------------|---|--|--|---|
| | Streptococcus sp., alpha-hemolytic | 0 | | | 5 |
| | Abiotrophia defectiva | 0 | | | 5 |
| | No growth/Negative | 0 | | | 5 |
| Additional finding | | | | | - |
| | Streptococcus mitis-group | - | | | - |
| | Streptococcus salivarius | - | | | - |
| | Staphylococcus warneri | - | | | - |
| Total: | | | | | 5 |

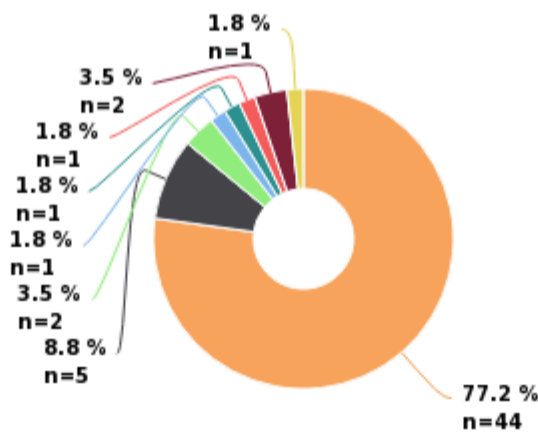
Sample 004 | Streptococcus constellatus, Fusobacterium necrophorum

General Bacteriology 1 (aerobes and anaerobes) (5080)



| Sample 004 results | Responded | AVR success rate | Count |
|--------------------|-------------------------|------------------|-------|
| | Report to the clinician | 86.7 % | 115 |
| Total: | | 86.7 % | 115 |

Sample 004 Streptococcus constellatus



- Streptococcus constellatus
- Streptococcus anginosus -group (syn. milleri-group)
- Streptococcus anginosus
- Streptococcus sp.
- Streptococcus sanguinis
- Streptococcus viridans -group
- Streptococcus gordonii
- Aerobe grampositive cocci in chains

Sample 004 Fusobacterium necrophorum



- Fusobacterium necrophorum
- No reported finding

Sample 004 Additional finding



- Staphylococcus hominis

REPORT TO THE CLINICIAN

| Finding group | Finding | Finding count | Significant pathogen | Possible pathogen | Non-significant finding | Referred | Not referred | AVR success rate |
|-----------------------------------|---|---------------|----------------------|-------------------|-------------------------|----------|--------------|------------------|
| Streptococcus constellatus | | 57 | | | | | | 86.7 % |
| | Streptococcus constellatus | 44 | 28 | 11 | 5 | | 44 | |
| | Streptococcus anginosus -group (syn. milleri-group) | 5 | 5 | | | | 5 | |
| | Streptococcus anginosus | 2 | 1 | 1 | | 1 | 1 | |
| | Streptococcus viridans -group | 1 | 1 | | | | 1 | |
| | Streptococcus sp. | 1 | | 1 | | | 1 | |
| | Streptococcus gordonii | 1 | | 1 | | | 1 | |
| | Streptococcus sanguinis | 2 | 1 | 1 | | | 2 | |
| | Aerobe grampositive cocci in chains | 1 | | 1 | | | 1 | |
| Fusobacterium necrophorum | | 57 | | | | | | - |
| | Fusobacterium necrophorum | 2 | 2 | | | | 2 | |
| | No reported finding | 55 | | | | | | |
| Additional finding | | 1 | | | | | | - |
| | Staphylococcus hominis | 1 | | | 1 | | 1 | |
| Total: | | 115 | | | | | | 86.7 % |

SCORING SUMMARY

| Finding group | Finding | Finding score | Significant pathogen | Possible pathogen | Max score |
|-----------------------------------|---|---------------|----------------------|-------------------|-----------|
| Streptococcus constellatus | | | | | 5 |
| | Streptococcus constellatus | 4 | 1 | 1 | 5 |
| | Streptococcus anginosus -group (syn. milleri-group) | 4 | 1 | | 5 |
| | Streptococcus anginosus | 2 | | | 5 |
| | Streptococcus viridans -group | 1 | | | 5 |
| | Streptococcus sp. | 1 | | | 5 |
| | Streptococcus gordonii | 0 | | | 5 |
| | Streptococcus sanguinis | 0 | | | 5 |
| | Aerobe grampositive cocci in chains | 1 | | | 5 |
| Fusobacterium necrophorum | | | | | - |
| | Fusobacterium necrophorum | - | | | - |
| | No reported finding | - | | | - |
| Additional finding | | | | | - |
| | Staphylococcus hominis | - | | | - |
| Total: | | | | | 5 |

Report Info**PARTICIPANTS**

Altogether 94 laboratories from 22 countries participated in this EQA round.

REPORT INFO

On the front page you can see summaries of overall success rate and sample specific success rates which have been calculated from the scores. The reported results and the scores are presented in the same report but in separate tables. The global summary report contains the results of schemes General Bacteriology 1 (5080) and General Bacteriology 2 (5081), but in separate tables. The participant specific summary includes the results of your own reference group (product) merely.

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 "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 scoring range/finding is 0-5 points. The scoring comprises the following elements:

species identification, a maximum of 4 points is given (see below)

the interpretation of the significance of the finding, a maximum of 1 point is given

in case of insufficient species identification, an additional score (maximum 1 point) might be given to participants that would have referred the isolate for further identification

The following general rules are applied regarding the scoring of the species identification:

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

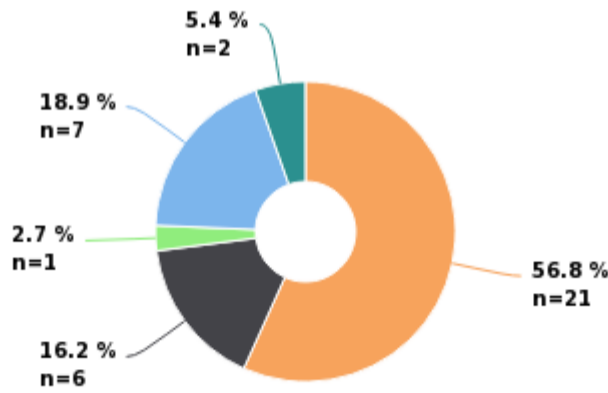
GLOBAL REPORT

| | No of participants | No of responded participants | Response percentage |
|---|--------------------|------------------------------|---------------------|
| General Bacteriology 1 (aerobes and anaerobes), March, 1-2023 | 59 | 57 | 96.6 % |

Sample 003 | *Aerococcus urinae*

| Sample 003 results | Responded | Count |
|--------------------|--|------------|
| | Gram staining | 40 |
| | Identification test kits and analyzers | 15 |
| | Identification tests: MALDI-TOF | 47 |
| | Identification tests: NAT and DNA-sequencing | 1 |
| | Total: | 103 |

Sample 003 Gram staining, *Aerococcus urinae*



Sample 003 Gram staining, Additional finding



- Aerobe grampositive cocci
- Aerobe grampositive cocci in clusters
- Aerobe grampositive diplococci
- Grampositive cocci
- Anaerobe grampositive cocci

- Aerobe grampositive cocci
- Grampositive cocci

GRAM STAINING

| Finding group | Result | Result count |
|---------------------------|---------------------------------------|--------------|
| Aerococcus urinae | | 37 |
| | Aerobe grampositive cocci | 21 |
| | Aerobe grampositive cocci in clusters | 6 |
| | Aerobe grampositive diplococci | 1 |
| | Grampositive cocci | 7 |
| | Anaerobe grampositive cocci | 2 |
| Additional finding | | 3 |
| | Aerobe grampositive cocci | 2 |
| | Grampositive cocci | 1 |
| Total: | | 40 |

Sample 003 Identification test kits and analyzers, *Aerococcus urinae*



- Aerococcus urinae

Sample 003 Identification test kits and analyzers, Additional finding



- Streptococcus mitis-group

Sample 003 Identification tests: MALDI-TOF, *Aerococcus urinae*

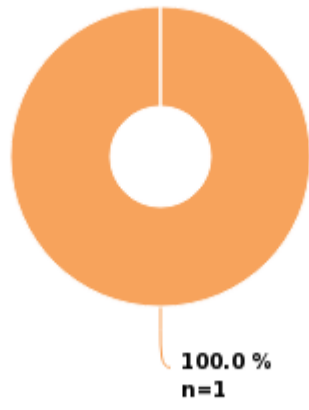


- Aerococcus urinae

Sample 003 Identification tests:

Sample 003 Identification tests: NAT

MALDI-TOF, Additional finding



Streptococcus salivarius

and DNA-sequencing, Aerococcus urinae



Streptococcus sp., alpha-hemolytic

IDENTIFICATION TEST KITS AND ANALYZERS

| Finding group | Method | Result | Profile number | Profile number count |
|---------------------------|---|---------------------------|-----------------------|----------------------|
| Aerococcus urinae | BD Phoenix PMIC/ID panel (Becton Dickinson) | Aerococcus urinae | N/A | 1 |
| | VITEK 2 (bioMérieux) | Aerococcus urinae | 000070700040111 | 1 |
| | | | 000070500050011 | 1 |
| | | | 000070500040030 | 1 |
| | | | 000030520040011 | 1 |
| | | | 000030500050411 | 1 |
| | | | 000030500040011 | 1 |
| | | | 000030100040011 | 1 |
| | | | N/A | 1 |
| | VITEK 2 Compact 15 (bioMérieux) | Aerococcus urinae | 000030700040011 | 1 |
| | VITEK 2 Compact 30 (bioMérieux) | Aerococcus urinae | 000030720150111 | 1 |
| | | | 000030100040010 | 1 |
| | | | GP 000030700140011 | 1 |
| | | | N/A | 1 |
| Additional finding | VITEK 2 Compact 30 (bioMérieux) | Streptococcus mitis-group | 021110364305511 | 1 |
| Total: | | | | 15 |

IDENTIFICATION TESTS: MALDI-TOF

| Finding group | Method | Result | Score / Probability % | Score / Probability % count |
|---------------------------|-------------------------|--------------------------|-----------------------|-----------------------------|
| Aerococcus urinae | MALDI Biotyper (Bruker) | Aerococcus urinae | ≥2 | 25 |
| | VITEK MS (bioMérieux) | Aerococcus urinae | 99,9 % | 19 |
| | | | 99 % | 2 |
| Additional finding | MALDI Biotyper (Bruker) | Streptococcus salivarius | ≥2 | 1 |
| Total: | | | | 47 |

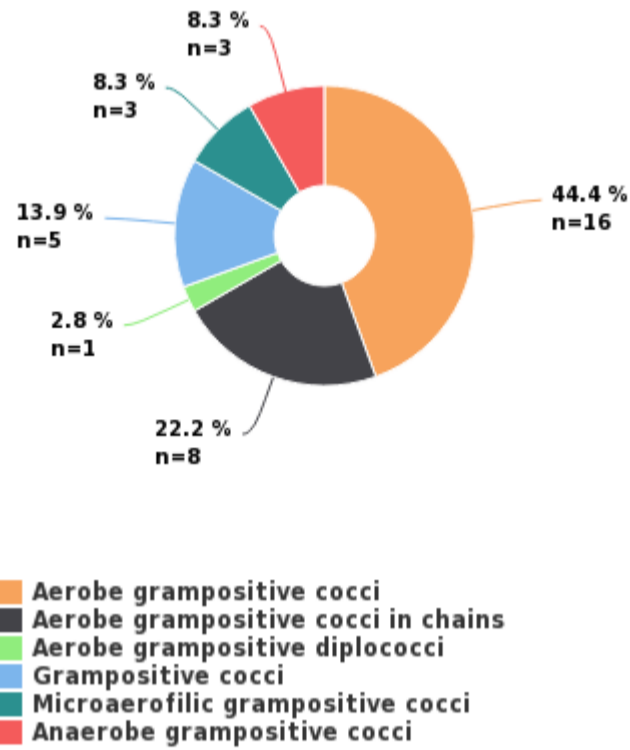
IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

| Finding group | Method | Result | Result count |
|-------------------|---------------|------------------------------------|--------------|
| Aerococcus urinae | NAT, In house | Streptococcus sp., alpha-hemolytic | 1 |
| Total: | | | 1 |

Sample 004 | Streptococcus constellatus, Fusobacterium necrophorum

| Sample 004 results | Responded | Count |
|--------------------|--|-------|
| | Gram staining | 38 |
| | Identification test kits and analyzers | 11 |
| | Identification tests: MALDI-TOF | 50 |
| | Identification tests: NAT and DNA-sequencing | 1 |
| | Total: | 100 |

Sample 004 Gram staining, Streptococcus constellatus



Sample 004 Gram staining, Fusobacterium necrophorum



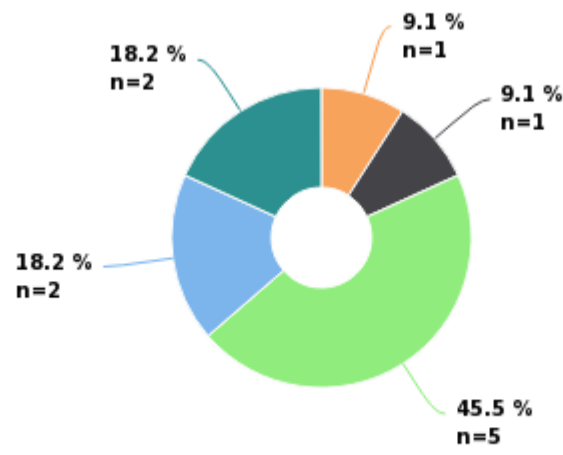
Sample 004 Gram staining, Additional finding



GRAM STAINING

| Finding group | Result | Result count |
|-----------------------------------|-------------------------------------|--------------|
| Streptococcus constellatus | | 36 |
| | Aerobe grampositive cocci | 16 |
| | Aerobe grampositive cocci in chains | 8 |
| | Aerobe grampositive diplococci | 1 |
| | Grampositive cocci | 5 |
| | Microaerophilic grampositive cocci | 3 |
| | Anaerobe grampositive cocci | 3 |
| Fusobacterium necrophorum | | 1 |
| | Anaerobe gramnegative rod/bacilli | 1 |
| Additional finding | | 1 |
| | Grampositive cocci | 1 |
| Total: | | 38 |

Sample 004 Identification test kits and analyzers, Streptococcus constellatus



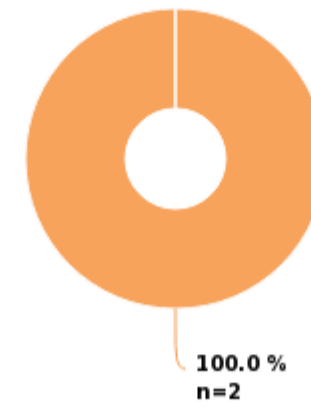
- Streptococcus sp.
- Streptococcus anginosus
- Streptococcus constellatus
- Streptococcus gordonii
- Streptococcus sanguinis

Sample 004 Identification tests: MALDI-TOF, Streptococcus constellatus



- Streptococcus anginosus
- Streptococcus constellatus

Sample 004 Identification tests: MALDI-TOF, Fusobacterium necrophorum



- Fusobacterium necrophorum

Sample 004 Identification tests: MALDI-TOF, Additional finding



- Staphylococcus hominis

Sample 004 Identification tests: NAT and DNA-sequencing, Streptococcus constellatus



- Streptococcus sp., alpha-hemolytic

IDENTIFICATION TEST KITS AND ANALYZERS

| Finding group | Method | Result | Profile number | Profile number count |
|-----------------------------------|---|----------------------------|-----------------|----------------------|
| Streptococcus constellatus | BD Phoenix SMIC/ID panel (Becton Dickinson) | Streptococcus anginosus | N/A | 1 |
| | RapID STR (Thermo Scientific) | Streptococcus constellatus | 30211strep | 1 |
| | VITEK 2 (bioMérieux) | Streptococcus sp. | N/A | 1 |
| | | Streptococcus constellatus | 051410360713671 | 1 |
| | | Streptococcus gordonii | 011410120313471 | 1 |
| | | Streptococcus sanguinis | 011010340301431 | 1 |
| | | Streptococcus sanguinis | 001010120203431 | 1 |
| | VITEK 2 Compact 15 (bioMérieux) | Streptococcus sanguinis | 001010120203431 | 1 |
| | VITEK 2 Compact 30 (bioMérieux) | Streptococcus constellatus | 051410360713471 | 1 |
| | | | 011410360713431 | 1 |
| | | | N/A | 1 |
| | | Streptococcus gordonii | N/A | 1 |
| Total: | | | | 11 |

IDENTIFICATION TESTS: MALDI-TOF

| Finding group | Method | Result | Score / Probability % | Score / Probability % count |
|-----------------------------------|-------------------------|----------------------------|-----------------------|-----------------------------|
| Streptococcus constellatus | MALDI Biotyper (Bruker) | Streptococcus constellatus | ≥2 | 22 |
| | | | ≥1.7..<2 | 3 |
| | VITEK MS (bioMérieux) | Streptococcus anginosus | 99,9 % | 1 |
| | | Streptococcus constellatus | 99,9 % | 19 |
| | | | 99 % | 1 |

| | | | | |
|----------------------------------|-------------------------|---------------------------|----------|----|
| | | | 98 % | 1 |
| Fusobacterium necrophorum | MALDI Biotyper (Bruker) | Fusobacterium necrophorum | ≥2 | 1 |
| | VITEK MS (bioMérieux) | Fusobacterium necrophorum | 99,9 % | 1 |
| Additional finding | MALDI Biotyper (Bruker) | Staphylococcus hominis | ≥1.7..<2 | 1 |
| Total: | | | | 50 |

IDENTIFICATION TESTS: NAT AND DNA-SEQUENCING

| Finding group | Method | Result | Result count |
|----------------------------|---------------|------------------------------------|--------------|
| Streptococcus constellatus | NAT, In house | Streptococcus sp., alpha-hemolytic | 1 |
| Total: | | | 1 |

External Quality Assessment Scheme

General Bacteriology 2 Round 1, 2023

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

Specimens

The round included two lyophilized specimens. The sample lots were tested in an accredited Finnish reference laboratory and the results were consistent with the certificates provided by the sample manufacturer. Based on the quality controls conducted by the sample material manufacturer, pretesting 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 samples included the following microbes:

Sample S001 (LQ760123011)
Pseudomonas aeruginosa ATCC® 27853™

Sample S002 (LQ760123012)
Neisseria meningitidis C090156

Report info

Please see the description of the data analysis on the last page of the laboratory-specific reports and global reports. It is important to read the Final report first, as it contains important information of the samples and results in each round. The results reported by participants of General Bacteriology 1 and General Bacteriology 2 have been commented on as one group.

Comments – Experts

Sample S001

Background information: Keratitis in patient using contact lenses.

Finding: *Pseudomonas aeruginosa* as a significant pathogen.

Patient and specimen

P. aeruginosa may cause serious eye infections and should be regarded as a significant pathogen in specimen obtained from an eye.

Culture and identification

Only one pathogen was growing well on both blood and chocolate plates. Gram stain revealed straight and rather long and narrow gram-negative rods. Isolate produced green pigment and had an odor typical for *P. aeruginosa*. Several automated instruments, such as MALDI TOF based methods can be used in identifying *P. aeruginosa*.

Comments on susceptibility testing results

Pseudomonas aeruginosa ATCC® 27853™ is a susceptibility control strain recommended by EUCAST. It has no acquired resistance.

The majority of the reported susceptibility testing results were within the reference range, and most of the interpretations were correct. Well done!

2023-05-24

FINAL REPORT

Product no. 5081

Subcontracting: Sample pretesting

| | |
|--------------------|------------|
| Samples sent | 2023-03-21 |
| Round closed | 2023-04-15 |
| Expected results | 2023-04-18 |
| Preliminary report | 2023-05-15 |
| Final report | 2023-05-24 |

Request for correction

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

Authorized by

EQA Coordinator
Yvonne Björkman
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Experts

Chief Physician Tapio Seiskari,
Fimlab, Tampere, Finland.
Chief Physician Antti Hakanen
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*Only the analysis phase
is accredited*



Table 1. The MIC results reported for the *P. aeruginosa* ATCC®27853™ strain by two Finnish reference laboratories. Both laboratories followed the EUCAST guideline.

| Antimicrobial agent | Ref. laboratory 1 | | Ref. laboratory 2 | |
|-------------------------|-------------------|-----|-------------------|-----|
| | MIC (mg/L) | SIR | MIC (mg/L) | SIR |
| Amikacin | 3 | S | ≤4 | S |
| Aztreonam | 3 | I | 4 | I |
| Ceftazidime | 2 | I | 2 | I |
| Ceftolozane-tazobactam | 0.5 | S | 1 | S |
| Ciprofloxacin | 0.25 | I | 0.25 | I |
| Colistin | 2 | S | 2 | S |
| Meropenem | 0.75 | S | 0.25 | S |
| Piperacillin-tazobactam | 3 | I | 4 | I |
| Tobramycin | 0.75 | S | ≤1 | S |

Sample S002

Background information: CSF. Suspected meningitis.

Finding: *Neisseria meningitidis* as a significant finding.

Patient and specimen

Meningococcal meningitis is a serious infection associated with high fatality and severe complications.

Culture and identification

Only one species was isolated from the specimen, growing as rather large greenish colonies that had strong positive oxidase reaction. Gram stain showed gram-negative diplococci. When observed from CSF from a meningitis patient, this should cause a suspicion of *N. meningitidis*.

The species was identified as *N. meningitidis* using e.g. MALDI TOF based methods.

Exceptions in scoring

No exceptions

End of report

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