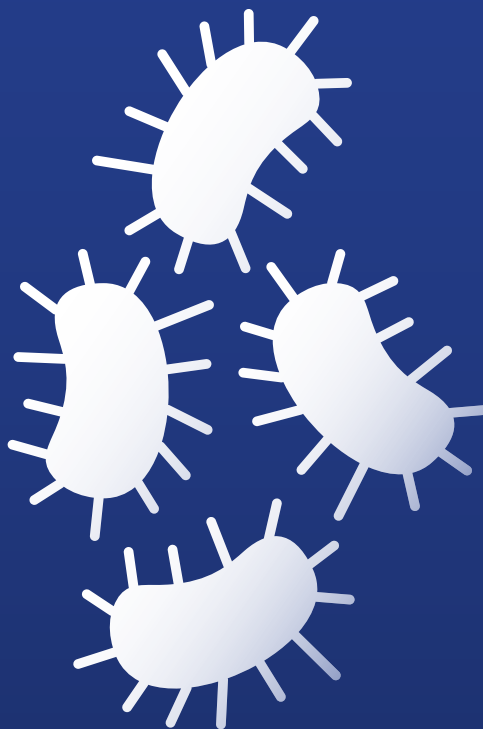


RANDOX

RIQAS MICROBIOLOGY PROGRAMME

BACTERIAL IDENTIFICATION & ANTIMICROBIAL SUSCEPTIBILITY TESTING



RANDOX INTERNATIONAL QUALITY ASSESSMENT SCHEME



MICROBIOLOGY (BACTERIAL IDENTIFICATION) PROGRAMME – RQ9197

Bi-monthly, 3 samples x 2 distributions per year

3 samples will be distributed, twice per year with one sample being analysed every 2 months. Each strain is presented in a lyophilised pellet form within a self-contained tube containing a pre-filled ampoule for reconstitution

Case studies are provided with each sample that have been manufactured with robustly characterised strains.

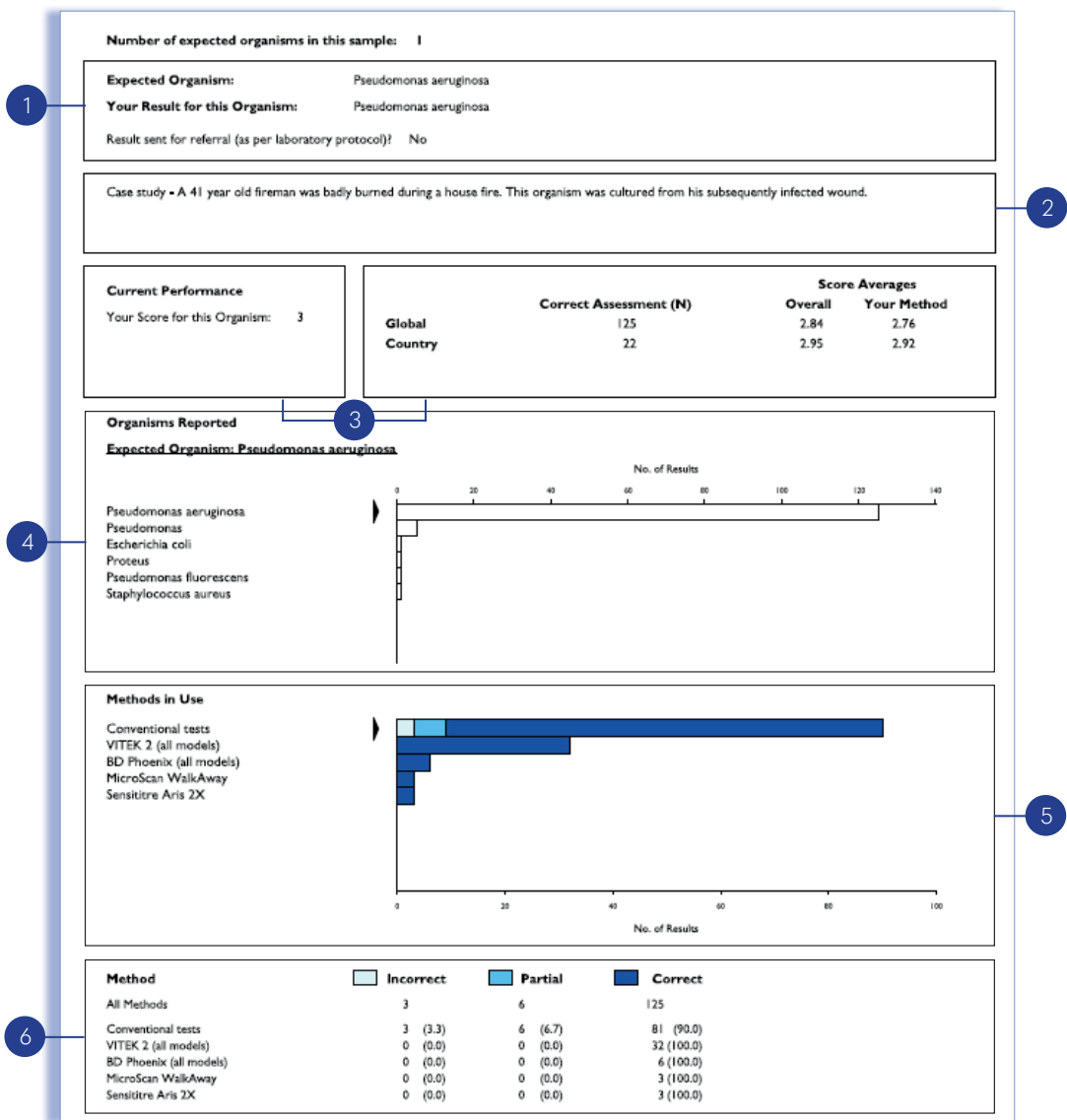
Identification of the micro-organisms can be made at Gram positive/negative, Genus and Species level.

Multiple registrations mean that this programme can be used for training purposes to review different members of staff and their ability to correctly identify the organisms.



BACTERIAL IDENTIFICATION REPORT

Presented in a convenient single report, all results for the current sample will be displayed within 6 sections. Each section is explained below.



- 1

 - Expected organism
 - Participant's result
 - Was specimen sent to referral lab for full identification?
this will potentially affect scoring
- 2

 - Case study provided
 - Identify source of infection
- 3

 - Score for this sample
 - Participant
 - Global Average
All methods | Your method
 - Country Average
All methods | Your method
- 4

 - Bar chart detailing organisms reported
 - Sorted in descending frequency
 - Triangle denotes participant response
- 5

 - Bar chart detailing methods used
 - Colour coded to highlight correct, partial and incorrect responses for each method
 - Sorted in descending frequency
 - Triangle denotes participant response
- 6

 - Table providing number of responses by method
 - Figures in brackets indicate percentage of each method

Bacterial Identification - Scoring

If sample is NOT sent for referral, scoring is marked out of 3

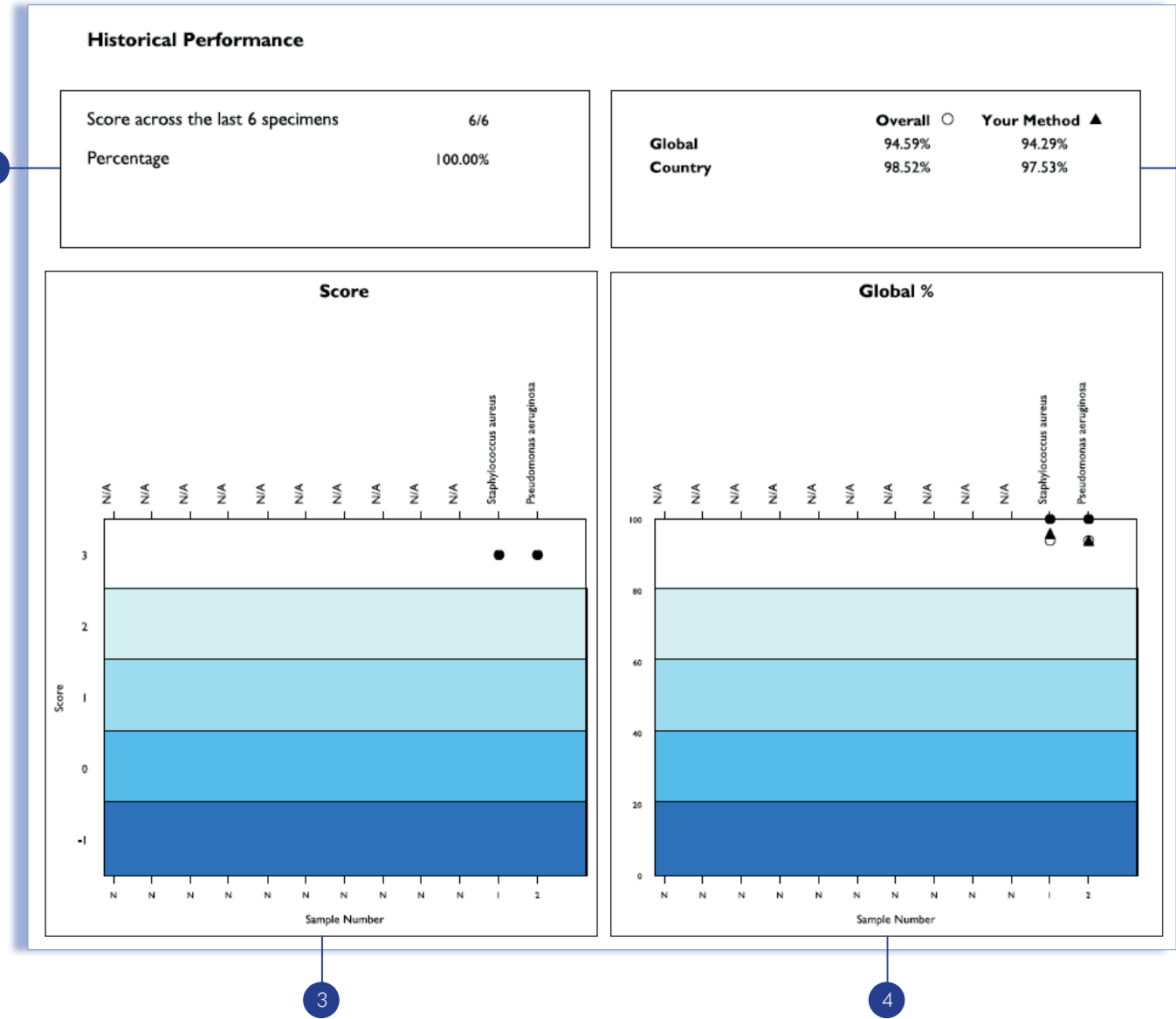
- Correct Genus + species = 3
- Correct Genus + species is blank, if this is lab protocol = 3
- Correct Genus + species is blank = 1
- Correct Genus + incorrect species = 1
- Incorrect Genus and Species but correct Gram stain = 0
- Incorrect Genus, Species and Gram stain = -1

If sample is sent for referral, scoring is marked out of 2

- Correct Genus + species = 2
- Correct Genus + species is blank, if this is lab protocol = 2
- Correct Genus + species is blank = 1
- Correct Genus + incorrect species = 1
- Incorrect Genus and Species but correct Gram stain = 0
- Incorrect Genus, Species and Gram stain = 0

BACTERIAL IDENTIFICATION - HISTORICAL PERFORMANCE

Track your performance across the previous 12 specimens using this one-page report.



- 1
- Total accumulated score over a rolling 6 samples
i.e. 3/3 up to 18/18
 - Percentage score out of the rolling 6 samples

- 2
- Percentage scores for rolling 6 samples
Global all methods
Global participant method
Country all methods
Country participant method

- 3
- Historical performance scores displayed on chart
Current sample on right side of chart
Expected organism for each sample displayed along top of chart

- 4
- Percentage scores displayed on chart
Global all methods ○
Global participant method ▲
Participant score ●
 - Each plot is percentage score for rolling 6 samples
Current sample on right side of chart
Expected organism for each sample displayed along top of chart

ANTIMICROBIAL SUSCEPTIBILITY TESTING

Antimicrobial susceptibility testing table details all reported antibiotics for current sample and AST response.

Antimicrobial Susceptibility Testing

Organism: Pseudomonas aeruginosa

| Antibiotic | Resistant | Intermediate | Sensitive | Your Result (Score) | Target |
|-----------------------------|-----------|--------------|-----------|---------------------|-------------------------|
| Amikacin | 2 | 2 | 107 | Sensitive (2/2) | Sensitive (Y) |
| Amoxicillin | 2 | 0 | 0 | | Too Few |
| Amoxicillin/Clavulanic Acid | 2 | 0 | 0 | | Too Few |
| Ampicillin | 6 | 0 | 1 | | Resistant (A) |
| Ampicillin/Sulbactam | 1 | 0 | 1 | | Too Few |
| Azithromycin | 0 | 1 | 0 | | Too Few |
| Aztreonam | 1 | 9 | 15 | Intermediate (N/A) | N/A |
| Cefazolin | 3 | 1 | 0 | | Too Few |
| Cefepime | 2 | 25 | 68 | Intermediate (2/2) | Intermediate (Y) |
| Cefixime | 2 | 0 | 0 | | Too Few |
| Cefodime | 0 | 2 | 3 | | Too Few |
| Cefoperazone | 0 | 0 | 1 | | Too Few |
| Cefoperazone/Sulbactam | 0 | 0 | 1 | | Too Few |
| Cefotaxime | 8 | 0 | 0 | | Resistant (A) |
| Cefoxitin | 1 | 0 | 1 | | Too Few |
| Cefpodoxime | 1 | 0 | 1 | | Too Few |
| Ceftazidime | 1 | 29 | 80 | Intermediate (1/2) | Sensitive (A) |
| Ceftazidime/Avibactam | 0 | 0 | 5 | | Sensitive (A) |
| Ceftolozane/Tazobactam | 0 | 1 | 6 | | Sensitive (A) |
| Ceftriaxone | 2 | 0 | 0 | | Too Few |
| Cefuroxime | 3 | 0 | 0 | | Too Few |
| Ciprofloxacin | 0 | 33 | 85 | Intermediate (2/2) | Intermediate (Y) |
| Clindamycin | 0 | 0 | 1 | | Too Few |
| Colistin | 1 | 6 | 17 | | Sensitive (Y) |
| Cotrimoxazole | 1 | 0 | 0 | | Too Few |
| Doripenem | 0 | 0 | 6 | | Sensitive (A) |
| Doxycycline | 1 | 0 | 0 | | Too Few |
| Ertapenem | 2 | 0 | 0 | | Too Few |
| Erythromycin | 0 | 0 | 1 | | Too Few |
| Fosfomycin | 4 | 0 | 0 | | Too Few |
| Gentamicin | 6 | 5 | 80 | Sensitive (2/2) | Sensitive (Y) |
| Imipenem | 13 | 27 | 57 | Intermediate (2/2) | Intermediate (Y) |
| Levofloxacin | 3 | 15 | 25 | Intermediate (N/A) | N/A |

- Target based on 80% agreement or at least 30% more than next common response
- Target requires at least 5 responses or else Too Few is recorded
- Target is based initially on Participant Guideline (Y) followed by All Guidelines (A) if Participant Guideline does not fulfil criteria. If criteria not met then target recorded as N/A
- Participant responses are recorded for each antibiotic
- Participant responses from an incorrectly identified organism are not included in totals

ANTIMICROBIAL SUSCEPTIBILITY TESTING

Antimicrobial susceptibility testing table details all reported antibiotics for current sample and AST response.

Antimicrobial Susceptibility Testing

Organism: Pseudomonas aeruginosa

| Antibiotic | Resistant | Intermediate | Sensitive | Your Result (Score) | Target |
|-----------------------------|-----------|--------------|-----------|---------------------|-------------------------|
| Amikacin | 2 | 2 | 107 | Sensitive (2/2) | Sensitive (Y) |
| Amoxicillin | 2 | 0 | 0 | | Too Few |
| Amoxicillin/Clavulanic Acid | 2 | 0 | 0 | | Too Few |
| Ampicillin | 6 | 0 | 1 | | Resistant (A) |
| Ampicillin/Sulbactam | 1 | 0 | 1 | | Too Few |
| Azithromycin | 0 | 1 | 0 | | Too Few |
| Aztreonam | 1 | 9 | 15 | Intermediate (N/A) | N/A |
| Cefazolin | 3 | 1 | 0 | | Too Few |
| Cefepime | 2 | 25 | 68 | Intermediate (2/2) | Intermediate (Y) |
| Cefixime | 2 | 0 | 0 | | Too Few |
| Cefodime | 0 | 2 | 3 | | Too Few |
| Cefoperazone | 0 | 0 | 1 | | Too Few |
| Cefoperazone/Sulbactam | 0 | 0 | 1 | | Too Few |
| Cefotaxime | 8 | 0 | 0 | | Resistant (A) |
| Cefoxitin | 1 | 0 | 1 | | Too Few |
| Cefpodoxime | 1 | 0 | 1 | | Too Few |
| Ceftazidime | 1 | 29 | 80 | Intermediate (1/2) | Sensitive (A) |
| Ceftazidime/Avibactam | 0 | 0 | 5 | | Sensitive (A) |
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| Ceftriaxone | 2 | 0 | 0 | | Too Few |
| Cefuroxime | 3 | 0 | 0 | | Too Few |
| Ciprofloxacin | 0 | 33 | 85 | Intermediate (2/2) | Intermediate (Y) |
| Clindamycin | 0 | 0 | 1 | | Too Few |
| Colistin | 1 | 6 | 17 | | Sensitive (Y) |
| Cotrimoxazole | 1 | 0 | 0 | | Too Few |
| Doripenem | 0 | 0 | 6 | | Sensitive (A) |
| Doxycycline | 1 | 0 | 0 | | Too Few |
| Ertapenem | 2 | 0 | 0 | | Too Few |
| Erythromycin | 0 | 0 | 1 | | Too Few |
| Fosfomycin | 4 | 0 | 0 | | Too Few |
| Gentamicin | 6 | 5 | 80 | Sensitive (2/2) | Sensitive (Y) |
| Imipenem | 13 | 27 | 57 | Intermediate (2/2) | Intermediate (Y) |
| Levofloxacin | 3 | 15 | 25 | Intermediate (N/A) | N/A |

Scoring

• If target is Sensitive

Response of sensitive = 2
Response of intermediate = 1
Response of resistant = 0

• If target is Resistant

Response of sensitive = -1
Response of intermediate = 1
Response of resistant = 2

• If target is Intermediate

Response of sensitive = 1
Response of intermediate = 2
Response of resistant = 1

• No scoring possible if target is N/A or Too Few

ANTIMICROBIAL SUSCEPTIBILITY TESTING

Antimicrobial susceptibility testing table details all reported antibiotics for current sample and AST response.

| | | | | | |
|---|------------------|---|-------|--------------------|------------------|
| Tetracycline | 0 | 0 | 1 | | Too Few |
| Ticarcillin/Clavulanic Acid | 0 | 7 | 1 | Intermediate (2/2) | Intermediate (A) |
| Tigecyclin | 11 | 0 | 0 | | Resistant (A) |
| Tobramycin | 1 | 0 | 53 | Sensitive (2/2) | Sensitive (Y) |
| Trimethoprim/Sulfamethoxazole | 6 | 2 | 1 | | N/A |
| Vancomycin | 0 | 0 | 1 | | Too Few |
| | | | | | |
| Your Score | 19 out of 20 | | 95.0% | | |
| Your Guideline: EUCAST | 350 out of 456 | | 76.8% | | |
| All Guidelines | 1755 out of 2048 | | 85.7% | | |
| | | | | | |
| 3 of your antibiotics have no target and are not scored | | | | | |

Scoring Summary

- A total score for the participants responses that had targets is provided for the participant
Your Score
- A total score for all antibiotics that had targets is provided for
Your Guideline
All Guidelines

Cefepime

| Guideline | Resistant | Intermediate | Sensitive | % Agreement |
|-------------|-----------|--------------|-----------|-------------|
| CLSI | 0 | 0 | 31 | 100.0% |
| EUCAST | 1 | 16 | 7 | 66.7% |
| Unspecified | 1 | 9 | 30 | 75.0% |

Guideline Analysis

- For each antibiotic that has a target assigned, a breakdown of the responses per guideline is provided

