PSEUDOMONAS AERUGINOSA

REF 55857
REF 63914
REF 64804

SELECTIVE MEDIUM FOR THE ISOLATION OF PSEUDOMONAS AERUGINOSA

IVD CE

2012/04

1- INTENDED USE

Pseudomonas aeruginosa agar is a selective medium for the isolation and presumptive identification of *Pseudomonas* species, from pathological specimens or hygiene specimens (surfaces, surgical instruments or antiseptic solutions).

2- PRINCIPLE

The selectivity of this medium is based on the presence of a quaternary ammonium (cetrimide) which inhibits the growth of bacteria other than *Pseudomonas aeruginosa*.
Pseudomonas aeruginosa is characterized by the production of two pigments: pyoverdin (fluorescent pigment) and pyocyanin.
Pyocyanin production is promoted by the presence of potassium chloride and potassium sulphate.

3- HOW SUPPLIED

- Ready to use medium:
  - box of 20 Petri dishes (90 mm) (**PYO**) code 63914
- Ready to use medium (to be dispensed)
  - 6 x 200 ml bottles (**PYO**) code 55857
- Dehydrated medium
  - bottle of 500 g code 64804

4- THEORETICAL COMPOSITION (g/l of distilled water)

Peptone	20
Potassium sulphate	10
Potassium chloride	3
Dipotassium phosphate	0.3
Cetrimide	0.2
Nalidixic acid	0.015
Agar	13
Final pH	7.1 ± 0.2

Preparation of the medium:
Homogenize the powder contained in the bottle.
Add **47 grams** of dehydrated medium to one litre of freshly distilled water, and heat gently to boiling until complete dissolution.
Sterilize in the autoclave at 115°C for 20 minutes.
Dispense into Petri dishes or bottles.

5- STORAGE

- Ready to use medium: at +2-8°C
- Ready to use medium (to be dispensed): at +2-25°C
- Dehydrated medium: tightly sealed bottle in a dry place at +15-25°C.

The expiry date and batch number are indicated on the packaging.

6- INSTRUCTIONS

Material:

- Material provided: *Pseudomonas aeruginosa* medium

Inoculation:
Inoculate the surface of the agar with a loop, a swab or by application of a filtration membrane, depending on the field of use.

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Incubation:
Incubate for 24 to 48 hours at 37°C.

Reading:
Colonies of *P. aeruginosa* growing on agar have a **greenish-yellow** colour and their fluorescence can be demonstrated in ultraviolet light. They are harvested for more detailed identification of the strain. The serotype should be determined by slide agglutination using specific immune sera for epidemiological studies.

7- PERFORMANCE/QUALITY CONTROL OF THE TEST

- Appearance of the ready to use medium: slightly **opalescent** agar.
- Appearance of the dehydrated medium: **beige** powder.
- The growth performances of *Pseudomonas aeruginosa* medium are verified with the following strains:

STRAINS	CULTURE RESULT AFTER 24 to 48 hours at 37°C
Pseudomonas aeruginosa ATCC 27853	Fluorescent **green and yellow** colonies
Pseudomonas aeruginosa ATCC 17934	Fluorescent **green and yellow** colonies
Pseudomonas aeruginosa ATCC 10145	Fluorescent **green and yellow** colonies
Escherichia coli ATCC 25922	No growth
Enterococcus faecalis CCM 2541	No growth

8- QUALITY CONTROL OF THE MANUFACTURER

All manufactured reagents are prepared according to our Quality System, starting from reception of raw material to the final commercialization of the product. Each lot is submitted to quality control assessments and is only released to the market, after conforming to pre-defined acceptance criteria. The records relating to production and control of each single lot are kept within Bio-Rad.

9- LIMITS OF USE

- The formation of nonpigmented colonies does not formally exclude the diagnosis of *Pseudomonas aeruginosa*.
- Colonies of *Pseudomonas* producing pyocyanin and pyoverdin must be distinguished from other strains of *Pseudomonas* that only produce pyoverdin. The temperature can be a decisive factor, as most pyoverdin-producing strains only grow at 25-30°C and do not grow at a temperature exceeding 35°C (4).
- Some strains may not grow on this medium due to their nutritional requirements.
- Some strains may not be inhibited.
- The inhibitory effect is decreased in the presence of an excessive quantity of inoculum.
- Complementary tests must be performed to identify the species of the strain isolated.

10- REFERENCES

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3. LOWBURY E.J. et COLLINS. A.B., J. Clin., Path., 1955, **8** p. 47-48.
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