

PRODUCT INFORMATION

Product Type: PETRI DISHES 90mm

Cat No. PD468 - PSEUDOMONAS "F" PLUS

Intended Use:

Pseudomonas Agar F, also known as Flo Agar, with glycerol, cephalixin, and nystatin are intended for the selective isolation and presumptive detection of *Pseudomonas* species, especially fluorescein-producing strains, from environmental, food, and water samples.

Also available: PD202 - PSEUDOMONAS "F" AGAR (KING) - Pseudomonas Agar F supplemented only with Glycerol.

Principle and Uses:

Pseudomonas aeruginosa is widely distributed in soil, water and foods. It is frequently isolated from infusion fluids, disinfectants and cosmetics. The organism causes disease in humans; e.g., ocular infections, burn wound infections and respiratory tract infections.¹ Most strains of *P. aeruginosa* produce pyocyanin, a blue, water- and chloroform-soluble, nonfluorescent pigment that diffuses into the surrounding medium.² *P. aeruginosa* is the only *Pseudomonas* species known to produce this pigment. (However, certain strains are apyocyanogenic.) Some strains of *P. aeruginosa* produce other pigments, such as the brown-black pyomelanin, the red pyorubine or the yellow pyoverdine. Pyoverdine is a water-soluble fluorescent pigment often produced by *P. aeruginosa* and other pseudomonads isolated from humans.² The presence of these pigments can, however, mask the production of pyocyanin.² Pseudomonas Agar F is a modified King's medium³ that supports pigment production, especially fluorescein (pyoverdine) formation, which can be visualized under UV light. Glycerol promotes pigment expression and provides an additional carbon source that supports robust growth and pigment expression, while cephalixin suppresses many Gram-positive bacteria and some Gram-negative contaminants, and nystatin inhibits fungi and yeasts, increasing selectivity for *Pseudomonas*.

Following incubation at 26-30°C for 48-72 hours, colonies of fluorescent *Pseudomonas spp.* can be detected visually and may be further confirmed by UV illumination, under which characteristic yellow-green fluorescence is observed.

This medium is suitable for:

- Environmental monitoring (e.g., water testing)
- Industrial microbiology (e.g., contamination control)
- General microbiological research

For laboratory and research use only.

Limitations

Occasionally, a *Pseudomonas* culture is encountered that will produce small amounts of pigment in the medium. When this happens, a yellow-green color will appear on Pseudomonas Agar F (Flo Agar).

The formation of nonpigmented colonies does not completely rule-out a *Pseudomonas aeruginosa* isolate. Not all *Pseudomonas* species produce fluorescent pigments; non-fluorescent strains may not be distinguishable.

A pyocyanin-producing *Pseudomonas* strain will usually also produce fluorescing. It must, therefore, be differentiated from other simple fluorescent *pseudomonads* by other means.

Temperature can be a determining factor as most other fluorescent strains will not grow at 35°C. Rather, they grow at 25-30°C.⁴ Some non-target organisms may grow if resistant to cephalixin or nystatin.

Fluorescence intensity can vary depending on strain, incubation conditions, and medium storage.

The medium is not intended for definitive identification; confirmatory biochemical or molecular tests are required.

Reference

1. Kiska and Gilligan. 1999. In Murray, Baron, Pfaller, Tenover and Tenover (ed.), Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.
2. Forbes, Sahm and Weissfeld. 2007. Bailey & Scott's diagnostic microbiology, 12th ed. Mosby, Inc., St. Louis, Mo.
3. King, Ward and Raney. 1954. J. Lab. Clin. Microbiol. 44:301.
4. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.

Composition

Pancreatic Digest of Casein - 10.0 g/L
Proteose Peptone No. 3 - 10.0 g/L
Dipotassium Phosphate - 1.5 g/L
Magnesium Sulfate - 1.5 g/L
Agar - 15.0 g/L
Glycerol – 13 ml/L
Cephalexin – 40 mg/L
Nystatin – 100 mg/L

Storage: 2-8°C

Final pH: 6.9 - 7.3

Appearance: Light to medium amber, slightly opalescent

Package contents: 10 plates in a package

Exp. Date: Printed on label and on the item.

Required materials not supplied: Laboratory equipment as required.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Waste Disposal

After interpretation all items should be destroyed by standard incineration methods.

Performance Testing Results:

GPT: inoculum 50-100 cfu.

Inhibitory properties: inoculum 10000 cfu.

| TEST | ATCC | Incubation Temp. (°C) | Incubation Cond. | Reaction 1 | |
|---|------|-----------------------|----------------------|------------|--|
| <i>Pseudomonas syringae</i> pv. <i>tomato</i> | WS | 26-30 °C | Aerobic, 48-72 hours | Growth | Light green col. Positive fluorescence under UV. |
| <i>Clavibacter michiganensis</i> | WS | 26-30 °C | Aerobic, 48-72 hours | Inhibited | |

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Implementation Date: 26/04/26

Version Number: 01