PRODUCT INFORMATION

Product Type: PETRI DISHES 90mm

Cat No. PD223 - PSEUDOMONAS ISOLATION AGAR

Intended Use:
Pseudomonas Isolation Agar is used with added glycerol in isolating *Pseudomonas* and differentiating *Pseudomonas aeruginosa* from other pseudomonads based on pigment formation.

Principle and Uses:

Pseudomonas aeruginosa is an opportunistic pathogen that can infect eyes, ears, burns and wounds.[1] It is also a leading cause of hospital acquired infections. Patients undergoing antibiotic therapy are especially susceptible to infection by *Pseudomonas aeruginosa.*

Pseudomonas Isolation Agar is prepared according to a slight modification of the Medium A formulation of King, Ward and Raney.[2] Pseudomonas Isolation Agar includes Irgasan™, a potent broad-spectrum antimicrobial that is not active against *Pseudomonas.*[3] As well as being selective, Pseudomonas Isolation Agar is formulated to enhance the formation of the blue or blue-green pyocyanin pigment by *Pseudomonas aeruginosa*. The pigment diffuses into the medium surrounding growth.

Irgasan™ is a trademark of Ciba-Geigy.

Peptone provides the carbon and nitrogen necessary for bacterial growth. **Magnesium chloride and potassium sulfate** promote production of pyocyanin. **Irgasan**, an antimicrobial agent, selectively inhibits gram-positive and gram-negative bacteria other than *Pseudomonas spp*. **Agar** is the solidifying agent. **Glycerol** serves as an energy source and also helps to promote pyocyanin production.

Procedure

Inoculate the medium using the streak plate method to obtain isolated colonies. Incubate for 18-48 hours at 35 ± 2°C.

Expected Results

Examine for the presence of good growth. *Pseudomonas aeruginosa* colonies may be greenish after incubation for 18 hours and turn blue to blue-green as incubation continues up to 24-48 hours, with diffusion of the pigment into the medium.

Limitations of the Procedure

1. Some strains of Pseudomonas aeruginosa may fail to produce pyocyanin.[1,4]
2. Non-Pseudomonas aeruginosa strains that are not completely inhibited on this medium may be encountered and must be differentiated from *Pseudomonas aeruginosa.* Consult appropriate references.[1,5]

References

1. Kiska and Gilligan. 1999. In Murray, Baron, Pfaller, Tenover and Yolken (ed.), Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.
2. King, Ward and Raney. 1954. J. Lab. Clin. Med. 44:301.
3. Furia and Schenkel. January, 1968. Soap and Chemical Specialties.
4. Gaby and Free. 1931. J. Bacteriol. 22:349.
5. Isenberg and Garcia (ed.). 2004 (update, 2007) Clinical microbiology procedures handbook, 2nd ed. American Society for Microbiology, Washington, D.C.

Composition

Peptone - 20.0 g/L
Magnesium Chloride - 1.4 g/L
Potassium Sulfate - 10.0 g/L
Irgasan™ - 25.0 mg/L
Agar - 13.6 g/L
Glycerol – 20ml/L

Storage: 2-8°C
Appearance: Light amber, slightly opalescent.
pH: 6.8 - 7.2

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: 10-100 cfu
Inhibitory properties: 1000000 cfu

MICROORGANISM	ATCC	Incubation Temp. (℃)	Incubation Cond.	Reaction 1	
Pseudomonas paraeruginosa	9027	33-37 ℃	Aerobic, 24-48 hours	Growth	Yellow to green, blue-green.
Escherichia coli	8739	33-37 ℃	Aerobic, 24-48 hours	Inhibited	
Proteus mirabilis	4630	33-37 ℃	Aerobic, 24-48 hours	Partially inhibited	
Staphylococcus aureus	6538	33-37 ℃	Aerobic, 24-48 hours	Inhibited	

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