PSEUDOMONAS ISOLATION AGAR (7329)

Intended Use

Pseudomonas Isolation Agar is used for the isolation of *Pseudomonas aeruginosa* and other *Pseudomonas* spp.

Product Summary and Explanation

Pseudomonas aeruginosa is one of the most commonly isolated pathogens, and is the most frequently isolated nonfermentative bacillus in clinical specimens.[1] This organism is a significant cause of burn and nosocomial infections.[2] The ability of *Pseudomonas aeruginosa* to destroy tissue may be related to the production of various extracellular enzymes.[1]

Pseudomonas Isolation Agar is based on Medium A described by King, Ward, and Raney.[3] This medium is especially useful for isolating *Pseudomonas* spp. from clinical specimens such as stools, wounds, and urine.[1] Pseudomonas Isolation Agar includes Irgasan®, a potent broad spectrum antimicrobial that is not active against *Pseudomonas* spp.[4] Pseudomonas Isolation Agar is selective and formulated to enhanced formation of blue or blue-green pyocyanin pigment by *Pseudomonas aeruginosa*. The pigment diffuses into the medium surrounding growth.

Principles of the Procedure

Enzymatic Digest of Gelatin provides nitrogen, vitamins, and carbon in Pseudomonas Isolation Agar. 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. Glycerol serves as an energy source. Agar is the solidifying agent.

Formula / Liter

Enzymatic Digest of Gelatin	20 g
Magnesium Chloride	1.4 g
Potassium Sulfate	10 g
Irgasan®	0.025 g
Agar	13.6 g

Final pH: 7.0 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Supplement /Liter

Glycerol, 20 mL

Precaution

1. For Laboratory Use.

Directions

1. Suspend 45 g of the medium in one liter of purified water containing 20 mL of glycerol.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is clear to trace hazy and yellow-tan.

Expected Cultural Response: Cultural response on Pseudomonas Isolation Agar at 25°C after 18 - 48 hours incubation.

Microorganism	Response	Reactions
Escherichia coli ATCC® 25922	inhibited	---
Proteus mirabilis ATCC® 12453	inhibited	---
Pseudomonas aeruginosa ATCC® 10145	growth	green to blue-green colonies
Pseudomonas aeruginosa ATCC® 27853	growth	green to blue-green colonies

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
1. Inoculate medium using the streak plate method to obtain isolated colonies.
2. Incubate for 18 – 48 hours at 35°C.

Results
Examine for presence of good growth. *Pseudomonas aeruginosa* colonies will be green to blue-green with pigment that diffuses into the medium.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure
1. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
2. Some strains of *Pseudomonas aeruginosa* may fail to produce pyocyanin.[5]
3. Non-*Pseudomonas aeruginosa* strains that are not completely inhibited on this medium may be encountered and must be differentiated from *Pseudomonas aeruginosa*.

Packaging

Pseudomonas Isolation Agar	**Code No.**	**7329A**	**500 g**
		7329B	**2 kg**
		7329C	**10 kg**

References

1. **Baron, E. J., L. R. Peterson, and S. M. Finegold.** 1994. Nonfermentative gram-negative bacilli and coccobacilli, p. 386-405. Bailey & Scott's diagnostic microbiology, 9th ed. Mosby-Year Book, Inc. St. Louis, MO.
2. **Gilligan, P. H.** 1995. *Pseudomonas* and *Burkholderia*, p. 509-519. *In* P. R. Murray, E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.). Manual of clinical microbiology, 6th ed. American Society of Microbiology, Washington, D.C.
3. **King, E. O., M. K. Ward, and E. E. Raney.** 1954. Two simple media for the demonstration of pyocyanin and fluorescein. J. Lab. Clin. Med. **44**:301-307.
4. **Furia and Schenkel.** 1968. Soap and chemical specialties. January.
5. **Pezzlo, M. (ed.).** 1992. Aerobic bacteriology, p. 1.0.0-1.20.47. *In* H. D. Isenberg (ed.). Clinical microbiology procedures handbook, vol. 1. American Society for Microbiology, Washington, D.C.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.