

## Availability

### Difco™ Pseudomonas Agar F

**BAM USP**

Cat. No. 244820 Dehydrated – 500 g

### BBL™ Flo Agar

**BAM USP**

Cat. No. 296003 Prepared Slants – Pkg. of 10

### Difco™ Pseudomonas Agar P

**BAM USP**

Cat. No. 244910 Dehydrated – 500 g

### BBL™ Tech Agar

**BAM USP**

Cat. No. 296004 Prepared Slants – Pkg. of 10

### Difco™ Glycerol

Cat. No. 228210 Bottle – 100 g  
228220 Bottle – 500 g

## 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.

### Summary and Explanation

*Pseudomonas aeruginosa* is an opportunistic pathogen that can infect eyes, ears, burns and wounds.<sup>1</sup> 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.<sup>2</sup> Pseudomonas Isolation Agar includes Irgasan™, a

potent broad spectrum antimicrobial that is not active against *Pseudomonas*.<sup>3</sup> 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.*

### Principles of the Procedure

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.

### User Quality Control

#### Identity Specifications

##### Difco™ Pseudomonas Isolation Agar

Dehydrated Appearance:	Very light beige, homogeneous, free-flowing.
Solution:	4.5% solution, soluble in purified water containing 2% glycerol upon boiling. Solution is light to medium amber, very slightly to slightly opalescent.
Prepared Appearance:	Light amber, slightly opalescent.
Reaction of 4.5% Solution at 25°C:	pH 7.0 ± 0.2

#### Cultural Response

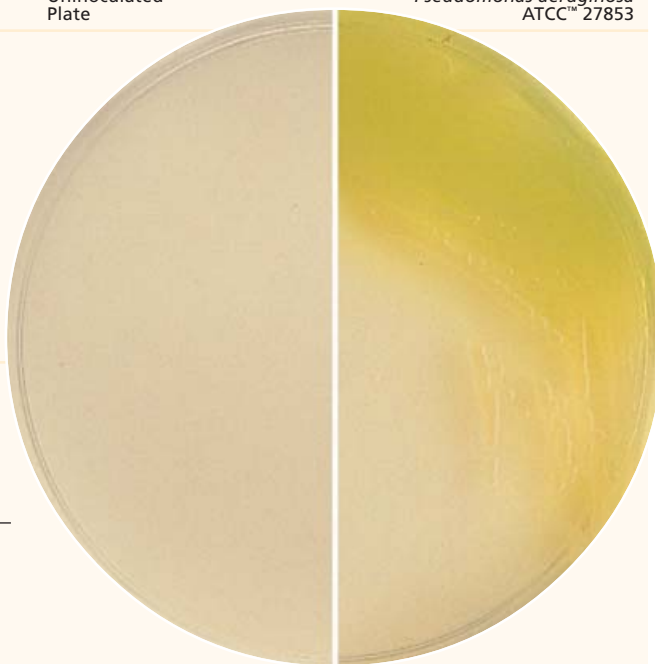
##### Difco™ Pseudomonas Isolation Agar

Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C for 18-48 hours.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY	APPEARANCE
<i>Escherichia coli</i>	25922	10 <sup>3</sup> -2 × 10 <sup>3</sup>	Marked to complete inhibition	–
<i>Pseudomonas aeruginosa</i>	10145	10 <sup>2</sup> -10 <sup>3</sup>	Good	Green to blue-green
<i>Pseudomonas aeruginosa</i>	27853	10 <sup>2</sup> -10 <sup>3</sup>	Good	Green to blue-green

Uninoculated Plate

*Pseudomonas aeruginosa*  
ATCC™ 27853



## Formula

### Difco™ *Pseudomonas* Isolation Agar

Approximate Formula\* Per Liter

Peptone .....	20.0	g
Magnesium Chloride .....	1.4	g
Potassium Sulfate .....	10.0	g
Irgasan™ .....	25.0	mg
Agar .....	13.6	g

\*Adjusted and/or supplemented as required to meet performance criteria.

## Directions for Preparation from Dehydrated Product

1. Suspend 45 g of the powder in 1 L of purified water containing 20 mL of glycerol. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

## 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.<sup>1,4</sup>
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.<sup>1,5</sup>

## References

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. 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. Pezzlo. 1992. In Isenberg (ed.), Clinical microbiology procedures handbook, vol. 1. American Society for Microbiology, Washington, D.C.

## Availability

### Difco™ *Pseudomonas* Isolation Agar

Cat. No. 292710 Dehydrated – 500 g

Europe

Cat. No. 257002 Prepared Plates – Pkg. of 20\*

Mexico

Cat. No. 252648 Prepared Plates (60 × 15 mm-style) – Pkg. of 20\*

### Difco™ Glycerol

Cat. No. 228210 Bottle – 100 g

228220 Bottle – 500 g

\*Store at 2-8°C.

## Pseudosel™ Agar

(See *Cetrimide Agar Base*)

## Purple Agar Base • Purple Broth Base Purple Broth with Carbohydrates

### Intended Use

Purple Agar Base and Purple Broth Base are used with added carbohydrate in differentiating pure cultures of bacteria. They are used primarily for the differentiation and presumptive identification of gram-negative enteric bacilli based on patterns of carbohydrate fermentation.

### Summary and Explanation

Purple Agar Base and Purple Broth Base are carbohydrate-free media with a slightly acid pH that, when supplemented with carbohydrates, are useful in obtaining accurate fermentation reactions, particularly in the identification of gram-negative enteric bacteria.<sup>1,2</sup> The media either may be used with the addition of the appropriate carbohydrate or the plain broth may be used with BBL™ Taxo™ Carbohydrate Discs.

### Principles of the Procedure

These media consist of carbohydrate-free peptone with the pH indicator bromocresol purple. Specific carbohydrates are added in a concentration of 0.5-1%. This concentration is recommended to ensure against depletion of the carbohydrate and reversal of the fermentation reaction.

When the media are inoculated with an organism that is able to ferment the carbohydrate present, acid or acid and gas are produced. A Durham tube is provided in tubed broth media to collect the gas produced during fermentation. The indicator in the media changes from purple to yellow when the amount of acid produced by carbohydrate fermentation is greater than the alkaline end products from peptone utilization. If the carbohydrate is not fermented, the color will remain unchanged or become more alkaline (darker purple) due to degradation of the amino acids in the medium.