

Difco™/BBL™ Ferric Chloride Reagent Droppers

Contain 0.5 mL of 10% ferric chloride in aqueous solution.

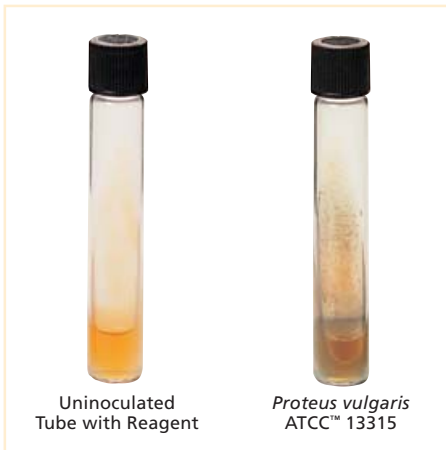
*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product

1. Suspend 23 g of the powder in 1 L of purified water. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Dispense in tubes for slant cultures.
4. Autoclave at 121°C for 15 minutes.
5. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

Using a heavy inoculum, inoculate tubed slants with growth from an 18- to 24-hour pure culture. Incubate tubes aerobically at



35 ± 2°C for 4 hours or 18-24 hours. If the inoculum is sufficiently heavy, a 4-hour incubation period should be adequate.⁵

Expected Results

Following the incubation period, add 3-5 drops of the ferric chloride reagent to the slants. Gently rotate the tube to loosen the growth. Observe for the production of a green color (positive reaction) within 1-5 minutes.

Members of *Proteus*, *Morganella* and *Providencia* genera produce positive results. Most other genera within the *Enterobacteriaceae* are negative for phenylpyruvic acid production.^{7,8}

References

1. Henrikson. 1950. J. Bacteriol. 60:225.
2. Singer and Volcani. 1955. J. Bacteriol. 69:303.
3. Hamida and LeMinor. 1956. Ann. Inst. Pasteur. 90:671.
4. Buttiaux, Osteux, Fresnoy and Moriametz. 1954. Ann. Inst. Pasteur Lille. 87:375.
5. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.
6. Ewing, Davis and Reavis. 1957. Public Health Lab. 15:153.
7. Holt, Krieg, Sneath, Staley and Williams (ed.). 1994. Bergey's Manual™ of determinative bacteriology, 9th ed. Williams & Wilkins, Baltimore, Md.
8. Farmer. 1999. In Murray, Baron, Pfaller, Tenover and Tenover (ed.). Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.

Availability**Difco™ Phenylalanine Agar****BAM**

Cat. No. 274520 Dehydrated – 500 g

BBL™ Phenylalanine Agar**BAM**

Cat. No. 211537 Dehydrated – 500 g
221342 Prepared Slants – Pkg. of 10*

Difco™/BBL™ Ferric Chloride Reagent (10%)

Cat. No. 261190 Droppers, 0.5 mL – Ctn. of 50

*Store at 2-8°C.

Phenylethyl Alcohol Agar

Phenylethyl Alcohol Agar with 5% Sheep Blood

Intended Use

Phenylethyl Alcohol (PEA) Agar is a selective medium for the isolation of gram-positive organisms, particularly gram-positive cocci, from specimens of mixed gram-positive and gram-negative flora.¹ The medium, when supplemented with 5% sheep blood, should not be used for determination of hemolytic reactions since atypical reactions may be observed.

Summary and Explanation

After noting that phenylethyl alcohol exhibited an inhibitory effect on gram-negative bacteria with only slight effect on gram-positive organisms, Lilley and Brewer incorporated the chemical in an infusion agar base as a selective agent for the isolation of gram-positive bacteria.² Phenylethyl Alcohol Agar, unsupplemented or supplemented with 5% sheep blood, is used in the microbiology laboratory to inhibit gram-negative bacteria, particularly *Proteus*, in specimens containing a mixed bacterial flora.

Principles of the Procedure

Phenylethyl Alcohol Agar and Phenylethyl Alcohol Agar with 5% Sheep Blood support the growth of gram-positive bacterial species, due to the content of peptones, which supply nitrogen, carbon, sulfur and trace nutrients. Sodium chloride maintains osmotic equilibrium. Sheep blood is a source of growth factors. Phenylethyl alcohol is bacteriostatic for gram-negative bacteria since it selectively and reversibly inhibits DNA synthesis.³

Formula**BBL™ Phenylethyl Alcohol Agar**

Approximate Formula* Per Liter	
Pancreatic Digest of Casein	15.0 g
Papaic Digest of Soybean Meal	5.0 g
Sodium Chloride	5.0 g
β-Phenylethyl Alcohol	2.5 g
Agar	15.0 g

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

User Quality Control

Staphylococcus aureus
ATCC™ 25923

Identity Specifications

BBL™ Phenylethyl Alcohol Agar

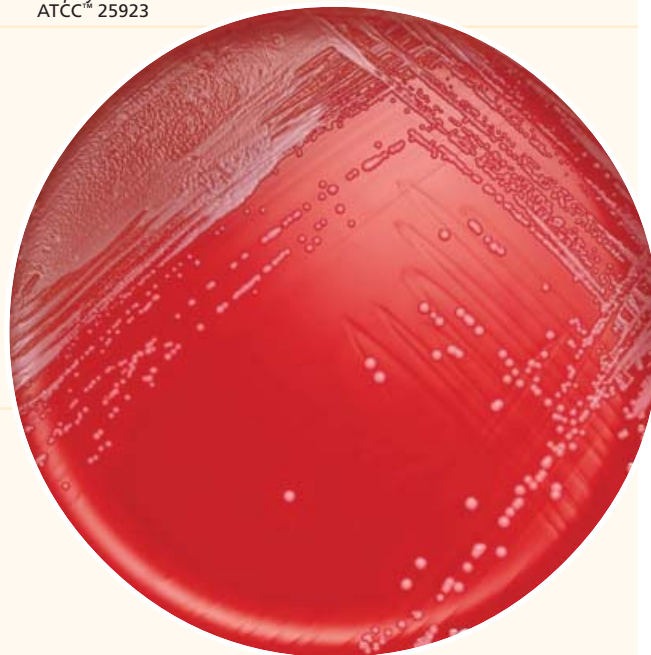
Dehydrated Appearance:	Slightly moist and softly clumped, resembling "brown sugar" in consistency and appearance.
Solution:	4.25% solution, soluble in purified water upon boiling. Solution is light to medium, yellow to tan, clear to slightly hazy.
Prepared Appearance:	Light to medium, yellow to tan, clear to slightly hazy.
Reaction of 4.25% Solution at 25°C:	pH 7.3 ± 0.2

Cultural Response

BBL™ Phenylethyl Alcohol Agar

Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C with 3-5% CO₂ for 18-24 hours.

ORGANISM	INOCULUM		RECOVERY
	ATCC™	CFU	
<i>Proteus mirabilis</i>	12453	10 ⁴ -10 ⁵	Partial to complete inhibition
<i>Staphylococcus aureus</i>	25923	10 ³ -10 ⁴	Good
<i>Streptococcus pneumoniae</i>	6305	10 ³ -10 ⁴	Good, alpha hemolysis
<i>Streptococcus pyogenes</i>	19615	10 ³ -10 ⁴	Good, beta hemolysis



Directions for Preparation from Dehydrated Product

1. Suspend 42.5 g of the powder in 1 L of purified water. 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. Cool to 45°C and add 5% sterile defibrinated blood, if desired.
5. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

Use standard procedures to obtain isolated colonies from specimens. Incubate plates 24-48 hours at 35 ± 2°C in an aerobic atmosphere supplemented with carbon dioxide.

Expected Results

Examine plates for growth of gram-positive organisms.

References

1. Ruoff, Wiley and Beighton. 1999. In Murray, Baron, Pfaller, Tenover and Tenover (ed.), Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.
2. Lilley and Brewer. 1953. J. Am. Pharm. Assoc. 42:6.
3. Dowell, Hill and Altmeir. 1964. J. Bacteriol. 88:1811.

Availability

BBL™ Phenylethyl Alcohol Agar

Cat. No. 211539 Dehydrated – 500 g

BBL™ Phenylethyl Alcohol Agar with 5% Sheep Blood

BS10 MCM7

United States and Canada

Cat. No. 221179 Prepared Plates – Pkg. of 20*
221277 Prepared Plates – Ctn. of 100*

Japan

Cat. No. 212086 Prepared Plates – Pkg. of 20*
251277 Prepared Plates – Ctn. of 100*

Mexico

Cat. No. 252569 Prepared Plates – Pkg. of 10*

*Store at 2-8°C.

Phosphate Buffer, pH 7.2

Intended Use

Phosphate Buffer, pH 7.2 is used for the preparation of dilution blanks for use in the examination of waters, dairy products, foods and other materials.

Summary and Explanation

The formula for phosphate buffer was specified by the American Public Health Association (APHA) for use in diluting test samples. Phosphate Buffer, pH 7.2 still is specified for use in diluting water, dairy products and foods in microbiological methods. In the compendia of methods for the microbiological examination of water¹ and dairy products,² the addition of