

m Plate Count Broth

Intended Use

m Plate Count Broth is used for enumerating microorganisms by membrane filtration.

Summary and Explanation

m Plate Count Broth is a nonselective general-purpose medium for determining bacterial counts from food and water samples using the membrane filtration procedure. Also known as m Tryptone Glucose Yeast Broth or m Standard Methods Broth, this medium has the same formulation as Plate Count Agar except that agar has been omitted and the ingredients are employed in twice the concentration as in the solid medium.¹

Principles of the Procedure

Yeast extract is a source of trace elements, vitamins and amino acids. Peptone provides carbon and nitrogen for bacterial metabolism. Dextrose is a fermentable carbohydrate and carbon source.

Formula

Difco™ m Plate Count Broth

Approximate Formula* Per Liter

Yeast Extract	5.0	g
Tryptone	10.0	g
Dextrose	2.0	g

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

Directions for Preparation from Dehydrated Product

1. Suspend 17 g of the powder in 1 L of purified water. Mix thoroughly.
2. Warm slightly 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

1. Collect samples according to recommended guidelines.^{1,2}
2. Place a sterile absorbent pad in each 50 × 9 mm Petri dish.
3. Saturate the pad with approximately 2.0-2.4 mL of prepared medium.
4. Place an inoculated membrane filter, inoculated side up, on the saturated pad.
5. Incubate in a 35 ± 2°C incubator for 18-24 hours.

Expected Results

After incubation, count the colonies on the surface of the filter. The colonies can be subcultured to appropriate media for identification, if desired.

References

1. Eaton, Rice and Baird (ed.). 2005. Standard methods for the examination of water and wastewater, 21st ed., online. American Public Health Association, Washington, D.C.
2. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.

User Quality Control

Identity Specifications

Difco™ m Plate Count Broth

Dehydrated Appearance: Light beige to beige, free-flowing, homogeneous.

Solution: 1.7% solution, soluble in purified water upon warming. Solution is light to medium amber, clear to slightly opalescent, may have a very slight precipitate.

Prepared Appearance: Light to medium amber, clear to slightly opalescent, may have a very slight precipitate.

Reaction of 1.7%
Solution at 25°C: pH 7.0 ± 0.2

Cultural Response

Difco™ m Plate Count Broth

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

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY
<i>Enterococcus faecalis</i>	19433	10 ² -3 × 10 ²	Good
<i>Escherichia coli</i>	25922	10 ² -3 × 10 ²	Good
<i>Staphylococcus aureus</i>	25923	10 ² -3 × 10 ²	Good
<i>Staphylococcus epidermidis</i>	12228	10 ² -3 × 10 ²	Good

Availability

Difco™ m Plate Count Broth

Cat. No. 275120 Dehydrated – 500 g