

Technical Information

Malachite Green Broth

Product Code: DM 2266

Application: - Malachite Green Broth is used for selective enrichment of *Pseudomonas aeruginosa*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	15.000
Meat extract	9.000
Dipotassium hydrogen phosphate	1.100
Malachite green	0.030
Final pH (25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Pseudomonas species is an organism found in water and soil and on plants, including fruits and vegetables and has the ability to survive in the aqueous environments like whirlpool bathwater, swimming pool etc ⁽¹⁾. Whirlpools with higher temperature, reduced chlorine and increased amounts of organic matter provide suitable conditions for the growth of *P.aeruginosa*. *P.aeruginosa* is commonly isolated from whirlpool waters that is found coliform-negative ⁽²⁾.

According to Habs and Kirschner ⁽³⁾. Malachite Green Broth is recommended for the selective enrichment of *P.aeruginosa* It is also used for testing water samples as recommended by Schubert and Blum ⁽⁴⁾.

Meat extract and peptic digest of animal tissue serve as sources of essential nutrients required for bacterial metabolism. Dihydrogen potassium phosphate serves to buffer the medium. Malachite green makes the medium selective for *P.aeruginosa* by suppressing the growth of the accompanying flora. The medium can also be used as a single strength medium by suspending 8.4 g/litre of medium, depending upon the sample being tested.

Methodology

Suspend 25.13 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense into smaller vessels. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Light yellow to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Peacock blue coloured clear solution without any precipitate.

Reaction

Reaction of 2.51% w/v aqueous solution at 25°C. pH:-7.0±0.2

pH range 6.80-7.20

Cultural Response/ characteristics

DM 2266: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	$\geq 10^3$	inhibited
Pseudomonas aeruginosa ATCC 27853	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C. ,,
2. Hall N., 1984, UHL Lab Hotline 21: 9.
3. Habs H. and Kirschner K. H, 1943, Z.Hyg.,124:557-578.
4. Schubert R. and Blum U., 1974, Zbl. Bakt. Hyg .I. Orig. B.,158:583-587.

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