

Technical Information

Nutrient Broth

Product Code :DM 1002

Application:- Nutrient Broth is used for the general cultivation of less fastidious microorganisms, can be enriched with blood or other biological fluids.

Composition**

| Ingredients | Gms / Litre |
|--------------------------------|-------------|
| Peptic digest of animal tissue | 5.000 |
| Sodium chloride | 5.000 |
| Beef extract | 1.500 |
| Yeast extract | 1.500 |
| Final pH (at 25°C) | 7.4±0.2 |

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Nutrient media are basic culture media used for maintaining microorganisms, cultivating fastidious organisms by enriching with serum or blood and are also used for purity checking prior to biochemical or serological testing^(1,2). Nutrient Broth has the formula originally designed for use in the Standard Method for Examination of Water and Waste water. It is one of the several non-selective media useful in routine cultivation of microorganisms^(3,4). It can be used for the cultivation and enumeration of bacteria which are not particularly fastidious. Addition of different biological fluids such as horse or sheep blood, serum, egg yolk etc. makes it suitable for the cultivation of related fastidious organisms.

Peptic digest of animal tissue, beef extract and yeast extract provide the necessary nitrogen compounds, carbon, vitamins and also some trace ingredients necessary for the growth of bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Methodology

Suspend 13 grams of powder media in 1000 ml distilled water. Shake well & heat, if necessary, to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution in tubes

Reaction

Reaction of 1.3% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH range

7.20-7.60

Cultural Response/Characteristics

DM1002: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

| Organism | Inoculum (CFU) | Growth |
|--|----------------|----------------|
| <i>Escherichia coli</i> ATCC 25922 | 50-100 | good-luxuriant |
| <i>Pseudomonas aeruginosa</i> ATCC 27853 | 50-100 | good-luxuriant |
| <i>Staphylococcus aureus</i> ATCC 25923 | 50-100 | good-luxuriant |
| <i>Streptococcus pyogenes</i> ATCC 19615 | 50-100 | good-luxuriant |



Dehydrated Culture Media
Bases / Media Supplements

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. Lapage S., Shelton J. and Mitchell T., 1970, 'Methods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academic Press, London.
2. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins, Baltimore.
3. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
4. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

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