

Technical Information

Tryptose Phosphate Broth

Product Code: DM 1093

Application: Tryptose Phosphate Broth is used for cultivation of fastidious bacteria.

Composition**

Ingredients	Gms / Litre
Tryptose	20.000
Dextrose	2.000
Sodium chloride	5.000
Disodium phosphate	2.500
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Tryptose Phosphate Broth is prepared according to the recommendation of APHA ⁽¹⁾ for the cultivation of fastidious aerobic bacteria especially *Streptococcus* species, *Listeria* and pathogenic *Neisseria* species. It is also used for antibiotic sensitivity testing by tube method ⁽²⁾. This medium with the addition of agar and sodium azide is used for the isolation of pathogenic Streptococci, *Neisseria* and other fastidious microorganisms from blood, dairy products ⁽⁴⁾ and other clinical specimens. Tryptose Phosphate Broth with added agar can also be used for emulsification of cheese before isolation of *Brucella* species ⁽⁵⁾ and is also recommended by Diagnostic Procedures and Reagents ⁽³⁾ of New York, Amrica.

The inclusion of tryptose as nitrogen sources makes this medium highly nutritious. Dextrose serves as the source of fermentable carbohydrate. Sodium chloride maintains osmotic equilibrium. Phosphate salt helps in buffering the medium. The addition of 0.1-0.2 % agar to DM1093 facilitates anaerobic growth and aids in dispersion of reducing substances and carbon dioxide formed in the environment ⁽²⁾.

Methodology

Suspend 29.5 grams of powder media in 1000 ml distilled water. Add 0.1% agar, if desired. Shake well & heat if necessary. Dispense 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

Yellow coloured clear solution without any precipitate

Reaction

Reaction of 2.95% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH range 7.10-7.50

Cultural Response/Characteristics

DM 1093: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum	Growth
<i>Neisseria meningitidis</i> ATCC13090	50-100	good-luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant



Dehydrated Culture Media
Bases / Media Supplements

<i>Streptococcus pneumoniae</i> ATCC 6303	50-100	good-luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	good-luxuriant
<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	good-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. American Public Health Association, 1976, Standard Methods for the Examination of Dairy Products, 14th ed., APHA Inc., New York.
2. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
3. American Public Health Association, 1953, Diagnostic Procedures and Reagents, 4th ed., APHA Inc., New York.
4. Newman R.W., 1950, J. Milk Food, Tech., 13 : 226.
5. American Public Health Association, 1953, Standard Methods for the Examination of Dairy Products, 10th ed., APHA Inc., New York.

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