

Tryptose Phosphate Broth, HiVeg®

MV093

Intended use

Recommended for cultivation of fastidious bacteria and as an adjuvant to tissue culture media.

Composition**

Ingredients	g / L
HiVeg® hydrolysate No. 1	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

Directions

Suspend 29.5 grams in 1000 ml purified / distilled water. Add 0.1% agar, if desired. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C.

Principle And Interpretation

Tryptose Phosphate Broth is prepared as recommended by 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 (3) and clinical specimens. Tryptose Phosphate Broth with added agar can also be used for emulsification of cheese before isolation of *Brucella* species (1) and is also recommended by Diagnostic Procedures and Reagents (4). Tryptose Phosphate Broth, HiVeg® is same as Tryptose Phosphate Broth except that the animal based peptones are completely replaced with vegetable peptones to avoid the BSE/ TSE risks associated with the animal peptones.

The inclusion of HiVeg® hydrolysate No. 1 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 the medium facilitates anaerobic growth and aids in dispersion of reducing substances and carbon dioxide formed in the environment (5).

For blood culture work aseptically add 10 ml of sterile defibrinated blood to 150 ml of sterile medium in 300 ml Erlenmeyer flask. Incubate and subculture on other media.

Type of specimen

Food and dairy samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,3,4). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Due to nutritional variations, certain strains may show poor growth.
2. Further confirmation must be carried out by biochemical test.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

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

7.10-7.50

Cultural Response

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

Organism	Inoculum (CFU)	Growth
<i>Neisseria meningitidis</i> ATCC 13090	50-100	good-luxuriant
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	good-luxuriant
<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 (00036*)	50-100	good-luxuriant

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

- 1.American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
- 2.MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
- 3.Newman R.W., 1950, J. Milk Food, Tech., 13 : 226.
- 4.American Public Health Association, 1953, Diagnostic Procedures and Reagents, 4th ed., APHA Inc., New York.
- 5.Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
- 6.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Disclaimer :

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