HiVeg® HIMEDIA®

Technical Data

Phenol Red Dextrose HiVeg® Broth

MV056

Intended Use:

Recommended for dextrose fermentation studies of microorganisms.

Composition**

Ingredients	g / L
HiVeg® peptone No. 3	10.000
HiVeg® extract	1.000
Sodium chloride	5.000
Dextrose (Glucose)	5.000
Phenol red	0.018
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 21.02 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes containing inverted Durham's tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50ºC.

Principle And Interpretation

Phenol Red Broth Medium is formulated as per Vera (1) and is recommended to determine the fermentation reaction of carbohydrates for the differentiation of microorganisms (2,3,4). Phenol Red Broth Medium with various added carbohydrates serves as a differential medium by aiding in differentiation of various species and genera by their ability to ferment the specific carbohydrate, with the production of acid or acid and gas (5). Phenol Red Dextrose HiVeg® Broth Base is same as Phenol Red Dextrose Broth Base except that the animal based peptones are completely replaced with vegetable peptones to avoid the BSE/TSE risks associated with animal peptones.

HiVeg® peptone No. 3 and HiVeg® extract serve as sources for carbon and nitrogen. Sodium chloride is the osmotic stabilizer. Phenol red is the pH indicator, which turns yellow at acidic pH. Gas formation is seen in Durham's tubes. All of the *Enterobacteriaceae* grow well in this medium. In addition to producing a pH colour shift, the production of mixed acids, notably butyric acids, often results in a pungent, foul odour from the culture medium (6).

Type of specimen

Isolated Microorganism

Specimen Collection and Handling

For isolated microorganism samples follow appropriate techniques for handling specimens as per established guidelines. 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.This media is not intended for primary isolation of specimens.

2.Overincubation is not recommended

3 Since the medium is pH dependent, adjustment of pH is important for correct results.

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
Light yellow to pink coloured homogeneous free flowing powder

Colour and Clarity of prepared medium
Red coloured clear solution without any precipitate

Reaction
Reaction of 2.1% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (longer if necessary).

Organism	Growth	Acid	Gas
Citrobacter freundii ATCC 8090	luxuriant	Positive reaction, yellow colour	Positive reaction
Escherichia coli ATCC 25922 (00013*)	luxuriant	Positive reaction, yellow colour	Positive reaction
# Klebsiella aerogenes ATCC 13048 (00175*)	luxuriant	Positive reaction, yellow colour	Positive reaction
Klebsiella pneumoniae ATCC 13883 (00097*)	luxuriant	Positive reaction, yellow colour	Positive reaction
$ Proteus hauseri ATCC 13315	luxuriant	Positive reaction, yellow colour	Positive reaction
Salmonella Typhi *ATCC 6539*	luxuriant	Positive reaction, yellow colour	Positive reaction
Salmonella Typhimurium *ATCC 14028* (00031*)	luxuriant	Positive reaction, yellow colour	Positive reaction
Serratia marcescens ATCC 8100	luxuriant	Positive reaction, yellow colour	Positive reaction
Shigella flexneri ATCC 12022 (00126*)	luxuriant	Positive reaction, yellow colour	Negative reaction

Key : (*) Corresponding WDCM numbers.

(#) Formerly known as *Enterobacter aerogenes* $ Formerly known as *Proteus vulgaris*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°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 (7,8).

Reference

1. Vera H. D., 1950, Am. J. Public Health, 40, 1267
2. Ewing W. H., 1986, Edwards and Ewings Identification of *Enterobacteriaceae*, 4th ed.,Elsevier Science Publishing Co., Inc., New York.
3. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis. 3.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification -Maintenanceof Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
5. MacFaddin J. F., 2000, Biochemical tests for Identification of Medical Bacteria, 3rd edi., Lippincott, Williams and Wilkins, Baltimore.
6. Koneman E. W., Allen S. D., Janda W.M., Schreckenberger P.C., Winn W.C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed., J. B. Lippinccott Company
7. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
8. 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.

Revision : 01/2025