Technical Data

Gifu Anaerobic HiVeg™ Broth (GAM HiVeg™ Broth) MV1801

Intended Use:

Recommended for cultivation and isolation of anaerobic bacteria and to test their susceptibility to antibiotics other than sulpha drugs.

Composition**

Ingredients	Gms / Litre
HiVeg™ peptone	10.000
Soya Peptone	3.000
HiVeg™ peptone No.3	10.000
Yeast extract	18.500
HiVeg™ extract	3.400
Dextrose (Glucose)	3.000
Potassium dihydrogen phosphate	2.500
Sodium chloride	3.000
Starch, Soluble	5.000
L-Cysteine hydrochloride	0.300
Sodium thioglycollate	0.300
Final pH (at 25°C)	7.3±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 59.0 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 10 lbs pressure (115°C) for 15 minutes.

Principle And Interpretation

Gifu Anaerobic HiVeg™ Broth is prepared by completely replacing animal based peptone with vegetable peptones to avoid BSE/TSE risks associated with animal peptones. As this medium contains combination of various HiVeg™ peptones, it is successfully used for cultivation of anaerobic organisms such as streptococci, pneumonococci and meningococci. This medium is also suitable for blood culture (6). Anaerobic organisms require reducing condition and an absence of dissolved oxygen in the medium. Strict anaerobes obtain its energy and intermediates through oxidation utilizing hydrogen acceptors other than oxygen. Pre-reducing the medium by boiling to drive off the oxygen can expel this (4). Sodium thioglycollate and L-Cysteine are the reducing agents added in this medium to provide adequate anaerobiosis. Anaerobic bacteria vary in their sensitivity to oxygen and nutritional requirements (2).

HiVeg™ peptone, HiVeg™ peptone No.3, HiVeg™ extract, soya peptone and yeast extract provides nitrogen, carbon compounds, long chain amino acids, vitamin B complex, minerals and other trace elements required for the growth of anaerobic bacteria. Starch absorbs the toxic metabolites produced (1). Sodium chloride maintains osmotic equilibrium (3).

Type of specimen

Isolated Microorganism

Specimen Collection and Handling

For isolated microorganism samples follow appropriate techniques for handling specimens as per established guidelines (4,5). 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. Some isolates may show poor growth due to nutritional variations.
2. Further biochemical and serological tests must be carried out for further identification.

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 brownish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Amber coloured clear solution forms in tube

Reaction

Reaction of 5.9% w/v aqueous solution at 25°C. pH : 7.3±0.1

Cultural Response

Cultural characteristics observed in an anaerobic atmosphere after an incubation at 35 - 37°C for 48 - 72 hours.

Organism	Inoculum (CFU)	Growth
Streptococcus pyogenes ATCC 19615	50-100	good - luxuriant
Bacteroides vulgatus ATCC 8482	50-100	good - luxuriant
Clostridium sporogens ATCC 11437	50-100	good - luxuriant
Clostridium perfringens ATCC 13124 (00007*)	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. Use before expiry date on the label.
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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

1. Ajello. G.W., Geely J.C., Hayes P.S.et al., 1984, J. clin Microbiol., 20:55-8
2. Collee J.G., Fraser A.G., Marminon B.P., Simmons A.,)(Eds), 1996, Mackie and McCartney. Practical Medical Microbiology, 14th Ed., Churchill Livingstone.
3. Gibbons R.J., and MacDonald J.B., 1960, J. Bacteriol, 80:164-170
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5. 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.
6. Nissui Manual, Microbiological products Nissui Pharmaceutical Co., 1983.

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