

BHI Agar,HiVeg[®] (Special Infusion Agar, HiVeg[®])

MV211

Intended Use:

Recommended for cultivation of fastidious pathogenic bacteria, yeasts and moulds.

Composition**

Ingredients	g / L
HiVeg [®] special infusion	7.50
HiVeg [®] infusion	10.000
HiVeg [®] peptone No. 3	10.000
Dextrose (Glucose)	2.000
Sodium chloride	5.000
Disodium hydrogen phosphate	2.500
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 52.0 grams in 1000 ml purified/ distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates. If desired, 20 units Penicillin and 40 µg Streptomycin per ml of medium may be added to make the medium selective for fungi.

Principle And Interpretation

BHI Agar,HiVeg[®] is highly nutritious and can support luxuriant growth of wide variety of microorganisms. It can be further enriched by the addition of blood or rendered selective by adding different antibiotics (1,2). It is a general purpose medium used for primary isolation of aerobic bacteria from clinical specimens. Addition of 50 mg/l chloramphenicol or 40mg/l streptomycin or a mixture of 50mg/l gentamicin and 50mg/l chloramphenicol along with 5-10% sterile defibrinated blood is often recommended for inhibition of bacteria and isolation of pathogenic systemic fungi. A mixture of cycloheximide (0.5 g/l) and chloramphenicol (0.05 g/l) is also used for selective isolation of pathogenic fungi (incubation at 25-30°C for 1-2 weeks) (3). Some fungi may be inhibited on this medium with 10% sheep blood, gentamicin and chloramphenicol (4,5,6). BHI Agar,HiVeg[®] is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. HiVeg[®] special infusion and HiVeg[®] infusion used in the media serves as sources of carbon, nitrogen, vitamins, amino acids, along with essential growth factors. Dextrose is the energy source. Sodium chloride maintains the osmotic equilibrium of the medium while disodium phosphate buffers the medium. Defibrinated sheep blood added to the basal medium provides essential growth factors for the more fastidious fungal organisms.

Type of specimen

Clinical samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (7,8). 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. As organisms differ in their nutritional requirements, some fastidious organisms may be inhibited or may show poor growth.
2. Further biochemical tests must be carried out for complete 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

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Basal medium : Light amber coloured clear to slightly opalescent gel. After addition of 5% v/v sterile defibrinated blood : Cherry red coloured, opaque gel forms in Petri plates.

Reaction

Reaction of 5.2% 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 (If desired add 5% v/v sterile defibrinated blood).

Organism	Inoculum (CFU)	Growth	Recovery	Growth w/ blood	Recovery w/ blood
<i>Candida albicans</i> ATCC 26790	50-100	luxuriant	≥70%	luxuriant	≥70%
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	luxuriant	≥70%	luxuriant	≥70%
<i>Streptococcus pneumoniae</i> ATCC 6303	50-100	luxuriant	≥70%	luxuriant	≥70%
<i>Shigella flexneri</i> ATCC 12022 (00126*)	50-100	luxuriant	≥70%	luxuriant	≥70%
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥70%	luxuriant	≥70%

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10- 30°C in a tightly closed container and the prepared medium at 2 - 8°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (7,8).

Reference

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- Conant N. F., 1950, Diagnostic Procedures and Reagents, 3rd Ed., APHA Inc.
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- Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
- Ajello L., Georg L., Kaplan W. and Kaufman L., 1963, CDC Laboratory Manual for Medical Mycology, PHS Publication No. 994, U.S. Govt. Office, Washington, D.C.

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.

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