

BHI HiCynth™ Agar (Special Infusion HiCynth™ Agar)**MCD211****Intended Use:**

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

Composition**

Ingredients	g / L
HiCynth™ Peptone No.2*	8.000
HiCynth™ Peptone No.3*	9.500
HiCynth™ Peptone No.6*	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

* Chemically defined peptones

Directions

Suspend 52.0 gram 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 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 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 HiCynth™ Agar is prepared by replacing animal and vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones.

HiCynth™ Peptone No.2, HiCynth™ Peptone No.3 and HiCynth™ Peptone No.6 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 hydrogen 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

Food and dairy samples

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5,7, 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 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (9,10).

Reference

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- Creitz and Puckett, 1954, Am. J. Clin. Pathol., 24:1318.
- Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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