Sabouraud Dextrose Agar with Chloramphenicol Medium 4. MM1067

Intended Use:

Recommended for selective cultivation of yeasts and moulds in accordance with Indian Pharmacopoeia,2018.

Composition**

Ingredients	Gms / Litre
HMC Peptone#	10.000
Dextrose monohydrate	40.000
Chloramphenicol	0.050
Agar	15.000
Final pH (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Peptone (Meat & Casein)

Directions

Suspend 61.41 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 or as per validated cycle. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Sabouraud Dextrose Agar Medium with Chloramphenicol is recommended for cultivation of yeasts and moulds by Indian Pharmacopoeia (3). This medium was described originally by Sabouraud (8) for the cultivation of fungi, particularly useful for the fungi associated with skin infections. The medium is often used with antibiotics such as Chloramphenicol (1) for the isolation of pathogenic fungi from materials containing large numbers of fungi or bacteria. HMC Peptone provide nitrogenous, carbonaceous compounds. Dextrose provides an energy source. Chloramphenicol inhibits a wide range of gram-positive and gram-negative bacteria making the medium selective for fungi (6). The low pH favors fungal growth and inhibits contaminating bacteria (7).

Some pathogenic fungi may produce infective spores which are easily dispersed in air, so examination should be carried out in safety cabinet.

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 (2,9,10). 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. Certain pathogenic fungi may show poor growth on this medium.
2. Presence of chloramphenicol may inhibit certain pathogenic fungi.
3. Overheating of the medium may result in low productivity and softening of gel.

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
Light amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction
pH of 6.1% w/v aqueous solution at 25°C (after sterilization). pH : 5.6±0.2

pH
5.40-5.80

Growth Promotion Test
Cultural response was carried out in accordance with IP, after an incubation at 20-25°C for <=5 days. Recovery rate is considered as 100% for bacteria growth on Soybean Casein Digest Agar and fungus growth on Sabouraud Dextrose Agar

Organism	Inoculum (CFU)	Growth	Recovery	Incubation period	Incubation temperature
Escherichia coli ATCC 25922 (00013)*	>=10^4	inhibited	0 %	<=5 d	20 -25 °C
Escherichia coli ATCC 8739 (00012)*	>=10^4	inhibited	0 %	<=5 d	20 -25 °C
Escherichia coli NCTC 9002	>=10^4	inhibited	0 %	<=5 d	20 -25 °C
Trichophyton rubrum ATCC 28191	50-100	good		<=5 d	20 -25 °C
Lactobacillus casei ATCC 334	>=10^4	inhibited	0 %	<=5 d	20 -25 °C
Candida albicans ATCC 2091 (00055)*	50 -100	luxuriant	>=50 %	<=5 d	20 -25 °C
Candida albicans ATCC 10231 (00054)*	50 -100	Luxuriant (white colonies)	>=50 %	<=5 d	20 -25 °C
# Aspergillus brasiliensis ATCC 16404 (00053)*	50 -100	luxuriant	>=50 %	<=5 d	20 -25 °C
Saccharomyces cerevisiae ATCC 9763 (00058)*	50 -100	luxuriant	>=50 %	<=5 d	20 -25 °C

Key: (#) Formerly known as *Aspergillus niger*, (*) Corresponding WDCM numbers

Storage and Shelf Life

Store dehydrated powder and prepared medium on receipt at 15-25°C in tightly closed container. 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 (4,5).

Reference

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