



Agar Medium C (Sabouraud-Glucose Agar with Chloramphenicol)/ Sabouraud Dextrose Agar with Chloramphenicol, Medium 4 (ME1067/M1067B/MM1067)

MAP1067

Intended Use:

Recommended for selective cultivation of yeasts and moulds in accordance with EP/BP/IP.

Composition**

Ingredients	g / L
HMC peptone #	10.000
Dextrose monohydrate (Glucose 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 Peptones (meat and casein)

Directions

Suspend 61.41 grams (the equivalent weight of dehydrated medium per litre) 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 Glucose Agar Medium with Chloramphenicol is cited as Medium C and recommended for cultivation of yeasts and moulds by EP/BP/IP (1,2,3). This medium was described originally by Sabouraud (2) for the cultivation of fungi, particularly useful for the fungi associated with skin infections. The medium is often used with antibiotics such as Chloramphenicol (4) for the isolation of pathogenic fungi from materials containing large numbers of fungi or bacteria.

HMC peptone provide nitrogenous compounds. Glucose monohydrate provides an energy source. Chloramphenicol inhibits a wide range of Gram-positive and Gram-negative bacteria, which makes the medium selective for fungi (5). The low pH favours fungal growth and inhibits contaminating bacteria from clinical specimens (6). 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

Pharmaceutical samples

Specimen Collection and Handling

For pharmaceutical samples follow appropriate techniques for handling specimens as per established guidelines (1,2,3).

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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
3. Certain pathogenic fungi may show poor growth on this medium.
4. 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

pH

5.40-5.80

Growth Promotion Test

Cultural response was observed in accordance with EP, BP, 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

Cultural Response

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Incubation period
<i>Candida albicans</i> ATCC 10231 (00054*)	50 -100	luxuriant (white colonies)	25 -100	≥50 %	≤5 d
# <i>Aspergillus brasiliensis</i> ATCC 16404 (00053*)	50 -100	luxuriant	25 -100	≥50 %	≤5 d
<i>Candida albicans</i> ATCC 2091 (00055*)	50 -100	luxuriant	25 -100	≥50 %	≤5 d
<i>Saccharomyces cerevisiae</i> ATCC 9763 (00058*)	50 -100	luxuriant	35 -100	≥50 %	≤5 d
<i>Escherichia coli</i> ATCC 25922 (00013*)	≥10 ³	inhibited	0	0 %	≤5 d
<i>Escherichia coli</i> ATCC 8739 (00012*)	≥10 ³	inhibited	0	0 %	≤5 d
<i>Trichophyton rubrum</i> ATCC 28191	50-100	good			≤5 d
\$ <i>Lactobacillus paracasei</i> ATCC 334	≥10 ³	inhibited	0	0 %	≤5 d

Key : (*) Corresponding WDCM numbers,

(#) - Formely known as *Aspergillus niger*

(\$) - Formely known as *Lactobacillus casei*

Storage and Shelf Life

Store between 15-30°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 (7,8).

Reference

- 1.European Pharmacopoeia, 2022, 10 th volume, European Directorate for the quality of medicines & Healthcare.
- 2.The British Pharmacopoeia, 2022, Medicines and Healthcare products Regulatory Agency.

3. Indian Pharmacopoeia, 2022, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare Government of India.
4. Sabouraud K., 1892, Ann. Dermatol. Syphilol, 3:1061.
5. Ajello L., 1957, J. Chron. Dis., 5:545.
6. Lorian (Ed.),1980, Antibiotics In Laboratory Medicine, Williams and Wilkins, Baltimore.
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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Disclaimer :

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