



Medium 3.Sabouraud Dextrose Agar

MM063

Medium 3.Sabouraud Dextrose Agar is used for the cultivation of yeasts, moulds and aciduric bacteria in accordance with Indian Pharmacopoeia, 2010.

Composition**

Ingredients	Gms / Litre
Peptones (meat and casein)	10.000
Dextrose monohydrate	40.000
Agar	15.000
Final pH (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 61.36 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.

Principle And Interpretation

Sabouraud Dextrose Agar is Carliers modification (1) of the formulation described by Sabouraud (2) for the cultivation of fungi (yeasts, moulds), particularly useful for the fungi associated with skin infections. The composition of medium is as per I.P (3). This medium is employed for microbial limit tests of food, pharmaceutical, cosmetics, and clinical specimens (4)

Peptones(meat and casein) provides nitrogenous compounds. Dextrose monohydrate provides energy source. High dextrose concentration and low pH favors fungal growth and inhibits contaminating bacteria from clinical specimens (5).

Some pathogenic fungi may produce infective spores, which are easily dispersed in air, so examination should be carried out safety cabinet. For heavily contaminated samples, the plate must be supplemented with inhibitory agents for inhibiting bacterial growth.

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 6.14% w/v aqueous solution at 25°C (after sterilization). pH : 5.6±0.2

pH

5.40-5.80

Growth Promotion Test

Growth Promotion was carried out in accordance with the method of IP, after an incubation at 30-35 °C for 24-48 hours.Recovery rate is considered as 100% for bacteria growth on Soybean Casein Digest Agar and fungus growth on Sabouraud Dextrose Agar

Growth Promoting Properties

Growth of microorganism comparable to that previously obtained with previously tested and approved lot of medium occurs at the specified temperature for not more than the shortest period of time specified inoculating ≤ 100 cfu (at 30-35°C for ≤ 24 hours).

Indicative properties

Please refer disclaimer Overleaf.

Colonies are comparable in appearance and indication reaction to those previously obtained with previously tested and approved lot of medium occurs for the specified temperature for a period of time within the range specified inoculating ≤ 100 cfu (at 30-35°C for 24-48 hours).

Cultural Response

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Incubation temperature	Incubation period
Growth Promotion + Indicative						
<i>Candida albicans</i> ATCC 10231	50 -100	Luxuriant (white colonies)	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs
Growth Promotion + Total yeast and mould count						
<i>Candida albicans</i> ATCC 10231	50 -100	luxuriant	35 -100	≥ 70 %	20 -25 °C	≤ 5 d
* <i>Aspergillus brasiliensis</i> ATCC 16404	50 -100	luxuriant	35 -100	≥ 70 %	20 -25 °C	≤ 5 d
Additional Microbiological Testing						
<i>Candida albicans</i> ATCC 2091	50 -100	luxuriant	35 -100	≥ 70 %	30-35°C	24 -48 hrs
<i>Saccharomyces cerevisiae</i> ATCC 9763	50 -100	luxuriant	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs
<i>Escherichia coli</i> ATCC 25922	50 -100	good(inhibited on media with low pH)	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs
<i>Escherichia coli</i> ATCC 8739	50 -100	good(inhibited on media with low pH)	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs
<i>Escherichia coli</i> NCTC 9002	50 -100	good(inhibited on media with low pH)	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs
<i>Trichophyton rubrum</i> ATCC 28191		good			20 -25 °C	≤ 7 d
<i>Lactobacillus casei</i> ATCC 334	50 -100	luxuriant	35 -100	≥ 70 %	30 -35 °C	24 -48 hrs

Storage and Shelf Life

Store below 30°C and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

- 1.Carlier G. I. M., 1948, Brit. J. Derm. Syph., 60:61.
- 2.Sabouraud K., 1892, Ann. Dermatol. Syphilol, 3:1061.
- 3.Indian Pharmacopoeia, 2010, Ministry of Health and Family Welfare, Govt. of India.
- 4.Bacteriological Analytical Manual, 8th Edition, Revision A, 1998. AOAC, Washington D.C.
- 5.Murray PR, Baren EJ, Jorgensen JH, Pfaller MA, Tenover FC, Tenover FC (editors) 2003, Manual of Clinical Microbiology, 8th ed., ASM, Washington, D.C.

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