Sabouraud Dextrose Agar Medium 4, Granulated

GMM063

Sabouraud Dextrose Agar Medium 4, granulated is used for the cultivation of yeasts, moulds and aciduric bacteria in accordance with Indian Pharmacopoeia, 2014.

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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

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 coloured granular medium

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

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 <=100cfu (at 30-35°C for 24-48 hours).

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Incubation temperature	Incubation period
Growth Promotion + Indicative					
Candida albicans ATCC 10231	50 -100	Luxuriant (white colonies)	>=70 %	30 -35 °C	24 -48 hrs
Growth Promotion + Total yeast and mould count					
Candida albicans ATCC 10231	50 -100	luxuriant	>=70 %	20 -25 °C	<=5 d
**Aspergillus brasiliensis ATCC 16404*	50 -100	luxuriant	>=70 %	20 -25 °C	<=5 d
Additional Microbiological Testing					
Candida albicans ATCC 2091	50 -100	luxuriant	>=70%	30-35°C	24 -48 hrs
Saccharomyces cerevisiae ATCC 9763	50 -100	luxuriant	>=70 %	30 -35 °C	24 -48 hrs
Escherichia coli ATCC 25922	50 -100	good(inhibited on media with low pH)	>=70 %	30 -35 °C	24 -48 hrs
Escherichia coli ATCC 8739	50 -100	good(inhibited on media with low pH)	>=70 %	30 -35 °C	24 -48 hrs
Escherichia coli NCTC 9002	50 -100	good(inhibited on media with low pH)	>=70 %	30 -35 °C	24 -48 hrs
Trichophyton rubrum ATCC 28191		good		20 -25 °C	<=7 d
Lactobacillus casei ATCC 334	50 -100	luxuriant	>=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 Pharmocopoeia, 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 P. R, Baron E, J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 2007, Manual of Clinical Microbiology, 9th Ed., ASM, Washington, D.C

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