Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Sabouraud Dextrose Agar

Product Code: DM 1063H

Application: Sabouraud Dextrose Agar is recommended for the cultivation of yeasts, moulds and aciduric bacteria from pharmaceutical product in accordance with the microbial limit testing by harmonized methodology of USP/EP/BP/JP.

Composition**

Ingredients	Gms / Litre
Dextrose	40.000
Mixture of peptic digest of animal tissye & pancreatic digest of casein (1:1)	10.000
Agar	15.000
pH after sterilization (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Fungi were among the first microorganism recognized because some of the fruiting structures, such as the mushrooms, are large enough to be seen without a microscope. Fungi can be grouped simply on the basis of morphology as either yeasts or moulds [1]. Fungal diseases that occur on the skin, hair and mucous membrane are called superficial mycoses, and the organism that cause them, the dermatophytes [2]. When fungi are to be isolated, it is good practice to use a medium that favors their growth but is not be optimal for the growth of bacteria.

Sabouraud Dextrose Agar is Carliers modification [3] of the formulation described by Sabouraud [4] for the cultivation of fungi (yeasts, moulds), and aciduric microorganisms. Sabouraud Dextrose Agar is recommended for microbiological examination of non-sterile products in accordance with harmonized method of USP/EP/BP/JP [5-8]. This medium is also employed in microbial limit tests in pharmaceutical testing, food, cosmetics, and clinical specimens [9]

Peptic digest of animal tissue and pancreatic digest of casein provides nitrogenous compounds. Dextrose provides an energy source. High dextrose concentration and low pH favors fungal growth and inhibits contaminating bacteria from clinical specimens [10].

Some pathogenic fungi may produce infective spores, which are easily dispersed in air, so examination should be carried out in safety cabinet. For heavily contaminated samples, the plate must be supplemented with inhibitory agents for inhibiting bacterial growth. Growth of white colonies may be indicative of presence of *Candida albicans.* The total combined yeast and molds count is considered to be equal to the number of colony forming unit found using this medium, If bacterial colonies are detected they are counted as part of total yeast and mold count. In case the bacterial colonies exceeds the acceptance criterion, then antibiotics can be supplemented in this medium.

Methodology

Suspend 65 grams of powder media in 1000 ml purified/ distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes or as per validated cycle. Pour in sterile Petri plates.

Quality Control

Physical 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: Reaction of 6.5% w/v aqueous solution at 25^{0}C: pH 5.6±0.2

pH Range:- 5.40-5.80

Growth Promotion Test
Growth Promotion was carried out in accordance with the method of USP, 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).

Organism	Inoculum (CFU)	Incubation temperature	Incubation period
Growth Promotion + Indicative			
Candida albi cans ATCC 10231	50-100	30-35^{O}c	18 -24 hrs
Growth Promotion + Total yeast and mould count			
Candida albicans ATCC 10231	50-100	30-35^{O}c	18 -24 hrs
Aspergillus brasiliensis ATCC 16404	50-100	30-35^{O}c	18 -24 hrs
Additional Microbiological Testing			
Candida albicans ATCC 2091	50-100	30-35^{O}c	18 -24 hrs
Saccharomyces cerevisiae ATCC 9763	50-100	30-35^{O}c	18 -24 hrs
Escherichia coli ATCC 25922	50-100	30-35^{O}c	18 -24 hrs
Escherichia coli NCTC 9002	50-100	30-35^{O}c	18 -24 hrs
Trichophyton rubrum ATCC 28191	50-100	30-35^{O}c	18 -24 hrs
Lactobacillus casei ATCC 334	50-100	30-35^{O}c	18 -24 hrs

Key : - Formerly known as* Aspergillus brasiliensis

Storage and Shelf Life-

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^{0} in sealable plastic bags for 2-5 days.

Further Reading

1.Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2.Pelczar M. J., Jr., Reid R. D., Chan E. C. S., 1977, Microbiology, 4th Edi, Tata McGraw-Hill Publishing Company Ltd, New Delhi
3. Carlier G. I. M., 1948, Brit. J. Derm. Syph., 60:61.
4. Sabouraud K., 1892, Ann. Dermatol. Syphilol, 3:1061
5. The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD.
6. British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia.
7. European Pharmacopoeia, 2011, European Dept. for the quality of Medicines.
8. Japanese Pharmacopoeia, 2008.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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