Potato Dextrose Agar

M096B

Potato Dextrose Agar is used for the cultivation of yeasts and moulds from pharmaceutical products in accordance with the microbial limit testing by harmonized methodology of BP.

Composition**

Ingredients	Gms / Litre
Infusion from potatoes	200.000
Dextrose	20.000
Agar	15.000
pH after sterilization (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 39.0 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. Mix well before dispensing. In specific work, when pH 3.5 is required, acidify the medium with sterile 10% tartaric acid. The amount of acid required for 100 ml. of sterile, cooled medium is approximately 1 ml. Do not heat the medium after addition of the acid.

Principle And Interpretation

Yeast and moulds constitute a large and divergent group of microorganisms consisting of several thousands species. Yeast and moulds can cause various degrees of food decomposition. Invasion and growth may occur on virtually any type of food if environmental conditions are not limiting. Some foodborne yeasts and moulds are undesirable because of potential hazards to human and animal health (1).

Potato Dextrose Agar is prepared as described in BP (3) and is in accordance with the harmonized methodology of USP/EP/BP/ JP (2,3,4,5). It is recommended for microbial limit tests in pharmaceutical testing. It is also used for stimulating sporulation, for maintaining stock cultures of certain dermatophytes and for differentiation of typical varieties of dermatophytes on the basis of pigment production (6).

Potato infusion and dextrose promote luxuriant fungal growth. Adjusting the pH of the medium by tartaric acid to 3.5 inhibits the bacterial growth. Heating the medium after acidification should be avoided as it may hydrolyse the agar, which can render the agar unable to solidify

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
Growth Promotion was carried out in accordance with the harmonized method of BP, and growth was observed at 20-25°C for specified time. Recovery rate is considered as 100% for 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 20-25°C for specified time).

Cultural Response

M096B: Cultural characteristics observed after incubation at 20-25 °C for 2-5 days. Recovery rate is considered as 100% for fungus growth on Sabouraud Dextrose Agar.

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Incubation temperature	Incubation period
Test strain preparation						
**Aspergillus brasiliensis ATCC 16404*	50-100	luxuriant	25 -100	>=50 %	20 -25 °C	5 -7 Day
Additional Microbiological Testing						
Candida albicans ATCC 10231	50 -100	luxuriant	35 -100	>=70 %	20 -25 °C	2 -3 Day
Saccharomyces cerevisiae ATCC 9763	50 -100	luxuriant	35 -100	>=70 %	30 -35 °C	2 -5 Day
Rhodotorula mucilaginosa DSM 70403		luxuriant			20 -25 °C	3 -5 Day
Geotrichum candidum DSM 1240		good- luxuriant			25 -30 °C	3 -5 Day
Penicillium communae ATCC 10248		fair -good			25 -30 °C	3 -5 Day
Trichophyton ajelloi ATCC 28454		fair-good			25 -30 °C	3 -7 Day

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium between 2 - 8°C. Use before expiry date on the label.

Reference

1. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
2.The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD.
3.British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia
4.European Pharmacopoeia, 2011, European Dept. for the quality of Medicines.
5.Japanese Pharmacopoeia, 2008.
6.MacFaddin J., 1985, Media for the Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore

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