Technical Information

Potato Dextrose Agar

Product Code: DM 1096

Application: Potato Dextrose agar is recommended for the isolation and enumeration of yeasts and moulds from dairy and other food products.

Composition**

Ingredients	Gms / Litre
Potatoes, infusion from	200.000
Dextrose	20.000
Agar	15.000
Final pH (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Potato Dextrose Agar is recommended by APHA [1] and F.D.A. [2] for plate counts of yeasts and moulds in the examination of foods and dairy products [3]. Potato Dextrose Agar is also used for stimulating sporulation, maintaining stock cultures of certain dermatophytes and for differentiation of typical varieties of dermatophytes on the basis of pigment production [4]. It is also recommended by USP [5], BP [6] ,EP [7] and JP [8] for growth of fungi.

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.

Methodology

Suspend 39 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. 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.

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 3.9% w/v aqueous solution at 25°C (after sterilization) .pH:-5.6±0.2

pH range 5.40-5.80

Cultural Response/Characteristics
DM 1096: 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
Candida albi cans ATCC 10231	50-100	luxuriant	35 -100	>=70 %	20 -25 °C	2 -3 d
**Aspergillus brasiliensis ATCC 16404*	50-100	luxuriant	25 -100	>=70 %	20 -25 °C	5 -7 d
Saccharomyces cerevisiae ATCC 9763	>=10^3	inhibited	35 -100	>=70 %	20 -35 °C	2 -5 d
Rhodotorula mucilaginosa DSM 70403	50-100	luxuriant			20 -25 °C	3 -5 d
Geotrichum candidum DSM 1240	>=10^3	good- luxuriant			20 -30 °C	3 -5 d
Penicillium communae ATCC 10248		fair -good			20 -30 °C	3 -5 d
Trichophyton ajelloi ATCC 28454		fair -good			20 -30 °C	3 -7 d

**Key:-Formerly known as Aspergillus niger*

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. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

2. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.

3. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

4. MacFaddin J. F., 1985, Media for the Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore

5. The United States Pharmacopoeia, 2009, The United States Pharmacopoeial Convention. Rockville, MD.

6. British Pharmacopoeia, 2009, The Stationery office British Pharmacopoeia

7. European Pharmacopoeia, 2009, European Dept. for the quality of Medicines.

8. Japanese Pharmacopoeia, 2008.

Disclaimer :

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