Potato Dextrose Agar

GM096

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

Directions

Suspend 39 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates or tubes as desired. 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

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, for 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.

Quality Control

Appearance

Cream to yellow coloured granular media

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

5.40-5.80

Cultural Response

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	Recovery	Incubation temperature	Incubation period
Candida albicans ATCC 10231	50 -100	luxuriant	>=70 %	20 -25 °C	2 -3 d

**Aspergillus brasiliensis* ATCC 16404	50 -100	luxuriant	>=70 %	20 -25 °C	5 -7 d
Aspergillus fumigatus ATCC 9197	50 -100	luxuriant	>=70 %	20 -25 °C	5 -7 d
Saccharomyces cerevisiae ATCC 9763	50 -100	luxuriant	>=70 %	30 -35 °C	2 -5 d
Rhodotorula mucilaginosa DSM 70403		luxuriant		20 -25 °C	3 -5 d
Geotrichum candidum DSM 1240		good- luxuriant		25 -30 °C	3 -5 d
Penicillium communae ATCC 10248		fair -good		25 -30 °C	3 -5 d
Trichophyton ajelloi ATCC 28454		fair-good		25 -30 °C	3 -7 d

*Key:-Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 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.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, 2016, The United States Pharmacopoeial Convention,Rockville, MD.
6.British Pharmacopoeia, 2016, The Stationery Office British Pharmacopoeia.
7.European Pharmacopoeia, 2014, European Department for the Quality of Medicines of Council of Europe.
8.Japanese Pharmacopoeia, 2008, Published by Society of Japanese Pharmacopoeia,Tokyo, Japan.

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