# Potato Dextrose Agar

**M096**

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. Mix well before dispensing. In specific work, when pH 3.5 is required, acidify the medium with sterile 10% tartaric acid / lactic 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 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**

5.40-5.80

**Cultural Response**

M096: 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 albicans 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 |
| *Aspergillus fumigatus* ATCC 9197 | 50 -100 | luxuriant | 25 -100 | >=70 % | 20 -25 °C | 5 -7 d |
| *Saccharomyces cerevisiae* ATCC 9763 | 50 -100 | luxuriant | 35 -100 | >=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 |
| *Fusarium solani* ATCC 36031 | | luxuriant | | | 20 -25 °C | 3 -5 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 Dept. for the quality of Medicines.
8.Japanese Pharmacopoeia, 2008.

Revision : 03 / 2016

CE