



Potato Malt Agar

M404

Potato Malt Agar is used for cultivation and maintenance of smut fungi and other phytopathogenic fungi.

Composition**

Ingredients	Gms / Litre
Potatoes, infusion from	200.000
Malt extract	20.000
Peptic digest of animal tissue	1.000
Sucrose	60.000
Agar	20.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 10.5 grams in 100 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 pouring into sterile Petri plates.

Principle And Interpretation

Smuts are fungi that cause plant diseases affecting cereal crops. Potato Malt Agar, formulated as described by Fischer, is used for cultivating and maintaining smut fungi and other phytopathogenic fungi. In addition to smut fungi, this medium can also be used for cultivation of other organisms causing plant disease and aciduric microorganisms, which needs high carbohydrate content and neutral to slight alkaline pH for the optimal growth (1).

Malt extract which contains dextrin, maltose, a little glucose, along with the potato infusion in the medium promotes luxuriant growth of fungi (2). Peptic digest of animal tissue provides the nitrogenous compounds and trace minerals to the organisms. Sucrose supports the growth of microorganisms such as yeasts.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 10.5% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

M404: Cultural characteristics observed after an incubation at 25-30°C for 40-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
* <i>Aspergillus brasiliensis</i> ATCC 16404	50-100	luxuriant	-
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant	≥70%
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	luxuriant	≥70%

Note: *: 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. Atlas R. M., 2004, Handbook of Microbiological Media, Lawrence C. Parks (Ed.), 3rd Edition, CRC Press.
2. Vanderzant C. and Splittstoesser D. F., (Eds), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington D.C.

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