ARENA BioScien

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Potato Dextrose Agar (PDA)

A basal medium that is recommended for the cultivation of fungi

REF: BS.1/PD01.100.0100	100 Gram	REF: BS.1/PD01.250.0250	250 Gram
REF: BS.1/PD01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Potato Dextrose Agar (PDA) is a general purpose medium for yeasts and molds that can be complemented with acid or antibiotics to prevent bacterial growth. It is recommended for plate count methods for foods and dairy products. PDA can be used for growing clinically significant yeast and molds. The nutritionally rich base (potato infusion) enhances mold sporulation and pigment production in some dermatophytes.

METHOD PRINCIPLE

Potato Dextrose Agar is composed of dehydrated Potato Infusion and Dextrose that encourages fungal growth. Agar is added as a solidifying agent. Many typical procedures use a specified amount of sterile tartaric acid (10%) to decrease the pH of the medium to 3.5 ± 0.1, to inhibit bacterial growth. Chloramphenicol acts as a selective agent to inhibit bacterial overgrowth of competing microorganisms from mixed specimens, while permitting the selective isolation of fungi.

MEDIA COMPOSITION

Item	Formula per liter of medium
Potato Extract	4 gm
Glucose	20 gm
Agar	15 gm

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.
S57: use appropriate container to avoid environmental contamination.
S61: avoid release in environment.

For further information, refer to the Potato Dextrose agar material safety data sheet.

STORAGE AND STABILITY

BioScien Potato Dextrose Agar should be stored between 10-30°C in a firmly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 5.6±0.2 at 25°C

PREPARATION

Dissolve 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. When pH 3.5 is required by addition of acid. 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.

Potato Dextrose Agar with Chloramphenicol (40 mg) is recommended for the selective cultivation of fungi from mixed samples.

Potato Dextrose Agar with Tartaric Acid (1.4 g) is recommended for the microbial examination of food and dairy products (pour plate technique is recommended).

Deterioration

The color of ***BioScien*** Potato Dextrose Agar medium is cream to yellow homogeneous free flowing powder. Prepared Media is light yellowish-brown colored. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium

SPECIMEN

Pharmaceutical samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile petri-dishes
- Incubator
- Autoclave

PERFORMANCE CHARACTERISTICS

Cultural characteristics are observed after incubation at 20-25 °C for 2-7 days. Recovery rate is considered as 100% for fungus growth on Sabouraud Dextrose Agar.

Microorganism	Growth	Incubation Period (Days)	Incubation Temperature (°C)
Candida albicans (ATCC 10231)	Luxuriant	2-3	20-25
Aspergillus brasiliensis (ATCC 16404)	Luxuriant	5-7	20-25
Aspergillus fumigatus (ATCC 9197)	Luxuriant	5-7	20-25
Saccharomyces cerevisiae (ATCC 9763)	Luxuriant	2-5	30-35
Rhodotorula mucilaginosa (DSM 70403)	Luxuriant	3-5	20-25
Geotrichum candidum (DSM 1240)	Luxuriant	3-5	25-30
Penicillium communae (ATCC 10248)	Fair-good	3-5	25-30
Trichophyton ajelloi (ATCC 28454)	Fair-good	3-7	25-30
Fusarium solani (ATCC 36031)	Luxuriant	3-5	20-25

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

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.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	

EC REP

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