POTATO DEXTROSE AGAR (7149)

Intended Use

Potato Dextrose Agar is used for the cultivation of fungi. Conforms to Harmonized USP/EP/JP Requirements.[1,2,3]

Product Summary and Explanation

Potato Dextrose Agar (PDA) is a general purpose medium for yeasts and molds that can be supplemented with acid or antibiotics to inhibit bacterial growth. It is recommended for plate count methods for foods, dairy products[4-6] and testing cosmetics.[7] PDA can be used for growing clinically significant yeast and molds.[8] The nutritionally rich base (potato infusion) encourages mold sporulation and pigment production in some dermatophytes.[9]

Principles of the Procedure

Potato Dextrose Agar is composed of dehydrated Potato Infusion and Dextrose that encourage luxuriant fungal growth. Agar is added as the solidifying agent. Many standard procedures use a specified amount of sterile tartaric acid (10%) to lower the pH of this medium to 3.5 ± 0.1, inhibiting bacterial growth. Do not reheat the acidified medium, heating in the acid state will hydrolyze the agar.

Formula / Liter

Potato Infusion from 200 g..... 4 g*
Dextrose..... 20 g
Agar ..... 15 g
*4.0 g of potato extract is equivalent to 200 g of infusion from potatoes.
Final pH: 5.6 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

1. For Laboratory Use.

Directions

1. Suspend 39 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is trace to slightly hazy, and pale to light yellow.

Expected Cultural Response and USP/EP/JP Growth Promotion Testing: Cultural response on Potato Dextrose Agar incubated at Harmonized USP/EP/JP specified temperatures, incubation times, and examined for growth at defined time periods.[1,2,3]

Microorganism	Approx. Inoculum (CFU)	Response
Aspergillus niger ATCC® 16404	Point Inoculation	Growth
Candida albicans ATCC® 10231	10 - 100	Growth
Penicillium roquefortii ATCC® 10110	Point Inoculation	Growth
Trichophyton mentagrophytes ATCC® 9533	Point Inoculation	Growth

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure[1,2,3]

Pour Plate Methods[4,6]

1. Add 1 mL of test sample to a sterile petri dish.
2. Add the specified amount (10 or 20 mL) of sterile, molten agar (cooled to 45 - 50°C) and swirl gently to mix well. Allow to solidify.
3. Incubate at 22 - 25°C or 30 - 32°C (depending on the method being followed) for 2 - 7 days or longer.

Results

Yeasts will grow as creamy to white colonies. Molds will grow as filamentous colonies of various colors. Count the number of colonies and consider the dilution factor (if the test sample was diluted) in determining the yeast and/or mold counts per gram or milliliter of material.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Potato Dextrose Agar	**Code No.**	**7149A**	**500 g**
		7149B	**2 kg**
		7149C	**10 kg**

References

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4. **Vanderzant, C., and D. F. Splittstoesser (eds.).** 1992. Compendium of methods for the microbiological examination of food, 3rd ed. American Public Health Association, Washington, D.C.
5. **Marshall, R. T. (ed.).** 1993. Standard methods for the microbiological examination of dairy products, 16th ed. American Public Health Association, Washington, D.C
6. **www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalmanualBAM/default.htm.**
7. **Curry, A. S., J. G. Graf, and G. N. McEwen, Jr. (eds.).** 1993. CTFA Microbiology Guidelines. The Cosmetic, Toiletry and Fragrance Association, Washington, D.C.
8. **Murray, P.R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Yolken (eds.).** 1995. Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
9. **Mac Faddin, J. F.** 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol.1. Williams & Wilkins, Baltimore, MD.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.

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