PRODUCT SPECIFICATION SHEET

Potato Dextrose Agar (DM215)

Intended Use
Potato Dextrose Agar (DM215) is recommended for the isolation and enumeration of yeasts and moulds from dairy and other food products.

Product Summary and Explanation
Potato Dextrose Agar is recommended by the American Public Health Association for plate counts of yeasts and molds in the examination of foods and dairy products.[1,2] It is recommended in the USP for use in the performance of Microbial Limit Tests.[3] It is also used for the stimulation of sporulation (slide preparations), maintenance of stock cultures of certain dermatophytes and for differentiation of atypical varieties of dermatophytes by pigment production.[4]

Principles of the Procedure
Potato starch and dextrose support luxuriant growth of fungi. Lowering of the pH of the medium to approximately 3.5 with sterile tartaric acid achieves the inhibition of bacterial growth.
It is important, however, to avoid heating the medium after it has been acidified because this action results in the hydrolysis of the agar and impairs its ability to solidify.

Formula / Liter

Ingredients	Gms / Litre
Potato infusion from	200.00
Dextrose	20.00
Agar	15.00
Final pH: 5.6 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 39 grams of the medium in one liter of purified water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 15 lbs pressure (121°C) for 15 minutes.
4. Mix well before dispensing.
5. In specific work, when pH 3.5 is required, acidify the medium with sterile 10% tartaric acid.
6. The amount of acid required for 100 ml. of sterile, cooled medium is approximately 1 ml.
7. Do not heat the medium after addition of the acid.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light amber coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 3.9% Solution	pH 5.6 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected 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.

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	Growth	Observed Lot Value (CFU)	Recovery	Incubation Time & Temp.

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1.	*Candida albicans ATCC 10231*	50-100	good-luxuriant	35-100	>=70 %	20 -25 °C 2 -3 days
2.	**Aspergillus brasiliensis ATCC 16404*	50-100	good-luxuriant	25-100	>=70 %	20 -25 °C 5 -7 days
3.	*Saccharomyces cerevisiae ATCC 9763*	50-100	good-luxuriant	35-100	>=70 %	30 -35 °C 2 -5 days
4.	*Rhodotorula mucilaginosa DSM 70403*	--	good-luxuriant	--	--	20 -25 °C 3 -5 days
5.	*Geotrichum candidum DSM 1240*	--	good-luxuriant	--	--	25 -30 °C 3 -5 days
6.	*Penicillium communae ATCC 10248*	--	fair -good	--	--	25 -30 °C 3 -5 days
7.	*Trichophyton ajelloi ATCC 28454*	--	fair -good	--	--	25 -30 °C 3 -5 days

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

Candida albicans ATCC 10231

Aspergillus brasiliensis ATCC 16404

Test Procedure
Refer to appropriate references for a complete discussion on the isolation and identification of yeast and molds.

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 the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration
Refer to the 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.

Limitations of the Procedure
1. Heating Potato Dextrose Agar after acidifying hydrolyzes the agar and may destroy the solidifying properties.
2. Potato Dextrose Agar is not a differential medium.
3. Perform microscopic examination and biochemical tests to identify isolates to genus and species if necessary.
4. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging
Product Name: Potato Dextrose Agar
Product Code : DM215
Available Pack sizes : 100gm / 500gm

References

1. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
2. Marshall, (ed.). 1993. Standard methods for the examination of dairy products, 16th ed. American Public Health Association, Washington, D.C.
3. United States Pharmacopeial Convention, Inc. 2001. The United States pharmacopeia 25/The national formulary 20 – 2002. United States Pharmacopeial Convention, Inc., Rockville, Md.
4. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.
5. Murray, Baron, Pfaller, Tenover and Yolken (ed.). 1999. Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C.
6. Isenberg (ed.). 1992. Clinical microbiology procedures handbook, vol. 1. American Society for Microbiology, Washington, D.C.
7. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.
8. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
9. The United States Pharmacopoeia, 2009, The United States Pharmacopoeial Convention. Rockville, MD.
10. British Pharmacopoeia, 2009, The Stationery office British Pharmacopoeia
11. European Pharmacopoeia, 2009, European Dept. for the quality of Medicines.
12. Japanese Pharmacopoeia, 2008.

Further Information

For further information please contact your local MICROMASTER Representative.

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