PRODUCT SPECIFICATION SHEET

Yeast Morphology Agar (DM722)

Intended Use
Yeast Morphology Agar (DM722) is recommended for classification of yeast, based on their colonial characteristics and cell morphology.

Product Summary and Explanation
Yeasts are unicellular, eukaryotic, budding cells that are generally round-to-oval or elongate in shape. They multiply principally by the production of blastoconidia (buds).[1] Yeast colonies are moist and creamy or wrinkled to membranous in texture.[1] Yeasts are considered opportunistic pathogens.[1] Yeasts are ubiquitous in our environment, being found on fruits, vegetables and plant materials. Yeast Morphology Agar is formulated as described by Wickerham.[2-6] The medium is a highly enriched medium, which provides all the growth factors required by yeasts. Yeast Morphology Agar is employed to study the cellular morphology, formation of mycelia and pseudomycelia and other cultural characteristics.

Principles of the Procedure
Yeast Morphology Agar contains all essential nutrients and vitamins necessary for the cultivation of yeasts, including a source of carbohydrate.

Formula / Liter

Ingredients	Gms / Liter
Ammonium sulphate	3.50
Asparagine	1.50
Dextrose	10.00
L-Histidine hydrochloride	0.01
DL-Methionine	0.02
DL-Tryptophan	0.02
Biotin	0.000002
Calcium pantothenate	0.0004
Folic acid	0.000002
Inositol	0.002
Niacin	0.0004
p-Amino benzoic acid (PABA)	0.0002
Pyridoxine hydrochloride	0.0004
Riboflavin (Vitamin B2)	0.0002
Thiamine hydrochloride	0.0004
Boric acid	0.0005
Copper sulphate	0.00004
Potassium iodide	0.0001
Ferric chloride	0.0002
Manganese sulphate	0.0004
Sodium molybdate	0.0002
Zinc sulphate	0.0004
Monopotassium phosphate	1.00
Magnesium sulphate	0.50

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Sodium chloride	0.10
Calcium chloride	0.10
Agar	18.00
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.

1. Directions

2. Suspend 34.75 grams of the medium in one liter of distilled water.
3. Heat to boiling, to dissolve the medium completely.
4. Pour into sterile Petri plates to a depth of 1.5 mm.
5. Allow the media surface to dry for one or two days at room temperature.
6. Use light inoculum and make a single streak and two point inoculations near the other sides of the plate.
7. Mix well and pour into sterile petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light amber coloured slightly opalescent gel forms in Petri plates.
Reaction of 3.47% solution	pH 5.6 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.8% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at 25- 30°C for 6-7 days.

Sr. No.	Organisms	Results to be achieved	
		Growth	Morphology
1.	*Candida albicans ATCC 10231*	good-luxuriant	hyphae
2.	*Kloeckera apiculata ATCC 9774*	good-luxuriant	-
3.	*Saccharomyces uvarumATCC 9080*	good-luxuriant	-

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

Test Procedure

1. Dolmans technique is used to inoculate the medium plates. Smear a single line at one end of the plate and in two separate points at the opposite end using a light inoculum from an actively growing culture.
2. Place two sterile slides, one on the central section of the smear and one on one of the two-punctiform inocula.
3. Incubate for 72-96 hours, after incubation take off the growth of the point inoculations and the smear without the slide and observe the morphology of the vegetative cells under a microscope.
4. Also observe the zone underlying the slides for the formation of mycelium or pseudomycelium under the microscope.
5. Observe the colonial morphology.

Results

1. Using the high-dry objective, observe for hyphae of filamentous yeasts.
2. Refer appropriate references and specific test procedures for interpretation of results.

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Storage
Store the sealed bottle containing the dehydrated medium at 2 - 8°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. Yeasts grown on a rich medium may carry a reserve of nitrogen in the form of protein. Possible errors due to this reserve are eliminated by making two serial transfers in the complete medium.
2. When the first transfer is seven days old, the culture is shaken and one loopful is transferred to a second tube of the complete medium containing the same source of nitrogen.
3. If a positive test is obtained when the second culture is seven days old, the organism being tested assimilates this particular nitrogen source.
4. Consult appropriate texts for detailed information and recommended procedures.

Packaging
Product Name : Yeast Morphology Agar
Product Code : DM722
Available Pack sizes : 100gm

References

1. Warren and Hazen. 1995. *In* Murray, Baron, Pfaller, Tenover and Yolken (ed.). Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
2. Wickerham. 1951. Taxonomy of yeasts. Technical bulletin No. 1029, U. S. Dept Agriculture, Washington, D.C.
3. Wickerham and Rettger. 1939. J. Tropical Med. Hyg. *42*:174.
4. Wickerham. 1946. J. Bacteriol. *52*:293.
5. Wickerham. 1943. J. Bacteriol. *46*:501.
6. Wickerham and Burton. 1948. J. Bacteriol. *56*:363.

Further Information
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