Yeast Morphology Agar

M138

Yeast Morphology Agar is recommended for use in the classification of yeasts on the basis of their colonial characteristics and cell morphology.

Composition**

Ingredients	Gms / Litre
Ammonium sulphate	3.500
Asparagine	1.500
Dextrose	10.000
L-Histidine hydrochloride	0.010
DL-Methionine	0.020
DL-Tryptophan	0.020
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	1.000
Magnesium sulphate	0.500
Sodium chloride	0.100
Calcium chloride	0.100
Agar	18.000
Final pH (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 34.75 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. Pour into sterile Petri plates to a depth of 1.5 mm. Allow the media surface to dry for one or two days at room temperature. Use light inoculum and make a single streak and two point inoculations near the other sides of the plate.

Principle And Interpretation

Yeasts are ubiquitous in our environment, being found on fruits, vegetables and plant materials. Yeasts are unicellular, eukaryotic, budding cells that are generally round to oval or, less often, elongated or irregular in shape. Colonies of yeasts have a smooth to wrinkled, creamy appearance (1). Yeast Morphology Agar is formulated as described by Wickerham (2-5). 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. Various media constituents provide carbon, nitrogen, amino acids, vitamins and trace salts required by yeasts. The medium plates are inoculated by the Dolmans technique (1). Using a light inoculum from an actively growing culture, smear a single

line at one end of the plate and in two separate points at the opposite end. Place two sterile slides, one on the central section of the smear and one on one of the two-punctiform inocula. After an incubation of 72-96 hours, 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. Also observe the zone underlying the slides for the formation of mycelium or pseudomycelium under the microscope. Observe the colonial morphology.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.8% Agar gel.

Colour and Clarity of prepared medium
Light amber coloured slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 3.47% w/v aqueous solution at 25°C. pH : 5.6±0.2

pH
5.40-5.80

Cultural Response
M138: Cultural characteristics observed after an incubation at 25- 30°C for 6-7 days.

Organism	Growth	Morphology
Candida albicans ATCC 10231	good	hyphae
Kloeckera apiculata ATCC 9774	good	-
Saccharomyces uvarum ATCC 9080	good	-

Storage and Shelf Life

Store dehydrated powder and the prepared medium at 2 - 8°C in tightly closed container. Use before expiry date on the label.

Reference

1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), Manual of Clinical Microbiology, 8th Ed., 2003, American Society for Microbiology, Washington, D.C.
2. Wickerham L. J., 1951, U.S. Dept. Agric. Tech. Bull. No. 1029.
3. Wickerham L. J., 1939, J. Tropical Med. Hyg. 42:176.
4. Wickerham L. J., 1948, J. Bacteriol., 56:363.
5. Wickerham L. J., 1943, J. Bacteriol., 46:501.

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