PRODUCT SPECIFICATION SHEET

Yeast Nitrogen Base Agar (Twin Pack) (DM1012)

Intended Use

Yeast Nitrogen Base Agar (Twin Pack) (DM1012) is recommended for assessing carbohydrate utilizing ability of yeasts using carbohydrate disc method.

Product Summary and Explanation

Yeasts are unicellular, eukaryotic, budding cells that are generally round-to-oval or elongate in shape and they multiply principally by the production of blastoconidia (buds).[1] Yeast colonies are moist and creamy or glabrous to membranous in texture. 1 Yeasts are considered opportunistic pathogens.[1] Yeast Nitrogen Base Agar (Twin Pack) is a modification of Yeast Nitrogen Base formulated by Wickerham and Burton.[2,3] Using the carbohydrate disc method, Yeast Nitrogen Base Agar is used for assessing carbohydrate utilizing ability of yeasts. Beijerinck,[4] described the original auxanographic technique, which employs small amounts of dry carbohydrates placed on the surface of a heavily seeded synthetic agar medium. Assimilation of sugar as a carbon source by the yeast is indicated as growth around the carbohydrate. The pattern of utilized carbohydrates is an auxanogram. An alternative technique includes using filter paper disc impregnated with carbohydrate and used instead of dry carbohydrate. The medium may also be used for susceptibility testing with antifungal drugs when defined medium is needed with addition of a carbon source.[5,6]

Principles of the Procedure

Yeast Nitrogen Base Agar contains all essential nutrients and vitamins necessary for the cultivation of yeasts except a source of carbohydrate.

Formula / Liter

Ingredients	Gms / Liter
Part A	--
Agar	40.00
Part B	--
Ammonium sulphate	5.00
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 benzioc 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
Sodium chloride	0.10

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Calcium chloride	0.10
Final pH: 5.4 ± 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

Part A :

1. Suspend 40 grams in 900 ml distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 12 minutes / validated cycle.
4. Cool to 50°C and aseptically admix with sterile part B solution.
5. Add 3 ml of sterile 5% tartaric acid for 100 ml of the mixture just before pouring the plates.

Part B :

1. For best results, Part B should be prepared in 10x strength. Suspend 6.75 grams in 100 ml distilled water.
2. Warm if necessary to dissolve the medium completely.
3. Sterilize the medium by filtration. Keep refrigerated until use.

Quality Control Specifications

Dehydrated Appearance	Part A : White to cream homogeneous free flowing powder Part B : White to cream homogeneous free flowing powder
Prepared Medium	Light yellow coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 0.67% solution of Part B	pH 5.4 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 4.0% 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 (Plain)	Growth with dextrose
1.	*Kloeckera apiculata ATCC 9774*	none-poor	good-luxuriant
2.	*Saccharomyces cerevisiae ATCC 9763*	none-poor	good-luxuriant
3.	*Saccharomyces uvarum ATCC 28098*	none-poor	good-luxuriant

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

Test Procedure

Refer appropriate references for standard test procedures.

Results

Refer appropriate references and procedures for interpretation of results.

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.

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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. 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.
2. If a positive test is obtained when the second culture is seven days old, the organism being tested assimilates this particular nitrogen source.
3. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
4. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Yeast Nitrogen Base Agar (Twin Pack)
Product Code : DM1012
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 L. J., 1951, U.S. Dept. Agri. Tech. Bull No. 1029.
3. Wickerham L. J. and Burton K. A., 1948, J. Bacteriol., 56:363.
4. Beijerinck M. W., 1989, Arch. Neerl. Sc. Exact. Nat. 23 : 367.
5. Lennette E. H., (Eds.), 1980, Manual of Clinical Microbiology, 3rd Ed., ASM, Washigton D. C.
6. Padhye A. A., 1981, Diagnostic Procedures for Bacterial, Mycotic and Parasitic Infections, 6th Ed., APHA, Washington, D.C.

Further Information

For further information please contact your local MICROMASTER Representative.

MICROMASTER LABORATORIES PRIVATE LIMITED
Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) – 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.
Email: micromaster@micromasterlab.com
sales@micromasterlab.com

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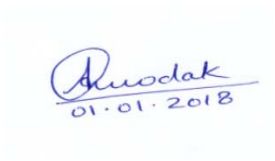
Prepared By	Checked By	Approved By
		
Microbiologist	Head Quality Control	Head Quality Assurance

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