Yeast Nitrogen Base Agar (Twin pack)

M677

Yeast Nitrogen Base Agar is used for assessing carbohydrate utilizing ability of yeasts using carbohydrate disc method.

Composition**

Ingredients	Gms / Litre
Part A	-
Agar	40.000
Part B	-
Ammonium sulphate	5.000
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 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	1.000
Magnesium sulphate	0.500
Sodium chloride	0.100
Calcium chloride	0.100
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Part A : Suspend 40 grams in 900 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 12 minutes. Cool to 50°C and aseptically admix with sterile part B solution. Add 3 ml of sterile 5% tartaric acid for 100 ml of the mixture just before pouring the plates.

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

Principle And Interpretation

Yeast Nitrogen Base Agar (Twin Pack) is a modification of Yeast Nitrogen Base formulated by Wickerham and Burton (1, 2). Yeast Nitrogen Base Agar is used for assessing carbohydrate utilizing ability of yeasts using the carbohydrate disc method.

The original auxanographic technique, described by Beijerinck (5), employs small amounts of dry carbohydrates placed on the surface of a heavily seeded synthetic agar medium. Growth around the carbohydrate indicates that the sugar is assimilated as a carbon source by the yeast. The pattern of utilized carbohydrates is an auxanogram. Filter paper disc impregnated with carbohydrate and used instead of dry carbohydrate is an alternative technique.

With added carbon source, the medium may also be used for susceptibility testing with antifungal drugs when defined medium is needed (3, 4).

Quality Control

Appearance
Part A : White to cream homogeneous free flowing powder Part B : White to cream homogeneous free flowing powder

Gelling
Firm, comparable with 4.0% Agar gel.

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

Reaction
Reaction of 0.67% w/v aqueous solution of Part B at 25°C. pH : 5.4±0.2

pH
5.20-5.60

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

Cultural Response

Organism	Growth (Plain)	Growth with dextrose
Cultural Response		
Kloeckera apiculata ATCC 9774	none-poor	good
Saccharomyces cerevisiae ATCC 9763	none-poor	good
Saccharomyces uvarum ATCC 28098	none-poor	good

Storage and Shelf Life

Store dehydrated medium and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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

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