

YEAST NITROGEN BASE
TM 1119

For classification of yeasts on the basis of their ability to assimilate carbon compounds

Composition

Ingredients	Gms/Ltr.
Ammonium sulphate	5.00
L-Histidine HCl	0.010
DL - Methionine	0.020
DL- Tryptophan	0.020
Inositol	0.002
Biotin	0.000002
Calcium pantothenate	0.0004
Folic acid	0.000002
Niacin	0.0004
p-Amino benzoic acid	0.0002
Pyridoxine HCl	0.0004
Riboflavin (Vitamin B2)	0.0002
Thiamine HCl	0.0004
Boric acid	0.0005
Copper sulphate	0.00004
Potassium iodide	0.0001
Ferric chloride	0.0002
Magnesium sulphate	0.0004
Sodium molybdate	0.0002
Zinc sulphate	0.0004
Monopotassium phosphate	1.000
Sodium chloride	0.100
Calcium chloride	0.100

* Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 6.70gms and add 5gm of dextrose (or galactose) in 100ml of distilled water to make a 10X solution. Mix thoroughly with vigorous shaking. Slightly warm the medium. **DO NOT AUTOCLAVE.** Filter sterilizes the medium and dispenses by pipetting 0.5ml into 4.5ml of sterile distilled water for use.

Appearance: Colourless (Brilliant pale yellow at 10X), clear solution

pH (at 25°C): 5.4 ± 0.2

Principle

YEAST NITROGEN BASE is used for classification of yeasts on the basis of their ability to assimilate carbon compounds. Yeasts are unicellular, eukaryotic, budding cells that are generally round-to-oval or elongate in shape, they multiply principally by the production of blasto conidia (buds). Yeast colonies are

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moist and creamy or glabrous to membranous in texture. Yeast Nitrogen Base media have been prepared according to the formulas of Wickerham and Burkholder. This medium contains all the essential vitamins and inorganic salts needed to cultivate yeast, except for the amino acids, the nitrogen and carbohydrate source. Sodium chloride and Calcium chloride maintain the osmotic environment of the medium. The addition of a carbon source, i.e., dextrose or galactose, is required. Draw lines with India ink on a paper and hold the paper against the Yeast Nitrogen Base tubes. If lines are not seen or appear diffused through the culture, the test is considered positive and if lines are distinguishable, test is negative.

Interpretation

Cultural characteristics observed after inoculating (10^3 - 10^4 CFU / ml), on incubation at $25 \pm 30^\circ\text{C}$ for 6 - 7 days.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth without supplement	Growth with Dextrose
<i>Kloeckera apiculata</i>	9774	10^3 - 10^4	None to poor	Good
<i>Saccharomyces cerevisiae</i>	9080	10^3 - 10^4	None to poor	Good

References

1. Lennette E. H., Balows, Hausler and Truant, (Eds.), Manual of Clinical Microbiology, 3rd Ed., ASM, Washington D.C. (1980).
2. Warren, N. G. and K. C. Hazen. Candida, Cryptococcus, and other yeasts of medical importance. In P. R. Murray, E. J. Baron, M. A. Pfaller, F. D. Tenover, and R. H. Tenover (eds). Manual of clinical microbiology, 7th ed. American Society for Microbiology, Washington, D.C. (1999).
3. Wickerham, U.S. Dept. Agri. Tech. Bull No. 1029. (1951).
4. Shadomy, S., A. Espinel Ingroff. 1980. Susceptibility Testing with Antifungal Drugs, p. 647-653. In E. H. Lennette, A. Balows, W. J. Hausler, Jr., and J.P. Truant, Manual of Clinical Microbiology, 3rd Ed., American Society for Microbiology, Washington, D.C. U.S. Dept. Agric. Tech. Bull. No. 1029. (1951).