Vitamin Free Yeast Base

M208

Vitamin Free Yeast Base is used for studying vitamin requirements of yeasts.

Composition**

Ingredients	Gms / Litre
Ammonium sulphate	5.000
Dextrose	10.000
L-Histidine monohydrochloride	0.010
DL-Methionine	0.020
DL-Tryptophan	0.020
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)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.75 grams in 100 ml distilled water containing the desired vitamins. If necessary, warm slightly to effect complete solution. This is 10X medium. Sterilize by filtration and store in refrigerator. For use dilute 0.5 ml of this with 5 ml of sterile distilled water. Shake thoroughly before inoculation.

Principle And Interpretation

Yeasts are unicellular, eukaryotic, budding cells that are generally round, oval or elongated in shape and are considered as opportunistic pathogens (1). They multiply principally by the production of blastoconidia (buds) (1). Yeast colonies are moist and creamy or glabrous to membranous in texture. Moulds are microscopic, plant-like organisms, composed of long filaments called hyphae. Both are widely distributed in soil, water and air. Cultivation of yeasts and moulds becomes important in fermentation studies where they are generally used as starter cultures. Vitamin Free Yeast Base is recommended for classification of yeasts based on vitamin requirement. It contains all essential nutrients and necessary inorganic salts for the cultivation of yeasts (2). Use a highly diluted inoculum and incubate the tubes for 7 days at 25-28°C, since with the inoculum, vitamins may also be transported. Yeast themselves are also able to carry traces of vitamins, and therefore a second inoculation in Vitamin Free Yeast Base must be performed following the same procedure as for the first inoculation. Then incubate at 25-28°C for 7 days.

L-Histidine monohydrochloride, DL-methionine and DL-tryptophan are the amino acid sources. Dextrose is an energy source. Sodium chloride, magnesium sulphate and ammonium sulphate are sources of ions that simulate metabolism. Monopotassium phosphate buffers the medium. The trace elements provide inorganic salts for the cultivation of yeasts.

Quality Control

Appearance
White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium
Colourless clear solution.

Reaction
Reaction of 1.67% w/v aqueous solution at 25°C. pH : 5.6±0.2

pH
5.40-5.80

Cultural Response
M208: Cultural characteristics observed after an incubation at 25-30°C for 6-7 days.

Organism	Growth (Plain)	Growth (w/ trace elements & vitamins)
Cultural Response		
Kloeckera apiculata ATCC 9774	none-poor	good-luxuriant
Saccharomyces uvarum ATCC 28098	none-poor	good-luxuriant

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 E. J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
2. Wickerham L. J., 1951, Taxonomy of yeasts, Technical bulletin No. 1029, U.S. Dept. Agriculture.

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