MGYP Agar with Copper

M1846

Intended Use:

A selective medium recommneded for isolation and cultivation of wild yeast in the brewing industry.

Composition**

Ingredients	Gms / Litre
Yeast extract	3.000
Malt extract	3.000
Gelatin peptone	5.000
Dextrose(Glucose)	10.000
Cupric sulphate	0.400
Agar	20.000
Final pH (at 25°C)	6.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 41.4 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Yeasts are unicellular fungi. Yeasts grow well in culture media containing dextrose.They are easily differentiated from most bacteria because of their relatively larger size and morphological features (4). MYGP Agar with copper is used for the isolation and cultivation of wild yeasts in the brewing industry. Copper in the medium inhibits the larger yeasts. Malt extract and yeast extract provide necessary nutrients to support the growth of yeasts. Dextrose(Glucose) is the suitable carbohydrate for the growth of yeasts (1). The acidic pH in the medium inhibits the growth of bacteria and favours the growth of yeasts. This medium is used for testing the quality of beers in Brewery industry.

Type of specimen

Brewing sample

Specimen Collection and Handling

For Brewing samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards. (4).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Further Biochemical tests must be carried out for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Yellow to brownish yellow homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium
Brownish orange coloured opalescent to hazy gel with precipitate forms in Petri plates.

Reaction
Reaction of 4.14% w/v aqueous solution at 25°C. pH : 6.2±0.2

pH
6.00-6.40

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 48 hours.

Organism	Inoculum	Growth	Recovery
Lactobacillus fermentum ATCC 9338	50-100	luxuriant	>=50%
Candida albicans ATCC 10231 (00054*)	50-100	luxuriant	>=50%
Saccharomyces cerevisiae ATCC 9763 (00058*)	50-100	luxuriant	>=50%
Aspergillus brasiliensis ATCC 16404 (00053*)	50-100	luxuriant	>=50%
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	0%

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. American Society of Brewing Chemists. Report of subcommittee on Copper Media for Wild Yeast Detection.1992 Journal 50:153.

2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

4. Pelczar M.J.Jr., Reid R.D., Chan E. C.S,1977, Microbiology, 4th ed, Tata ,,McGraw Hill Publishing company limited, New Delhi.

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