Preservative Resistant Yeast Agar Base (PRY)

M1914

Intended Use:

Recommended for cultivation of yeasts.

Composition**

Ingredients	Gms / Litre
Yeast extract	10.000
Mannitol	10.000
Agar	15.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 35 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 and add 10 ml glacial acetic acid and immediately dispense as desired,because the medium cannot be reheated.

Principle And Interpretation

Preservative Resistant Yeast Medium is used to selectively isolate and enumerate *Zygosaccharomyces* species. It is used for the detection of preservative resistant yeast in water and beverages. The medium prevents growth of other yeasts such as *Saccharomyces cerevisiae* that are tolerant to lower levels of commonly used food preservatives. Spoilage resulting from growth of the yeast *Zygosaccharomyces* is widespread, which has caused significant economic losses to the food industry. Within this genus, *Z. bailii* is one of the most troublesome species due to its exceptional tolerance to various stressful conditions (4). Also *Z. lentus* is a significant new osmophilic, preservative-resistant spoilage yeast, capable of growth at low temperature (7).

Yeast extract in the medium provides the essential nutrients, while mannitol acts as source of fermentable carbohydrate.

Type of specimen

Food; Water samples.

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,6,8).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards(2).
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. Some species may show poor growth due to nutritional variations.

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

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates

Cultural Response

Cultural Response was observed at 20-25°C for 2-7 day's. Recovery rate is considered as 100% for fungus growth on Sabouraud Dextrose Agar

Organism	Growth
Candida albicans ATCC 10231 (00054*)	luxuriant
Zygosaccharomyces bailii	luxuriant
Saccharomyces cerevisiae ATCC 9763 (00058*)	good

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 (3,5).

Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. James, S.A., Stratford, M., 2003. Spoilage yeasts with emphasis on the genus *Zygosaccharomyces*. In: Boekhout, T. and Robert, V. (Eds), Yeasts in food - Beneficial and detrimental aspects. Woodhead Publishing Ltd and CRC Press, Cambridge,pp. 171-191.
5. 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.
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Steels, H., James, S. A., Roberts, I. N. and Stratford, M. (1999). Journal of Applied Microbiology, 87: 520–527. doi: 10.1046/j.1365-2672.1999.00844.
8. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

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