Technical Information

Yeast Malt Agar (YM Agar) (ISP Medium No. 2)

Product Code: DM 1424

Application: - Yeast Malt Agar (YM Agar) is recommended for the isolation and cultivation of yeasts, moulds and other aciduric microorganisms.

Composition**

Ingredients	Gms / Litre
Peptone	5.000
Yeast extract	3.000
Malt extract	3.000
Dextrose	10.000
Agar	20.000
Final pH (at 25°C)	6.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Yeast Malt Agar is formulated as per Wickerham (1, 2) for isolation and cultivation of yeasts, moulds and other aciduric microorganisms. Fungistatic materials such as sodium propionate and diphenyl are added to YM Agar to eliminate moulds and thus permits enumeration of yeasts from mixed population. YM Agar is also recommended by APHA (3).

Wickerham suggested the use of Yeast Malt Broth (DM 1425) as an enrichment medium for yeasts by adding a layer of sterile paraffin oil (about 1 cm) on the surface of inoculated broth. After the growth occurs it should be streaked on YM Agar to obtain isolated colonies of fermentative species. To isolate fermentative as well as oxidative strains, acidified YM Broth (DM 1425) is placed on a rotary shaker for 1 or 2 days which favors development of yeast cells while the sporulation of moulds is prevented and yeasts can be isolated by streaking on YM Agar.

Peptone acts as a source of carbon, nitrogen, long chain amino acids and other essential nutrients. Yeast extract supplies vitamin B complex nutrients and other growth factors. Malt extract serves as an additional source of carbon. Dextrose acts as carbohydrate and energy source. To increase the selectivity, the media can be acidified by the addition of sterile10% Lactic Acid or by addition of 10% HCl, tartaric acid or 10% citric acid. Alternatively antibiotics (penicillin 20U/ml or streptomycin to a final concentration of 40mcg/ml) can be added. Acidified agar medium should not be reheated.

Type of specimen

Clinical samples - Blood ; Food and dairy samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (3).

Warning and Precautions :

In Vitro diagnostic Use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :
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.

Methodology

Suspend 20.5 grams of dehydrated powder media in 490 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. For preparing selective media acidify the media up to pH 3.0 to 4.0 by aseptically adding 1 vial of 10% Lactic Acid Solution (MS 2095). DO NOT HEAT the media after addition of acid. Shake well before pour into sterile Petri plates.

Quality Control

Appearance
Cream to beige homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity
Light amber coloured clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.1% w/v aqueous solution at 25°C. pH : 6.2±0.2

pH Range
6.00-6.40

Cultural Response
DM 1424: Cultural characteristics observed after an incubation at 25-30°C for 40-72 hours.

Organism	Inoculum (CFU)	Growth at pH 3.4	Growth at pH 6.2	Recovery
Aspergillus brasiliensis ATCC	50-100	good-luxuriant	good-luxuriant	>=50%
Candida albicans ATCC	50-100	good-luxuriant	good-luxuriant	>=50%
Escherichia coli ATCC	50-100	inhibited	good-luxuriant	>=50%
Lactobacillus casei ATCC 9595	50-100	poor	good-luxuriant	>=50%
Lactobacillus leichmannii ATCC 4797	50-100	poor	good-luxuriant	>=50%
Saccharomyces cerevisiae #6%%	50-100	good-luxuriant	good-luxuriant	>=50%

Storage and Shelf Life

Dried Media: 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 inorder 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. Use before expiry date on the label. Product performance is best if used within stated expiry period.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

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 (4, 5).

Further Reading

1. Wickerham L. J., 1951, U.S. Dept. Agric. Tech. Bull. No.1029.
2. Wickerham L. J., 1939, J. Tropical Med. Hyg., 42:176.
3. 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.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
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