Actidione Agar w/ Actidione®

M400

Intended Use:

Recommended for the enumeration of bacteria in specimens containing large numbers of yeasts and moulds

Composition**

Ingredients	Gms / Litre
Tryptone	5.000
Yeast extract	4.000
Dextrose (Glucose)	50.000
Potassium dihydrogen phosphate	0.550
Potassium chloride	0.425
Calcium chloride anhydrous	0.125
Magnesium sulphate	0.125
Ferric chloride	0.0025
Manganese sulphate	0.0025
Bromo cresol green	0.022
Actidione (Cycloheximide)	0.010
Agar	15.000
Final pH (at 25°C)	5.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 75.26 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 before pouring into sterile Petri plates.

Principle And Interpretation

Actidione Agar was formulated by Green and Gray (1), which may be used for microbiological investigation during brewing and baking. Actidione (Cycloheximide) at a concentration of 0.001% permits the growth of bacteria and inhibits the growth of most yeasts and moulds except dermatophytes. This medium may be used for the estimation of bacterial contamination of pitching yeast. Addition of penicillin or streptomycin may be used for selective isolation of dermatophytes. Tryptone acts as source of nitrogen while yeast extract serves as a rich reservoir of vitamins. Dextrose in high amount along with mineral salts at acidic pH favour sugar fermentation.

Type of specimen

Food samples - Bakery products

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (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.This medium is general purpose medium and may not support the growth of fastidious organisms.

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
Light yellow to light green homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Greenish blue clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 7.53% w/v aqueous solution at 25°C. pH : 5.5±0.2

pH
5.30-5.70

Cultural Response
Cultural characteristics observed after an incubation at 30ºC for 40-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Escherichia coli ATCC 25922 (00013*)	50-100	good-luxuriant	>=50%
Lactobacillus fermentum ATCC 9338	50-100	good-luxuriant	>=50%
Proteus mirabilis ATCC 25933	50-100	good-luxuriant	>=50%
Saccharomyces cerevisiae ATCC 9763 (00058*)	>=10^4	inhibited	0%
Saccharomyces uvarum ATCC 28098	>=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 2-8°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. Green, S.R. and Gray, P.P. 1950, Wallerstein Lab. Communication 13,357.
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. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

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