

PRODUCT SPECIFICATION SHEET

Actidione Agar w/ Actidione (DM006)

Intended Use

Actidione Agar w/ Actidione (DM006) is recommended for the enumeration of bacteria in specimens containing large numbers of yeasts and moulds.

Product Summary and Explanation

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 but inhibits the growth of most yeasts and moulds except dermatophytes. Media containing this antibiotic are invaluable for the enumeration and detection of bacteria in specimens containing large numbers of yeasts and moulds. This medium may be used for the estimation of bacterial contamination of pitching yeast. Actidione Agar with added penicillin and streptomycin is also valuable as a selective medium for the isolation of dermatophytes. Green and Gray employed their medium at two different reactions, pH 5.5 and pH 6.5, the latter may be attained by adding approximately 16ml of sterile 1.5% sodium carbonate to each litre of molten medium.

Principles of the Procedure

Actidione Agar contains casein enzymic hydrolysate which provides nitrogen, carbon, and amino acids essential growth nutrients. Yeast extract is a rich source of vitamin B complex. Dextrose in high amount along with mineral salts at acidic pH favour sugar fermentation. Monopotassium phosphates buffer the medium. Potassium Chloride, calcium chloride, and ferric chloride are essential ions and help to maintain osmotic balance. Magnesium Sulfate provides divalent cations and sulfate. Bromo cresol green acts as an indicator dye. Actidione permits the growth of bacteria but inhibits the growth of most yeasts and moulds except dermatophytes.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	5.00
Yeast extract	4.00
Dextrose	50.00
Monopotassium phosphate	0.55
Potassium chloride	0.425
Calcium chloride	0.125
Magnesium sulphate	0.125
Ferric chloride	0.0025
Magnesium sulphate	0.0025
Bromo cresol green	0.022
Actidione (Cycloheximide)	0.01
Agar	15.00
Final pH: 5.5 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.
3. Actidione (Cycloheximide) is very toxic. Avoid skin contact or aerosol formation and inhalation.

Directions

1. Suspend 75.26 grams of the medium in one liter of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45°C. Mix well before pouring into sterile Petri plates.

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Quality Control Specifications

Dehydrated Appearance	Light yellow to light green homogeneous free flowing powder
Prepared Medium	Greenish blue clear to slightly opalescent gel forms in Petri plates
Reaction of 7.53% solution	pH 5.5 \pm 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at 30°C for 40-48 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	\geq 50%
2.	<i>Lactobacillus fermentum</i> ATCC 9338	50-100	good-luxuriant	\geq 50%
3.	<i>Proteus mirabilis</i> ATCC 25933	50-100	good-luxuriant	\geq 50%
4.	<i>Saccharomyces cerevisiae</i> ATCC 9763	$\geq 10^3$	inhibited	0%
5.	<i>Saccharomyces uvarum</i> ATCC 28098	$\geq 10^3$	inhibited	0%

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and standard test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

- For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
- Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Actidione Agar w/ Actidione

Product Code : DM006

Available Pack sizes : 500gm

References

- Green, S.R. and Gray, P.P. 1950, Wallerstein Lab. Communication 13, 357. Further Information

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For further information please contact your local MICROMASTER Representative.



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