



PRODUCT SPECIFICATION SHEET

Yeast Glucose Chloramphenicol Agar (DM472)

Intended Use

A (DM472) is recommended for selective enumeration of *yeast* and *moulds* in milk and milk products.

Product Summary and Explanation

Traditionally used acidified agar method for enumeration of yeasts and moulds in dairy products is now being replaced by antibiotic agar methods which has become the method of choice. Use of antibiotics rather than acid for suppressing bacteria results in improved recovery of injured (acid-sensitive) fungal cells, which are sensitive to an acid environment, and in less interference from precipitated food particles during the counting.⁽¹⁻⁵⁾ Yeast Glucose Chloramphenicol Agar is recommended by APHA and the International Dairy Federation.^(6,7) Yeast Glucose Chloramphenicol Agar is a nutrient medium that inhibits the growth of organisms other than yeasts and moulds due to the presence of chloramphenicol. When a sample contains predominantly yeasts and/or injured yeasts, the use of Yeast Extract Glucose Chloramphenicol Agar may offer some advantage.⁽⁸⁾

Principles of the Procedure

Yeast Extract Glucose Chloramphenicol Agar contains yeast extract which provides basic nutrients essential for growth of micro organisms. Glucose is a carbon and energy source. Chloramphenicol inhibits bacterial growth.

Formula / Liter

Ingredients	Gms / Liter
Yeast extract	5.00
Glucose	20.00
Chloramphenicol	0.10
Agar	15.00
Final pH: 6.6 ± 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.

Directions

1. Suspend 40.1 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. Mix well and pour into sterile petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light amber coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 4.0% solution	pH 6.6 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel





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Expected Cultural Response: Cultural characteristics observed after an i) Fungal-incubated at 25-30°C for 2-7 days ii) Bacteria-incubated at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Aspergillus brasiliensis</i> ATCC 16404	50-100	good-luxuriant	--
2.	<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant	>=50%
3.	<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%
4.	<i>Lactobacillus casei</i> ATCC 9595	>=10 ³	inhibited	0%
5.	<i>Staphylococcus aureus</i> ATCC 25923	>=10 ³	inhibited	0%
6.	<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	good-luxuriant	>=50%

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

Test Procedure

1. Prepare initial sample dilutions using 10 g or 10 mL of sample in 90 mL of diluent, as listed below:

Sr. No.	Sample 10 g or 10 mL	Diluent 90 mL	Preparation
1.	Milk, Liquid milk product	1/4-strength Ringer's solution	mix
2.	Dried Milk, Whey powder, Buttermilk powder, Lactose	1/4-strength Ringer's solution	shake at 47°C
3.	Casein	2% dipotassium phosphate solution	shake at 47°C
4.	Cheese	2% sodium citrate solution	shake at 47°C
5.	Butter, Edible ice	1/4-strength Ringer's solution	shake at 47°C
6.	Custard dessert, Fermented milk, Yogurt	1/4-strength Ringer's solution	shake

2. Add 10 mL from the initial dilution prepared above (#1) to 90 mL of 1/4-strength Ringer's solution. One millilitre (1 mL) of this dilution corresponds to 0.01 g/mL of sample.
3. Prepare further dilutions by adding 10 mL of the 0.01 g/mL dilution above (#2) to 90 mL of diluent.
4. Pipette 1 mL of each dilution into two Petri dishes.
5. Pour 10 mL of sterile molten agar (cooled to 45°C) into each dish. Mix thoroughly.
6. Incubate at 25°C for 4 days.

Results

After incubation at 25°C, colonies are counted and yeast colonies are distinguished from moulds by colony morphology. Refer appropriate references for standard procedures.⁽⁶⁾

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.





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Limitations of the Procedure

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

Packaging

Product Name : Yeast Glucose Chloramphenicol Agar

Product Code : DM472

Available Pack sizes : 100gm / 500gm

References

1. Beuchat L. R., 1979, J. Food Prot., 42:427-428.
2. Cooke W. B. and Brazis A. R., 1968, Mycopathol. Mycol. Appl., 35:281.
3. Koburger J. A., 1970, J. Milk Food Technol., 33:433-437.
4. Koburger J. A., 1973, J. Milk Food Technol., 36:434.
5. Overcast W. W., and Weakley D. J., 1969, J. Milk Food Technol., 32:442.
6. Marshall, (Ed), 1993, Standard Methods for Examination of Dairy Products, 16th Ed., American Public Health Association, Washington, D. C.
7. International Dairy Federation. Standard Method ISO/DIS 6611.
8. Frank and Yousef. 2004. *In* Frank and Wehr (ed.), Standard methods for the examination of dairy products, 17th ed. American Public Health Association, Washington, D.C.

Further Information

For further information please contact your local MICROMASTER Representative.

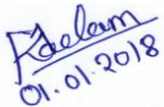
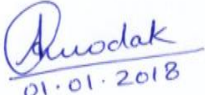



MICROMASTER LABORATORIES PRIVATE LIMITED

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Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall' , Thane (W) - 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.

Email: micromaster@micromasterlab.com
sales@micromasterlab.com

Prepared By	Checked By	Approved By
 01.01.2018	 01.01.2018	 01.01.2018
Microbiologist	Head Quality Control	Head Quality Assurance





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