PRODUCT SPECIFICATION SHEET

Dextrose Agar Base, Emmons (DM539)
(Sabouraud Dextrose Agar Base, Modified)

Intended Use

Dextrose Agar Base, Emmons (Sabouraud Dextrose Agar Base, Modified) (DM539) is recommended for selective cultivation of pathogenic fungi.

Product Summary and Explanation

Sabouraud Dextrose Agar is a modified medium by Carliers, based on the original formulation described by Sabouraud[1,2] for the cultivation of fungi, particularly dermatophytes. Sabouraud Dextrose Agar, Modified is the modification of Sabouraud medium[2] as described by Emmons.[3] Though, the low pH of this medium is favorable for the growth of fungi especially dermatophytes, some fungi are inhibited.[3,4] Emmons modified the original formulation by adjusting the pH close to neutral to increase the recovery of fungi and by reducing the dextrose content from 40 to 20 g/l.[5,6] The two base formulations offered differ in peptone content and amount of agar. Sabouraud Dextrose Agar, Modified is an excellent basal medium, and antibiotics and inhibitors may be added for the selective cultivation and isolation of various microorganisms.[7]

Principles of the Procedure

Peptone special is the source of nitrogenous growth factors. Dextrose provides as an energy source for the growth of microorganisms. The addition of antibiotics increases the selectivity of the medium. Chloramphenicol is inhibitory to a wide range of gram negative and gram positive bacteria, and cycloheximide is an antifungal agent that is active against saprophytic fungi and does not inhibit yeast or dermatophytes.

Formula / Liter

Ingredients	Gms / Liter
Dextrose	20.00
Peptone, special	10.00
Agar	17.00
Final pH: 7.0 ± 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. Avoid undue exposure to heat which encourages hydrolysis of components.

Directions

1. Suspend 47 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 45-50°C and aseptically add the rehydrated contents of 1 vial of CC Supplement (MS047).
5. Mix well before pouring in sterile Petri plates.

PRODUCT SPECIFICATION SHEET

Quality Control Specifications

Dehydrated Appearance	Cream to yellow colored, homogeneous, free flowing powder
Prepared Medium	Light amber coloured clear to slightly opalescent gel forms in Petri plates
Reaction of4.7% Solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.7% Agar gel

Expected Cultural Response: Cultural characteristics observed on Sabouraud Dextrose Agar Base, Modified with added C.C. Supplement (MS047) after an incubation at 25-30°C for 2-3 weeks.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth w/CC supplement	Recovery
1.	*Aspergillus brasiliensis ATCC 16404*	50 -100	none - poor	-
2.	*Candida albicans ATCC 10231*	50 -100	none-poor	<=10%
3.	*Escherichia coli ATCC 25922*	>=10^3	inhibited	0%
4.	*Saccharomyces cerevisiae ATCC 9763*	50-100	None-poor	<=10%
5.	*Trichophyton rubrum ATCC 28191*	50-100	good-luxuriant	-
6.	*Trichophyton mentagrophytes ATCC 9533*	50-100	good-luxuriant	-

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

Test Procedure

1. Use standard procedures to obtain isolated colonies from specimens.
2. For isolating fungi from potentially contaminated specimens, a selective medium should be inoculated along with the non-selective medium.
3. Incubate the plates at 25-30°C in an inverted position (agar side up) with increased humidity.
4. All cultures should be examined at least weekly for fungal growth.

Results

1. Count the number of colonies and consider the dilution factor (if test sample was diluted) to determine the yeast and/or mold counts per gram or milliliter of material.
2. Yeasts grow creamy to white colonies. Molds will grow as fuzzy colonies of various colors.
3. Biochemical tests and serological procedures should be performed to confirm findings.

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.

PRODUCT SPECIFICATION SHEET

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.
3. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
4. Antimicrobial agents incorporated into a medium to inhibit bacteria may also inhibit certain pathogenic fungi.

Packaging

Product Name : Sabouraud Dextrose Agar, Modified/ Dextrose Agar Base, Emmons

Product Code : DM539

Available Pack sizes : 100gm / 500gm

References

1. Carlier G. I. M., 1984, Brit. J. Derm. Syph., 60:61
2. Sabouraud R., 1892, Ann. Dermatol. Syphil. 3 : 1061.
3. Emmons C., Binford C, Uty J. and Kwon-Chung, 1970, Medical Mycology, 2nd Edi, Philadelphia: Lea and febiger.
4. Ajello, George, Kaplan and Kaufman, 1963. CDC laboratory manual for medical mycology. PNS Publication No.994 U.S Government Printing office, Washington, D.C
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
7. Lorian (ed.) 1996. Antibiotics in laboratory medicine, 4th ed. Williams and Wilkins, Baltimore, Md.

Further Information

For further information please contact your local MICROMASTER Representative.

MICROMASTER LABORATORIES PRIVATE LIMITED
Unit 38/39, Kalpataru Industrial Estate,
Near Runwal Estate, Behind 'R-Mall' ,Ghodbunder Raod,
Thane (W) – 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, Cell: 9320126789.
Email: micromaster@micromasterlab.com
sales@micromasterlab.com

DM539PSS,QAD/FR/024,Rev.00/01.01.2018

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

PRODUCT SPECIFICATION SHEET

Disclaimer :

All Products conform exclusively to the information contained in this and other related Micromaster Publications. Users must ensure that the product(s) is appropriate for their application, prior to use. The information published in this publication is based on research and development work carried out in our laboratory and is to the best of our knowledge true and accurate. Micromaster Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are intended for laboratory, diagnostic, research or further manufacturing use only and not for human or animal or therapeutic use, unless otherwise specified. Statements included herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.