

Technical Information

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

Product Code: DM 1286

Application: Sabouraud Dextrose Agar, Modified (Dextrose Agar, Emmons) is used in the conventional manner for cultivation of fungi.

Composition**

Ingredients	Gms / Litre
Dextrose	20.000
Peptone, special	10.000
Agar	17.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Sabouraud Dextrose Agar is Carliers modifications ⁽¹⁾ of the formulation described by Sabouraud ⁽²⁾ for the cultivation of fungi, particularly those associated with skin infections. Sabouraud Dextrose Agar Base, Modified is the modification of Sabouraud medium ⁽²⁾ as described by Emmons ⁽³⁾. It has reduced dextrose content and a neutral pH ⁽⁴⁾. Though the low pH of this medium is favorable for the growth of fungi especially dermatophytes, some fungi are inhibited ^(3, 5). 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 ⁽⁶⁾. Peptone special is the source of nitrogenous growth factors. Dextrose provides as an energy source. The addition of antibiotics increases the selectivity of the medium ^(3, 6). 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 ⁽⁷⁾.

Methodology

Suspend 47 grams of powder media in 1000 ml distilled water. Shake well and heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add the rehydrated contents of 1 vial of CC Supplement (MS2035). Mix well before pouring in sterile Petri plates. Note: Avoid undue exposure to heat which encourages hydrolysis of components.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.7% agar gel.

Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.7% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH Range 6.8-7.2

Cultural Response/Characteristics

DM1286: Cultural characteristics observed with added CC Supplement, Modified (MS2035) after an incubation at 25-30°C for 2-3 weeks.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Inoculum (CFU)	Growth W/CC	Recovery
* <i>Aspergillus brasiliensis</i> ATCC 16404	50-100	None-poor	-
<i>Candida albicans</i> ATCC 10231	50-100	None-poor	<=10%
<i>Escherichia coli</i> ATCC 25922	>=10 ³	Inhibited	0%
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	none-poor	<=10%
<i>Trichophyton rubrum</i> ATCC 28191	50-100	luxuriant	--
<i>Trichophyton mentagrophytes</i> ATCC 9533	50-100	luxuriant	--

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

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 Ed, Philadelphia: Lea and febiger.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore
5. Ajello, George, Kaplan and Kaufman, 1963. CDC laboratory manual for medical mycology. PNS Publication No.994 U.S Government Printing office, Washington, D.C
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (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.

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