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Sabouraud Glucose Agar with Chloramphenicol (Agar Medium C) (DM609E)

Intended Use

Agar Medium C / Sabouraud-Glucose Agar with Chloramphenicol (DM609E) is recommended for selective cultivation and isolation of yeasts and moulds in compliance with European Pharmacopoeia, 2008.

Product Summary and Explanation

Sabouraud-Glucose Agar Medium with Chloramphenicol is cited as Medium C by European Pharmacopoeia [1] and recommended for cultivation of yeasts and moulds. It is recommended for the cultivation of fungi, particularly dermatophytes, based on the original formulation of Dextrose Agar described by Sabouraud.[2] The high dextrose concentration and low pH of 5.6 of this medium is favorable for the growth of fungi especially dermatophytes, and slightly inhibitory to contaminating bacteria in clinical specimen.[3, 4] Sabouraud Dextrose Agar is used for determining the microbial content of cosmetics,[5] and in the mycological evaluation of food.[6, 7] This medium can also be used, clinically to aid in the diagnosis of yeast and fungal infections.[8, 9] The medium is often used with antibiotics such as Chloramphenicol[10] for the isolation of pathogenic fungi from materials containing large numbers of fungi or bacteria.

Principles of the Procedure

Peptones (from meat and casein) present in the medium provide nitrogen, vitamins, minerals, amino acids and growth factors. Glucose monohydrate provides an energy source for the growth of microorganisms. The low pH of 5.6, favours fungal growth and inhibits contaminating bacteria from clinical specimens. The acid reaction of the final medium is inhibitory to a large number of bacteria making it particularly useful for cultivating fungi and aciduric microorganisms. Chloramphenicol inhibits a wide range of Gram-positive and Gram-negative bacteria which makes the medium selective for fungi.

Formula / Liter

Ingredients	Gms / Liter
Peptones (meat and casein)	10.00
Glucose monohydrate	40.00
Chloramphenicol	0.05
Agar	15.00
Final pH: 5.6 ± 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 61.41 grams (the equivalent weight of dehydrated medium per litre) of the medium in one liter of distilled/purified water.
2. Heat if necessary, 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.

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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 6.5% Solution	pH : 5.6 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Growth Promotion Test	Growth Promotion was carried out in accordance with the harmonized method of EP, after an incubation at 20-25 °C for <=5 days. Recovery rate is considered as 100% for bacteria growth on Soybean Casein Digest Agar and fungus growth on Sabouraud Dextrose Agar.

Expected Cultural Response:

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	No. of organisms recovered	Recovery	Growth	Incubation time/ temp
1.	*Candida albicans ATCC 10231*	50 -100	25-100	>=50 %	Luxuriant (white colonies)	20-25°C/ <=5 days
2.	*Aspergillus brasiliensis ATCC 16404*	50 -100	25-100	>=50 %	Luxuriant	20-25°C/ <=5 days
3.	*Candida albicans ATCC 2091*	50 -100	25-100	>=50 %	Luxuriant	20-25°C/ 48-72 hrs
4.	*Saccharomyces cerevisiae ATCC 9763*	50-100	35-100	>=50 %	Luxuriant	20-25°C/ 48-72 hrs
5.	*Escherichia coli ATCC 25922*	>=10^3	0	0 %	inhibited	20-25°C/ <=5 days
6.	*Escherichia coli NCTC 9002*	>=10^3	0	0 %	inhibited	30-35°C/ 48-72 hrs
7.	*Escherichia coli ATCC 8739*	>=10^3	0	0 %	inhibited	20-25°C/ 48-72 hrs
8.	*Trichophyton rubrum ATCC 28191*	50 -100	--	--	good	20-25°C/ <=7 days
9.	*Lactobacillus casei ATCC 334*	>=10^3	0	0 %	inhibited	20-25°C/ <=5 days

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

Test Procedure

1. Refer to appropriate standard references for details on testing protocol to obtain isolated colonies.
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.

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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 - 8°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

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. Some fungi may be inhibited by the acidic pH of the medium.
4. Some pathogenic fungi may produce infective spores which are easily dispersed in air, so examination should be carried out in safety cabinet.

Packaging

Product Name : Sabouraud Glucose Agar with Chloramphenicol (Agar Medium C).
Product Code : DM609E
Available Pack sizes : 100gm / 500gm

References

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9. MacFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol.1. Williams & Wilkins,
   Baltimore, MD.
10. Ajello L., 1957, J. Chron. Dis., 5:545.

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Further Information

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DM609EPSS,QAD/FR/024,Rev.00/01.01.2018

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	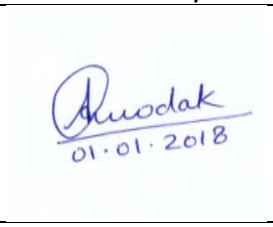	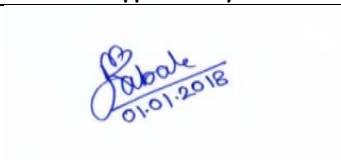
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