Sabouraud Dextrose Agar

Intended Use
Sabouraud Dextrose Agar is a general-purpose medium used for the cultivation of Yeasts, Moulds and Aciduric bacteria.

Summary
Sabouraud Dextrose Agar is Carlier's modification of the formulation described by Sabouraud for the cultivation of fungi, particularly those associated with skin infections. It is used in qualitative procedures for cultivation of pathogenic and non-pathogenic fungi, particularly dermatophytes. Carlier showed that this medium gives reliable results with *Microsporum audouinii, M. canis, Trichophyton mentagrophytes, T. flavum, T. rubrum* and *Candida albicans*. The fungi maintain their typical cultural appearance and thus may be readily identified according to the standard macroscopic characters described by Sabouraud. Sabouraud Dextrose Agar is recommended by the USP/EP/JP in Microbial Limit Tests for performing total yeast and mould count and is included in the Bacteriological Analytical Manual for food testing. It is also recommended by APHA for the examination of foods.
Sabouraud Dextrose Agar can be made inhibitory to most pathogenic fungi and bacteria by the addition of antibiotics. Gentamycin is an amino glycoside that inhibits the growth of Gram-negative bacteria. Chloramphenicol is inhibitory to a wide range of Gram-positive and Gram-negative bacteria; Cycloheximide is an antifungal agent that inhibits saprophytic fungi while allowing the growth of yeasts or dermatophytes. George *et al.,* aseptically added 0.5 g cycloheximide, 20000 units penicillin and 40000 units streptomycin to each liter of autoclaved, cooled medium. *Cryptococcus neoformans, Aspergillus fumigatus* and *Allescheria boydii* were found to be sensitive to cycloheximide; *Actinomyces bovis* and *Nocardia asteroids* were sensitive to penicillin and streptomycin. Hantshke used colistin, novobiocin and cycloheximide to isolate *Candida albicans*. Dolan used Gentamycin, Chloramphenicol and Cycloheximide for the selective isolation of pathogenic fungi.

Principle
Mixture of peptone and tryptone provides nitrogenous compounds, carbon and other growth factors. Dextrose is the carbohydrate source. The low pH of approximately 5.6 is favorable for the growth of fungi, especially dermatophytes and is slightly inhibitory to contaminating bacteria. Various antibiotics can be added to this medium for bacterial inhibition as well as to make it selective for the isolation of pathogenic fungi from material containing large number of other fungi or bacteria.

Formula*

Ingredients	**g/L**
Peptone	5.0
Tryptone	5.0
Dextrose	40.0
Agar	15.0
Final pH (at 25°C)	5.6 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Clinical samples - Skin scarping; Food samples; Pharmaceutical samples.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 65.00 g of the powder in 1000 mL purified / distilled water mix thoroughly.
2. Boil with frequent agitation to dissolve the powder completely. Avoid overheating the agar as it could cause a softer medium.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogeneous, coarse free flowing powder.
Prepared Appearance: Light amber coloured, clear to slightly opalescent gel forms in petridishes.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 20°C-25°C for ≤ 5 days for fungi.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism at 20°C-25°C.

Organism (ATCC)	**Growth**
Candida albicans 3147 (10231)	Good
Aspergillus brasiliensis WLRI 034(120) (16404)	Good

Note: For good growth - Growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Carlier G. I. M., 1948, Brit. J. Derm. Syph., 60:61.
2. Sabouraud K., 1892, Ann. Dermatol. Syphilol, 3:1061
3. The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD.
4. European Pharmacopoeia, 2011, European Dept. for the quality of Medicines.
5. Japanese Pharmacopoeia, 2008.
6. British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia.
7. Bacteriological Analytical Manual, 8th Edition, Revision A, 1998. AOAC, Washington D.C.
8. Murray PR, Baren EJ, Jorgensen JH, Pfaller MA, Yolken RH (editors) 2003, Manual of Clinical, Microbiology, 8th ed., ASM, Washington, D.C.
9. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201190030100	Dehydrated Culture Media	100 g
201190030500	Dehydrated Culture Media	500 g
201190032500	Dehydrated Culture Media	2.5 k
203190500100	Bottle Media	100 mL
203190500500	Bottle media	500 mL
203190510012	Ready Prepared Slant	12 Slants
205190890100	Ready Prepared Plate (90 mm)	100 Plates
205191030200	Ready Prepared Plate (55 mm)	200 Plates