

Instructions for Use

Sabouraud Dextrose Agar

Bottled Media

REF - BM0342

1. Intended Use

BM0342 Sabouraud Dextrose Agar is a selective medium for the isolation of yeasts and moulds and is particularly suitable for use in sterility testing.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Enzymatic digest of casein	5.0
Enzymatic digest of animal tissue	5.0
Glucose	40.0
Agar	15.0

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Clinical laboratories can use this growth medium to diagnose and further speciate fungal infections, allowing medical professionals to provide appropriate treatment with antifungal medications. Prepared tubed slants primarily are intended for use with pure cultures for maintenance or other purposes. This medium is also employed to determine microbial contamination in food, cosmetics, and clinical specimens.

Sabouraud Dextrose Agar is a modification of a medium originally described by Sabouraud ⁽¹⁾. The formulation conforms to European, United States and Japanese Pharmacopeia requirements ^(2 3 4). This medium complies with ISO 11133:2014 for microbiological examination of food, animal feed and water, where it is described as the main reference medium to carry out quantitative testing on culture media intended for fungi ⁽⁵⁾.

4. Principle

The medium contains tryptone and meat peptone to supply the nitrogen and vitamins needed for growth. The high concentration of glucose (dextrose) is included as an energy and carbon source and, in tandem with the acidic pH (5.6), facilitates growth of fungi, especially dermatophytes, while providing inhibitory activity against bacteria ⁽⁶⁾. The yeasts develop creamy to white colonies. The fungi will grow as filamentous colonies of different colours.

5. Physical Characteristics

	Appearance and Colour	pH
Medium	Straw firm gel	5.6 ± 0.2

6. Materials Provided

BM0342 Sabouraud Dextrose Agar can be provided in the formats detailed below. Each bottle is ink-jet printed or labelled with (abbreviated) product name, product code, lot number and expiry date.

Product Code	Product Format
BM0342-A500-500	6 x 500ml in 500ml Sirop Bottles
BM0342-J300-200	6 x 200ml in 300ml Sirop Bottles
BM0342-J500-400	6 x 400ml in 500ml Sirop Bottles
BM0342-J500-500	6 x 500ml in 500ml Sirop Bottles

7. Materials Needed but not Provided

Standard microbiological laboratory materials e.g., sterile loops or swabs, collection containers, incubators, media for isolation and quality control organisms.

8. Specimens

BM0342 Sabouraud Dextrose Agar is suitable for the testing of the following specimens:

- Prepared tubed slants primarily are intended for use with pure cultures for maintenance or other purposes.
- Food and Environmental: products for human consumption, animal feed and environmental samples

Sampling and transport equipment must be used in accordance with the end user's suppliers' recommendations. Refer to appropriate standard method or local guidance on sample collection and subsequent processing.

9. Test Procedures and Interpretation of results

Boil Agar until it has entirely melted. Mix, and allow to cool to approximately 45°C. If not using a Pour-Plate method, pour plates or slants and allow to set.

Based on sample type and information provided, check to see if the specimen needs to be pre-enriched prior to inoculation to the prepared medium.

Pour Plate:

For solid samples, prepare a homogenised suspension using a ratio of 1:9 of sample to Maximum Recovery Diluent (E&O BM0760). With homogenised and liquid specimens, add 1ml into an empty dish, overlay with the medium, rotate the dish gently to mix, and allow to solidify completely. Incubate at 20-25°C aerobically for up to 5 days.

Prepared Slants:

BM0342 can be inoculated by thoroughly streak the surface of the medium in a fishtail motion from the bottom up with a swab or loop. Incubation times will vary, from approximately 2 days for the growth of yeast colonies, to 2-4 weeks for growth of dermatophytes or dimorphic fungi. Indeed, the incubation time required to acquire fungal growth is one diagnostic indicator used to identify or confirm fungal species. Keep the container cap slightly loose to allow the exchange of gases and moisture as most of the dermatophytes and fungi are obligate aerobes.

Food and Environmental Specimens:

For solid samples, prepare a homogenised suspension using a ratio of 1:9 of sample to Maximum Recovery Diluent (E&O BM0760). With homogenised and liquid specimens, media should be inoculated with 0.5ml of the specimen and incubated at 20-25°C aerobically for up to 5 days.

After incubation, examine agar for colonies (typical colony appearance outlined in Quality Control table below). Perform further biochemical, serological, or mass spectroscopy testing to confirm identity of presumptive positive isolates. Refer to relevant local guidelines.

10. Quality Control

Organism	Incubation	Result (Specificity)
<i>A. brasiliensis</i> (NCPF 2275)	20-25°C aerobically for 72 hours	Growth: White colonies with pale yellow underside and hyphae
<i>C. albicans</i> (NCPF 3179)	20-25°C aerobically for 48 hours	Growth: White colonies

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

11. Performance

To fully verify BM0342 Sabouraud Dextrose Agar performance, samples were tested to assess colony morphology and recovery level (where an acceptable range is $\geq 70\%$ and $\leq 120\%$) compared to a non-selective reference medium. Samples were inoculated with 30-150cfu and incubated at 20-25°C aerobically for the times indicated in the Quality Control table above. All samples grew and showed good recovery and the correct morphology of the required test organisms: *Aspergillus brasiliensis* (NCPF 2275) and *Candida albicans* (NCPF 3179). Therefore, it can be concluded that BM0342 Sabouraud Dextrose Agar, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

12. Limitations of the Media

- Due to variation in nutritional requirements, some strains may grow poorly on this medium.
- Some of the pathogenic fungi may produce infective spores which are easily dispersed into the laboratory. Such organisms should be examined only within a protective cabinet.
- Growth of yeasts, fungi and dermatophytes may provide a presumptive identification, but additional biochemical, mass spectrometry or molecular tests may be required to confirm the identity of isolated organisms.

13. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to E&O Bottled Media Material Safety Data Sheet.

14. Storage conditions and Shelf life

Store BM0342 in the original bottle with the lid tightly closed at between 15 and 30°C. Kept under these conditions it may be used up to date of expiry shown on product label.

Dispose of in accordance with local and national authority requirements. Do not use media if it is contaminated, discoloured or out of date. Additionally, do not use medium if it has been stored inappropriately or the packaging has been damaged.

15. References

1. Sabouraud, R. (1892) Contribution a l'étude de la trichophytie humaine. Etude clinique, microscopique et bacteriologique sur la pluralité des trichophytons de l'homme. Annual Dermatology Syphilis, 3, 1061-1087.
2. Council of Europe (2019) European Pharmacopoeia. 10th ed., Strasbourg: Council of Europe.
3. United States Pharmacopeial Convention (2019) The United States Pharmacopeia USP42, The National Formulary NF37. Rockville, MD: United States Pharmacopeial Convention.
4. The Ministry of Health, Labour and Welfare (2021) The Japanese Pharmacopoeia. 18th ed. Tokyo: Yakuji Nippo Limited.
5. International Organization for Standardization (2014) 11133:2014 Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media. Geneva, ISO.
6. Ali, S., Fradi, A. and Al-araji, A. (2017) Effect of some physical factors on growth of five fungal species. Eur. J. Acad. Res., 2, 1069-1078.

Version History*

001 21/06/24 - New Document Created

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.



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TABLE OF APPLICABLE SYMBOLS

IFU/BM0342 REV. 001

 REF Catalogue number	 LOT Batch code		 Manufacturer	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult Instructions for Use	 Keep away from direct light	 Store in a dry place