

Sabouraud Dextrose Agar (i23164)

Used in qualitative procedures for cultivation of pathogenic and non-pathogenic fungi, particularly dermatophytes.

Industry: Final product Quality Control / Clinical / Pharmaceutical/Veterinary / General cultivation / Food

Principles & Uses

Sabouraud Dextrose Agar (SDA) is a versatile medium designed for cultivating yeasts and molds and conducting absence tests for *Candida albicans*. Its unique formulation, which includes a high concentration of dextrose and a low pH, creates an environment conducive to the growth of yeasts and molds. This medium not only promotes their growth but also encourages the formation of spores and pigments. Importantly, Sabouraud Dextrose Agar effectively inhibits bacterial growth.

Fungi, among the earliest microorganisms recognized due to their visible fruiting structures like mushrooms, can be categorized into yeasts and molds. Dermatophytes are responsible for fungal diseases affecting the skin, hair, and mucous membranes. When isolating fungi, it's essential to select a medium that supports fungal growth while limiting bacterial proliferation.

Sabouraud Dextrose Agar, a Carliers' formulation, is an ideal choice. It aligns with international standards and is commonly used in pharmaceutical, food, and cosmetic industries for microbial limit tests. The components of this medium, such as peptones and Dextrose, provide the necessary nutrients for fungal growth while maintaining a low pH to suppress bacterial contaminants.

Safety precautions are recommended, especially when dealing with potentially airborne infective fungal spores. If dealing with heavily contaminated samples, inhibitory agents can be added to curb bacterial growth. Any white colonies observed could indicate the presence of *Candida albicans*. Total yeast and mold

counts are determined using this medium, with bacterial colonies included if found. If bacterial counts exceed acceptable levels, antibiotics can be added to the medium. The European Pharmacopoeia recognizes the utility of Sabouraud Dextrose Agar for various microbiological tests.

Composition (gr/L)

Pancreatic digest of Casein 5, Peptic digest of Animal Tissue 5, Dextrose 40, Agar 15.

Final pH at 25°C 5.6 ± 0.2

Preparation from dehydrated Powder

Suspend 65 g of the medium in one litre of purified water. Mix thoroughly. Autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous.

Prepared Appearance: Light to medium amber, slightly opalescent.

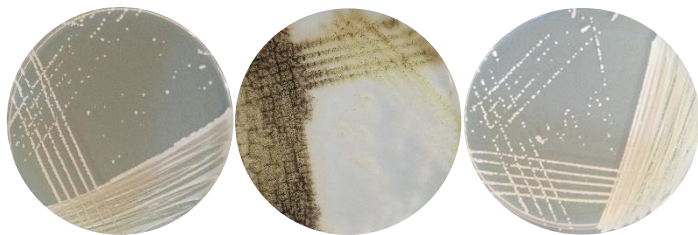
Reaction of 6.5% Solution at 25°C: pH 5.6 ± 0.2

Cultural Response

Prepare the medium per label directions. Inoculate and incubate at 30± 2°C for 18-48 hours, or up to 7 days for Trichophyton. Incubate (*) cultures at 20-25°C for up to 5 days. Incubate (**) culture at 30-35°C for 48 hours.

Organism (ATCC*)	Recovery
<i>Saccharomyces cerevisiae</i> (9763)	Good
<i>Aspergillus brasiliensis</i> (<i>niger</i>)* (16404)	Good
<i>Candida albicans</i> * (10231)	Good
<i>Candida albicans</i> ** (10231)	Good

*ATCC is a registered trade mark of the American Type Culture Collection.



S. cerevisiae (left), *A. niger* (middle), *C. albicans* (right). The background has been darkened to enhance colony visibility.

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.