

Potato Dextrose Agar (i23145)

For the cultivation, isolation and enumeration of yeasts and molds from foodstuffs and other materials.

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

Principles & Uses

Potato Dextrose Agar (PDA) is a versatile medium known for promoting the growth of yeasts and molds. It contains a combination of carbohydrates and potato infusion, a blend initially developed by Beever and Bollard in 1970. This unique composition fosters the proliferation of fungal microorganisms while concurrently creating an environment that partially inhibits the growth of accompanying bacteria. To optimize its use for fungal counts, the pH can be adjusted to around 3.5. Fungi cultured on PDA exhibit their typical morphology, aiding in identification.

PDA finds its application in the cultivation, isolation, and enumeration of yeasts and molds in various materials, particularly foodstuffs. The medium aligns with the recommendations of respected bodies such as the American Public Health Association and the United States Pharmacopeia, ensuring its suitability for food testing. The infusion of potatoes and dextrose serves as a rich nutritional base, supporting robust fungal growth. The addition of agar enhances sporulation. However, it's crucial to avoid heating the medium post-acidification to prevent agar hydrolysis. PDA can be adapted by incorporating acids or antibiotics to inhibit bacterial growth.

Composition (gr/L)

Potato Infusion 4, Dextrose 20, Agar 15.

Final pH at 25°C 5.6 ± 0.2

Preparation from dehydrated Powder

Suspend 39 g of the powder in 1 Liter of purified water.

Mix thoroughly. Autoclave at 121°C for 15 minutes.

NOTE: If the pH has to be adjusted to 3.5, add approx.

14 ml of a sterile 10 % tartaric acid solution/litre at a temperature of 45-50 °C.

Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous (may contain small dark particles).

Prepared Appearance: Light amber, slightly opalescent.

Reaction of 3.9% Solution at 25°C: pH 5.6 ± 0.2

Cultural Response

Inoculate and incubate at 25-30°C for 18-48 hours (up to 7 days for *T. mentagrophytes*). For *Aspergillus brasiliensis*, incubate at 20-25°C for 5 days.

Organism (ATCC*)	Recovery
<i>Candida albicans</i> (10231)	Good
<i>Saccharomyces cerevisiae</i> (9763)	Good
<i>Trichophyton mentagrophytes</i> (9533)	None to poor
<i>Aspergillus brasiliensis</i> (<i>niger</i>) (16404)	Good

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



C. albicans (right). *A. niger* (left).

Storage

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