

Potato Dextrose Agar

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

This culture medium complies with the recommendations of the American Public Health Association for food (1992) and the European Pharmacopeia 5.6 and the United States Pharmacopeia 29.

Mode of Action

Carbohydrate and potato infusion (BEEVER and BOLLARD 1970) promote the growth of yeasts and moulds while the low pH value partially inhibits the growth of the accompanying bacterial flora. If the medium is to be used for fungal counts, the pH should be adjusted to approximately 3.5. Fungi grow on this medium to develop typical morphology.

Typical Composition (g/litre)

Potato infusion 4.0 (infusion from 200 g potatoes); D(+)-glucose 20.0; agar-agar 15.0.

Preparation

Suspend 39 g/litre, autoclave (15 min at 121 °C).

pH: 5.6 ± 0.2 at 25 °C.

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.

The plates are clear and yellowish-brown.

w After the tartaric acid is added, do not reliquefy.

Experimental Procedure and Evaluation

Inoculate by the pour-plate method or by spreading the sample on the surface of the culture medium.

Incubation: up to 5 days at 28 °C aerobically.

Experimental procedure depends on the purpose for which the medium is used.

Literature

BEEVER, R.E., a. BOLLARD, E.G.: The nature of the stimulation of fungal growth by potato extract. ñ J. Gen. Microbiol., 60; 273-279 (1970).

American Public Health Association: Compendium of methods for the microbiological examination of foods. 3rd ed., 1992.

European Pharmacopeia 5.6, Chapter 2.6.13 B and Chapter 2.6.12 (Harmonized Method) (2006).

United States Pharmacopeia 29-NF 24, Chapter <61> and Chapter <62> (2006).

Ordering Information

Product	Merck Cat. No.	Pack size
Potato Dextrose Agar	1.10130.0500	500 g
L(+)-Tartaric acid	1.00804.0250	250 g



Aspergillus niger ATCC 16404



Saccharomyces cerevisiae ATCC 9080

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Quality control

Test strains	Growth
<i>Geotrichum candidum</i> DSMZ 1240	good / very good
<i>Aspergillus niger</i> ATCC 16404	good / very good
<i>Penicillium commune</i> ATCC 10428	medium / good
<i>Trichophyton ajelloi</i> ATCC 28454	medium / good

Quality control (spiral plating method)

Test strains	Inoculum [CFU]	Recovery (%)
<i>Candida albicans</i> ATCC 10231	10-100	s 70
<i>Saccharomyces cerevisiae</i> ATCC 9763	10-100	s 70
<i>Saccharomyces cerevisiae</i> ATCC 9080	10-100	s 70
<i>Rhodotorula mucilaginosa</i> DSMZ 70403	10-100	s 70
<i>Aspergillus niger</i> ATCC 16404	10-100	s 50