Product :
POTATO DEXTROSE AGAR (Eur. Pharm.)

Also known as

PDA

Specification

Medium for the detection and enumeration of yeast and moulds in food, dairy products and other samples, acc. to the Pharm. Harm.

Formula * in g/L

Potato peptone 4.0 (1)
Glucose 20.0
Agar 15.0

Final pH 5.6 ±0.2 at 25 °C

(1) Equivalent to 200 g infusion from potatoes

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 39 g of powder in 1 L of distilled water and bring to the boil. Distribute into suitable containers and sterilize in the autoclave at 121°C for 15 minutes. Do not overheat.

Description

Potato Dextrose Agar is a weakly selective medium for fungi due to its high sugar content and acidic pH. Pigment production and aerial mycelium development is enhanced by the potato peptone, especially in *Fusarium*, *Aspergillus* and *Penicillium* species.
The selectivity can be increased by adding antibiotics such as chloramphenicol or tetracycline, or by simply decreasing the pH to an acidic level. At pH 3,5 bacterial growth is almost totally inhibited without a significant effect on fungi. This acidification can be obtained by the aseptic addition of an adequate amount of organic acid to the medium after sterilisation: 10-15 mL/L of a 10% sterile solution of tartaric or lactic acid is usually sufficient.
After its acidification the medium should not be overheated or reheated since it can hydrolyse the agar causing a pontential loss in the solidification property of the medium.
The formulation has been adopted by the ISO 16212 standard that recommends adding chloramphenicol to the medium to increase the selectivity.

Technique

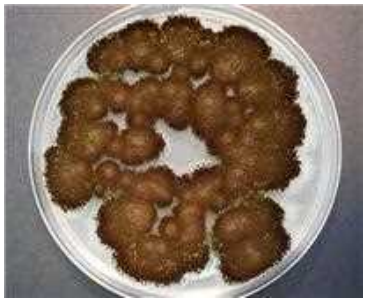
Distribute the diluted samples into sterile Petri plates. Pour molten agar cooled to 45-50 °C in the plates and gently mix to homogenise the mixture. After solidification, plates are incubated for 5-7 days à 20-25 °C to permit the complete development of the fungal colonies.
Proceed according to normative or methodology of the laboratory.

Quality control

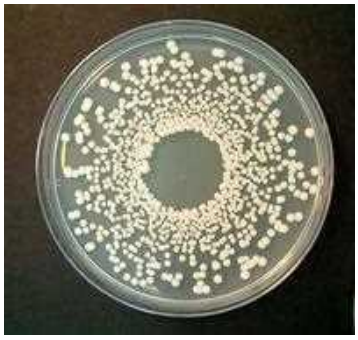
Incubation temperature: 20-25 °C **Incubation time:** 72 h -5 days

Inoculum: Practical range 100 ±20 CFU. min. 50 CFU (productivity), according to ISO 11133:2014/Amd 1:2018 and Ph. Eur. Spiral Plate Method.

Microorganism	Growth	Remarks
Candida albicans ATCC® 10231	Productivity > 0.70	-
Saccharomyces cerevisiae ATCC® 9763	Productivity > 0.70	-
Aspergillus brasiliensis ATCC® 16404	Productivity > 0.70	Black sporulation at 5 days



Aspergillus brasiliensis ATCC 16404



Candida albicans ATCC 10231

References

· ATLAS R.M. (1995) Handbook of Microbiological Media for the Examination of Food. CRC Press. Boca Raton. Florida. USA.
· EUROPEAN PHARMACOPOEIA 10.0 (2020) 10th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· ISO 16212 Standard (2017) Cosmetics - Microbiology - Enumeration of yeast and mould.
· RICHARDSON, G.H. (1985) Standard Methods for the examination of dairy products 15th ed. APHA. Washington.
· USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.
· VANDERZANT, C. & D.F. SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of foods. 3rd ed. APHA. Washington.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).