Specification

Solid medium for the cultivation and enumeration of yeast and fungi, according to the Pharmacopeial Harmonized Methods and ISO standards.

Formula * in g/L

D(+)-Glucose 40.00
Meat peptone 5.00
Casein peptone 5.00
Agar 15.00

Final pH 5.6 ±0.2 at 25 °C

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

Directions

Dissolve 65 g in 1 l of purified water and bring to the boil with frequent stirring. Distribute into final containers and sterilise by autoclaving at 121°C for 15 minutes. Do not overheat the medium as its acidic pH may partially hydrolyze the agar.

Description

Sabouraud Dextrose Agar is a modification of the classical Sabouraud medium for the cultivation of fungi. This new formula helps to maintain the morphology of fungi, providing a reliable medium for both cultivation and differentiation.
Its selectivity is due to a low pH and a high glucose concentration, which together with incubation at a relatively lower temperature (25-30°C) favours the growth of fungi while discouraging that of bacteria.
The mixture of peptones employed has been selected to provide the fungi with all their nitrogen requirements.
Since Sabouraud medium's low pH can partially hydrolyze the agar, only the required amount should be prepared and it should not be re-melted. Any overheating will also diminish its gelling capacity.
Should a higher selectivity be required, a variety of inhibitors or selective agents may be added after sterilization, while the medium is still in the molten form. It can also be made differential by adding suitable indicator agents. Some of the inhibitory and differential mixtures most commonly used are listed below:

- Penicillin: at 20.000 u/L, for bacterial inhibition.
- Penicillin and Streptomycin: at 20.000 u/L and 40.000 u/L used for the isolation of *Histoplasma* in dogs.
- Penicillin and Neomycin: at 20.000 u/L and 40 mg/L for bacterial inhibition.
- Streptomycin and Chloramphenicol: at 40 mg/L and 500 mg/L, for the isolation of *Trichophyton verrucosum*.
- Colistin, Novobiocin and Cycloheximide: at 8 mg/L, 0.1 mg/L and 30 mg/L, for the isolation of *Candida albicans*.
- Potassium Tellurite: at 150 mg/L, used for the primary isolation of fungi from scales and scabs.
- Cupric Sulfate, Crystal Violet and Brilliant Green: at 500 mg/L, 2 mg/L and 5 mg/L each, for bacterial inhibition.
- Triphenyltetrazolium chloride (TTC): at 100 mg/L, is the basis of a Pagano-Levin medium for the isolation of *Candida albicans*, which remains non-pigmented, among other pink coloured pathogenic yeasts.

Quality control

Incubation temperature: 20-25°C **Incubation time:** 48 h-5 days

Inoculum: Practicalrange 50-100 CFU (productivity), according to ISO 11133:2014 and Ph. Eur. Spiral Plate Method.

Microorganism	Growth	Remarks
Aspergillus brasiliensis ATCC® 16404	Productivity > 0.70	Growth & black sporulation at 4 days
Saccharomyces cerevisiae ATCC® 9763	Productivity > 0.70	-
Candida albicans ATCC® 10231	Productivity > 0.70	-

References

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· GEORGE, L.K., AJELLO, L. & PAPAGEORGE, C. (1954) Use of Cycloheximide in the Selective Isolation of Fungi Pathogenic to Man. J. Lab. Clin. Med, 44 (422-428).
· HANTSCHKE, D. (1968) Mykosen, 11, (769-778).
. ISO 11133:2014. 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.
· PAGANO, J. LEVIN, J.D. and TREJO, W. (1957-58) Diagnostic Medium for Differentiation of Species of Candida. Antibiotics Annual,137-143.
· SABOURAUD, R. (1910) Les Teignes. Masson, Paris.
· USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.

Storage

Keep tightly closed, away from light, in a dry place (4-30 °C).