Malt Extract Agar (Blakeslee)

Art. No. 01-672

Specification

Solid medium to achieve typical growth and sporulation of fungi according to the methodology of CBS and IFU.

Formula* in g/L

Malt extract	20,00
Peptone	1,00
Dextrose	20,00
Agar	18,00

Final pH 5,3 ± 0,2 at 25°C

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

Directions

Suspend 59 g of powder in 1 L of distilled water and let it soak. Heat gently bringing it to the boil and distribute into suitable containers. Sterilize in the autoclave at 121°C for 15 minutes. **Avoid overheating or remelting** since the low pH of the medium may hydrolyse the agar.

Description

Blackeslee's Malt Extract Agar is a medium recommended for the morphological studies of the fungal mycelium and for sporulation and colour development needed in the specific identification of fungi. The International Federation of Fruit Juice Producers (IFU) uses this medium to count preservative-resistant yeasts, mainly *Zygosaccharomyces bailii* in fruit juices.

Technique

Prepare three sets of three Petri dishes and distribute 1 mL of the sample or dilution in each dish. Each set is poured with molten sterile medium, cooled to 45°C, to which an amount of 0 ppm, 400 ppm and 800 ppm benzoic acid (calculated as Na benzoate) has been added respectively before pouring into Petri dishes.

The inoculated plates are incubated at 27 ± 2°C for 5 days with the first count on the third day and the final count on the fifth day. The results are expressed as number of yeast per g of product and the concentration of preservative is reported with its respective count.

The generic and specific identification must be verified by microscopic examination of the hyphae, asci and cell shape. Some species require addition biochemical tests.

References

- ATLAS, R.M. & R.C. PARKS (1993) Handbook of microbiological media. CRC Press. London.
- DOWNMES, F.P. & K. ITO (2001) Compendium of methods for the microbiological examination of foods. 4th ed. APHA. Washington. USA.
- IFU Method No. 3 (1996) Yeast Count Procedure. III. Preservative-resistant Yeasts Count. Schweizerischer Obstverbant. Zug.
- ISO/TS 11133-1: 2009 Microbiology of food and animal feeding stuffs.- Guidelines on preparation and production of culture media. Part 1: General guidelines on quality assurance for the preparation of culture media in the laboratory.
- ISO/TS 11133-2: 2003 Corr. 2004 Microbiology of food and animal feeding stuffs.- Guidelines on preparation and production of culture media. Part 2: Practical guidelines on performance testing of culture media.
- SAMSON, R.A., E.S. HOEKSTRA, J.C. FRISVAD & O. FILTENBORG (2002) Introduction to food- and airborne fungi. 6th ed. Centraal Bureau voor Schimmelcultures (CBS) Utrech. Netherlands.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

Quality control

Incubation temperature: 25°C ± 2,0
Incubation time: 48 h - 5 days
Inoculum: 10-100 CFU. Spiral Plate Method (according to standard ISO/TR 11133-1:2000 and ISO/TS 11133-2 :2003)

Microorganism	Growth	Remarks
Zygosaccharomyces bailii	Productivity > 0.70	-
Saccharomyces cerevisiae ATCC 9763	Productivity > 0.70	-
Candida albicans ATCC 10231	Productivity > 0.70	-