

Bacillus Cereus Selective Agar Base (MYP)

Cat #: MM-M-N124

For the enumeration and isolation of Bacillus cereus in food, according to MOSSEL

Principles and uses:

Bacillus Cereus Selective Agar Base (MYP) (Mannitol-Egg Yolk- Polymyxin) has been adapted to meet the nutritional needs of Bacillus cereus, and was proposed by Mossel et al. (1967) for the enumeration, detection and isolation of Bacillus cereus in food. This bacterium is resistant to certain concentrations of Polymyxin, which inhibits the accompanying flora, and is effective mainly against Gram-negative organisms.

Beef Extract and Peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Mannitol is the fermentable carbohydrate providing carbon and energy, Bacillus cereus is mannitol-negative. The Mannitol content allows the identification of the accompanying mannitol positive flora, which are characterized by a yellow color. Phenol red is the pH indicator. Bacteriological agar is the solidifying agent. Bacillus cereus produces lecithinases. The insoluble degradation products from the lecithin present in egg yolk accumulate around the Bacillus cereus colonies, forming a white precipitate.

Formula per Litre:

Bacteriological agar	12g	Beef extract	1g
D-mannitol	10g	Meat peptone	10g
Phenol red	0.025g	Sodium chloride	10g

Preparation:

Suspend 43 grams of the medium in 900 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add 100 ml of Egg Yolk Emulsion (Cat. MMS-M-E152) and, if desired, aseptically add 2 vials of Bacillus Cereus Supplement (Cat. MMS-M-X021) reconstituted in 5 ml of sterile distilled water. Homogenize gently and dispense into appropriate containers.

Instructions for use:

Streak plate method:

- In a Petri dish, add 12-15 ml of molten agar and let it solidify.
- Inoculate 10 µl of the initial suspension and/or diluted sample.
- Extend the inoculum with a sterile loop on the agar surface.
- Incubate the plates in an inverted position at a temperature of 35±2°C for 24-40 hours.

Quality control:

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Pink Cream	Pink	7.1 ± 0.2

Technical Data Sheet

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Microbiological test:

Incubation conditions: Productivity quantitative (30±1°C / 24±3 - 44±4 h) / Specificity, Selectivity (30±1°C / 44±4 h).
Inoculation conditions: Productivity quantitative (100±20. Min. 50 CFU) / Selectivity (10⁴ - 10⁶ CFU) / Specificity (10³ - 10⁴ CFU).

Microorganisms	Specification	Characteristic reaction
Bacillus cereus ATCC 11778	Good growth (2) >50%	Pink colonies with precipitation halo
Escherichia coli ATCC 25922	Total inhibition (0)	
Bacillus subtilis ATCC 6633		Yellow colonies without precipitation halo

Storage:

Temperature: 2°C - 25°C

Bibliography:

Donovan, K.O.: A Selective Medium for Bacillus cereus in Milk, J. appl. Bact., 21; 100:103 (1958).
Mossel. D.A.A. Koopman, M.J. a Jongerius, E.: Enumeration of Bacillus cereus in Foods. Appl. Microbiol., 1 5; 650:653 (1967).

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