Bacillus Cereus Selective Agar Base (MYP)

Cat. 1124

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

Practical information

Aplications	Categories
Selective enumeration	Bacillus cereus
Detection	Bacillus cereus

Industry: Food

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 bacteria 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 in g/L

Bacteriological agar	12	Beef extract	1
D-mannitol	10	Meat peptone	10
Phenol red	0,025	Sodium chloride	10

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

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 ºC for 15 minutes. Cool to 45-50 ºC and aseptically add 100 ml of Egg Yolk Emulsion (Cat. 5152) and, if desired, aseptically add 2 vials of Bacillus Cereus Supplement (Cat. 6021). 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 ºC for 24-40 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)

w/o rests	Fine powder	Off-white or pink cream	Yellowish orange	7,1±0,2

Microbiological test

Incubation conditions: Productivity quantitative (30±1 ºC / 24±3 - 44±4 h) / Specificity, Selectivity (30±1 ºC / 44±4 h).
Inoculation conditions: Productivity quantitative (100±20. Min. 50 CFU) / Selectivity (10^4 - 10^6 CFU) / Specificity (10^3 - 10^4 CFU).
Reference media: TSA

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

Temp. Min.:2 ºC
Temp. Max.:25 ºC

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)