

# Bacillus cereus Selective Agar

Art. No. 01-487

## Also known as

PEMBA (Polymyxin Egg yolk Manitol Blue Agar)

## Specification

Selective solid medium for the enumeration of *Bacillus cereus* in food, according to ISO 21871 and NMKL 674 standards.

## Formula\* in g/L

Peptone.....	1,00
Mannitol.....	10,00
Sodium chloride.....	2,00
Magnesium sulfate.....	0,20
Disodium phosphate.....	2,50
Potassium phosphate.....	0,25
Brom thymol blue.....	0,12
Sodium pyruvate.....	10,00
Agar.....	14,00
Final pH 7,2 ± 0,2 at 25°C	

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

## Directions

Suspend 40 g of powder in 950 mL of distilled water. Allow it to soak and bring to the boil. Distribute into suitable containers and sterilize in the autoclave at 121°C for 15 minutes. Let it cool to 50°C and then add 50 mL/L of Egg Yolk Sterile Emulsion (Art. No. 06-016) and 2 vials/Litre of Polymyxin B Sulfate (Art. No. 06-021CASE or 06-021-LYO) to obtain a 100 U/mL concentration. Homogenize and pour into plates.

## Description

*Bacillus cereus* Selective Agar is formulated according to the Food Analysis Nordic Committee (NMLK) standards. This standard uses this medium and Blood Agar Base (Art. No. 01-352) simultaneously for the detection and enumeration of *B. cereus* in any type of food. This medium can also be used to confirm presumptive colonies, in this instance Polymyxin may be omitted.

## Technique

NMLK proposes the simultaneous use of *Bacillus cereus* Selective Agar and Blood Agar Base (Art. No. 01-352). Both media are inoculated by surface streaking with 0,1 mL aliquots which are spread with a Drigalsky loop. Both series of plates are incubated at 30°C for 24 hours.

Typical *B. cereus* colonies in Blood Agar are big, irregular, dirty-white or grey with a surrounding halo of haemolysis. With *B.cereus* Selective Agar, colonies are blue, surrounded by a clear zone of egg yolk digestion (lecithinase positive).

If there is an equal amount of typical colonies on both the media, confirmative tests may not be necessary.

## Necessary supplements

### Polymyxin B Sulfate Selective Supplement (Art. No. 06-021CASE / 06-021-LYO)

Vial Contents:

Polymyxin B sulfate .....	50000,00 IU
Mannitol (excipient) .....	100,00 mg

Distilled water (Solvent)

## References

- CORRY, J.E.L., G.D.W. CURTIS & R.M. BAIRD (2003) Handbook of Culture Media for Food Microbiology. Elsevier Sci. B.V. Amsterdam. The Netherlands.
- FIL-IDF 181:1998 Provisional Int. Standard. Dried Milk Products. Enumeration of *Bacillus cereus*.- Most probable number technique.
- 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.
- ISO 21871 Standard (2006) Microbiology of food and feeding stuffs.- Horizontal method for the determination of low numbers of presumptive *Bacillus cereus*.- Most probable number technique and detection method.
- NORDISK METODIK KOMITE FÖR LIVSMEDEL (1997) UDC 570.852.11 #674ntg.

## 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).

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## Bacillus cereus Selective Agar

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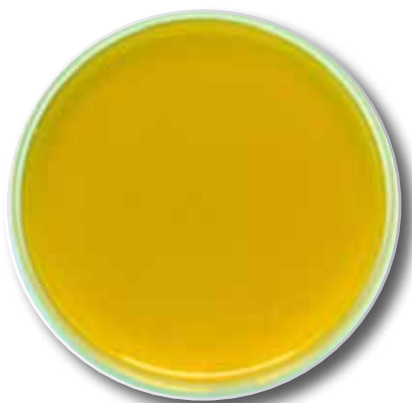
### Quality control

**Incubation temperature:** 30°C ± 2,0

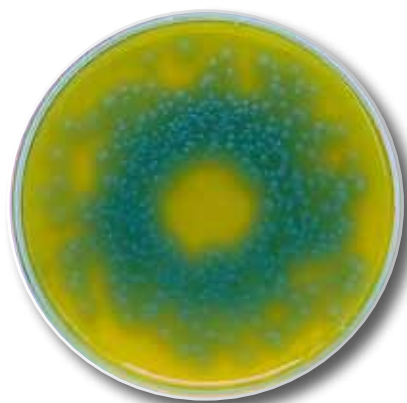
**Incubation time:** 24 - 48 h

**Inoculum:** 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity). Spiral Plate Method (ISO/TS 11133-1/2)

Microorganism	Growth	Remarks
<i>Bacillus subtilis</i> ATCC 6633	Fair to good	-
<i>Bacillus cereus</i> var. <i>mycoides</i> ATCC 11778	Productivity > 0.70	White colonies w. precipitate. Green Medium
<i>Bacillus cereus</i> ATCC 10876	Productivity > 0.70	White colonies w. precipitate. Green Medium
<i>Pseudomonas aeruginosa</i> ATCC 27853	Inhibited	-



Uninoculated Plate (Control)



*Bacillus cereus* var. *mycoides* ATCC 11778