



Reference : 01-487

Scharlau Microbiology - Technical data sheet

Product :
Bacillus cereus SELECTIVE AGAR

Also known as

PEMBA (Polymixin-Egg yolk-Manitol-Blue-Agar)

Specification

Selective solid medium for the enumeration of *Bacillus cereus* in food, according to ISO and NMKL 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 piruvate.....	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 and bring to the boil. Sterilize in the autoclave at 121°C for 15 minutes. Let it cool to 50°C and then add 50 mL of Egg Yolk Sterile Emulsion (Art. No. 06-016) and 2 vials of Polymyxin B Sufate Selective Supplement (Art. No.06-021LYO1). Homogenize well and distribute into plates. Do not reheat or remelt the complete medium.

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 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.

Necessary supplements:

Polymyxin B Sulphate Selective Supplement (Ref.06-021LYO1)

Vial Contents:

Necessary amount for 500 ml of complete medium

Polymyxin B sulphate 50000 IU

Excipient 100 mg

Distilled water (solvent)

Technique

NMLK proposes the simultaneous use of *Bacillus cereus* Selective Agar and Blood Agar Base. 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 37°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-precipitate 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.



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Quality control

Incubation temperature: 37°C ±1,0

Incubation time: 24-44 ± 4 h

Inoculum: Practical range 100 ± 20 CFU. min. 50 CFU (productivity)/ 10⁴-10⁶ CFU (selectivity)/ ≥ 10³ CFU (specificity),
according to ISO 11133:2014/Amd 1:2018.

Microorganism

Growth

Remarks

Bacillus subtilis ATCC® 6633 Fair to good White colonies w/o precipitate.

Bacillus cereus ATCC® 11778 Productivity > 0.50 White colonies w. precipitate. Green medium

Bacillus cereus ATCC® 10876 Productivity > 0.50 White colonies w. precipitate. Green medium

Escherichia coli ATCC® 25922 Inhibited-



Uninoculated Plate (Control)



Bacillus cereus ATCC 11778



Bacillus cereus ATCC 11778
"Detail"

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 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and 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).