

# BACILLUS CEREUS AGAR (PEMBA)

Selective medium for *Bacillus cereus* isolation and enumeration.

TYPICAL FORMULA	g/l
Peptone	1.0
D-Mannitol	10.0
Sodium Chloride	2.0
Magnesium Sulfate	0.1
Disodium Phosphate	2.5
Monopotassium Phosphate	0.25
Sodium Pyruvate	10.0
Bromothymol Blue	0.12
Polymyxin B	0.015
Egg Yolk Emulsion	50.0 ml
Agar	15.0
Final pH 7.2 ± 0.2	

## DESCRIPTION

BACILLUS CEREUS AGAR (PEMBA) is a selective medium for *Bacillus cereus* isolation and enumeration.

## PRINCIPLE

Peptone provides nitrogen and amino acids. Sodium chloride maintains the osmotic balance of the medium. Mannitol is the carbon source. Magnesium sulphate provides ions, disodium phosphate and monopotassium phosphate constitute the buffer system of the medium. Sodium pyruvate stimulates the growth of microorganisms. Bromothymol blue is the pH indicator. Agar is the solidifying agent. Polymyxin B is the selective agent and has a bactericide activity against Gram-negative microorganisms. The egg yolk emulsion is incorporated to detect the proteolytic activity.

## TECHNIQUE

Distribute 0.1 ml (or 1 ml, if low number of *Bacillus cereus* is expected) of test sample, if the product is liquid, or 1 ml of the initial suspension if solid, onto the surface of two agar plates. Repeat the procedure using further decimal dilution. Carefully spread the inoculum on the surface of the agar plates; leave the plates with the lids partially removed for about 15 minutes at room temperature for the inoculum to be absorbed. Incubate at 30±1°C for 18-24 hours in aerobic conditions.

## RESULTS INTERPRETATION

After 18-24 hours of incubation at 30±1°C in aerobic conditions, *Bacillus cereus* shows crenated, colonies about 5 mm in diameter, turquoise blue in colour, surrounded by a distinct opaque zone of egg yolk precipitation of the same colour as the colonies.

## STORAGE AND TRANSPORT CONDITIONS

2-8°C away from light, until the expiry date on the label. However, our stability studies have shown that the transport at 18-25°C for 4 days, or at 35-39°C for 48 hours, does not alter in any way the performance of the product. Eliminate if signs of deterioration or contamination are evident.

## WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for *in vitro* diagnostic use only and should be used by qualified personnel.

## WASTE DISPOSAL

Waste disposal must be carried out according to local and national legislation in force.

## REFERENCES

1. ICMSF (1978). Microorganisms in Foods. Toronto University Press. 274-275.
2. Holbrook, R., and J.M. Anderson, (1980). Can.J. Microbiol. 26, 753-759.
3. ISO 7932: 1993 Microbiology-General guidance for the enumeration of *Bacillus cereus*-Colony count technique at 30°C.



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## NAME

BACILLUS CEREUS AGAR (PEMBA)

## PRESENTATION

Ready plates (90 mm) containing  $22 \pm 1$  ml of medium

## STORE

2-8°C

## PACKAGING

Ref.	Content	Packaging
10007	20 plates	<ul style="list-style-type: none"> <li>10 plates in thermally soldered film</li> <li>2 x 10 plates in cardboard box</li> </ul>

## pH OF THE MEDIUM

$7.2 \pm 0.2$

## USE

BACILLUS CEREUS AGAR (PEMBA) is a selective medium for *Bacillus cereus* isolation and enumeration

## TECHNIQUE

Refer to technical sheet of the product

## APPEARANCE OF THE MEDIUM

Greenish medium, opaque

## SHELF LIFE








120 days

## QUALITY CONTROL

- Control of general characteristics, label and print
- Sterility control
  - 7 days at  $25 \pm 1$  °C, in aerobiosis
  - 7 days at  $36 \pm 1$  °C, in aerobiosis
- Microbiological control
  - Inoculum for productivity: 10-100 CFU/ml
  - Inoculum for selectivity:  $\leq 10^4$  CFU/ml
  - Inoculum for specificity:  $10^4 - 10^5$  CFU/ml
  - Incubation conditions: 18-24 h at  $30 \pm 2$  °C in anaerobiosis

Microorganisms		Growth	Colonies color	Precipitation
<i>Bacillus cereus</i>	ATCC 11778	good	red	+
<i>Bacillus subtilis</i>	ATCC 6051	good	yellow	-
<i>Proteus mirabilis</i>	ATCC 29906	inhibited	-	-
<i>Staphylococcus aureus</i>	ATCC 6538	inhibited	yellow	+

## TABLE OF SYMBOLS

<b>LOT</b> Batch code	<b>IVD</b> In Vitro Diagnostic Medical Device	 Manufacturer	 Use by	 Fragile, handle with care
<b>REF</b> Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult instruction for use	 Do not reuse



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