Distribué par :
Z.A de Gesvrine - 4 rue Képler - B.P.4125
44241 La Chapelle-sur-Erdre Cedex - France
t. : +33 (0)2 40 93 53 53 | f. : +33 (0)2 40 93 41 00
commercial@humeau.com
w w w . h u m e a u . c o m

BACILLUS CEREUS AGAR BASE *(PEMBA)*

Selective medium for *Bacillus cereus* isolation and enumeration in foodstuffs.

TYPICAL FORMULA	(g/l)
Peptone	1.0
Mannitol	10.0
Sodium Chloride	2.0
Magnesium Sulphate	0.1
Disodium Phosphate	2.5
Monopotassium Phosphate	0.25
Sodium Pyruvate	10.0
Bromothymol Blue	0.12
Agar	15.0

Final pH = 7.2 ± 0.2 at 25 °C.

DIRECTIONS

Suspend 41.0 g of powder in 950 ml of distilled or deionized water. Heat until completely dissolved. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C and aseptically add:
2 vials of Bacillus cereus supplement (Polymyxin B 50,000 IU/ vial) (code 81016) rehydrated with 5 ml of sterile distilled water, equivalent to 100,000 IU / l of final medium;
50 ml of Egg Yolk Emulsion (codes 80019-80219). Mix well. Distribute in petri dishes.

DESCRIPTION

BACILLUS CEREUS AGAR BASE (PEMBA), completed with supplements, is a selective medium for the isolation and enumeration of *Bacillus cereus* in foodstuffs. The formula is a modified version of Mossel's medium and correspond to Mannitol Egg Yolk Polimixin Agar (PEMBA), recommended by FDA BAM for the enumeration of *B. cereus* in foods.

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

QUALITY CONTROL

Dehydrated medium
Appearance: free-flowing, homogeneous.
Color: beige.
Prepared medium
Appearance: opaque.
Color: greenish.
Incubation conditions: 30 °C for 24 hours.

Microorganism	ATCC	Growth	Characteristics
Escherichia coli	25922	none	
Bacillus cereus	11788	good	blue colonies
Bacillus cereus	14579	good	blue colonies
Pseudomonas aeruginosa	27853	none	

PERFORMANCE AND LIMITATIONS

The diagnosis of *Bacillus cereus* is confirmed with standard microscopic and biochemical tests (glucose fermentation, Voges Proskauer reaction, nitrates reduction and etc).

STORAGE

The powder is very hygroscopic: store the powder at 10-30 °C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared plates at 2-8 °C.

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.

PRESENTATION

Product	REF	Σ
BACILLUS CEREUS AGAR BASE *(PEMBA)* (12.1 l)	610136	500 g
BACILLUS CEREUS AGAR BASE *(PEMBA)* (2.4 l)	620136	100 g
BACILLUS CEREUS *SUPPLEMENT* (Polymyxin B Sulfate 7 mg/ml)	81016	10 vials
EGG YOLK EMULSION	80019	2 vials x 50 ml
EGG YOLK EMULSION	80219	4 vials x 50 ml

TABLE OF SYMBOLS

LOT Batch code	Caution, consult accompanying documents	Manufacturer	Σ Contains sufficient for <n> tests	IVD *In Vitro* Diagnostic Medical Device
REF Catalogue number	Fragile, handle with care	Use by	Temperature limitation	Keep away from heat source

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Laboratoires Humeau

www.humeau.com