

## TM 1885 - CHROMOGENIC BACILLUS CEREUS AGAR

### INTENDED USE

For the isolation and differentiation of *Bacillus cereus* from food samples.

### PRODUCT SUMMARY AND EXPLANATION

*Bacillus cereus* is responsible for food-borne outbreaks. It produces thermo-resistant spores that make it particularly adapted to foodstuffs submitted to thermal treatment. Some strains of *B. cereus* can grow at refrigeration temperature, which is an emerging risk for ready-to-use products and thus Chromogenic Bacillus Cereus Agar is used for the isolation and differentiation of *Bacillus cereus* from food samples.

### COMPOSITION

Ingredients	Gms / Ltr
Agar	13.000
Peptone	10.000
Sodium pyruvate	10.000
Yeast extract	4.000
Di-sodium hydrogen phosphate	2.500
Chromogenic mixture	1.200
Potassium dihydrogen phosphate	0.280

### PRINCIPLE

Peptone and yeast extract in the medium provide nitrogen, vitamins, minerals and amino acids essential for growth. The phosphates serve as buffering agents in the medium. Sodium pyruvate enhances growth. Chromogenic Bacillus cereus Agar incorporates the chromogenic substrate 5-bromo-4-chloro-3-indolyl- $\beta$ -glucopyranoside, which is cleaved by the enzyme  $\beta$ -glucosidase present in *Bacillus cereus* resulting in the formation of blue/green colonies. Polymyxin B inhibits most Gram-negative organisms and some Gram-positive organisms including some Bacillus other than *Bacillus cereus*. Trimethoprim, which is also added to the medium, blocks folic acid synthesis necessary for DNA production and is active against many Gram-positive bacteria including *Staphylococcus aureus*, *Enterococcus* spp. and some non-cereus *Bacillus* species. The combination of these two antibiotics has been shown to be more effective than the use of polymyxin B alone. Because *Bacillus thuringiensis* is biochemically identical to *Bacillus cereus*, it will also grow as blue/green colonies on this medium. *Bacillus thuringiensis* is known primarily as an insect pathogen, but it has also been reported to have been linked to some human gastroenteritis outbreaks.

### INSTRUCTION FOR USE

- Dissolve 40.98 grams in 1000 ml of distilled water.
- Gently heat to boiling with gentle swirling, to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes.
- Cool the medium to 50 °C.
- Aseptically add sterile rehydrated contents of 2 vial Bacillus cereus Selective Supplement (TS 255).
- Mix well and pour into sterile Petri plates

### QUALITY CONTROL SPECIFICATIONS

<b>Appearance of Powder</b>	:	Straw colored, homogeneous free flowing powder
<b>Appearance of prepared medium</b>	:	Amber coloured, clear to slightly opalescent gel
<b>pH (at 25°C)</b>	:	7.2± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is 100% for bacterial growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Appearance of colony	Recovery	Incubation Temp.	Incubation Period
<i>Bacillus cereus</i>	11778	50-100	Luxuriant	Blue colonies with opaque halo	≥50%	35-37°C	24-48 Hours
<i>Bacillus thuringiensis</i>	10792	50-100	Luxuriant	Blue colonies with opaque halo	≥50%	35-37°C	24-48 Hours
<i>Escherichia coli</i>	25922	50-100	Inhibited	-	0%	35-37°C	24-48 Hours
<i>Listeria monocytogenes</i>	19433	50-1000	Inhibited	-	0%	35-37°C	24-48 Hours

### PACKAGING

In pack size of 100gm & 500gm bottles.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










**Product Deterioration:** Do not use, if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

### REFERENCES

- Handbook of Culture Media for Food Microbiology (2003) Volume 37. Chapter 4. Media for Bacillus spp. and related genera relevant to foods. Edited by Corry, J. E. L., Curtis, G. D. W. and Baird, R. M. Publisher - Elsevier, Amsterdam.
- Atlas R. M. 2004, 3rd Edi. Handbook of Microbiological Media, Parks, L. C. (Ed.), CRC Press, Boca Raton.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

2022

**\*For Lab Use Only**  
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