TM 1881 -BACILLUS CEREUS SELECTIVE AGAR BASE (MYP) (ISO 7932:2004)

INTENDED USE

For selective isolation and enumeration of *Bacillus cereus.*

PRODUCT SUMMARY AND EXPLANATION

Bacillus cereus Selective Agar Base is used for selective isolation and enumeration of *Bacillus cereus*. It is also recommended by the ISO committee for the enumeration of *Bacillus cereus*. *Bacillus cereus* is ubiquitously present in soil, food stuff, water and dust. It is considered as the most commonly encountered, important species in clinical laboratories, from majority of other *Bacillus* species as under favorable conditions, the organism multiplies and cause gastrointestinal illness. This medium differentiates *B.cereus* from other bacteria on the basis of lecithinase activity, mannitol fermentation and resistance to polymyxin. Lecithinase activity is the key reaction in differential identification of *B.cereus*.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Enzymatic digest of casein	10.000
D-Mannitol	10.000
Sodium chloride	10.000
Beef extract	1.000
Phenol red	0.025

PRINCIPLE

This medium contains enzymatic digest of casein and beef extract, which provide nitrogen source. Mannitol fermentation can be detected by phenol red, which yields yellow colour to the mannitol fermenting colonies due to acid production. Added egg yolk emulsion helps in differentiation of lecithinase producing
colonies, which are surrounded by a zone of white precipitate. Addition of Polymyxin B Sulphate helps to restrict growth of gram-negative bacteria such as *Escherichia coli* and *Pseudomonas aeruginosa*. These differentiating media allow differentiation of *B.cereus* from other *Bacillus* species by its inability to ferment mannitol and poor sporulation. *B.cereus* dissimilates egg yolk and gives rise to typical bacilli form colonies with reddish zones and white halos. Acid produced by organisms other than *B.cereus* often diffuse through the medium, making it difficult to distinguish between mannitol fermenters and non-fermenters. So, it is advised to transfer the suspected colonies to a fresh medium to visualize the true reaction.

INSTRUCTION FOR USE

- Dissolve 46.03 grams in 1000ml distilled water.
- Gently heat with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45°C - 50°C.
- Aseptically add rehydrated contents of 2 vials of Polymyxin B Selective (TS 058) and add 100ml sterile Egg Yolk Emulsion (TS 002).
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Light yellow to pinkish purple, Homogeneous free flowing powder
Appearance of Prepared Medium		
Basal medium	:	Red color, clear to slightly opalescent gel
After addition of Egg Yolk emulsion (TS 002)	:	Light orange colored, opaque gel
pH (at 25°C)	:	7.2± 0.2

INTERPRETATION

Cultural characteristics observed after incubation with added Egg Yolk Emulsion (TS 002) and Polymyxin B Selective (TS 058). Recovery for the growth of microorganisms on Soya Casein Digest Agar (TM 345) is considered to be 100%.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Lecithinase activity	Incubation Temperature	Incubation Period
Bacillus cereus	10876	50-100	Luxuriant	>=50%	Red	Positive, Opaque zone around the colony	30 ± 2°C	18 – 48 Hours
Bacillus subtilis	6633	50-100	Luxuriant	>=50%	Yellow	Negative	30 ± 2°C	18 – 48 Hours
Proteus mirabilis	25933	50-100	Luxuriant	>=50%	Red	Negative	30 ± 2°C	18 – 48 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	>=50%	Yellow	Positive, Opaque zone around the colony	30 ± 2°C	18 – 48 Hours
Escherichia coli	25922	50-100	None-Poor	<=10%	-	-	30 ± 2°C	18 – 48 Hours
Psedomonas aeruginosa	27853	50-100	None-Poor	<=10%	-	-	30 ± 2°C	18 – 48 Hours

PACKAGING:

In 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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 other signs of deterioration.

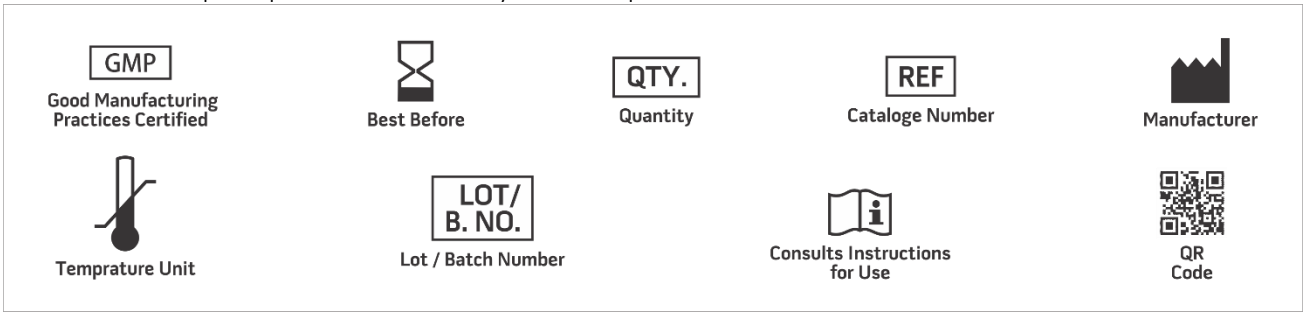
DISPOSAL

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

REFERENCES

1. Mossel D. A. A., Koopman M. J. and Jongerium E., 1967, Appl. Microbiol, 15:650.
2. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
3. Nygren B., 1962, Acta Path. Microbiol. Scand., 56: Suppl. 1.
4. Donovan K. O., 1958, J. Appl. Bacteriol., 21:100.

5. International Organization for Standardization (ISO),7932: 2004.Microbiology of food and animal feeding Stuffs-Horizontal method for enumeration of presumptive Bacillus cereus-colony count technique at 30°C.



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

***For Lab Use Only**

Revision: 8th July 2020