TM 2221 - MYP AGAR BASE

INTENDED USE

For isolation and identification of *Bacillus cereus* in accordance with FDA BAM, 1998.

PRODUCT SUMMARY AND EXPLANATION

MYP Agar Base is used for isolation and identification of *Bacillus cereus* in accordance with FDA BAM. *B. cereus* is ubiquitously present in soil, on vegetables, and in many raw and processed foods, meat, cereals, pasteurized fresh milk and powdered milk and other processed foods. Under favourable conditions, the organism multiplies and causes gastrointestinal illness. It is implicated in two different forms of food poisoning; an emetic illness and a diarrhoeal illness. The emetic illness is mediated by a highly stable toxin that survives high temperature, exposure to trypsin, pepsin and pH extremes. The diarrhoeal illness is mediated by a heat and acid labile enterotoxin. Lecithinase activity is the key reaction in the differential identification of *B. cereus*, the most commonly encountered and important species in clinical laboratories, from the majority of the other *Bacillus* species. If unknown isolate produces lecithinase, *Bacillus cereus* can be presumptively identified by also observing colony morphology, hemolytic reactivity and motility tests.
MYP Agar Base is recommended by FDA BAM to isolate and enumerate *B. cereus* from foods. This medium differentiates *B. cereus* from other bacteria on the basis of lecithinase activity, mannitol fermentation and resistance to polymyxin.

COMPOSITION

Ingredients	Gms / Ltr
Beef extract	1.000
Peptone	10.000
Mannitol	10.000
Sodium chloride	10.000
Phenol red	0.025
Agar	15.000

PRINCIPLE

Peptone and Beef extract provide nitrogen and carbon source, long chain amino acids, vitamins and other essential nutrients. Mannitol acts as the carbon source that upon fermentation yields yellow colour to the colonies. Egg yolk emulsion aids in the differentiation of lecithinase producing colonies, which are surrounded by a zone of white precipitate. Polymixin B Sulphate acts as the inhibitor to restrict the growth of gram negative bacteria. These properties also help in the differentiation of *B. cereus* from other bacillus species.

INSTRUCTION FOR USE

- Dissolve 23.01 grams in 450 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. Aseptically add rehydrated contents of 1 vial of sterile Polymyxin B Sulphate solution to a final concentration of 100 units per ml and 25 ml sterile Egg Yolk Emulsion.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light pink homogeneous free flowing powder.

Appearance of prepared medium : Basal medium: Red coloured clear to slightly opalescent gel. After Addition of Egg Yolk Emulsion: Light orange coloured opaque gel forms in Petri plates

pH (at 25°C) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed with added Egg Yolk Emulsion and Polymyxin B Sulphate after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of Colony	Lecithinase Activity	Incubation Temperature	Incubation Period
Bacillus cereus	10876	50-100	Luxuriant	>=70 %	Red	Positive, opaque zone around the colony	32°C	18-40 Hours
Bacillus subtilis	6633	50-100	Luxuriant	>=70 %	Yellow	Negative	32°C	18-40 Hours
Escherichia coli	25922	50-100	None-poor	0-10%	-	-	32°C	18-40 Hours
Proteus mirabilis	25933	50-100	Luxuriant	>=70 %	Red	Negative	32°C	18-40 Hours
Pseudomonas aeruginosa	27853	50-100	None-poor	0-10%	-	-	32°C	18-40 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	>=70 %	Yellow	Positive, opaque zone around the colony	32°C	18-40 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 they 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

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4. Donovan, K. O. 1958. J. Appl. Bacteriol., 21.
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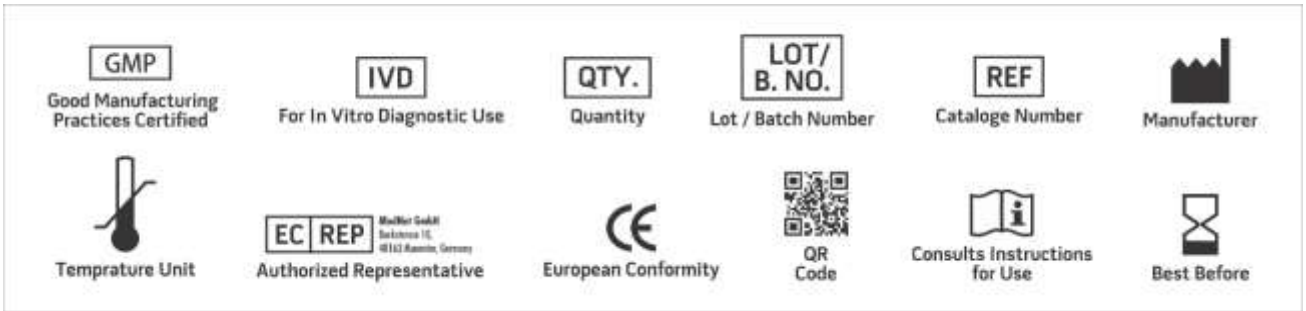

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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