TM 1931 - SOYBEAN CASEIN DIGEST MEDIUM BASE W/O POLYMYXIN

INTENDED USE

For selective isolation and MPN method of *B. cereus* in accordance with FDA BAM.

PRODUCT SUMMARY AND EXPLANATION

Bacillus cereus is a large, 1 × 3-4 µm, Gram-positive, rod-shaped, endospore forming, and facultative aerobic bacterium. They are mesophilic and can grow in a wide range of environments and are commonly found in nature, vegetables and in several processed foods. Under favorable circumstances the microorganism grows to sufficient numbers and cause gastrointestinal illness. Outbreaks of food borne illness have been associated with boiled and cooked rice, cooked meat and vegetables. The infection mediates diarrhoeal illness that is attributed by a heat and acid labile enterotoxin. Soyabean Casein Digest Medium Base with polymyxin B is recommended for the selective isolation and MPN method of *Bacillus cereus* in accordance with FDA BAM, 1998. *B. cereus* in general is resistant to polymyxin B and the addition of it into the medium helps in the selective isolation of the organism. Without supplement, SCDM is a highly nutritious medium used for cultivation of a wide variety of organisms. FDA BAM suggests two methods to check the presence of *B. cereus* that are Serial dilution method and MPN Method. According to the serial dilution protocol, appropriate dilutions of the suspected samples are made in Butterfield's Phosphate Buffered Dilution Water and spread plate was done with 0.1 ml of respective dilutions in MYP Agar Base. According to the MPN method, 1 ml each of 10-1, 10-2 and 10-3 are inoculated into Soyabean Casein Digest Medium Base with polymyxin incubate for 48 ± 2 h at 30 ± 2°C. Observation of turbid growth after the incubation time is indicative of the presence of *B. cereus*. Positive cultures are further inoculated into MYP Agar Base and incubated 18-24 h at 30°C. *B. cereus* appears as pink coloured colonies surrounded by a precipitate zone of lecithinase activity. Biochemical tests are performed to confirm the species.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of casein	17.000
Papaic digest of soyabean meal	3.000
Sodium chloride	5.000
Dextrose	2.500
Dibasic potassium phosphate	2.50

PRINCIPLE

The combination of tryptone and soya peptone makes the medium nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Dextrose and dibasic potassium phosphate serve as the carbohydrate source and the buffer, respectively in the medium. Sodium chloride maintain the osmotic balance of the medium.

INSTRUCTION FOR USE

- Dissolve 30 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Add one vial of sterile Polymixin B Sulphate solution to a final concentration of 100 Units/ml.
- Mix well and dispense as desired.

Note: If any fibers are observed in the solution, it is recommended to filter the solution through a 0.22micron filter to eliminate the possibility of presence of fibers.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light yellow coloured clear solution without any precipitate.
pH (at 25°C) : 7.3±0.2

INTERPRETATION

Cultural characteristics observed after an incubation by adding Polymyxin B Selactive Supplement.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Bacillus cereus	10876	50-100	Luxuriant	30-35°C	18-24 Hours
Escherichia coli	25922	>=10^3	Inhibited	30-35°C	18-24 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. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
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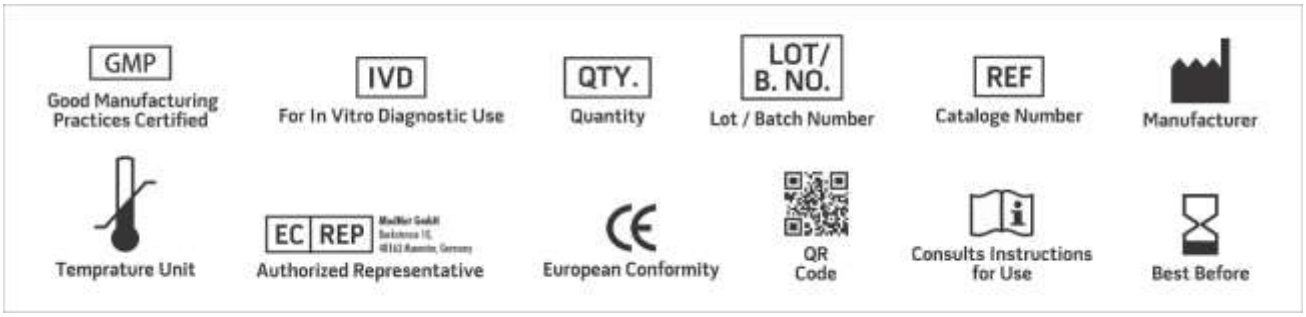

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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