TM 1523 -CHROMOGENIC BACILLUS AGAR

INTENDED USE

For isolation & differentiation between various species of *Bacillus* using chromogenic substrates.

PRODUCT SUMMARY AND EXPLANATION

Majority of *Bacillus* species apparently have little or no pathogenic potential and are rarely associated with disease in humans or lower animals. The principal exception to this are *Bacillus anthracis*, the agent of anthrax, and *Bacillus cereus* , but a number of other species, particularly those of the *B.subtilis* group, have been implicated in food poisoning and other human and animal infections. *Bacillus cereus* causes food poisoning due to consumption of contaminated rice, other starchy foods such as potato, pasta and cheese have also been implicated, eye infections and a wide range of other clinical conditions like abscess formation, meningitis, septicemia and wound infection. Chromogenic Bacillus Agar is based on the formulation of MYP Agar formulated by Mossel et al and is used for enumeration of *Bacillus cereus* and *Bacillus thuringiensis* when present in large number in certain foodstuffs.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Peptone	10.000
D-Mannitol	10.000
Sodium chloride	10.000
Chromogenic mixture	3.200
Meat extract	1.000
Phenol red	0.025

PRINCIPLE

The medium contains peptone and meat extract, which provide nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other essential growth nutrients. Mannitol serves as the fermentable carbohydrate, fermentation of which can be detected by phenol red. Mannitol fermenting organisms like *B. megaterium* yield yellow coloured colonies. The chromogenic mixture present in the medium is cleaved by the enzyme beta-glucosidase found in *B.cereus* resulting in the formation of blue colonies. *B.thuringiensis* also grows as blue/green colonies on this medium as *B.cereus* and *B.thuringiensis* are biochemically identical, however *B.cereus* shows flat colonies with distinct blue centres, while *B.thuringiensis* shows irregular margins. If selective isolation of *B.cereus* or *B.thuringiensis* is required, aseptically add Polymyxin B Selective Supplement (TS 058).

INSTRUCTION FOR USE

- Dissolve 49.22 grams in 1000 ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121ºC) for 15 minutes.
- Cool to 45-50°C.
- Aseptically add rehydrated contents of 1 vial of Polymyxin B Selective Supplement (TS 058) if desired.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	:	Cream to yellow homogeneous free flowing powder
Appearance of prepared medium	:	Red coloured, clear to slightly opalescent gel
pH (at 25°C)	:	7.1± 0.2

INTERPRETATION

Cultural characteristics observed after incubation with and without TS 058. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Growth	Recovery	Colour of colony	Incub.* Temp.	Incub.* Period
			Without addition of TS 058		With addition of TS 058				
Bacillus subtilis	6633	50-100	Fair	20-30%	Inhibited	0%	Yellowish green to green colonies	30°C	24-48 Hours
Bacillus cereus	10876	50-100	Good-Luxuriant	>=50%	Good-Luxuriant	>=50%	Light blue, large, flat colonies with blue centre	30°C	24-48 Hours
Bacillus thuringiensis	10792	50-100	Good-Luxuriant	>=50%	Good-Luxuriant	>=50%	Light blue, large, flat colonies with Irregular margins	30°C	24-48 Hours
Bacillus megaterium	14581	50-100	Good-Luxuriant	>=50%	Inhibited	0%	Yellow, mucoid colonies	30°C	24-48 Hours
Bacillus coagulans	7050	50-100	Good-Luxuriant	>=50%	Inhibited	0%	Pink,small raised colonies	30°C	24-48 Hours
Bacillus pumilus	14884	50-100	Good-Luxuriant	>=50%	Poor	10-20%	Light green to green colonies	30°C	24-48 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	>=50%	Inhibited	0%	Yellow colonies	30°C	24-48 Hours
Enterococcus faecalis	29212	50-100	Luxuriant	>=50%	Inhibited	0%	Light green to green colonies	30°C	24-48 Hours

Incub.* = Incubation

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.

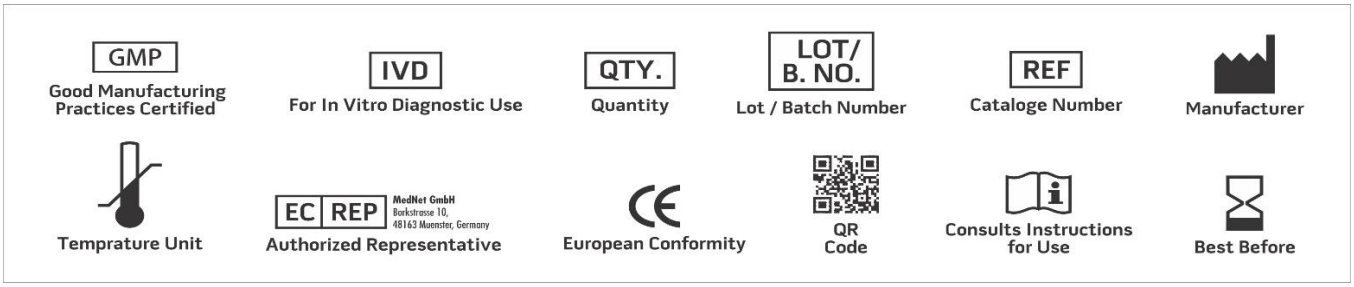
Product Deterioration: Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Bouza E., Grant S., Jordan C. et al, 1979, Arch. Ophthamol., 97:488.
2. Mortimer P. R. and McCann G., 1974, Lancet, 1043.
3. Mossel D. A. A., Koopman M. J. and Jongerium E., 1967, Appl. Microbiol., 15:650.
4. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed. American Society for Microbiology, Washington, D.C.
5. Wohlgemuth K., Kirkbride C. A., Bicknell E. J. and Ellis R. P., 1972 Am. Vet. Met, Ass. 161:1691.



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

***For Lab Use Only**

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