

TM 941 – BACILLUS DIFFERENTIATION AGAR

INTENDED USE

For differentiation of *Bacillus cereus* and *Bacillus subtilis* based on mannitol fermentation.

PRODUCT SUMMARY AND EXPLANATION

Bacillus is Gram positive, rod-shaped bacteria; can be obligate aerobes or facultative anaerobes. Under stressful environmental conditions they produce oval endospores, that can be dormant for extended periods *Bacillus cereus* causes food-borne illness and *Bacillus subtilis* is involved in food spoilage like ropiness in bread and other related foods. Bacillus Differentiation Agar is recommended for differentiation between *Bacillus cereus* and *Bacillus subtilis* based on mannitol fermentation.

COMPOSITION

Ingredients	Gms / Ltr
Yeast autolysate	0.200
Mannitol	5.000
Monohydrogen ammonium phosphate	1.000
Potassium chloride	0.200
Magnesium sulphate	0.200
Bromo cresol purple	0.0075
Agar	15.400

PRINCIPLE

Yeast autolysate provide necessary nitrogenous source for growth of *Bacillus*. Magnesium sulphate and Potassium chloride supports sporulation. Ammonium phosphate maintains buffering action. Bromocresol purple act as a pH indicator to detect mannitol fermentation.

INSTRUCTION FOR USE

- Dissolve 22.0 grams in 1000 ml purified / 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.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium	: Light purple coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour	Incubation Temperature	Incubation Period
<i>Bacillus cereus</i>	10876	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours
<i>Bacillus subtilis</i> <i>subsp. spizizenii</i>	6633	50-100	Luxuriant	>=70%	Yellow	35-37°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

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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.
3. Madigan M; Martinko J (editors). (2005). Brock Biology of Microorganisms (11th ed.). Prentice Hall.
4. Turnbull PCB (1996). Bacillus. In: Barron's Medical Microbiology (Baron S et al., eds.) (4th ed.). Univ of Texas Medical Branch.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Borkstrasse 10, 48163 Muenster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

***For Lab Use Only**
Revision: 08 Nov., 2019