TM 1289 - SERRATIA DIFFERENTIAL MEDIUM (SD MEDIUM) (DOUBLE PACK)

INTENDED USE

For cultivation and differentiation of *Serratia* species on the basis of arabinose fermentation and Ornithine decarboxylation.

PRODUCT SUMMARY AND EXPLANATION

Serratia are opportunistic gram-negative bacteria classified in the tribe *Klebsiellae* and the large family *Enterobacteriaceae. Serratia marcescens* strains are resistant to several antibiotics and are involved in nosocomial infections, particularly urinary tract infections and wound infections. *S. marcescens* does not ferment L-arabinose which easily differentiates it from other species except *S. entomophila*, which does not occur in human clinical specimens. Serratia Differential Medium is formulated as described by Gibson and Friedman for the differential isolation of *Serratia* species from clinical samples, based on its ability to ferment arabinose and decarboxylate ornithine. *S. marcescens*, *Serratia rubidaea* and *Serratia liquefaciens* species can be differentiated based on their ability to ferment L- arabinose and decarboxylate ornithine.

Stab inoculate the suspected pure colony of *Serratia* species from enteric isolation plate and incubate at 35°C for 18-24 hours. *S. marcescens* changes the greenish yellow medium to purple throughout while *S. rubidaea* changes it to yellow throughout the tube. *S. liquefaciens* forms a purple band at the top of the tube.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
L-Ornithine	10.000
Yeast extract	10.000
Sodium chloride	5.000
Triclosan (Irgasan)	0.010
Bromothymol blue	0.020
Phenol red	0.010
Agar	4.000
Part II	
L-Arabinose	10.000

PRINCIPLE

Yeast extract provides essential growth nutrients. L-arabinose is the fermentable carbohydrate. Sodium chloride maintains osmotic equilibrium while bromothymol blue and phenol red act as pH indicators of decarboxylation and fermentation respectively. Triclosan inhibits gram-negative enteric bacteria other than *Serratia* species.

INSTRUCTION FOR USE

- Dissolve 2.9 grams of Part I in 92 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Dissolve 1.0 gm of Part B in 10 ml distilled water. Mix well to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Add sterile solution of Part II aseptically to previously sterile and cooled (45-50°C) Part I.

- Mix thoroughly and distribute into tubes. Allow the tubes to cool in an upright position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Part I: Light yellow to pink homogeneous free flowing powder Part II: White to cream homogeneous free flowing powder.

Appearance of prepared medium : Greenish yellow coloured clear to slightly opalescent semisolid gel forms in tubes.

pH (at 25°C) : 6.7±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Fermentation(L-Arabinose)	Ornithine decarboxylation	Colour	Incubation Temperature	Incubation Period
Serratia liquifaciens	27592	50-100	Good-luxuriant	Positive reaction, acid production, yellow colour	Positive reaction, purple colour	Purple band at the top of greenish yellow butt	35-37°C	18-24 Hours
Serratia marcescens	8100	50-100	Good-luxuriant	Negative reaction, no colour change	Positive reaction, purple colour	Purple throughout the medium	35-37°C	18-24 Hours
Serratia rubidaea	27593	50-100	Good-luxuriant	Positive reaction, acid production, yellow colour	Negative reaction, no Colour change	Yellow throughout the medium	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 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.

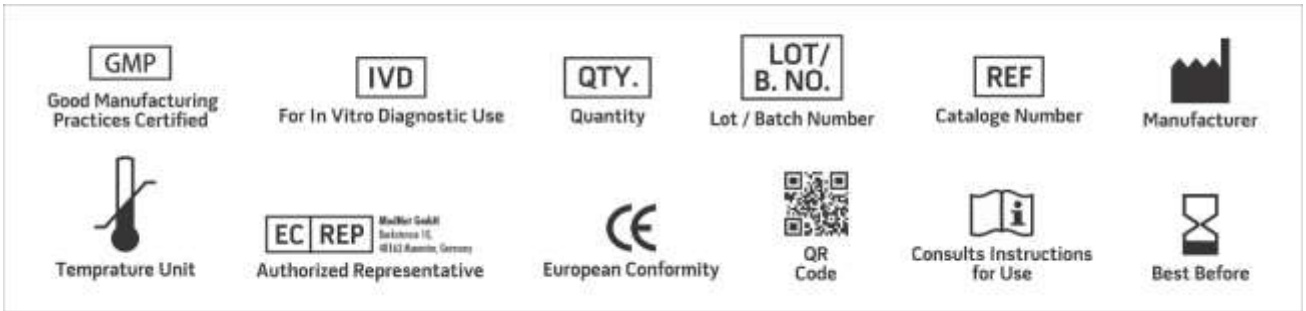
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Grimont P. A. D., Jackson T. A., Ageron E. and Noonan M. J., 1988, Int. J. Syst. Bacteriol., 38:1-6
2. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
3. Gibson S. and Friedman H., 1978, J. Clin. Microbiol., 7(3):279.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore



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

***For Lab Use Only**

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