

55678 PLET Agar (Polymyxin B - Lysozyme - EDTA - Thallous acetate Agar)

PLET Agar medium is the best selective medium for isolation and cultivation of *Bacillus anthracis* from environmental specimens, animal products or clinical specimens, inhibiting *Bacillus cereus*.

Composition:

Ingredients	Grams/Litre
Beef heart infusion (extract from 500 g)	10.0
Tryptose	10.0
Sodium chloride	5.0
EDTA	0.3
Thallous acetate	0.04
Agar	15.0
Final pH 7.3 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Suspend 40.34 g in 990 ml of purified water. Heat with frequent agitation and boil for one minute. Sterilize at 121°C for 15 minutes. Cool to 50°C and, aseptically, add rehydrated contents of one vial of Anthracis-Selective-Supplement (72659). Mix well and dispense as desired.

Principle and Interpretation:

PLET Agar originally formulated by Knisley (1) is the best selective medium for cultivation of *Bacillus anthracis* (2,3,4) from environmental specimens, inhibiting *Bacillus cereus*.

Beef heart infusion and tryptose are a source of carbon, nitrogen and other compounds necessary for growth of bacteria. Sodium chloride maintains the osmotic pressure. EDTA, thallous acetate and polymyxin (present in the supplement) are the selective agents and inhibit most microorganisms. Lysozyme (present in the supplement) attacks the cell wall of gram negative bacteria and inhibits them.

It is possible to streak directly from a suspect colony but also heat treated or alcohol treated specimen can be used for streaking. Colonies of *Bacillus anthracis* appear in 36-40 hours after incubation at 37°C. The colonies are circular, creamy-white with a ground glass texture. For confirmation the suspect colonies should be subcultured on Blood Agar (70133) plates for identification. Capsule building can be seen directly or in Blood Agar plates (4).

Cultural characteristics after 36-40 hours at 35-37°C

Organisms (ATCC)	Growth
<i>Bacillus anthracis</i>	+++
<i>Bacillus cereus</i> (10876)	-



References:

1. R.F. Knisley J. Bacteriol., 92, 784 (1966)
2. J.R. Norris, C.W. Berkley, N.A. Logan, A.G. O'Donnell, In M.P. Starr et al (ed), The Prokaryotes: a Handbook on Habitats, Isolation and Identification of Bacteria, vol. 2, Springer Verlag, Berlin (1981)
3. J.M. Parry P.C.B. Turnbull, J.R. Gibson, A Colour Atlas of Bacillus species, Wolfe Medical Publications, London, UK (1983)
4. Murray et al., Manual of Clinical Microbiology, 7th Edition, ASM Press, Washington D.C. (1999)
5. D.C. Dragon, R.P. Rennie, Evaluation of spore extraction and purification methods for selective recovery of viable Bacillus anthracis spores, Appl. Microbiol., Vol 33, 2, 100 (2001)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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