



Dextrose Proteose Peptone Agar Base

M734

Dextrose Proteose Peptone Agar is used in combination with blood and tellurite for the isolation of *Corynebacterium diphtheriae*.

Composition**

Ingredients	Gms / Litre
Proteose peptone	20.000
Dextrose	2.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 42 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add sterile 5% v/v defibrinated blood and sterile 1% Tellurite Solution (FD052). Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Corynebacterium diphtheriae is the causative agent of diphtheria, an acute communicable disease manifested by both local infection of the upper respiratory tract and the systemic effects of a toxin, which are most notable in the heart and peripheral nerves. *C. diphtheriae* is most often isolated from the nasopharynx or skin lesions of patients with diphtheria (1). Dextrose Proteose Peptone Agar is used for the isolation of *C. diphtheriae*, in combination with blood and tellurite. A selective serum medium containing tellurite was described by Conradi and Troch for isolating *C. diphtheriae* (2). This medium later on underwent modification by different authors in which they used heated Blood Agar Tellurite or Blood Agar Tellurite Arsenate Medium (3, 4, 5). McGuigan and Frobisher had used a Cystine Tellurite Blood Agar for *C. diphtheriae* (6). Without the inclusion of blood and tellurite, this medium is recommended as a general laboratory medium. With added tellurite and blood, this medium permits the isolation of *C. diphtheriae*.

Proteose peptone serves as source of carbon, nitrogen, vitamins and minerals. Dextrose serves as an energy source. Sodium chloride helps to maintain the osmotic equilibrium. Potassium tellurite serves as a selective agent.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Reddish brown coloured, opaque gel forms in Petri plates

Reaction

Reaction of 4.2% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

M734: Cultural characteristics observed with added 5% v/v sterile defibrinated blood and 1% tellurite solution (FD052), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Corynebacterium diphtheriae</i> ATCC 11913	50-100	good-luxuriant	>=50%	black

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label

Reference

1. Murray P. R., Baron E. J, Pfaller M. A, Tenover F. C, Tenover F. C, Tenover F. C, Yolken R .H. (Eds.) 1995, Manual of Clinical Microbiology, 6th Ed. ASM Press, Washington D.C.
2. Conradi and Troch, 1912, Muench. Wochschr., 59:1652.
3. Anderson J. S., Happold F. C, McLeod J. W. and Thompson J. G., 1931, J. Path. Bacteriol., 34:667.
4. Horgan E. S. and Marshall A., 1932, J. Hyg., 32:544.
5. Wilson S., 1934, J. Path. Bact., 38:114.
6. McGuigan and Frobisher, 1936, J. Infect. Dis., 59:22

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