



Ayers & Johnson Agar (Stock Culture Agar)

M182

Ayers and Johnson Agar (Stock Culture Agar) is recommended for the maintenance of cultures of Streptococci and other pathogenic and non pathogenic microorganisms.

Composition**

Ingredients	Gms / Litre
Beef heart, infusion from	500.000
Proteose peptone	10.000
Gelatin	10.000
Dextrose	0.500
Casein, purified	5.000
Disodium phosphate	4.000
Sodium citrate	3.000
Agar	7.500
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 50 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Maintenance medium are essentially designed to maintain the viability of cultures over an extended period of time. Stock Culture Agar was originally formulated by Ayers and Johnson (1). They observed that in addition to supporting luxuriant growth, the medium also helped in maintaining the viability of Streptococci and various other organisms over a long period of time. They also observed that Streptococci maintained their viability for as long as four months when incubated in this medium at room temperature (25°C). Stock Culture Agar serves its main purpose (i.e. maintaining viability) chiefly due to its semisolid nature, a well-buffered environment and the presence of casein and dextrose, the latter, which serves as a source of energy. Many fastidious organisms like *Mycobacterium* species, *S. pneumoniae*, show good growth on this medium. It can be made especially suitable for maintenance of Streptococci by the additions of L- Asparagine (1g/l) (2). Infusion from beef heart, proteose peptone, gelatin and casein serve as sources of nitrogen, vitamins and amino acids. Dextrose is a carbon and energy source. Disodium phosphate serves as a buffering agent while sodium citrate acts as a preservative.

Quality Control

Appearance

Yellow to beige homogeneous coarse powder

Gelling

Semisolid, comparable with 0.75% Agar gel and 1.0% Gelatin gel.

Colour and Clarity of prepared medium

Light yellow coloured opalescent gel forms in tubes

Reaction

Reaction of 5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

M182: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
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Cultural Response

<i>Neisseria meningitidis</i> ATCC 50-100 13090		luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant
<i>Streptococcus pneumoniae</i> ATCC 6303	50-100	luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant

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 label.

Reference

1. Ayers and Johnson, 1924, J. Bacteriol., 9:111.
2. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed., CRC Press, Inc., Boca Raton, Fla.

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