Ayers & Johnson Agar (Stock Culture Agar) M182

Intended Use:

Recommended for maintenance of cultures of Streptococci and other microorganisms.

Composition**

Ingredients	Gms / Litre
HM infusion B from #	500.000
Proteose peptone	10.000
Gelatin	10.000
Dextrose (Glucose)	0.500
M-protein, purified ##	5.000
Disodium hydrogen 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
Equivalent to Beef heart, infusion from
Equivalent to Casein, purified

Directions

Suspend 50 grams in 1000 ml purified / 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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

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- Aspargine (1g/l) (2). HM infusion B, proteose peptone, gelatin and M-protein, purified 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.

Type of specimen

Pure isolate

Specimen Collection and Handling

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1.Further biochemical tests must be carried out for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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

Organism	Inoculum (CFU)	Growth
Neisseria meningitidis ATCC 13090	50-100	luxuriant
Staphylococcus aureus ATCC 25923	50-100	luxuriant
Streptococcus pneumoniae ATCC 6303	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	luxuriant

Reference

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

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