



Modified Cary - Blair Medium

M1660

Modified Cary-Blair Medium is recommended for collection and shipment of clinical specimens.

Composition**

Ingredients	Gms / Litre
Disodium phosphate	1.100
Sodium thioglycollate	1.500
Sodium chloride	5.000
Phenol red	0.018
Agar	5.000
Final pH (at 25°C)	8.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 12.6 grams in 991 ml distilled water. Heat to boiling to dissolve the medium completely. Cool to 50°C and aseptically add 9 ml of 1% aqueous calcium chloride solution. Adjust pH to 8.4 if necessary. Distribute in 7 ml amounts in screw capped tubes. Steam for 15 minutes. Cool and tighten the caps.

Principle And Interpretation

Cary - Blair Medium is used for the collection and transport of clinical specimens. Originally the transport medium was devised by Stuart et al (1) for carrying the gonococcal specimens to the laboratory. Later on, for transporting faecal specimens, Cary and Blair devised a new medium which consisted less nutrients, low oxidation and reduction potential and a high pH (2). Various authors have then used this medium and reported it to be quite satisfactory for transporting the clinical specimens (3, 4, 5). Modified Cary Blair Medium is the modification of Cary-Blair Medium with addition of phenol red indicator in it.

This medium is prepared with minimal nutrients to increase the survival of the organisms without multiplying. Sodium thioglycollate is incorporated in the medium to provide a low oxidation-reduction potential. The pH of the medium is relatively alkaline which minimizes the bacterial destruction due to the formation of acid. Phenol red is added as indicator which is red at alkaline pH, while yellow at acidic pH. Medium can maintain viability of fastidious microorganisms for only a short period of time. It is recommended that best results are obtained by direct inoculation of isolate on enriched medium at the same time specimen is inoculated into transport medium.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Semisolid, comparable with 0.5% Agar gel.

Colour and Clarity of prepared medium

Red coloured clear to slightly opalescent solution in tube

Reaction

Reaction of 1.26% w/v aqueous solution at 25°C. pH : 8.4±0.2

pH

8.20-8.60

Cultural Response

M1660: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours when sub cultured on Tryptone Soya Agar (M290).

Organism	Inoculum (CFU)	Growth	Recovery
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Cultural Response

<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	>=70%
<i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	>=70 %
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	>=70 %
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	luxuriant	>=70%
<i>Shigella flexneri</i> ATCC 12022	50-100	luxuriant	>=70%
<i>Vibrio cholerae</i> ATCC 15748	50-100	luxuriant	>=70%
<i>Vibrio parahaemolyticus</i> ATCC 11344	50-100	luxuriant	>=70%
<i>Neisseria meningitidis</i> ATCC 13090	50-100	luxuriant	>=70%

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. Stuart, Toshach and Pastula, 1954, Can. J. Public Hlth., 45:73.
2. Cary and Blair, 1964, J. Bact., 88:96.
3. Cary, Fusillo and Harkins, 1965, Am. J. Clin. Pathol., 43:294.
4. Gaines, et al, 1965, Am. J. Trop. Med. Hyg., 14:136.
5. Morris and Heck, 1978, J. Clin. Microbiol., 8:616.

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