Technical Information

Cary- Blair Medium Base (Transport Medium w/o Charcoal)

Product Code: DM 1202

Application: Cary-Blair Medium Base (Transport Medium without Charcoal) 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
Agar	5.000
Final pH (at 25°C)	8.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Transport Medium is a non-nutritive, chemically defined, semisolid, buffered medium with the sole purpose to maintain the viability of organisms without increasing their number from the time of collection till examination of the specimen in the laboratory. Transport media were originally formulated by Stuart et al [(1)] for carrying gonococcal specimens to the laboratory. Later he devised a new medium containing fewer nutrients, low oxidation-reduction potential and a high pH [(2)]. Cary-Blair Medium w/o Charcoal is used for collection and transport of clinical specimens is also recommended by APHA [(3)] and other authors [(4-6)]. As this transport media has a high pH, viability of *Vibrio* cultures can also be maintained for a longer duration [(7)]. This medium also facilitates the recovery of *Salmonella* and *Shigella* species [(4)]. Sodium thioglycollate provides a low oxidation-reduction potential. Alkaline pH of the medium minimizes bacterial destruction due to the formation of acid. Disodium phosphate buffers the medium whereas sodium chloride maintains the osmotic equilibrium.

For collection of the specimen, use sterile cotton tipped swabs on wooden sticks. Push the swabs down to one third of the medium depth and cut the stick so that when the cap is screwed down, the swab is forced to the bottom of the medium. Tighten the cap firmly on the bottle. The specimen will be preserved and the viability of the organisms will be also maintained during transport, but over the time it will diminish. Therefore direct inoculation of the specimen is advised. Some growth of accompanying contaminants may also occur during longer period of transit. The specimen should be inoculated into a proper medium as soon as possible.

Methodology

Suspend 12.6 grams of powder media in 991 ml distilled water. Shake well & heat 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.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Semisolid, comparable with 0.5% Agar gel.

Colour and Clarity of prepared medium
Light amber coloured, slightly opalescent solution in tubes

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

pH Range:- 8.20-8.60

Cultural Response/Characteristics
DM 1202: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours, when subcultured on Tryptone Soya Agar (DM1290).

Organism	Inoculum (CFU)	Growth
Enterobacter aerogenes ATCC 13048	50-100	good-luxuriant
Escherichia coli ATCC 25922	50-100	good-luxuriant
Klebsiella pneumoniae ATCC 13883	50-100	good-luxuriant
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant
Salmonella Typhimurium ATCC 14028	50-100	good-luxuriant
Shigella flexneri ATCC 12022	50-100	good-luxuriant
Vibrio cholerae ATCC15748	50-100	good-luxuriant
Vibrio parahaemolyticus ATCC 17802	50-100	good-luxuriant

Storage and Shelf Life-

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Stuart, Toshach and Pastula, 1954, Can. J. Public Health, 45:73.
2. Cary and Blair, 1964, J. Bacteriol., 88:96.
3. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA,Washington, D.C.
4. Cary, Mathew, Fusillo and Harkins, 1965, Am. J. Clin. Pathol., 43 :294
5. Gaines et al, 1965, Am. J. Trop. Med. Hyg., 14:136.
6. Morris and Heck, 1978, J. Clin. Microbiol., 8:616.
7. Murray P. R., Baron E. J., Tenover F. C., Pfaller M. A., Yolken R.H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.

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