Technical Information

Liquoid Broth

Product Code: DM 1817

Application: - Liquoid Broth is recommended for screening of blood specimens from suspected bacteremic cases.

Composition**

Ingredients	Gms / Litre
Calf brain, infusion from	12.000
Beef heart, infusion from	5.000
Proteose peptone	10.000
Sodium chloride	5.000
Disodium phosphate	2.500
Dextrose	2.000
Sodium polyanethol sulphonate	0.500
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Liquoid Broth is recommended for the culturing of blood specimens from suspected bacterimia cases (2). Liquoid (Sodium polyanethol sulphonate) is a good anticoagulant. Moreover it is not inhibitory and has the added advantage of annulling the natural bactericidal action of blood (3).

In most bacteriemic conditions in man, the organisms are not numerous. Therefore for their demonstration by blood culture, relatively large amount of blood e.g. 5-10 ml should be used as inoculum. As the bloods natural bactericidal or bacteriostatic action may interfere with the growth of any bacteria present, diluting the blood with medium should annul this effect. The technology of blood culture was revised by Gould and Duerden (1). Up to 10 ml or more blood may be added to 100 ml of broth without a detectable antibacterial effect. The antibacterial effect may be further enhanced by incorporation of substances such as sodium polyanethol sulphonate (SPS).

The medium is composed of rich ingredients for blood culture. Beef heart and calf brain infusion and proteose peptone supply the necessary carbonaceous and nitrogenous nutrients, vitamins and growth factors to the organisms. Dextrose acts as a carbon source and sodium chloride helps to maintain the osmotic equilibrium of the medium. It is advisable to seed more than one medium for blood culture. One of each set of bottles should be incubated in an atmosphere of air with 10% CO_2. It is essential to loosen the caps of bottles during incubation. Growth may produce a generalized turbidity; make subculture from all bottles to solid media.

Methodology

Suspend 37.5 grams of dehydrated media in 1000 ml distilled water. Mix thoroughly & heat if necessary to ensure complete solution. Dispense into bottles or tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired, 1 gm/litre agar can be added to encourage growth of anaerobic organisms. For best results, use the medium on the day it is prepared otherwise boil or steam it to remove dissolved oxygen just before use.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity
Light amber coloured, clear solution without any precipitate

Reaction
Reaction of 3.75% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH Range
7.20-7.60

Cultural Response
DM 1817: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	50-100	luxuriant
Salmonella Typhi ATCC 6539	50-100	luxuriant
Staphylococcus aureus ATCC 25923	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant

Storage and Shelf Life

Dried Media: Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Gould J. C., Duerden B. I., 1983 (Ed.), J. Clin. Pathol., 36: 963-977
2. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
3. Von Haebler T., Miles A. A., The Journal of Pathology and Bacteriology, Vol. 46, Issue 2, Pages 245- 252.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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