Liquoid Broth

MV817

Intended Use:

Recommended for screening of blood specimens from suspected bacteremic cases

Composition**

Ingredients	g / L
HM Infusion powder	12.50
BHI Powder	5.000
Proteose peptone	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate	2.500
Dextrose (Glucose)	2.000
Sodium polyanethol sulphonate	0.500
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 37.5 grams in 1000 ml purified/distilled water. 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.

Principle And Interpretation

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). Upto 10 ml or more blood may be added to 100 ml of broth without a detectable antibacterial effect. The antibacterial effect may be further prevented by incorporation of substances such as sodium polyanethol sulphonate (SPS). Liquoid Broth is used 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).

The medium is composed of rich ingredients for blood culture. HM Infusion powder and proteose peptone provide the necessary carbonaceous and nitrogenous nutrients, vitamins and growth factors to the organisms. Dextrose is the carbon source and sodium chloride maintains 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.

Type of specimen

Clinical samples - Blood

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. This medium is general purpose medium and may not support the growth of fastidious organisms.
2. Further biochemical and serological tests need to 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

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

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

7.20-7.60

Cultural Response

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

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922 (00013*)	50-100	luxuriant
Salmonella Typhi ATCC 6539	50-100	luxuriant
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

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.

4.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

5.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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