

Wilkins Chalgren Anaerobic HiVeg™ Broth Base

MV863

Intended Use:

Recommended for the cultivation and susceptibility testing of anaerobic bacteria.

Composition**

| Ingredients | g / L |
|----------------------|---------|
| HiVeg™ hydrolysate | 10.000 |
| HiVeg™ peptone | 10.000 |
| Yeast extract | 5.000 |
| Dextrose (Glucose) | 1.000 |
| Sodium chloride | 5.000 |
| L-Arginine | 1.000 |
| Sodium pyruvate | 1.000 |
| Ferric pyrophosphate | 0.005 |
| Menadione | 0.0005 |
| Final pH (at 25°C) | 7.1±0.2 |

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33.0 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C before adding antibiotics to be tested. Mix gently and dispense into sterile tubes. For cultivation of anaerobes, aseptically add the rehydrated contents of 2 vials each of Anaero Supplement (FD001) or G.N. Anaero Supplement (FD002) as desired to the sterile molten medium before dispensing into sterile tubes.

Principle And Interpretation

Wilkins Chalgren Anaerobic Broth Base, formulated by Wilkins and Chalgren (1), is the preferred medium for susceptibility testing of anaerobes. This medium is also recommended for testing anaerobic bacteria (2,3,4). Wilkins Chalgren Anaerobic Broth Base is similar to the agar medium, except the agar (5). The broth medium is especially useful in the broth micro-dilution tests (6). Wilkins Chalgren Broth media need to be appropriately supplemented to support the growth of certain anaerobic bacteria. Wilkins Chalgren Anaerobic HiVeg™ Broth Base is prepared by completely replacing animal based peptone with vegetable peptones to avoid BSE/TSE risks associate with animal peptones.

Ferric pyrophosphate and Menadione (Vitamin K3) enhances the growth of *Bacteroides* species and *Prevotella melaninogenica*, respectively and many other species of gram-negative anaerobic rods (3,7). The medium can also be supplemented with defibrinated or lysed blood for the growth of fastidious anaerobic bacteria (5).

HiVeg™ hydrolysate and HiVeg™ peptone serve as sources of essential nutrients including carbon and nitrogen. Yeast extract provides vitamins and other growth factors like purines and pyrimidines that are essential for the growth of *P. melaninogenica*. Arginine serves as an amino acid source while pyruvate serves as an energy source. The medium can be made selective for non-sporing anaerobic bacteria and gram-negative anaerobic bacteria by addition of Anaero Supplement (FD001) and G.N. Anaero Supplement (FD002) respectively.

Type of specimen

Please add specimens

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. Proper anaerobic conditions must be maintained for optimal recovery of organisms

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

Medium amber coloured clear solution in tubes.

Reaction

Reaction of 3.3% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

Cultural characteristics observed with added Anaero Supplement (FD001) and G.N. Anaero Supplement (FD002) Under anaerobic conditions, after an incubation at 35-37°C of 48 hours.

| Organism | Inoculum (CFU) | Growth |
|---|-------------------|-----------|
| <i>Bacteroides fragilis</i> ATCC 25285 | 50-100 | luxuriant |
| <i>Clostridium perfringens</i> ATCC 12924 | 50-100 | luxuriant |
| <i>Prevotella melaninogenica</i> ATCC 15930 | 50-100 | luxuriant |
| <i>Escherichia coli</i> ATCC 25922 (00013*) | >=10 ⁴ | Inhibited |

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°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 (7,8).

Reference

1. Wilkins T. D. and Chalgren S., 1976, Antimicrob. Agents Chemother., 10 : 926
2. Clinical and Laboratory Standards Institute, 2006, Methods for Antimicrobial Susceptibility Testing of Anaerobic Bacteria, Approved standard M11-A3, CLSI, Villanova, Pa.
3. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
4. King A., Phillips I., 1988, J. Antimicrob. Chemother., 21:425-438
5. Gibbons R. J. and MacDonald J. B., 1960, J. Bacteriol., 80:164.
6. Quinto G. and Sebald M., 1964, Am. J. Med. Technol., 30:381.
7. Isenberg (Ed.), 1992, Clinical Microbiology Procedures Handbook, American Society for Microbiology, Washington, D.C.
8. 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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