

PRODUCT SPECIFICATION SHEET

Bile Broth Base (DM036)

Intended Use

Bile Broth Base (DM036) is recommended for cultivation of members of the *Enterobacteriaceae*.

Product Summary and Explanation

The *Enterobacteriaceae* are a large family of Gram-negative bacteria that includes, along with many harmless symbionts, many of the more familiar pathogens, such as *Salmonella*, *Escherichia coli*, *Yersinia pestis*, *Klebsiella* and *Shigella*. Other disease-causing bacteria in this family include *Proteus*, *Enterobacter*, *Serratia*, and *Citrobacter*. Many members of this family are a normal part of the gut flora found in the intestines of humans and other animals, while others are found in water or soil, or are parasites on a variety of different animals and plants. When blood samples from a patient with suspected enteric fever is submitted for the widal test, it is useful as a routine to culture the clot after separation of serum.⁽¹⁾

Principles of the Procedure

Bile Broth Base contains peptic digest of animal tissue serves as a sources of nitrogen. Sodium taurocholate inhibits majority of Gram-positive species. Sodium chloride maintains the isotonicity of the medium whereas addition of streptokinase solution causes rapid clot lysis with release of bacteria trapped in the clot.⁽²⁾

Formula / Liter

| Ingredients | Gms / Liter |
|--|-------------|
| Peptic digest of animal tissue | 20.00 |
| Sodium taurocholate | 5.00 |
| Sodium chloride | 5.00 |
| Final pH: 7.6 ± 0.2 at 25°C | |
| Formula may be adjusted and/or supplemented as required to meet performance specifications | |

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 30 grams in one liter of distilled water.
2. Heat, if necessary, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 40°C and add 1 ml of Streptokinase solution (100000 units/ml). Mix well and dispense as desired.

Quality Control Specifications

| | |
|---------------------------|--|
| Dehydrated Appearance | Cream to yellow homogeneous free flowing powder |
| Prepared Medium | Yellow coloured, clear solution without any haziness |
| Reaction of 3.0% solution | pH 7.6 ± 0.2 at 25°C |
| Gel Strength | Not Applicable |

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

| Sr. No. | Organisms | Results to be achieved | |
|---------|--|------------------------|----------------|
| | | Inoculum (CFU) | Growth |
| 1. | <i>Escherichia coli</i> ATCC 25922 | 50-100 | good-luxuriant |
| 2. | <i>Enterobacter aerogenes</i> ATCC 13048 | 50-100 | good-luxuriant |
| 3. | <i>Salmonella Typhi</i> ATCC 6539 | 50-100 | good-luxuriant |
| 4. | <i>Staphylococcus aureus</i> ATCC 25923 | >=10 ³ | inhibited |

The organisms listed are the minimum that should be used for quality control testing.



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Test Procedure

1. The blood is withdrawn with strict aseptic methods and the clot may be placed in a wide tube half-filled with broth, or in a wide mouth screw-capped bottle containing 80 ml of broth.
2. When there is any doubt regarding the presence of contaminating organisms, and this is always a possibility when blood specimens are sent to the laboratory from a distance, the clot should be transferred directly to a tube of sterile ox bile and disintegrated with aseptic precautions.
3. After overnight incubation the bile culture is examined for enteric organism in the usual manner.
4. A method of clot culture with Streptokinase has been recommended.⁽²⁾
5. Blood is allowed to clot in 5 ml quantities in sterile screw-capped universal containers. The separated serum is removed and 15 ml of 0.5% Bile Broth Base with Streptokinase 100 units/ml is added to each bottle.
6. The streptokinase causes rapid clot lysis with release of bacteria trapped in the clot.⁽²⁾
7. Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and standard test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Bile Broth Base

Product Code : DM036

Available Pack sizes : 100gm

References

1. Colle, J.G., Duguid J.P., Fraser A.G. and Marmion, B.P. (Eds.) 1989 Mackie and McCartney Practical Medical Microbiology, Vol. 2, p:134 Longman Group, UK.
2. Watson, K.C. 1955, Isolation of Salmonella Typhi from the blood stream. J. of Lab and Clinical Medicine 46:128-134.

Further Information

For further information please contact your local MICROMASTER Representative.



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