



Bile Salts Agar

M739S

Intended use

Recommended for isolation and identification of bile tolerant bacteria responsible for food poisoning. It is recommended by BIS committee under the specifications IS:5887(Part V) -1976.

Composition**

Ingredients	Gms / Litre
Peptone	10.000
HM extract #	5.000
Sodium chloride	5.000
Sodium taurocholate	5.000
Agar	15.000
Final pH (at 25°C)	8.5±0.2

**Formula adjusted, standardized to suit performance parameters

- Equivalent to Meat extract

Directions

Suspend 40 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Bile Salt Agar is formulated as recommended by BIS (1) for isolation, identification and enumeration of *Vibrio cholerae*. *Vibrio* species, like many other gram-negative bacteria, grow in the presence of relatively high levels of bile salts (2). On Bile Salt Agar colonies of *Vibrio*'s have a distinctive appearance which may be seen by growing a known strain of *Vibrio cholerae* and comparing it with *Escherichia coli* (1). Suspicious growths may be tested by slide agglutination using polyvalent cholera typing serum.

The medium contains peptone, HM extract which provides carbonaceous, nitrogenous compounds and other essential growth nutrients. Sodium chloride buffers the medium well. Sodium taurocholate inhibits most of the gram-negative organisms.

Type of specimen

Food samples

Specimen Collection and Handling:

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (1,4)

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. Due to nutritional variations, some strains may show poor growth
2. Further biochemical and serological tests must 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

Light yellow coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 8.5±0.2

pH

8.30-8.70

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organism	Inoculum (CFU)	Growth	Recovery
# <i>Klebsiella aerogenes</i> ATCC 13048 (00175*)	50-100	luxuriant	>=50 %
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	>=50%
<i>Salmonella Typhi</i> ATCC 6539	50-100	luxuriant	>=50%
<i>Staphylococcus aureus</i> <i>subsp.aureus</i> ATCC 25923 (00034*)	>=10 ⁴	inhibited	0%
<i>Vibrio cholerae</i> ATCC 15748	50-100	luxuriant	>=50%

Key : (#) *Enterobacter aerogenes*, (*) 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 (2,3).

Reference

1. Bureau of Indian Standards BIS : 5887 (Part V) Reaffirmed 1986.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. 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.
4. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

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Disclaimer :

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