



## Streptococcus Enrichment Broth (SE Broth)

M465

### Intended Use:

Recommended for enrichment of Streptococci (*Enterococcus faecalis*) from clinical and non-clinical samples.

### Composition\*\*

Ingredients	g / L
Tryptone	20.000
Yeast extract	5.000
Bile #	10.000
Sodium chloride	5.000
Sodium citrate	1.000
Esculin	1.000
Ferric ammonium citrate	0.500
Sodium azide	0.250
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

# Equivalent to Bovine bile

### Directions

Suspend 42.8 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Dispense in 9 ml amounts into test tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 20 minutes.

### Principle And Interpretation

The ability of *Enterococci* to hydrolyze the esculin was first observed by Rochaix (1). The *Enterococci* can hydrolyze the esculin but not the other *Streptococci* can do it. Presumptive identification of group D *Streptococci* by bile esculin test was reported by Facklam and Moody (2). Later on Bile Esculin medium was modified by Isenberg et al (3) by reducing the bile concentration and by adding sodium azide to the medium.

Tryptone and yeast extract provide nitrogenous compounds, carbon, sulphur, trace elements and vitamin B complex, essential for *Streptococci*. Esculin is hydrolyzed by group D *Streptococci* (including *Enterococci*) to esculetin and dextrose. Esculetin reacts with ferric ammonium citrate to form a dark brown-black coloured complex (4). Bile inhibits gram-positive bacteria other than *Streptococci*. Sodium azide inhibits gram-negative bacteria.

### Type of specimen

Clinical samples - Faeces; Food and dairy samples; Water samples

### Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (7,8,9). For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(10) After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions :

In Vitro diagnostic Use only. For professional use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

### Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
3. Further biochemical and serological tests must be carried out for further identification.

## 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

Yellow coloured homogeneous free flowing powder

### Colour and Clarity of prepared medium

Light amber coloured clear solution with a bluish tinge.

### Reaction

Reaction of 4.28% w/v aqueous solution at 25°C. pH : 7.0±0.2

### pH

6.80-7.20

### Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of medium
<i>Escherichia coli</i> ATCC 25922 (00013*)	≥10 <sup>4</sup>	inhibited	0%	-
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	50-100	good-luxuriant	≥50%	black
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥10 <sup>4</sup>	inhibited	0%	-

Key : \*Corresponding WDCM numbers.

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

## Reference

1. Rochaix, 1924, C.R. Soc. Biol., 90:771.
2. Facklam and Moody, 1970, Appl. Microbiol., 20:245.
3. Isenberg, Goldberg and Sampson, 1970, Appl. Microbiol., 20:433.
4. MacFaddin J., 1980, Biochemical Tests for Identification of Medical Bacteria, 2nd ed., Williams and Wilkins, Baltimore.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.
7. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
8. 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.
9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
10. Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.



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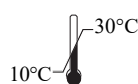
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**Storage temperature**



**Do not use if  
package is damaged**

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