



Streptococcus Enrichment Broth (SE Broth)

M465

Streptococcus Enrichment Broth (SE Broth) is used for enrichment of Streptococci.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Yeast extract	5.000
Bovine 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

Directions

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

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

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.

Casein enzymic hydrolysate 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). Bovine bile inhibits gram-positive bacteria other than Streptococci. Sodium azide inhibits gram-negative bacteria.

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

M465: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours .

Organism	Growth	Colour of medium
<i>Escherichia coli</i> ATCC 25922	inhibited	-

Enterococcus faecalis ATCC good-luxuriant black
29212

Staphylococcus aureus inhibited
ATCC 25923

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

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.

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