

Technical Information

Streptococcus Selection Broth

Product Code: DM 1303

Application: Streptococcus Selection Broth is recommended for selective isolation and enumeration of all types of Streptococci, including group A beta haemolytic strains.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Papaic digest of soyabean meal	5.000
Sodium chloride	4.000
Sodium citrate	1.000
L-Cystine	0.200
Sodium sulphite	0.200
Dextrose	5.000
Sodium azide	0.200
Crystal violet	0.0002
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Streptococcus Selection Broth is based on the scientific research of Pike ⁽¹⁾, for the selective isolation of Streptococci from various materials, specially those which are heavily contaminated with accompanying microbial flora ⁽²⁾. Welch et al ⁽³⁾ also reported the abilities of this medium to recover group A b-haemolytic Streptococci from such clinical specimens.

Casein enzymic hydrolysate, papaic digest of soyabean meal, dextrose and salts provide nutrients essential for the growth of Streptococci. Sodium azide, sodium sulphite inhibits the growth of gram-negative rods and the crystal violet suppresses Staphylococci. However, growths of Streptococci are not affected by these inhibitors at these concentrations. Due to this reason, these media are useful in studies of streptococcal flora from nutritional, dental and epidemiological research. Growth of coliforms, Proteus, Pseudomonas and Bacillus species is markedly suppressed in this medium. However, some strains of Staphylococci and Pneumococci may grow in this medium. All presumptive streptococci must be confirmed for identification using standard procedures.

Methodology

Suspend 30.6 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Autoclaving is not required if medium is used on the same day. If storage is desired, sterilize by autoclaving at 118°C for 15 minutes. Avoid overheating. Mix well and dispense as desired.

Caution: Sodium azide has a tendency to form explosive metal-azide with plumbing material. It is advisable to use enough water to flush off the disposable.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light to medium amber coloured clear to slightly opalescent solution in tubes.

Reaction

Reaction of 3.06% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH range 7.20-7.60

Cultural Response/Characteristics

DM1303: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth
<i>Bacillus subtilis</i> ATCC 6633	≥10 ³	inhibited
<i>Escherichia coli</i> ATCC 25922	50-100	none-poor
<i>Enterococcus faecalis</i> ATCC 29212	50-100	luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 27853	≥10 ³	inhibited
<i>Staphylococcus aureus</i> ATCC 25923	50-100	none-poor
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8^o in sealable plastic bags for 2-5 days.

Further Reading

1. Pike R.M., 1945, Am. J. Hyg., 41:211.
2. Facklam and Carly, 1985, Manual of Clinical Microbiology, Lennette and others (Eds.), 4th ed., ASM, Washington D.C.
3. Welch D.F. et al, 1991, Am. J. Clin. Pathol., 95:587.

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