

Technical Information

Streptococcus Selection Agar

Product Code: DM 1304

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

Composition**

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

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Pike ⁽¹⁾ formulated Streptococcus Selection Agar / Broth for the selective isolation of Streptococci from various materials, especially those which are heavily contaminated with heterogenous microbial flora ⁽²⁾. Quality of these media to recover group A beta-haemolytic Streptococci has been reported by Welch et al ⁽³⁾.

Casein enzymic hydrolysate, papaic digest of soyabean meal, dextrose and salts in the medium provide nutrients essential for the growth of Streptococci. Sodium azide and sodium sulphite inhibit gram-negative rods while crystal violet suppresses Staphylococci. However, Streptococci are not affected by these inhibitors at these concentrations. Due to this reason, this media is useful in studies of streptococcal flora from nutritional, dental and epidemiological specimens. 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 streptococcal colonies must be confirmed for identification using additional tests.

Methodology

Suspend 45.6 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 metalazide 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

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light to medium amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.56% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH range 7.20-7.60

Cultural Response/Characteristics

DM 1846: Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	>=10 ³	inhibited	0%
<i>Enterococcus faecalis</i> ATCC 29212	50-100	Luxuriant	>=50%
<i>Escherichia coli</i> ATCC 25922	50-100	none-poor	<=10%
<i>Pseudomonas aeruginosa</i> ATCC 27853	>=10 ³	Luxuriant	0%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	none-poor	<=10%
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	Luxuriant	>=50%

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. Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C. ,.
3. Welch D. F., Henel D., Pickett D., Johnson S., 1991, Am. J. Clin. Pathol., 95:587.

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