

Technical Information

Pike Streptococcal Broth Base

Product Code: DM 1519

Application: Pike Streptococcal Broth is used for the selective enrichment and cultivation of *streptococci* from throat swabs and other clinical specimens.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Tryptose	10.000
Yeast extract	10.000
Dextrose	0.200
Sodium azide	0.065
Crystal violet	0.002
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Streptococcus is a genus of spherical, gram-positive bacteria having both pathogenic and commensal role. *Streptococci* are subdivided into groups by group specific antisera that recognize surface antigens. The most important groupable *streptococci* are A, B and D and each group may include one or more species. Individual species of *Streptococcus* are classified primarily based on their hemolytic properties using appropriate media. Pike Streptococcal Broth is prepared as per the formula described by Pike ⁽¹⁾ for selective enrichment and cultivation of haemolytic streptococci from throat swabs ⁽²⁾. This medium is also used to preserve *Streptococcus pyogenes*, *pneumococci* and *Haemophilus influenzae* from nose and throat swabs for further studies ⁽³⁾.

Casein enzymic hydrolysate, tryptose and yeast extract provide nitrogenous nutrients, carbon, sulphur, vitamin B complex, trace elements for the growth of haemolytic *streptococci*. Dextrose acts as the energy source. Crystal violet inhibits gram-positive bacteria and sodium azide inhibits gram-negative rods and non-haemolytic *streptococci* ⁽⁴⁾.

Methodology

Suspend 30.26 grams of powder media in 1000 ml distilled water. Shake well & heat if necessary to dissolve the medium completely. Dispense in 100 ml amounts in flasks. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 5% v/v sterile defibrinated rabbit blood. Mix well and dispense aseptically in 2 ml amounts in sterile tubes.

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.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow coloured clear solution without any precipitate

Reaction

Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH range

7.20-7.60

Cultural Response/Characteristics

DM 1519: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	Inhibited	
<i>Enterobacter aerogenes</i> ATCC 13048	$\geq 10^3$	Inhibited	$\geq 50\%$
<i>Enterococcus faecalis</i> ATCC 29212	50-100	Good-luxuriant	0%
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	Inhibited	$\geq 50\%$

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° in sealable plastic bags for 2-5 days.

Further Reading

1. Pike R. M., 1944, Proc. Soc. Exptl. Biol. and Med., 57:186.
2. Pike R. M., 1945, Am. J. Hygiene, 41:211.
3. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore

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