



## Pike Streptococcal Broth Base

M519

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

### Directions

Suspend 30.26 grams in 1000 ml distilled water. 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.

### Principle And Interpretation

*Streptococcus* is a genus of spherical, gram-positive bacteria having both pathogenic and commensal role. *Streptococci* are subdivided into groups by antibodies that recognize surface antigens. These groups may include one or more species. The most important groupable *streptococci* are A, B and D. Individual species of *Streptococcus* are classified primarily based on their hemolytic properties (breakdown of red blood cells in a laboratory). 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 (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).

### Quality Control

#### 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

7.20-7.60

#### Cultural Response

M519: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

| Organism | Inoculum<br>(CFU) | Growth |
|----------|-------------------|--------|
|----------|-------------------|--------|

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|                                                |             |                |
|------------------------------------------------|-------------|----------------|
| <i>Escherichia coli</i> ATCC 25922             | $\geq 10^3$ | inhibited      |
| <i>Enterobacter aerogenes</i> ATCC 13048       | $\geq 10^3$ | inhibited      |
| <i>Enterococcus faecalis</i> ATCC 50-100 29212 |             | good-luxuriant |
| <i>Staphylococcus aureus</i> ATCC 25923        | $\geq 10^3$ | inhibited      |

### 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. 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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