STREPTOCOCCUS SELECTIVE AGAR
STREPTOCOCCUS SELECTIVE BROTH

Dehydrated culture media

1 - INTENDED USE

For the selective enrichment and isolation streptococci.

2- COMPOSITION

TYPICAL FORMULA (AFTER RECONSTITUTION WITH 1 L OF WATER) *

Streptococcus Selective Agar

Tryptone	15.0 g
Soy peptone	5.0 g
Sodium chloride	4.0 g
L-cystine	0.2 g
Sodium Sulphite	0.2 g
Glucose	5.0 g
Sodium azide	0.2 g
Agar	15.0 g
Sodium citrate	1.0 g
Crystal violet	0.2 mg

Streptococcus Selective Broth

Tryptone	15.0 g
Soy peptone	5.0 g
Sodium chloride	4.0 g
L-cystine	0.2 g
Sodium sulphite	0.2 g
Glucose	5.0 g
Sodium azide	0.2 g
Sodium citrate	1.0 g
Crystal violet	0.2 mg

*The formula may be adjusted and/or supplemented to meet the required performances criteria.

3 - PRINCIPLE OF THE METHOD AND EXPLANATION OF THE PROCEDURE

Streptococcus Selective Agar and Broth are prepared according to the formulation devised by Pike[1,2] The media are known also as Pike Streptococcus Agar/Broth or Streptococcus Enrichment Broth.
They have been proposed for the selective enrichment and isolation of streptococci from various materials, especially those which are heavily contaminated with accompanying microbial flora.[3] They favour the growth of beta-haemolytic streptococci.[3,4]
Tryptone and soy peptone provide nitrogen and minerals for microbial growth, glucose is a source of carbon and energy, sodium chloride is a source of electrolytes and maintains the osmotic equilibrium. Sodium azide and sodium sulphite inhibit Gram-negative bacteria while crystal violet suppresses the growth of staphylococci. Beta-haemolytic streptococci are not affected at the low concentration of crystal violet.

4- DIRECTIONS FOR MEDIUM PREPARATION

Streptococcus Selective Agar

Suspend 45.6 g in 1000 mL of cold purified water. Heat to boiling with frequent agitation and sterilise by autoclaving at 118ºC for 15 minutes. Do not overheat.

Streptococcus Selective Broth

Suspend 30.6 g in 1000 mL of cold purified water. Heat to boiling with frequent agitation, distribute and sterilise by autoclaving at 118ºC for 15 minutes. Do not overheat

5 - PHYSICAL CHARACTERISTICS

Streptococcus Selective Agar and Streptococcus Selective Broth

Dehydrated medium appearance	pale yellow, fine, homogeneous, free-flowing powder
Solution and prepared tubes/plates appearance	pale yellow, limpid
Final pH at 20-25°C	7.4 ± 0.2

6 - MATERIALS PROVIDED - PACKAGING

Product	Type	REF	Pack
Streptococcus Selective Agar	Dehydrated medium	4020872	500 g (11 L)
Streptococcus Selective Broth	Dehydrated medium	4020882	500 g (16.3 L)

7 - MATERIALS REQUIRED BUT NOT PROVIDED

Autoclave, water-batch, sterile loops, needles and swabs, incubator and laboratory equipment as required, ancillary culture media and reagents for the identification of the cultures.

8 - SPECIMENS

Various materials, especially those which are heavily contaminated with accompanying microbial flora.

9 - TEST PROCEDURE

Inoculate the specimen as soon as possible after collection. For isolation procedure, streak with a loop over the four quadrants of the plate of Streptococcus Selective Agar to obtain well isolated colonies. Alternatively, if the material is being cultured directly from a swab, roll the swab over a small area of the surface at the edge; then streak from this inoculated area.
For the enrichment procedure put the swab directly into Streptococcus Selective Broth and discharge the material by rotating the swab.
Incubate aerobically at 35-37°C for 18-24 hours

10 - READING AND INTERPRETATION

After incubation, observe the bacterial growth (turbidity) on the broth and record the specific morphological and chromatic characteristics of the colonies on the agar. Subculture to appropriate plate and biochemical media for identification.

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11 - USER QUALITY CONTROL

All manufactured lots of the product are released for sale after the Quality Control has been performed to check the compliance with the specifications. However, it is responsibility of the end-user to perform Quality Control testing in accordance with the local applicable regulations, in compliance with accreditation requirements and the experience of the Laboratory. Here below are listed some test strains useful for the quality control.

CONTROL STRAINS	INCUBATION T°/ t / ATM	EXPECTED RESULTS
S.pyogenes ATCC 19615	35-37°C / 18-24 h / A	good growth
E.coli ATCC 25922	35-37°C / 18-24 h / A	inhibited

A: aerobic incubation; ATCC is a trademark of American Type Culture Collection

12 - LIMITATIONS OF THE METHOD

- Biochemical, immunological, molecular, or mass spectrometry testing should be performed on isolates, from pure culture, for complete identification.

13 - PRECAUTIONS AND WARNINGS

- These products are for Laboratory use and for professional use only; they are to be used by adequately trained and qualified laboratory personnel, observing approved biohazard precautions and aseptic techniques.
- Dehydrated media must be handled with suitable protection. Before use, consult the Safety Data Sheet.
- Apply Good Manufacturing Practice in the production process of prepared media.
- These culture media contain raw materials of animal origin. The *ante* and *post mortem* controls of the animals and those during the production and distribution cycle of the raw materials, cannot completely guarantee that this product doesn't contain any transmissible pathogen. Therefore, it is recommended that the culture medium be treated as potentially infectious, and handled observing the usual specific precautions: do not ingest, inhale, or allow to come into contact with skin, eyes, mucous membranes. Download the TSE Statement from the website www.biolifeitaliana.it, describing the measures implemented by Biolife Italiana for the risk reduction linked to infectious animal diseases.
- All laboratory specimens should be considered infectious.
- The laboratory area must be controlled to avoid contaminants such as culture medium or microbial agents.
- Sterilize all biohazard waste before disposal. Dispose the unused medium and the sterilized media inoculated with samples or microbial strains in accordance with current local legislation.
- Do not use the culture media as active ingredient for pharmaceutical preparations or as production material intended for human and animal consumption.
- The Certificates of Analysis and the Safety Data Sheet of the products are available on the website www.biolifeitaliana.it.
- The information provided in this document has been defined to the best of our knowledge and ability and represents a guideline for the proper use of the product but without obligation or liability. In all cases existing local laws, regulations and standard procedures must be observed for the examination of samples collected from human and animal organic districts, for environmental samples and for products intended for human or animal consumption. Our information does not relieve our customers from their responsibility for checking the suitability of our product for the intended purpose.

14 - STORAGE CONDITIONS AND SHELF LIFE

Upon receipt, store at +10°C /+30°C away from direct light in a dry place. If properly stored, it may be used up to the expiration date. Do not use beyond this date. Avoid opening the bottle in humid places. After use, the container must be tightly closed. Discard the product if the container and/or the cap are damaged, or if the container is not well closed, or in case of evident deterioration of the powder (colour changes, hardening, large lumps).
The user is responsible for the manufacturing and quality control processes of prepared media and for the validation of the shelf life of the finished products, according to the type (plates/tubes/bottles) and the storage method (temperature and packaging).

15 – REFERENCES

1. Pike RM. Enrichment broth for isolating hemolytic streptococci from throat swabs. Proc Soc Exp Biol Med 1944; 57:186.
2. Pike RM. Isolation of hemolytic streptococci from throat swabs; experiments with sodium azide and crystal violet in enrichment broth. Am J Hyg 1945; 41:211.
3. MacFaddin JF. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Baltimore: Williams & Wilkins; 1985.
4. Welch DF, Hensel D, Pickett D, Johnson S. Comparative evaluation of selective and nonselective culture techniques for isolation of group A beta-haemolytic streptococci. Am J.Clin.Pathol 1991; 95:587.

TABLE OF APPLICABLE SYMBOLS

REF or REF Catalogue number	LOT Batch code	Manufacturer	Store in a dry place	Use by
Temperature limitation	Contents sufficient for <n> tests	Consult Instructions for Use	Keep away from direct light	

REVISION HISTORY

Version	Description of changes	Date
Revision 1	Updated layout and content	2022/05

Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

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