ß- Streptococcus Selective Agar Base

M1608

ß-Streptococcus Selective Agar Base is used for the isolation of ß-haemolytic *streptococci* from clinical specimens heavily contaminated with other bacteria.

Composition**

Ingredients	Gms / Litre
Meat peptone	1.000
Meat extract	0.600
Yeast extract	0.500
L-Lysine	0.020
Sodium chloride	6.000
Disodium hydrogen phosphate	2.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.12 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and add 7-10% sheep blood. Mix well and pour into sterile Petri plates.

Principle And Interpretation

The majority of ß-haemolytic streptococci causing infections in man belong to group A and are given the species name of *Streptococcus pyogenes* . This pathogen causes a variety of inflammatory and suppurative conditions such as sore throat, scarlet fever, cellulites, wound infections, erysipelas, impetigo, puerperal fever, otitis media, septicemia and necrotizing fasciitis. It is also found in the throat or nasal cavity (1). ß-Streptococcus Selective Agar Base was described by Liebermeister and Braveny (2, 3) for isolating ß-haemolytic *streptococci* . This medium proves to be a nutritionally limiting medium for the accompanying flora, so that their growth is markedly reduced. ß-haemolytic *streptococci* also show reduced colony size but exhibit distinct ß-haemolysis. This medium gives higher yields of ß -haemolytic *streptococci* than the regularly used blood agar.

The ß-haemolysis of *streptococci* , producing a greenish discoloration is restricted on this medium. Yeast extract and lysine promote the haemolytic action of ß-haemolytic *streptococci* (2, 4). Meat extract and meat peptone serve as sources of carbon, nitrogen and essential growth factors. Sodium chloride maintains the osmotic equilibrium of the medium whereas disodium hydrogen phosphate buffers the medium.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Basal medium yields light amber coloured clear to slightly oplalescent gel. On addition of 7-10% v/v sterile sheep blood cherry red coloured opaque gel forms in Petri plates.

Reaction
Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.80

Cultural Response
M1608: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours with added 7-10% v/v sterile defibrinated blood.

Organism	Growth	Beta-haemolysis
Cultural Response		
Bacillus cereus ATCC 11778	fair-good	positive
Pseudomonas aeruginosa ATCC 27853	fair-good	positive
Enterococcus hirae ATCC 8043	fair-good	negative
Streptococcus agalactiae ATCC 13813	fair-good	negative
Staphylococcus aureus ATCC 25923	fair-good	negative
Streptococcus pyogenes ATCC 12344	fair-good	positive
Enterococcus faecalis ATCC 11700	fair-good	negative

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. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 14th Edition, 1996, Churchill Livingstone
2. Bernheimer A. W., Rodbart M., 1948, J. Exp. Med, 88; 149
3. Liebermeister K., Braveny J., 1971 Z. med. Mikrobiol. u. Immunol, 156, 149 -1534. Okamoto H., Kyoda S., Ito R., 1939, Jap. J. Med. Sci, VI Pharmacol, 12, 167.

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