Liebermeister & Braveny Agar

Art. No. 01-446

Specification

Solid medium for the selective isolation of β-haemolytic streptococci from throat samples.

Formula* in g/L

Meat peptone	1,00
Meat extract	0,60
Yeast extract	0,50
L(+)Lysine	0,02
Sodium chloride	6,00
Disodium phosphate	2,00
Agar	15,00

Final pH 7,2 ± 0,2 at 25°C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 25 g of powder in 930 mL of distilled water and bring to the boil. Distribute into containers and sterilize in the autoclave at 121°C for 15 minutes. Cool to 45°C, then add 70 mL/L of defibrinated Sheep blood. Homogenize well and pour into plates.

Description

Despite its simplicity, this medium has a better yield in the recovery of β-haemolytic streptococci than commonly used Blood Agar.

Okamoto *et al.* and, later Bernheimer & Rodbart demonstrated the strong stimulatory effect of nucleic acids on the haemolytic properties of streptococci. Liebermeister & Braveny formulated a medium with insufficient nutrients for the normal development of microorganisms but with an increased amount of nucleic acids in the yeast extract. Moreover, they also included lysine, which has a stimulatory effect on haemolysis similar to that the nucleic acids.

The result is that β-haemolysis streptococci form only small colonies that have zones of haemolysis of average or greater than average size. Viridans streptococci (α-haemolytic) show virtually no growth, and if haemolysis zones form at all, they are minimal.

Technique

Plates are surface inoculated and incubated at 37°C for 24-48 hours. After incubation small colonies form which are surrounded by large, well defined haemolytic zone. Staphylococci and enterococci are almost completely inhibited and also the majority of viridans streptococci.

References

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Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

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Quality control

Incubation temperature: 35°C ± 2,0
Incubation time: 24 - 48 h
Inoculum: 10-100 CFU. Spiral Plate Method (according to standard ISO/TS 11133-1/2)

Microorganism	Growth	Remarks
Staphylococcus aureus ATCC 25923	Productivity > 0.70	β -haemolysis
Escherichia coli ATCC 8739	Productivity > 0.70	γ -haemolysis
Enterococcus faecalis ATCC 29212	Productivity > 0.70	γ -haemolysis
Enterococcus faecalis ATCC 19433	Productivity > 0.70	γ -haemolysis
Staphylococcus aureus ATCC 6538	Productivity > 0.70	β -haemolysis
Streptococcus pneumoniae ATCC 49619	Productivity > 0.70	β -haemolysis
Streptococcus pyogenes ATCC 19615	Productivity > 0.70	α -haemolysis

www.scharlab.com
scharlab@scharlab.com