

Mitis Salivarius Agar (i23384)

Mitis Salivarius Agar is used with Tellurite Solution 1% in isolating *Streptococcus mitis*, *S. salivarius* and *enterococci*, particularly from grossly contaminated specimens.

Industry: Clinical / Food / Dairy / Water

Principles & Uses

Mitis Salivarius Agar is a specialized medium designed for the isolation of *Streptococcus mitis*, *Streptococcus salivarius*, and *enterococci* from complex mixtures. It follows the formulation established by Chapman. This medium contains peptone, serving as vital sources of carbon, nitrogen, vitamins, and minerals necessary for bacterial growth. Dextrose and sucrose act as fermentable carbohydrates. Dipotassium phosphate functions as a buffering agent, while trypan blue imparts a blue color to colonies. Crystal violet and potassium tellurite, derived from a 1% tellurite solution, play dual roles by inhibiting most gram-negative bacilli and gram-positive bacteria except for *streptococci*. Additionally, the crystal violet is a base dye for the medium.

Mitis Salivarius Agar, with its selective nature, is crucial for obtaining pure cultures of these *streptococci* from highly contaminated samples like body exudates and feces. Some variations of this medium include the addition of sodium azide to further inhibit gram-negative bacteria, such as *Proteus*. It's important to note that *Streptococcus mutans* strains may occasionally be inhibited due to the high trypan blue concentration, and in some cases, longer incubation is needed to distinguish certain *S. mitis* strains more effectively.

Composition (gr/L)

Pancreatic Digest of Casein 6, Proteose Peptone No. 3 9, Proteose Peptone 5, Dextrose 1, Sucrose 50, Dipotassium Phosphate 4, Trypan Blue 0.075, Crystal Violet 0.0008, Agar 15.

Final pH at 25°C 7.0 ± 0.2

Preparation from dehydrated Powder

Suspend 90 g of the powder in 1 Liter of purified water. Autoclave at 121°C for 15 minutes. Cool to 50-55°C. Add 1 mL of Tellurite Solution 1%. DO NOT HEAT THE COMPLETE MEDIUM.

Quality Control

Dehydrated Appearance: Bluish-beige, free-flowing, homogeneous.

Prepared Appearance: Deep royal blue, slightly opalescent.

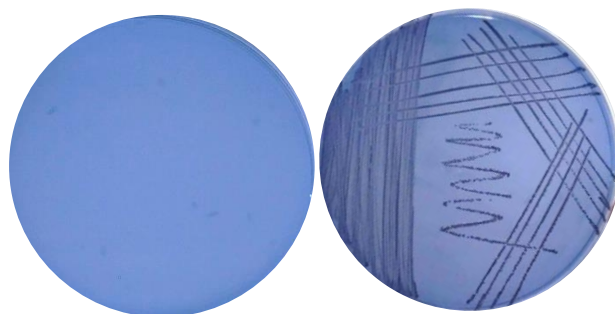
Reaction of 9.0% Solution at 25°C: pH 7.0 ± 0.2

Cultural Response

Cultural response was observed under 5-10% CO₂ at 35 ± 2°C for 18-48 hours.

Organism (ATCC*)	Recovery	Colony Color
<i>Enterococcus faecalis</i> (19433)	Good	Blue/Black
<i>Streptococcus salivarius</i> (9758)	Good	Blue gum drop shape
<i>Escherichia coli</i> (25922)	Partial to complete inhibition	Brown, if any
<i>Staphylococcus aureus</i> (25923)	Partial to complete inhibition	-

*ATCC is a registered trade mark of the American Type Culture Collection.



Deep royal blue culture media (left). Blue colonies of *E. faecalis* (right)

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.