Stuart transport medium (i23272)

Used for collecting, transporting and preserving microbiological specimens.

Industry: Transport Media / clinical

Principles & Uses

Stuart Transport Medium, originally designed for the study of *Gonococci*, has evolved to become a semi-solid medium crucial for the transport and preservation of various biological samples, including fastidious microorganisms like *Neisseria* spp. or *Haemophilus influenzae*. Developed by Stuart, the medium has undergone modifications, including the addition of thioglycollate and exclusion of charcoal. It serves to maintain the viability of organisms during transportation, especially when immediate inoculation into a culture medium isn't feasible.

This non-nutritive medium contains essential components like sodium thioglycollate, calcium chloride, and sodium glycerophosphate. Sodium thioglycollate delays oxidation, ensuring the recovery of anaerobes, while calcium chloride and sodium glycerophosphate act as buffering agents, maintaining osmotic balance. Methylene blue serves as a redox indicator, with a distinctive blue color indicating the presence of oxygen. Chilling specimens should be avoided, as it might be detrimental to certain organisms. The medium provides an adequate anaerobic environment. Stuart Transport Medium stands as a valuable tool in microbiological transportation, facilitating the preservation of sample integrity until laboratory processing.

Composition (gr/L)

Sodium Thioglycollate 1 g, Sodium Glycerophosphate 10 g, Calcium Chloride 0.1 g, Methylene Blue 0.002 g, Agar 3 g.

Final pH at 25°C 7.4 ± 0.2

Preparation from dehydrated Powder

Suspend 14.1 g of powder in 1 L of distilled water. Mix thoroughly. Dispense in small screw-capped bottles or vials, filling them almost to capacity. Leave only enough space to permit acceptance of a small swab without overflow when in use. Autoclave at 121°C for 10 minutes or steam for 1 hour. After autoclaving, tighten caps immediately.

Quality Control

Dehydrated Appearance: White to light blue colored, free-flowing powder.

Prepared Appearance: Off white colored gel, semi-solid gel.

Reaction of 1.41% Solution at 25°C: pH 7.4 ± 0.2

Cultural Response

The following results were obtained in the performance of the medium from type cultures kept at different temperatures (4°C and room temperature: 22°C) up to 72 hours.

Organism (ATCC*)	Recovery at 4°C	Recovery at 25°C
Bordetella pertussis (9340)	≥50%	≥50%
Haemophilus influenza (19418)	≥50%	≥50%
Neisseria gonorrhoeae (19424)	≥50%	≥50%
Shigella flexneri (12022)	≥50%	≥50%
Streptococcus pneumoniae (6301)	≥50%	≥50%

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

Storage

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