

STUART TRANSPORT MEDIUM

INTENDED USE

Remel Stuart Transport Medium is a semisolid medium recommended for use in the transport and preservation of microbiological specimens.

SUMMARY AND EXPLANATION

Transport media are designed to preserve the viability of microorganisms when immediate inoculation of growth media is not possible. Stuart Transport Medium was originally described by Stuart, in 1946.¹ Moffett et al. applied the Stuart formulation to preserve viability of fastidious organisms, including *Neisseria* spp., during transport from clinic to laboratory.² In 1954, Stuart et al. successfully used Stuart Transport Medium to transport specimens, intended for recovery of *Neisseria gonorrhoeae*, to the laboratory.³ In 1957, Cooper described the use of Stuart's medium for transport of swabs containing upper respiratory tract specimens and fecal specimens.⁴

PRINCIPLE

Stuart Transport Medium is a nonnutritional medium which maintains the viability of organisms without significant multiplication. The small agar content provides a semisolid consistency which prevents oxidation and drying during transport. Sodium thioglycollate is added to produce a reduced environment so as to improve the recovery of anaerobes. Methylene blue is the oxidation-reduction indicator. The medium appears colorless in the reduced state and blue in the oxidized state. Calcium chloride maintains permeability of bacterial cells and sodium glycerophosphate maintains the pH of the medium.

REAGENTS (CLASSICAL FORMULAE)*

Sodium Glycerophosphate.....	10.0 g	Methylene Blue.....	2.0 mg
Sodium Thioglycollate.....	1.0 g	Agar.....	3.0 g
Calcium Chloride.....	0.1 g	Demineralized Water.....	1000.0 ml

pH 7.4 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE

1. Place each swab specimen in Stuart Transport Medium and aseptically remove the protruding portion of swab.
2. Replace the cap and tighten completely.
3. Send the swab specimen to the laboratory as soon as possible.
4. Upon arrival at the laboratory, aseptically remove the swab with forceps.
5. Inoculate appropriate growth media for culture following established laboratory guidelines. Apply the material from the swab itself, and not just the adhering transport medium.

QUALITY CONTROL

All lot numbers of Stuart Transport Medium have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL

Streptococcus pyogenes ATCC® 19615
Bacteroides fragilis ATCC® 25285
Pseudomonas aeruginosa ATCC® 27853

INCUBATION

Aerobic, 24 h @ 25-30°C
Aerobic, 24 h @ 25-30°C
Aerobic, 24 h @ 25-30°C

RESULTS

Growth recovered on subculture
Growth recovered on subculture
Growth recovered on subculture

LIMITATIONS

1. Stuart Transport Medium will undergo a slight degree of oxidation indicated by a blue color at the upper periphery of the medium. If the medium exhibits a distinct blue color throughout, discard the tube.⁵
2. Sodium glycerophosphate is a buffer; however, some organisms metabolize glycerophosphate with resultant promotion of bacterial growth.⁵
3. All specimens should be transported to the laboratory without delay and maintained at room temperature until processed. Chilling may be detrimental to some organisms.⁶

BIBLIOGRAPHY

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Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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