Technical Information

Stuart Transport Medium (Transport Medium, Stuart)

Product Code: DM 1306

Application: Transport Medium Stuart is recommended for the preservation and transportation of *Neisseria* species and other fastidious organisms from the clinic to laboratory.

Composition**

Ingredients	Gms / Litre
Sodium glycerophosphate	10.000
Sodium thioglycollate	1.000
Calcium chloride	0.100
Methylene blue	0.002
Agar	3.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Stuart Transport media were originally formulated by Stuart while studying Gonococci [1]. Stuart et al [2] later on modified the Stuart Medium for the transportation of gonococcal specimens for culturing. Ringertz added thioglycollate in the Stuart Medium and omitted charcoal [3]. Th is medium may be used for the transportation of many fastidious organisms including anaerobes by maintaining the organism's viability without significant multiplication [4]. Crooks and Stuart [5] found that the addition of Polymyxin B sulphate facilitates the recovery of Neisseria gonorrhoeae.

This medium is a chemically defined, semisolid, non-nutrient medium which prevent microbial proliferation. Because of this composition the medium ensures that microorganisms present are able to survive for a sufficiently longer time. The medium provides an adequate degree of anaerobiosis which can be monitored by means of the redox indicator methylene blue. Prepared sterile medium will undergo a slight degree of oxidation at the upper periphery of the medium; however, if the tube or vial exhibits a distinct blue colour throughout the medium, it should be discarded. Calcium chloride along with sodium glycerophosphate acts as good buffering agent and also maintains osmotic equilibrium in the medium.

Methodology

Suspend 14.1 grams of powder media in 1000 ml double distilled water. Shake well & heat to dissolve the medium completely. Dispense into tubes with screw caps to give a depth of approximately 7 cm. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes and after sterilization tighten the caps. Cool the tubes immediately in an upright position. Care should be taken that the water is free from chlorine.

Quality Control

Physical Appearance
White to light blue coloured homogeneous free flowing powder

Gelling
Semisolid, comparable with 0.3% Agar gel.

Colour and Clarity of prepared medium
Colourless to whitish coloured slightly opalescent butt with upper 10% or less portion blue on standing.

Reaction
Reaction of 1.41% w/v aqueous solutions at 25°C. pH : 7.4±0.2

pH range 7.20-7.60

Cultural Response/Characteristics
DM 1306: Cultural characteristics observed after an incubation at 35 - 37°C for 72 hours when subcultured from Stuart Transport Medium.

Organism	Growth	Subculture Medium
Haemophilus influenzae ATCC 49247	good	Chocolate Agar (incubated in CO_2 atmosphere)
Neisseria gonorrhoeae ATCC 19424	good	Chocolate Agar (incubated in CO_2 atmosphere)
Streptococcus pneumoniae ATCC 6303	good	Tryptone Soya Agar with 5% sheep blood

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Stuart, 1946, Glasgow Med. J. 27:13 1.
2. Stuart, Toshach and Patsula, 1954, Can. J. Public Health, 45:73.
3. Ringertz, 1960, Acta Pathol. Microbiol. Scand., 48:105.
4. Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
5. Crookes E.M.L. and Stuart R.D., 1959, J. Path. Bact., 78:283.

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- User must ensure suitability of the product(s) in their application prior to use.
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