Transgrow Medium Base

M1149

Transgrow Medium Base with added supplements is recommended for the cultivation and transport of fastidious microorganisms especially *Neisseria* species.

Composition**

Ingredients	Gms / Litre
Peptone, special	15.000
Sodium chloride	5.000
Corn starch	1.000
Dipotassium phosphate	4.000
Monopotassium phosphate	1.000
Agar	20.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 92 grams in 870 ml distilled water to make a double strength medium base. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 100 ml sterile solution of 2% Haemoglobin (FD022), 2 vials of Vitamino Growth Supplement (FD025) and rehydrated contents of 2 vials of V.C.N. Supplement (FD023) or V.C.N.T. Supplement (FD024). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Gonococcus is a very fastidious organism and care should be taken in the collection of specimens and their transport to the laboratory. Best results are achieved by the direct inoculation of culture plates with patients secretions, followed by immediate incubation at 36-37°C in a moist atmosphere containing 5-10% CO2. When direct plating and immediate incubation is impracticable, several transport and culture systems are available. These consist of a selective medium, usually present in small chambers containing CO2 or a CO2 generating system. Transgrow media can be inoculated directly from the patient and transported to the laboratory either before or after incubation.

Transport media are chemically defined, semisolid, non-nutritive, phosphate buffered media that provide a reduced environment. Transport media are formulated to maintain the viability of microorganisms without significant increase in growth. Thayer Martin Selective Agar was developed for the primary isolation of *Neisseria gonorrhoeae* and *Neisseria meningitides* from specimens containing heterogenous microflora taken from the throat, rectum and vagina (1-3). Martin et al modified Thayer Martin Agar by adding trimethoprim to develop Transgrow Medium with a carbon dioxide-enriched atmosphere to increase the selectivity of the medium (4).

Special peptone in the medium provides nutrients to the organisms while starch neutralizes the toxic fatty acids if present in the agar. Haemoglobin provides the factor-X whereas the factor-V is provided by the added supplement (FD025) that additionally also supplies vitamins, amino acids and coenzymes, which enhances the growth of pathogenic *Neisseria* . Trimethoprim, vancomycin and colistin inhibit gram-positive and gram-negative bacteria respectively (5). Nystatin inhibits fungi.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Basal Medium: Light yellow coloured clear to slightly opalescent gel. After addition of haemoglobin, chocolate brown coloured, opaque gel forms in Petri plates.

Reaction
Reaction of 4.6% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH
7.00-7.40

Cultural Response
M1149: Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours with added sterile solution of 2% Haemoglobin (FD022), V.C.N. Supplement (FD023) or V.C.N.T. Supplement (FD024) and Vitamino Growth Supplement (FD025).

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Candida albicans ATCC 60193	50-100	none-poor	<=10%
Neisseria gonorrhoeae ATCC 43069	50-100	good	40-50%
Neisseria meningitidis ATCC 13090	50-100	good	40-50%
Staphylococcus epidermidis ATCC 12228	50-100	none-poor	<=10%

Storage and Shelf Life
Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference
1. Martin J. E., Billings T. E., Hackney J. F. and Thayer J. D., 1967, Public Health Rep. 82:361.
2. Thayer J. D. and Martin D. E., 1966, Pub Health Rep., 81:559.
3. Mitchell M. S., Rhoden P. L. and Marcus B. B., 1966, Am. J. Epidem., 83:74.
4. Martin J. E., Armstrong J. H. and Smith P. B., 1974, Appl. Microbiol., 27:802.
5. MacFaddin J. F., 1985, Media of Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

Revision : 1 / 2011