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Thayer Martin Medium Base

Thayer Martin Medium Base used for selective isolation of Gonococci from pathological specimens

REF: BS.1/TM01.100.0100	100 Gram	REF: BS.1/TM01.250.0250	250 Gram
REF: BS.1/TM01.500.0500	500 Grams		

CLINICAL SIGNIFICANCE

Carpenter and Morton reported an improved medium to isolate Gonococci in 24 hours (1). Later on the efficiency of GC medium supplemented with haemoglobin and yeast concentrate was demonstrated for isolating *gonococci* (2). Subsequently Thayer and Martin Medium was developed for the primary isolation of *Neisseria gonorrhoeae* and *Neisseria* from specimens containing mixed flora collected from throat, vagina, rectum an d urethra (3, 4). Thayer and Martin (4) used Vancomycin, Colistin and Nystatin. Martin and Lester (5) used an additional antibiotic Trimethoprim to make the medium selective.

METHOD PRINCIPLE

Special peptone provides nutrients to the organisms while starch neutralizes the toxic fatty acids if present in the agar. Haemoglobin provides the X factor whereas the V factor (N.A.D.) is provided by the added supplement. Supplement also supplies vitamins, amino acids, coenzymes etc. which enhances the growth of pathogenic *Neisseria*. Vancomycin and colistin inhibits gram-positive and gram-negative bacteria respectively (6). Nystatin inhibits fungi. This medium may inhibit Haemophilus species. Some strains of *Capnocytophaga* species may grow on this medium when inoculated with oropharyngeal specimens.

MEDIA COMPOSITION

Item	Formula per liter of medium
Peptone	23.00 gm.
Starch	1.000 gm.
Sodium chloride	5.000 gm.
Agar	13.00 gm.

Final pH 7.0 ± 0.2 at 25°C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Thayer Martin Medium base material safety data sheet.

STORAGE AND STABILITY

BioScien Thayer Martin medium base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

- Suspend 36 grams in 450 ml distilled water.
- Adjust pH to *7.0 ± 0.2 at 25°C*
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes. Cool to 45°C.
- Aseptically add 50 ml of sterile lysed blood and rehydrated contents of one vial of Vitamino Growth Supplement and V.C.N Supplement or V.C.N.T Supplement. If desired GC Supplement with Antibiotics can be used as a single supplement. Mix well before pouring into sterile Petri plates. If Hemoglobin is used suspend 21.0 grams of Thayer Martin Medium Base in 250 ml distilled water. Heat to boiling to dissolve the medium completely. Prepare 250 ml of 2% hemoglobin solution. Sterilize separately by autoclaving at 15 lbs. pressure (121°C) for 15 minutes. Cool to 45°C. Mix both and add the supplements as above.

Deterioration

The color of ***BioScien*** Thayer martin medium base is Cream to yellow homogeneous free flowing powder. Prepared Media Basal Medium: Yellow coloured clear to slightly opalescent gel. After addition of hemoglobin or sterile lysed blood and supplements: chocolate coloured opaque gel forms in Petri plates. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Clinical samples: throat, vagina, rectum and urethra.

EQUIPMENT REQUIRED NOT PROVIDED

- Inoculating loops, swabs, collection containers
- Incubators
- Sterile petri plates

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed with added sterile lysed blood/Haemoglobin solution, Vitamino Growth Supplement and V.C.N. Supplement (FD/V.C.N.T. Supplement after an incubation at 35-37°C for 18-48 hours.

Organism	Result
Escherichia coli ATCC 25922	inhibited
Neisseria gonorrhoeae ATCC 19424	Good- Luxuriant
Neisseria meningitidis ATCC 13090	Good- Luxuriant
Proteus mirabilis ATCC 25933	inhibited

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

1. Carpenter and Morton, 1947, Proc. N.Y. State Assoc. Public Hlth. Labs., 27:58.
2. Carpenter et al, 1949, Am. J. Syphil. Gonorrh. Vener. Dis., 33:164.
3. Martin, Billings, Hackney and Thayer, 1967, Public Hlth. Rep., 82:361.
4. Thayer J. and Martin J.E. Jr., 1966, Public Health Rep., 81:559.
5. Martin J.E. Jr. and Lester A., 1971, HSMHA Hlth. Service Rep., 86(1):30.
6. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

SYMBOLS IN PRODUCT LABELLING	
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	