



Thayer Martin Medium Base

M413

Intended use

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

Composition**

Ingredients	Gms / Litre
Peptone, special	23.000
Starch	1.000
Sodium chloride	5.000
Agar	13.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 21.0 grams in 450 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add 50 ml of sterile lysed blood and rehydrated contents of one vial of Vitamino Growth Supplement (FD025) and V.C.N Supplement (FD023) or V.C.N.T Supplement (FD024). If desired GC Supplement with Antibiotics (FD021) can be used as a single supplement. Mix well before pouring into sterile Petri plates. If Hemoglobin (FD022) 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 45-50°C. Mix both and add the supplements as above.

Principle And Interpretation

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 meningitidis* from specimens containing mixed flora collected from throat, vagina, rectum and urethra (6, 8). Thayer and Martin (8) used Vancomycin, Colistin and Nystatin. Martin and Lester (7) used an additional antibiotic Trimethoprim to make the medium selective.

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 (FD025) 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 (5). Nystatin inhibits fungi. This medium may inhibit *Haemophilus* species. Some strains of *Capnocytophaga* species may grow on this medium when inoculated with oropharyngeal specimens.

Type of specimen

Clinical samples : Throat, vagina, rectum and urethra

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (8,7).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Due to nutritional variations and fastidious nature of organisms certain strains may show poor growth.
2. Some strains of *Capnocytophaga* species may grow on this medium when inoculated with oropharyngeal specimens.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within expiry period when stored at the recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.3% Agar gel.

Colour and Clarity of prepared medium

Basal Medium : Yellow coloured clear to slightly opalescent gel. After addition of haemoglobin or sterile lysed blood and supplements: chocolate coloured opaque gel forms in Petri plates.

Reaction

Reaction of 4.2% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

M413: Cultural characteristics observed with added sterile lysed blood/Haemoglobin solution (FD022), Vitamino Growth Supplement (FD025) and V.C.N. Supplement (FD023)/V.C.N.T. Supplement (FD024) after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Escherichia coli</i> ATCC 25922 (00013*)	≥10 ⁴	inhibited	0%	
<i>Neisseria gonorrhoeae</i> ATCC 19424	50-100	good-luxuriant	≥50%	small, grayish-white to colourless, mucoid
<i>Neisseria meningitidis</i> ATCC 13090	50-100	good-luxuriant	≥50%	medium to large, blue-gray, mucoid
<i>Proteus mirabilis</i> ATCC 25933	≥10 ⁴	inhibited	0%	

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly 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 prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. Carpenter and Morton, 1947, Proc. N.Y. State Assoc. Public Hlth. Labs., 27:58.

Please refer disclaimer Overleaf.

2. Carpenter et al, 1949, Am. J. Syphil. Gonorrh. Vener. Dis., 33:164.
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4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S. and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
6. Martin, Billings, Hackney and Thayer, 1967, Public Hlth. Rep., 82:361.
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8. Thayer J. and Martin J.E. Jr., 1966, Public Health Rep., 81:559.

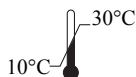
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In vitro diagnostic medical device



CE Marking



Storage temperature



Do not use if package is damaged



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