

THAYER MARTIN AGAR MODIFIED

Intended Use

Thayer Martin Agar Modified is used with hemoglobin, enrichment and antimicrobial agents for the selective isolation of *Neisseria* spp.

Principles of the Procedure

Enzymatic Digest of Casein and Enzymatic Digest of Animal Tissue provide nitrogen, carbon, and minerals in Thayer Martin Agar Modified. Corn Starch absorbs any toxic metabolites produced. The Phosphates are buffering agents. Sodium Chloride maintains osmotic balance of the medium. Agar is the solidifying agent. Thayer Martin Agar Modified is prepared from GC Agar with the addition of Hemoglobin. Hemoglobin provides hemin (X factor) required for growth of *Neisseria* spp. A chemical enrichment composed of cofactors, vitamins, and nicotinamide adenine dinucleotide (NAD) are also required for growth of *Neisseria* spp. Antimicrobial supplements are added as inhibitors for improved selectivity of the medium.

Formula / Liter

Enzymatic Digest of Casein.....	7.5 g
Enzymatic Digest of Animal Tissue.....	7.5 g
Corn Starch.....	1.0 g
Dipotassium Phosphate.....	4.0 g
Monopotassium Phosphate.....	1.0 g
Sodium Chloride.....	5.0 g
Dextrose.....	1,5 g
Agar.....	10.0 g

Supplements:

Hemoglobin Powder.....	10.0 g
Growth Enrichment.....	2.0 mL
Vancomycin.....	0.003 g
Colistin Sulfate.....	0.0075 g
Nystatin.....	12500 U
Trimetoprim.....	0,005 g

Final pH: 7.2 ± 0.2 at 25°C

Precautions

1. For Laboratory Use.

Directions

1. Suspend 36,0 g of the GC Agar in 500 mL of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. Cool to 45 – 50°C.
4. Suspend 10,0 g of hemoglobin powder in 500 mL of purified water and autoclave at 121°C for 15 minutes.
5. Cool to 45 - 50°C and aseptically add to the molten GC Agar. Add 2 mL of growth enrichment. Add antimicrobials. Mix thoroughly and dispense.

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared Thayer Martin Agar Modified is opaque and brown.

Expected Cultural Response: Cultural response on Thayer Martin Agar Modified at 35°C under CO₂ enrichment after 18 – 24 hours incubation.

Microorganism	Response
<i>Neisseria gonorrhoeae</i> ATCC® 43069	growth
<i>Neisseria meningitidis</i> ATCC® 13090	growth
<i>Staphylococcus epidermidis</i> ATCC® 12228	inhibition
<i>Candida albicans</i> ATCC ® 10231	inhibition (partial)

Test Procedure

For a complete discussion on the isolation and identification of *Neisseria* spp. consult procedures outlined in the references.^{8,9}

Results

Refer to appropriate references and procedures for results.

Storage ready to use plates - 6-12°C

Packaging cat No. 1083 ready to use plates Ø 90 mm (1 x 10 pcs);

Expiration ready to use plates - 90 days

Limitation of the Procedure

Although certain diagnostic tests may be performed directly on Thayer Martin Agar Modified, biochemical and immunological testing using pure cultures are recommended for complete identification.

References

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3. **Thayer, J. D., and J. E. Martin, Jr.** 1966. Improved medium selective for cultivation of *N. gonorrhoeae* and *N. meningitidis*. *Public Health Rep.* **81**:559.
4. **Thayer, J. D., and A. Lester.** 1971. Transgrow, a medium for transport and growth of *Neisseria gonorrhoeae* and *Neisseria meningitidis*. *HSMHA Health Service Rep.* **86**:30.
5. **Martin, J. E., Jr., and R. L. Jackson.** 1975. A biological environmental chamber for the culture of *N. gonorrhoeae* with a new commercial medium. *Public Health Rep.* **82**:361.
6. **Martin, J. E., Jr., and J. S. Lewis.** 1977. Anisomycin: improved anti-mycotic activity in modified Thayer-Martin Medium. *Public Health Rep.* **35**:53.
7. **MacFaddin, J. F.** 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1, Williams & Wilkins, Baltimore, MD.
8. **Isenberg, H. D. (ed.)**. 1992. Clinical microbiology procedures handbook. vol. 1. American Society for Microbiology, Washington, D.C.
9. **Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Tenover (eds.)**. 1995. Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.