

MAST® Culture Media and Supplements

Technical Information Sheet

Product Code DM 136



G.C. Agar Base

For the culture of pathogenic neisseria.

1. Description

In 1966 Thayer and Martin¹ showed that a medium supplemented with autoclaved haemoglobin solution, as replacement for heated blood, a yeast extract and three antibiotics, provided an excellent selective medium for the isolation of gonococci. The antibiotics used were vancomycin (3µg/ml), colistin sulphate (7.5µg/ml) and nystatin (12.5µg/ml). Later, Seth (1970)² showed the value of trimethoprim (5µg/ml) in preventing the swarming of *Proteus* spp. and now all four antibiotics are usually included when preparing this selective medium. Martin and Lester (1971)³ modified the original medium

by increasing the agar and dextrose concentrations. Transgrow medium, as it was termed, after gassing with CO₂, provided a selective transport medium for specimens likely to contain gonococci or meningococci. The antibiotics selectively inhibited the growth of commensal organisms. MAST G.C. Agar Base is a nutritious medium containing starch (for the adsorption of toxic products) which can be used to prepare nonselective chocolate plates or selective plates of Thayer-Martin or Transgrow media.

2. Typical Formula*

Formula	grams per litre
Selected peptone Mixture	10.0
Sodium chloride	5.0
Potassium dihydrogen Orthophosphate	1.0
Agar	12.0
Bacteriological peptone (RM52)	5.0
Soluble starch	1.0
Di-potassium hydrogen orthophosphate	4.0

pH approx. 7.2

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*Formulation may be modified to meet performance criteria

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3. Directions

'Chocolate' agar

1. Suspend by swirling 38g of powder in 1 litre or the contents of the sachet in the stated volume of distilled or deionised water.
2. Autoclave at 121°C (15 p.s.i) for 15 minutes.
3. Cool to 50°C and add 5-7% sterile horse blood and mix thoroughly.
4. Hold at 80°C, mixing occasionally until the medium becomes a chocolate brown colour and pour plates
5. The medium can be made selective by the use of MAST G.C. Selectatab, MS5, MS6 or MS7 or MAST G.C. Selectavial, SV5, SV6 or SV7.
6. A nutritious medium can also be prepared without the addition of blood. This is conveniently achieved by using MAST G.C. Selectatab (MS16) or Selectavial (SV16).

5. References

1. Thayer JD, Martin JE. *Public Health Rep.* 1966; **81**: 559-562
2. Seth A. *Brit J Vener Dis.* 1970; **46**: 201-202
3. Martin JE, Lester A. *HSMHA Health Report* 1971; **86**: No.1 30-33

4. In Use

In the examination of clinical specimens with a normal flora, selective techniques are essential for the isolation of gonococci or meningococci. If no delay is expected before the specimen reaches the laboratory the specimen can be subcultured directly onto Thayer-Martin medium made from Mast G.C. Agar Base. Incubate at 35-37°C in a humid atmosphere containing 5-10% CO₂. Gonococci and meningococci grow as nonpigmented translucent colonies.

If a short delay is likely before the laboratory receives the specimen, a swab sample should be immersed in Amies Transport Medium (DM030) and stored at 4°C. For prolonged delays, incubate the specimen at 35°-37°C for 16-18 hours on Transgrow medium slopes prepared from Mast G.C. Agar Base.

K.F. 10/97 V0.1 For the culture of gonococci or meningococci from sites which are normally sterile, or for strains sensitive to the antibiotics used, a non selective 'chocolate' agar can be prepared from G.C. Agar Base and heated blood.



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