Martin Lewis Agar Base

M2085

Intended Use:

Selective and enriched medium recommended for the isolation and cultivation of *Neisseria* species from clinical specimens.

Composition**

Ingredients	g / L
Tryptone	7.500
HM Peptone #	7.500
Dipotassium hydrogen phosphate	4.000
Potassium phosphate	1.000
Corn starch	1.000
Sodium chloride	5.000
Agar	10.000

**Formula adjusted, standardized to suit performance parameters

#- Equivalent to Meat peptone

Directions

Suspend 36.0 grams in 480 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 10 grams of Haemoglobin to 500ml of distilled water. Sterilize separately by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add the rehydrated contents of one vial of Vitamino Growth Supplement (FD025) and one vial of Vanclo T Supplement (FD028). Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Majority of gonococcal infections are uncomplicated lower genital tract infection caused by direct infection of the columnar epithelium of mucosal membranes. *Neisseria gonorrhoeae* is the causative agent of gonococcal infections. Most *Neisseria* strains have complex growth requirements; some strains may be exquisitely sensitive to fatty acids, necessitating the incorporation of soluble starch in the growth media (1).

Carpenter and Morton reported an improved medium to isolate Gonococci in 24 hours (2,3). Later on the efficiency of GC medium supplemented with hemoglobin and yeast concentrate was demonstrated for isolating gonococci (4). 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 (5,6). Thayer and Martin (6) used Vancomycin, Colistin and Nystatin. Martin and Lester (5) used an additional antibiotic Trimethoprim to make the medium selective.

Tryptone and HM Peptone supplies nitrogenous and carbonaceous compounds, long chain amino acids and other essential growth nutrients for the growth of fastidious organisms. Phosphates buffer the medium. Sodium chloride maintains the osmotic balance. For the cultivation of fastidious organisms the medium should be supplemented with essential growth factors supplied predominantly by yeast extract (FD027). This can be replaced with a chemically defined supplement containing essential growth factors available from yeast extract in Vitamino Growth Supplement (Twin Pack) (FD025). X-factor needed for the growth of fastidious *Haemophilus* species is provided by hemoglobin (FD022). Selective supplement inhibits accompanying bacteria.

Type of specimen

Clinical samples: specimens containing mixed flora collected from throat, vagina, rectum and urethra .

Specimen Collection and Handling

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

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

Warning and Precautions

In Vitro diagnostic use only. For professional 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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
3. Certain strains of *Neisseria gonorrheae* may be inhibited by antibiotics.
4. An enriched non-selective medium must be used in parallel.
5. Further biochemical and serological tests must be carried for confirmation.

Performance and Evaluation

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

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.0% Agar gel.

Colour and Clarity of prepared medium

Basal Medium : Yellow coloured clear to slightly opalescent gel. After addition of haemoglobin and supplements: Chocolate coloured opaque gel forms in Petri plates.

Cultural Response

Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2) and 70% humidity with added sterile 2% Haemoglobin (FD022), Vitamino Growth Supplement (FD025) and one vial of Vanclo T Supplement (FD028). after an incubation at 35-37°C for 40-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Haemophilus influenzae ATCC 19418	50-100	good-luxuriant	>=50%
Neisseria gonorrhoeae ATCC19424	50-100	good-luxuriant (with added antibiotic supplements)	>=50%
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant (with added antibiotic supplements)	>=50%
Streptococcus pyogenes ATCC19615	50-100	good-luxuriant	>=50%
Streptococcus pneumoniae ATCC 6303	50-100	good-luxuriant	>=50%

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. 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 (7,8).

Reference

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3.Carpenter et al, 1949, Am. J. Syphil. Gonorrh. Vener. Dis., 33:164.
4.Murray P. R., Baron E. J., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C
5.Martin J.E. Jr. and Lester A., 1971, HSMHA Hlth. Service Rep., 86(1):30.
6.Thayer J. and Martin J.E. Jr., 1966, Public Health Rep., 81:559
7.Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
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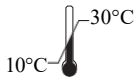
IVD *In vitro* diagnostic medical device



Storage temperature

EU REP

AR Experts BV
Boeingavenue 209
1119 PD Schiphol-Rijk
The Netherlands

CE **CE Marking**

Do not use if package is damaged

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