Martin Lewis Agar Plate

MP2085

Intended Use:

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	12.000
FO Growth Supplement (FD022)	10.000
Vitamino Growth Supplement (FD025)	1.0 vial

Ingredients	Concentration
Part I	"
Vitamin B12	0.100mg
L-Glutamine	100mg
Adenine sulphate	10mg
Guaninine hydrochloride	0.300mg
p-Aminobenzoic acid (PABA)	0.130mg
L-Cystine	11mg
NAD (Coenzyme I)	2.500mg
Cocarboxylase	1mg
Ferric nitrate	0.200mg
Thiamine hydrochloride	0.030mg
Cysteine hydrochloride	259mg
Part II (Rehydrating fluid)	"
Dextrose	1g
Distilled water	10ml

VCAT Supplement (FD353)	**2vial**
***Ingredients**	**Concentration**
Vancomycin	1.0 mg
Colistin sulphate	3.75 mg
Amphotericin B	0.5 mg
Trimethoprim	1.5 mg

**Formula adjusted, standardized to suit performance parameters

#- Equivalent to Meat peptone

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

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 gonorrhoea*e 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

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. 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, certain strains may show poor growth.
2. Certain strains of *Neisseria gonorrheae* may be inhibited by antibiotics.
3. An enriched non-selective medium must be used in parallel.
4. 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

Sterile Martin Lewis Agar in 90mm disposable plate with smooth surface and absence of black particles/cracks/bubbles.

Colour of medium

Chocolate brown coloured medium

Quantity of medium

25 ml of medium in 90 mm disposable plate

Cultural response

Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2) and 70% humidity, 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

On receipt store between 2-8°C. 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 (7,8).

Reference

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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
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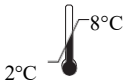
IVD *In vitro* diagnostic medical device



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

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