NYC Agar Base

M1348

NYC Agar Base is recommended for the selective isolation of gonococci .

Composition**

Ingredients	Gms / Litre
Proteose peptone	15.000
Corn starch	1.000
Glucose	5.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	4.000
Potassium dihydrogen phosphate	1.000
Agar	20.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.50 grams in 320 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C and add aseptically 100 ml of sedimented horse blood cells and 60 ml of citrated horse plasma along with rehydrated contents of 1 vial of NYC Supplement (FD150) and 1 vial of Yeast Autolysate Supplement (FD027). Mix well and pour into sterile Petri plates.

Principle And Interpretation

NYC Agar Base was originally developed by Fauer, Weisburd and Wilson (1-3) at the New York City Department of Health for selective isolation of pathogenic *Neisseria* species from clinical specimens. It consists of primarily a peptone-corn starch-agar-base buffered with phosphates and supplemented with horse plasma, horse haemoglobin, dextrose, yeast autolysate and antibiotics (1, 2). This medium is superior to other media generally employed for the isolation of *Neisseria* species (1, 4, 7). The transparent nature of the medium helps in studying the colonial types (9).

Proteose peptone, horse plasma, haemoglobin provide nutrients for the growth of *N. gonorrhoeae* and *N. meningitidis* . Phosphate buffers the medium. The selective supplement added contains the antibiotics vancomycin, colistin, nystatin and trimethoprim, to suppress the accompanying flora. Vancomycin is inhibitory for gram-positive bacteria. Colistin inhibits gram-negative bacteria, including *Pseudomonas* species, while *Proteus* is inhibited by trimethoprim (8). The combination of trimethoprim and colistin acts synergistically against gram-negative bacilli (6). Starch neutralizes the toxic metabolites produced by *Neisseria* . The yeast autolysate supplement fulfils the CO_2 requirements needed to enhance *Neisseria* growth. Yeast contains oxaloacetic acid which is metabolized by gonococci to produce sufficient CO_2 for growth of capnophilic gonococci (5). Also, presence of yeast autolysate reduces the lag phase of growth of *Neisseria* , thus enhancing both size and number of colonies. The specimen can be directly streaked on the medium to obtain maximum isolation.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% agar gel.

Colour and Clarity of Prepared medium
Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 5.1% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response

M1348: Cultural characteristics observed after in presence of 5-10% CO2 and 70% humidity with added sedimented horse blood cells and citrated horse plasma along with rehydrated contents of 1 vial of NYC Supplement (FD150 and 1 vial of Yeast Autolysate Supplement(FD027), after an incubation at 35-37°C for 40-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Haemophilus influenzae ATCC 19418	50-100	good-luxuriant	>=50%
Neisseria gonorrhoea ATCC 19424	50-100	good-luxuriant	>=50%
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant	>=50%
Streptococcus pneumoniae ATCC 6303	50-100	good-luxuriant	>=50%
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant	>=50%
Pseudomonas aeruginosa ATCC 27853	50-100	none-poor	<=10%
Proteus mirabilis ATCC 13883	50-100	none-poor	<=10%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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