TM 060 – CETRIMIDE AGAR BASE

INTENDED USE

For selective isolation of *Pseudomonas aeruginosa* from clinical samples.

PRODUCT SUMMARY AND EXPLANATION

Pseudomonas aeruginosa grows well on all normal laboratory media but specific isolation of the organism, from environmental sites or from human, animal or plant sources, is best carried out on a medium, which contains a selective agent and also constituents to enhance pigment production. Most selective media depend upon the intrinsic resistance of the species to various antibacterial agents. Cetrimide inhibits the growth of many microorganisms whilst allowing *Pseudomonas aeruginosa* to develop typical colonies.

Cetrimide is a quaternary ammonium salt, which acts as a cationic detergent that reduces surface tension in the point of contact and has precipitant, complexing and denaturing effects on bacterial membrane proteins. It exhibits inhibitory actions on a wide variety of microorganisms including *Pseudomonas* species other than *Pseudomonas aeruginosa*. King et al developed Medium A for the enhancement of pyocyanin production by *Pseudomonas*. Cetrimide Agar developed by Lowburry is a modification of Tech Agar (Medium A) with addition of 0.1% cetrimide for selective isolation of *P.aeruginosa*. Later, due to the availability of the highly purified cetrimide, its concentration in the medium was decreased. The incubation was carried out at 37°C for a period of 18-24 hours.

P.aeruginosa can be identified due to their characteristic production of pyocyanin, a blue, water-soluble, non-fluorescent phenazine pigment coupled with their colonial morphology and the characteristic grape-like odor of aminoacetophenone. *P.aeruginosa* is the only species of *Pseudomonas* or gram-negative rod known to excrete pyocyanin. These media are therefore, important in the identification of *P.aeruginosa*. These media are used for the examination of cosmetics and clinical specimens for the presence of *P.aeruginosa*, as well as for evaluating the efficacy of disinfectants against this organism.

COMPOSITION

Ingredients	Gms / Ltr
Gelatin peptone	20.000
Magnesium chloride	1.400
Potassium sulphate	10.000
Cetrimide	0.300
Agar	15.000

PRINCIPLE

Gelatin peptone provide necessary nutrients for *P.aeruginosa*. Sodium chloride maintains osmotic equilibrium in the medium. Magnesium chloride and potassium sulfate stimulates pyocyanin production.

INSTRUCTION FOR USE

- Dissolve 46.7 grams in 1000 ml purified/distilled water containing 10 ml glycerol.
- Heat, to boiling, to dissolve the medium completely. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. If desired, rehydrated contents of 1 vial of Nalidixic Selective Supplement may be added aseptically to 1000 ml medium.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured opalescent gel with a slight precipitate forms in Petri plates.
pH (at 25°C) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Pseudomonas aeruginosa	9027	50 -100	Luxuriant	>=70%	30-35°C	<=18 Hours
Escherichia coli	8739	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Pseudomonas aeruginosa	27853	50 -100	Luxuriant	>=70%	30-35°C	18-24 Hours
Pseudomonas aeruginosa	25668	50 -100	Luxuriant	>=70%	30-35°C	18-24 Hours
Stenotrophomonas maltophila	13637	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Escherichia coli	25922	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Staphylococcus aureus subsp.aureus	6538	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Staphylococcus aureus subsp.aureus	25923	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Salmonella Typhimurium	14028	>=10^3	Inhibited	0%	30-35°C	>=72 hrs
Proteus mirabilis	29906	>=10^3	Inhibited	0%	30-35°C	>=72 hrs

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for

the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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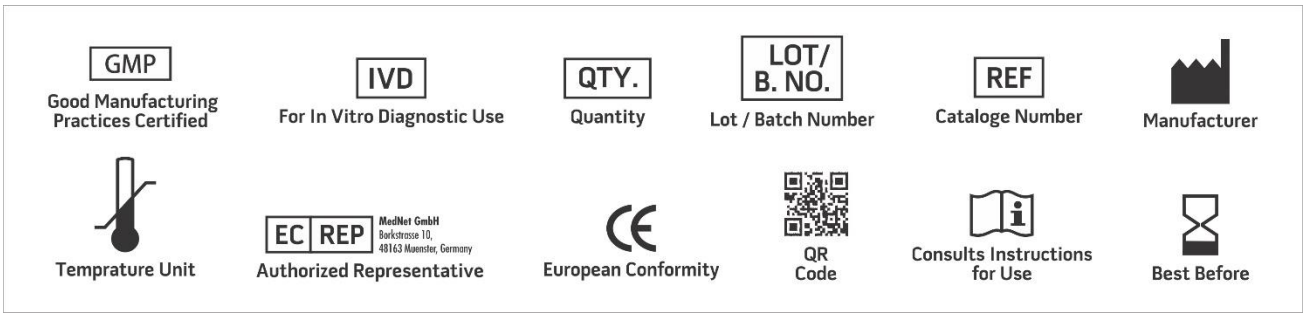

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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