TM 416 - CETRIMIDE AGAR BASE (AGAR MEDIUM) (as per IP)

INTENDED USE

For selective isolation of *Pseudomonas aeruginosa*.

SUMMARY AND EXPLANATION

Cetrimide Agar was described by King et al. This media formulation is in accordance with the harmonized method of USP/EP/BP/JP/IP. It is used as a selective medium for the isolation of Pseudomonas aeruginosa from pharmaceutical products. This medium is also used for microbial limit testing for non- sterile products. Lowburry first reported the use of cetrimide as an agent for selective isolation of Pseudomonas. This medium is also used for determining the ability of an organism to produce fluorescein and pyocyanin.

COMPOSITION

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

PRINCIPLE

Cetrimide (N-acetyl-N,N, Ntrimethylammonium bromide) is incorporated in the medium to inhibit bacteria other than Pseudomonas aeruginosa. This compound a cationic detergent acts as a quaternary ammonium compound, which causes nitrogen and phosphorus to be released from bacterial cells other than *Pseudomonas aeruginosa*. Magnesium chloride and potassium sulphate incorporated in the medium enhances the production of pigment pyocyanin, which is a blue-green pigment, diffusing into the medium. This improves detection of *Pseudomonas* on this medium. Presence of magnesium ions can also neutralizes EDTA, if present in the sample. Gelatin peptone provides the essential nutrients for growth of *Pseudomonas*, while glycerin serves as slow and continuous carbon source for the growing cell.

For the isolation of *Pseudomonas aeruginosa*, plates of Cetrimide Agar should be inoculated from non-selective medium such as Soybean Casein Digest Medium. If the count is high the test sample can be directly inoculated onto this medium. *Pseudomonas aeruginosa* colonies may appear pigmented greenish (under uv light also).

INSTRUCTION FOR USE

- Dissolve 45.3 grams in 1000 ml distilled water containing 10ml glycerin/ glycerol.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes or as validated cycle.
- Cool to 45-50°C.
- 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 yellow coloured, clear to slightly opalescent gel forms in Petri plates
pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU)	Growth	Recovery	Colour of the colony	Incubation Temperature	Incubation Period
Pseudomonas aeruginosa	9027	50-100	Good	≤50%	Yellowish green to greenish blue	30-35°C	18-72 Hours
Pseudomonas aeruginosa	27853	50-100	Good	≤50%	Yellowish green to greenish blue	30-35°C	18-72 Hours
Escherichia coli	8739	≥ 10^3	Inhibited	0%	-	30-35°C	18-72 Hours

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 below 10-25°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.

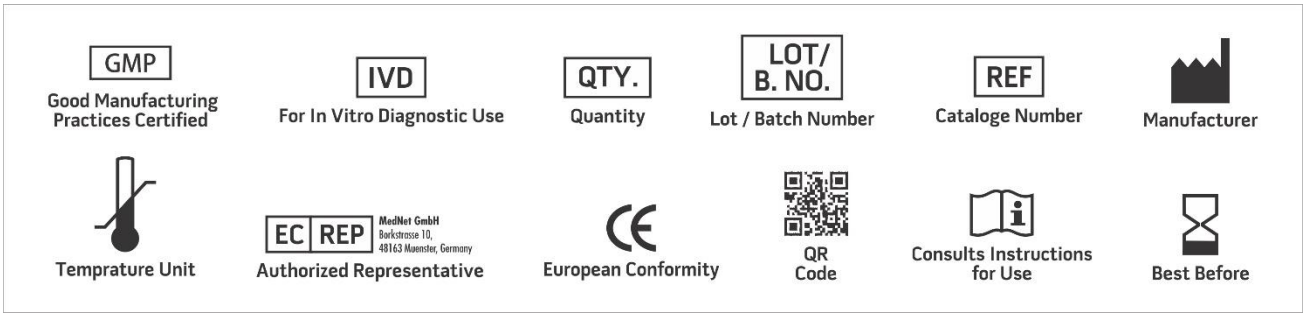
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Anderson J.M. and Baird-Parker A.C., 1975, J.Appl. Bacteriol., 39:111.
2. Hansen W. and Yourassawsky E., 1984, J. Clin. Microbiol., 20:1177.,



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

***For Lab Use Only**

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