HIMEDIA

Technical Data

Penicillin and Pimaricin Pseudomonas Agar Base (PP Pseudomonas Agar Base)

M1788

Intended Use:

Recommended for selective isolation of *Pseudomonas* species on addition of supplements. The composition and performance criteria are in accordance with ISO /TS 11059 .

Composition**

ISO specification - Penicillin and Pimaricin Pseudomonas Agar Base

Ingredients	g / L
Enzymatic digest of gelatine	16.000
Enzymatic digest of casein	10.000
Potassium sulphate (K_2SO_4)	10.000
Magnesium chloride($MgCl_2$)	1.400
Agar	12.000-18.000
Final pH (at 25°C)	7.2±0.2

Supplements to be added

Penicillin solution

Penicillin G,potassium salt	100000IU

Pimaricin solution

Pimaricin (Natamycin)	0.100

Penicillin and Pimaricin Pseudomonas Agar Base **M1788**

Ingredients	g / L
Gelatin peptone	16.000
Tryptone	10.000
Potassium sulphate	10.000
Magnesium chloride	1.400
Agar	15.000
Final pH (at 25°C)	7.2±0.2

*Ingredients	Concentration
PP Selective Supplement (FD264) - 1 vial	
Penicillin G, potassium salt	100000IU
PP Selective Supplement II (FD265) -1 vial	
Pimaricin (Natamycin)	0.010g

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 52.4 gram in 1000 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 and aseptically add sterile rehydrated contents of PP Selective Supplement (FD264) and PP Selective Supplement II (FD265). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Pseudomonas species are aerobic, non-spore forming, gram negative rods, found in water, soil and plants including fruits and vegetables. *Pseudomonas aeruginosa* has become increasingly recognized as an emerging opportunistic pathogen of clinical relevance especially in patients with compromised host defense mechanisms. Several different epidemiological studies have found its occurrence as a nosocomial pathogen (6). *Ps.aeruginosa* strains produces two types of soluble pigments, the fluorescent pigment pyoverdin and the blue pigment pyocyanin. Pyocyanin (from "pyocyaneus") refers to "blue pus", which is a characteristic of suppurative infections caused by *Ps.aeruginosa.* Penicillin and Pimaricin Pseudomonas Agar Base is formulated as recommended by ISO Committee (3).

The medium contains gelatin peptone and tryptone which serves provides essential nitrogenous nutrients and carbon, long chain amino acids and vitamins required for the growth of *Pseudomonas.* Potassium sulphate and magnesium chloride serves to enhance pigment production. Addition of PP Selective Supplement which contains Penicillin and PP Selective Supplement II which contains Pimaricin (natamycin) to the medium helps in the selective isolation of *Pseudomonas,* thereby inhibiting the accompanying flora.

Type of specimen

Food and dairy samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (3). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

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 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.

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 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 5.24% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

Productivity : Cultural characteristics observed with added PP Selective Supplement (FD264) and PP Selective Supplement II (FD265), after an incubation at 25° ± 1°C for 48 ± 2 hours. Recovery is considered as 100% on Soyabean Casein Digest Agar

Selectivity: Cultural characteristics observed with PP Selective Supplement (FD264) and PP Selective Supplement II (FD265), after an incubation at 25° ± 1°C for 48 ± 2 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Productivity			
Pseudomonas fluorescens ATCC 13525	50-100	luxuriant	>=50%
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	luxuriant	>=50%
Selectivity			
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	
Escherichia coli ATCC 8739 (00012*)	>=10^4	inhibited	

Key : (*) Corresponding WDCM numbers.

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 inorder 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

References

1. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
2. Milk and milk products - Method for the enumeration of Pseudomonas spp. International Organization for Standardization, 2009, Draft ISO/TS 11059:2009 (E).
3. Microbiology of food,animal feeding stuffs and water- Preparation, production,storage and performance testing of culture media, EN ISO 11133:2014 (E) /Amd. :2020 .
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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