

Cetrimide Agar (i23040)

Cetrimide Agar is used for the selective isolation and identification of *Pseudomonas aeruginosa*.

Industry: Final product Quality Control / Cosmetics
Pharmaceutical / Veterinary / Clinical

Principles & Uses

Cetrimide Agar -also known as *Pseudomonas* selective agar base- is a selective medium used for the isolation and identification of *Pseudomonas aeruginosa*, a significant pathogenic bacterium. It inhibits the growth of accompanying microbial flora, making it a valuable tool for specific isolation.

P. aeruginosa is known for its characteristic production of pyocyanin, a blue pigment. Cetrimide Agar encourages the growth of *P. aeruginosa* and enhances the production of pyocyanin. This medium is important for identifying *P. aeruginosa* in various samples, including cosmetics and clinical specimens, and for assessing the effectiveness of disinfectants against this bacterium.

The formulation includes gelatin peptone as a nutrient source, sodium chloride to maintain osmotic balance, and magnesium chloride and potassium sulfate to stimulate pyocyanin production. Cetrimide, a quaternary ammonium salt, reduces surface tension, affecting bacterial membrane proteins, and inhibits a wide range of microorganisms. However, it allows *P. aeruginosa* to thrive and develop typical colonies.

Composition (gr/L)

Pancreatic Digest of Gelatin 20, Magnesium Chloride 1.4, Potassium Sulfate 10, Cetrimide 0.3, Agar 13.
Final pH at 25°C 7.2 ± 0.2

Preparation from dehydrated Powder

Suspend 44.7 g of the powder in 1 Liter of distilled water containing 10 mL of glycerol. Mix thoroughly. Autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: Beige, free-flowing, homogeneous.

Prepared Appearance: Light amber, opalescent, with precipitate.

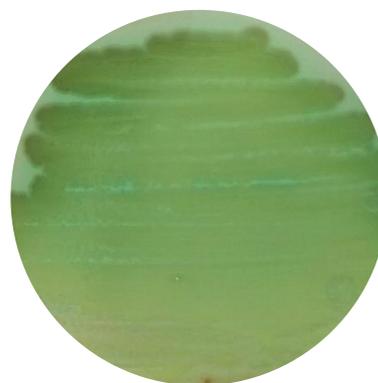
Reaction of 4.47% Solution at 25°C: pH 7.2 ± 0.2

Cultural Response

Inoculate and incubate at 35 ± 2°C for 24-72 hours. Incubate plates with *P. aeruginosa* ATCC 9027 and ATCC 27853 at 30-35°C for 48-72 hours.

| Organism (ATCC*) | Recovery | Yellow-Green Pigment |
|---------------------------------------|------------|----------------------|
| <i>Pseudomonas aeruginosa</i> (27853) | Good | Yellow-green |
| <i>Pseudomonas aeruginosa</i> (9027) | Good | Yellow-green |
| <i>Staphylococcus aureus</i> (25923) | Inhibition | - |
| <i>Escherichia coli</i> (25922) | Inhibition | - |
| <i>Escherichia coli</i> (8739) | Inhibition | - |

*ATCC is a registered trade mark of the American Type Culture Collection.



Yellow-Green colonies of *Pseudomonas aeruginosa*.

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.