

King Agar A, Pseudomonas Agar P, Tech Agar, Pseudomonas Agar for Pyocyanin (i23243)

Pseudomonas Agar P, also known as Tech Agar, is used for the enhancement of pyocyanin production by *Pseudomonas*.

Industry: Water

Principles & Uses

King Agar A, developed by King, Ward, and Raney, is designed to boost pyocyanin production in *Pseudomonas aeruginosa*. This blue pigment, soluble in water and chloroform, diffuses into the medium, resulting in colonies surrounded by a blue-green zone. Gelatine peptone plays a crucial role by providing essential nitrogenous nutrients, carbon, sulfur, and trace elements. Its low phosphorous content minimizes inhibition on pyocyanin production. Glycerol serves as a carbon source, while potassium sulfate and magnesium chloride are necessary for activating phycoyanin production.

The medium, fostering especially phycoyanin production, may also lead to the formation of red (pyorubin), yellow-green (pyoverdine, fluorescein), or brown (pyomelanin) pigments, potentially masking the blue pigment. To confirm pyocyanin presence, chloroform is added to extract colored pigments. The solvent turns blue, and upon adding HCl, a swift color change from blue to red confirms phycoyanin. Incubation at $35 \pm 2^\circ\text{C}$ for 18-24 hours is recommended, with a secondary incubation at $25\text{-}30^\circ\text{C}$ for 1-2 days if needed.

Composition (gr/L)

Pancreatic Digest of Gelatine 20 g, Magnesium Chloride 1.4 g, Potassium Sulfate 10 g, Agar 15 g.
Final pH at 25°C 7.2 ± 0.2

Preparation from dehydrated Powder

Suspend 44 g of powder in 1 L of purified water containing 10 g of glycerol. Autoclave at 121°C for 15 minutes. Test samples of the finished product for performance using stable, typical control cultures.

Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous.

Prepared Appearance: Light to medium amber, slightly opalescent.

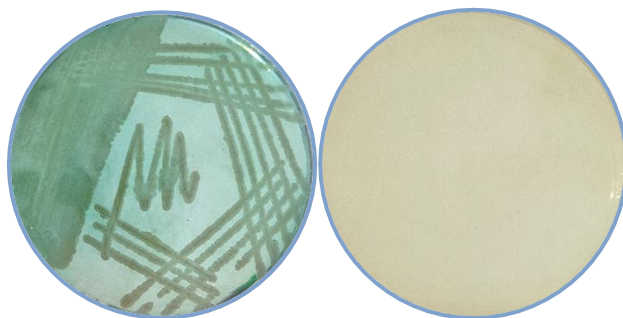
Reaction of 4.4% Solution at 25°C : pH 7.2 ± 0.2

Cultural Response

Inoculate with fresh cultures and incubate at $35 \pm 2^\circ\text{C}$ for 18 - 24 hours.

| Organism (ATCC*) | Recovery | Pigment Production |
|---------------------------------------|----------|--------------------|
| <i>Pseudomonas aeruginosa</i> (9027) | Good | Blue |
| <i>Pseudomonas aeruginosa</i> (27853) | Good | Blue to green |
| <i>Pseudomonas cepacian</i> (25609) | Good | No pigment |

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



Pseudomonas aeruginosa (left). Prepared Culture Media (right).

Storage

Keep the container at $15\text{-}30^\circ\text{C}$. Store prepared medium at $2\text{-}8^\circ\text{C}$.