

King A Medium (Pseudomonas P Agar)

Cat. 1531

For the identification of Pseudomonas spp based on pyocyanin production.

Practical information

Applications	Categories
Detection	Pseudomonas
Differentiation	Pseudomonas

Industry: Water

Principles and uses

King A Medium (Pseudomonas P Agar) is prepared according to the formula described by King et al. for the detection and differentiation of Pseudomonas aeruginosa from other Pseudomonas based on pyocyanin production.

Pseudomonas aeruginosa is a free-living bacterium, present in soil and water. It has become more and more known as an emerging opportunistic pathogen of clinical importance. Various different epidemiological studies track its occurrence as a nosocomial pathogen and claim that antibiotic resistance is increasing in clinical isolates.

This medium promotes the production of pyocyanin, a blue-green pigment which oxidizes to brown, is water-soluble and, unlike fluorescein, is soluble in chloroform. The pigment diffuses throughout the medium and the blue color is observed. Confirmation of pyocyanin production is by chloroform extraction. Add 2 ml of chloroform to a tube of medium and shake gently to remove pigment.

This medium contains pancreatic digest of gelatin as a rich nitrogen source, and other nutrients for growth as vitamins, minerals and amino acids. Gelatin peptone is low in phosphorous to reduce the inhibitory action on pyocyanin production. Potassium sulfate and Magnesium chloride provide cations to activate pyocyanin production and enhance pigment production. Glycerol is a carbon source. Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	13,6	Gelatin pancreatic digest	20
Potassium sulfate	10	Magnesium chloride	1,4

Preparation

Suspend 45 grams of the medium in one liter of distilled water. Add 10 ml of glycerol. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Light beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microrganisms	Specification	Characteristic reaction
Pseudomonas aeruginosa ATCC 25619	Good growth	Blue-green colonies
Pseudomonas aeruginosa ATCC 27853	Good growth	Blue colonies
Pseudomonas aeruginosa ATCC 9027	Good growth	Blue colonies

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

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