Kings Medium A Base

Kings Medium A is recommended for non-selective isolation, cultivation and pigment production of \textit{Pseudomonas} species.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteose peptone</td>
<td>20.000</td>
</tr>
<tr>
<td>Potassium sulphate</td>
<td>10.000</td>
</tr>
<tr>
<td>Magnesium chloride, anhydrous</td>
<td>1.640</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.1</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 46.64 grams in 1000 ml distilled water containing 10 ml of glycerol. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Aseptically pour into sterile Petri plates.

**Principle And Interpretation**

\textit{Pseudomonas aeruginosa} is known to produce two types of pigments, pyocyanin and fluorescein which is a characteristic property and aids in isolation of \textit{Pseudomonas} from clinical material. An additional pigment called as pyorubin was reported by King. Pyocyanin is green while fluorescein is fluorescent yellow and pyorubin is reddish brown. Some strains produce all these pigments while the others produce one or two pigments. \textit{P. aeruginosa} can be identified on Hugh Leifson Medium (M826). Kings Medium A Base is particularly suited for the production of pyocyanin and pyorubin.

Kings Medium A Base is based on the formulation of King et al (1, 2). This medium can be used as a general medium for the non-selective isolation and pigment production of \textit{Pseudomonas} species from foods, cosmetic samples etc.

These media contain proteose peptone, which provides carbonaceous and nitrogenous compounds for the growth of bacteria. Glycerol serves as a source of energy and also enhances pigment production. Magnesium chloride, potassium sulphate and magnesium sulphate also enhances pigment production. Pigments and/or their derivatives produced by \textit{Pseudomonas} species play a role as siderophores in the iron uptake systems of bacteria, and hence, their production is markedly enhanced under conditions of iron deficiency. For inoculation, use the organisms freshly cultured in Kings Medium A, incubate overnight at 37°C and then at room temperature for 6 days.

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder.

**Gelling**
Firm, comparable with 1.5% Agar gel.

**Colour and Clarity of prepared medium**
Light yellow coloured, clear to slightly opalescent gel forms in Petri plates.

**Reaction**
Reaction of 4.6% w/v aqueous solution (containing 1.0% v/v glycerol) at 25°C. pH : 7.3±0.1

**pH**
7.20-7.40

**Cultural Response**
M1543: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Pigment production</th>
</tr>
</thead>
</table>

Please refer disclaimer Overleaf.
### Technical Data

<table>
<thead>
<tr>
<th>Organism</th>
<th>Concentration</th>
<th>Growth Characteristic</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 17934</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=70% blue-green</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=70% blue-green</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 9027</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=70% blue-green</td>
</tr>
<tr>
<td><em>Burkholderia cepacia</em> ATCC 50-100 25609</td>
<td></td>
<td>good-luxuriant</td>
<td>&gt;=70% no pigment</td>
</tr>
</tbody>
</table>

### Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

### Reference