KING B Agar

INTENDED USE

King B agar allows the production of fluoresceine (or pyoverdin), a yellow-green pigment that fluoresces under ultraviolet light in certain strains of Pseudomonas. The medium is used primarily in water analysis for the detection and differentiation of Pseudomonas aeruginosa, which produce the characteristic pigment while other species of Pseudomonas do not.

HISTORY

The media was described by King, Ward and Raney in 1954, and then modified according to the recommendations of the US Pharmacopoeia. The authors were also responsible for the development of King A medium, which favors production of pyocyanin (a fluorescent blue pigment) over that of pyoverdine.

PRINCIPLES

- King B agar favors the production or pyoverdin and inhibits the production of pyocyanin. The fluoresceine produced by Pseudomonas is a yellow-green fluorescent pigment that is easily observed on this medium.
- Dipotassium phosphate increases the concentration of phosphorus contributed by the peptone and stimulates the production of fluoresceine, while inhibiting the production of pyocyanin.
- Magnesium sulfate contributes the cations necessary for the production of pyoverdin.

PREPARATION

Melt the media for the minimum amount of time necessary in order to achieve complete liquefaction, then incline the tubes in order to obtain oblique slants after solidification and cooling.

NOTE 1:
Incomplete agar melting during preparation will invariably lead to significant inconsistency in the gel strength of the solidified agar, after sterilization and cooling.

NOTE 2:
It is recommended, when the medium has not been used for at least 8 days following its preparation and initial solidification, to regenerate it in a boiling water bath and resolidify in the proper position.

INSTRUCTIONS FOR USE

- Inoculate the inclined surface with suspected colonies isolated from a selective medium.
- It is necessary to use pure cultures taken from the center of isolated colonies in order to avoid cross-reactions that render the identification impossible to achieve.
- Incubate at (36 ± 2)°C for 24 hours and up to 5 days, caps slightly unscrewed, so that gas exchange might take place.
RESULTS

Colonies that present a yellow-green fluorescence under UV light at 360 nm are considered positive for *Pseudomonas aeruginosa* for water control according to the method described in the NF EN ISO 16266 standard.

TYPICAL COMPOSITION of the complete medium
(can be adjusted to obtain optimal performance)

For 1 liter of medium:

- Peptone ........................................................................................................... 20.0 g
- Glycerol ........................................................................................................... 10.0 mL
- Dipotassium phosphate ........................................................................... 1.5 g
- Magnesium sulfate . 7 H2O .................................................................... 1.5 g
- Agar ............................................................................................................. 15.0 g

pH of the ready-to-use medium at 25°C : 7.2 ± 0.2.

QUALITY CONTROL

- Prepared, complete medium : amber agar.
- Typical culture response after 24 hours of incubation at 36°C (NF EN ISO 16266 / NF T90-461):

<table>
<thead>
<tr>
<th>Microorganisms</th>
<th>Growth</th>
<th>Fluorescence at 360 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pseudomonas aeruginosa</em> CIP 82.118</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC® 10145</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td><em>Escherichia coli</em> ATCC 11775</td>
<td>positive</td>
<td>negative</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> CIP 53.154</td>
<td>positive</td>
<td>negative</td>
</tr>
</tbody>
</table>

STORAGE / SHELF LIFE

Complete, ready-to-melt media in tubes :

- Store between 2 – 8°C, shielded from light.
- The expiry date in indicated on the label.

PACKAGING

Ready-to-melt media (with glycerol) in tubes :

- Packet of 7 x 7 mL

Code: BM10508

BIBLIOGRAPHY


*Benchmark value refers to the expected value under standard laboratory conditions following manufacturer’s instructions. It is provided as a guide only and no warranty, implied or otherwise is associated with this information.

The information provided on the package take precedence over the formulations or instructions described in this document. The information and specifications contained in this technical data sheet date from 2011-02-14. They are susceptible to modification at any time, without warning.