Kirchner Medium Base

Intended Use:
Poctri supplement (containing Polymyxin B, Amphotericin B, Carbenicillin & Trimethoprim)

Composition**
<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
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</thead>
<tbody>
<tr>
<td>Disodium phosphate</td>
<td>3.000</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>4.000</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.600</td>
</tr>
<tr>
<td>Sodium citrate</td>
<td>2.500</td>
</tr>
<tr>
<td>L-Asparagine</td>
<td>5.000</td>
</tr>
<tr>
<td>Horse serum</td>
<td>100.000</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Directions
Label the ready to use LQ105 bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

*Mycobacterium tuberculosis* is an acid-fast gram-positive aerobic bacteria involved in most cases of tuberculosis. Humans are the only reservoir for the bacterium. Many non-pathogenic Mycobacteria are components of the normal flora of humans, found most often in dry and oily locales. Kirchner Medium was first developed by Kirschner based on the formulation of Longs Medium (1) and further modified with addition of glycerol and enrichments for the cultivation of *M. tuberculosis*.

It is widely used for antibacterial test, for antituberculosis agents and sometimes in differential culture of *M. tuberculosis* from unhealthy materials. Kirschner Agar Medium is made by addition of agar (2%) to this medium. Kirschner Semisolid Agar Medium is obtainable by addition of agar upto 0.1%. In case of screening test for antituberculosis agents on solid media, it takes at least 3-4 weeks to achieve culture of tubercle bacilli. Broth medium can give results in a week or two; hence broth medium is widely used in cases where rapid results are needed. Kirschner medium contains two phosphates, a sulphate and citrate, which buffer the medium. Hence the medium can be directly inoculated without any prior neutralization. L-asparagine in the medium supports the growth of *M. tuberculosis*, as it is a good nutrient for the organism. Horse serum also promotes the growth of the organism. Penicillin inhibits the growth of contaminating bacteria. At first stage after inoculation of *M. tuberculosis*, granular colonies are observed at the bottom of the tube and as the incubation proceeds bacterial film will be formed on the surface, rendering the medium transparent.

Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.
Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Clear, colourless to pale yellow coloured liquid

Quantity
4ml of medium in bottles.

Sterility Check
Passes release criteria

Cultural response
Cultural characteristics observed after 10-12 days at 35-37°C, with 5-10% CO2 (Observe for the growth every third day till 8th week)

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>M. tuberculosis</em> H37Rv ATCC 25618</td>
<td>Luxuriant</td>
<td>Standardized inoculum giving approximately 1000000 cfu/ml</td>
</tr>
</tbody>
</table>

Storage and Shelf Life
Store between 2-8°C. Use before expiry date on the label.

Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

Reference
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