Our Novobiocin Disks (5-µg) are used to differentiate *Staphylococcus saprophyticus* from other clinically significant coagulate-negative staphylococci on the basis of novobiocin resistance. Novobiocin resistance is intrinsic to *S. saprophyticus* and some other staphylococci, but it is uncommon in other clinically relevant *Staphylococcus* species, such as *S. epidermidis*. Therefore coagulate-negative staphylococci that are resistant to novobiocin are presumptively identified as *Staphylococcus saprophyticus*.

**Recommended Procedure A (Rapid)**

1. Inoculate two tubes of Tryptic Soy Broth (Dalynn Catalogue No. TT80) lightly with the test organism. There should not be any visible turbidity.
2. Add a Novobiocin Disk to one of the tubes and shake for approximately 10 seconds.
3. Incubate both tubes at 35°C for up to five hours or until the control tube (no disk) reaches the turbidity of a McFarland Standard 0.5.
4. Observe the tube containing the disk for turbidity.

**Interpretation of Results**

- The presence of turbidity in the tube containing the disk indicates resistance to novobiocin and hence a positive result for this test.
- The absence of turbidity in the tube containing the disk indicates sensitivity to novobiocin and hence a negative result for this test.

**Recommended Procedure B (Preferred)**

1. Obtain a pure, overnight culture of the test organism and make an inoculum suspension equivalent to a 0.5 McFarland standard.
2. Using a sterile swab, streak a sample of the organism onto a Mueller Hinton Plate in three directions to obtain a heavy, confluent growth.
3. Aseptically place a Novobiocin Disk onto the surface of the medium and tamp it down gently.
4. Incubate at 35°C for 18 to 24 hours.
5. Measure the zone of inhibition around the disk to the nearest millimeter.

**Interpretation of Results**

- A zone of inhibition ≤15-mm indicates resistance to novobiocin.
- A zone of inhibition >15-mm indicates sensitivity to novobiocin.
- Although there are other novobiocin-resistant, coagulate-negative staphylococci, *S. saprophyticus* is of the most clinical importance.

**Quality Control**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Expected Results</th>
</tr>
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<tbody>
<tr>
<td><em>Staphylococcus saprophyticus</em></td>
<td>R Novobiocin resistant</td>
</tr>
<tr>
<td>ATCC 13518</td>
<td></td>
</tr>
<tr>
<td><em>Staphylococcus epidermidis</em></td>
<td>S Novobiocin sensitive</td>
</tr>
<tr>
<td>ATCC 14990</td>
<td></td>
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</tbody>
</table>
Storage and Shelf Life

Our Novobiocin Disks should be stored in an upright position at -20°C. At this temperature they have a shelf life of 52 weeks from the date of manufacture.

References


Original: November 2003
Revised / Reviewed: October 2014