**ETEST APPLICATION SHEET**

**Nontuberculous Mycobacteria**

**EAS 014**

In the USA, For Investigational Use Only  
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**SPECIMEN**
- Sputum, blood, CSF, skin lesions and specimens from AIDS patients.

**PROCEDURE**

**Agar medium**
- M. avium and M. marinum: Mueller Hinton + 10% OADC + 5% blood.  
- M. kansasii: Middlebrook 7H11 + 10% OADC.

**Inoculum**
- Suspend in Middlebrook 7H9 broth, vortex 2-3 min with sterile glass beads, allow to settle for 20 min and adjust supernatant to correct turbidity:  
  - M. avium and M. marinum: 1 McFarland.  
  - M. kansasii: 3 McFarland.

**Incubation**
- M. avium and M. kansasii: 35°C/5% CO2/5-10 days.  
- M. marinum: 30°C/5% CO2/5 days.

**Important**
- Work aseptically to minimize contamination. Seal plates with shrink seal or gas permeable tape to prevent drying and contamination. Use one strip per plate as below.

**CAUTION**
All work must be performed according to safety precautions from CDC, Atlanta, USA: A Biosafety Cabinet Class IIA must be used.

**LITERATURE**

**QUALITY CONTROL**

- M. avium
  - ATCC® 700898
  - Clarithromycin CH 1-4 0.064-0.5
  - Rifampicin RI ≤0.25-1 ≤1

- M. avium spp. avium
  - ATCC® 35713
  - Clarithromycin CH 1-4 0.064-0.5

- M. marinum
  - ATCC® 927
  - Rifampicin RI ≤0.25-1 ≤1

- M. kansasii
  - ATCC® 12478

**INTERPRETATION**

**MIC Indicating Resistance**

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>M. avium Complex (MIC μg/mL)</th>
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<tbody>
<tr>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Clarithromycin</td>
<td>≤8</td>
</tr>
<tr>
<td>Amikacin</td>
<td>≥32</td>
</tr>
<tr>
<td>Ethambutol</td>
<td>≥5</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>≥2</td>
</tr>
<tr>
<td>Clarithromycin</td>
<td>≥16</td>
</tr>
<tr>
<td>Rifampicin</td>
<td>≥1</td>
</tr>
<tr>
<td>Trimeth/Sulfa</td>
<td>≥2</td>
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</tbody>
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**Notes:**
1. NCCLS M24-A 2003 for MAC. Etest MIC values for these strains are pending.
2. NCCLS M24-A 2003 for M. kansasii and M. marinum. Enterococcus faecalis ATCC 29212 may be used for QC of M. kansasii to rifampicin. Etest MIC values for these strains are pending.
3. Ranges for other antimicrobials not established at present.

**READING PRECAUTIONS**
1. Read the MIC where the ellipse intersects the MIC scale.
2. Select the MIC end point at significant inhibition of growth, ignoring a few scattered colonies or very light haze.

**ANTIBIOGRAMS**

Example only, please use your own formulary.

**REFERENCES**