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**Lab Dept:** Microbiology

**Test Name:** NOCARDIA CULTURE

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***General Information***

**Lab Order Codes:** NCUL

**Synonyms:** Culture, Nocardia species

**CPT Codes:** 87102 – Culture, fungi isolation, with presumptive identification of isolates; other source (except blood)

The following testing may be added if appropriate based on findings for organism identification (multiple additions are possible if more than one organism is identified) and to aid in patient treatment management.

87106 – Culture, fungi definitive identification, each organism; yeast (if appropriate)

87107 – Culture, fungi definitive identification, each organism; mold (if appropriate)

87077 – Aerobic isolate, additional methods required for definitive identification, each isolate (if appropriate)

87181 – Susceptibility studies, E Test, per drug (if appropriate)

87184 – Susceptibility studies, disk method, per plate (if appropriate)

87186 – Susceptibility studies, microdilution or agar dilution, each multi-antimicrobial, per plate (if appropriate)

**Test Includes:** Culture for *Nocardia* sp.

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***Logistics***

**Lab Testing Sections:** Microbiology

**Referred to:** Fairview University Diagnostic Laboratories (Fairview Test: NOCAR)

**Phone Numbers:** MIN Lab: 612-813-5866

STP Lab: 651-220-6555

**Test Availability:** Daily, 24 hours

**Turnaround Time:** Preliminary reports are issued at 1, 2, and 3 weeks; negative cultures are final at 4 weeks.

- Special Instructions:**
- **Specimen site** and **date/time of collection** are required for processing.
  - Consultation with laboratory prior to collection of the specimen is recommended when nocardiosis is suspected clinically. Culture should be specifically ordered as Nocardia Culture.
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### ***Specimen***

- Specimen Type:** Pus or exudate with granules is preferred. Alternate: body sites with a like abscess condition, sputum, body fluid, tissue, bronchial and other respiratory sites.
- Container:** Sterile container
- Volume:** Tissue: any visible amount  
Fluid: 1 – 5 mL
- Collection:**
- Pus or Exudate:**
1. Using a sterile needle and syringe, aspirate material from undrained abscesses.
  2. Place in a sterile container.
  3. If container is not available, expel air replace needle with sterile Luer cap and deliver immediately.
- Tissue:**
1. Submit in sterile container. For small samples, add a few drops of sterile saline to keep moist.
  2. **Do not** allow tissue to dry out.
  3. The portion of the biopsy specimen submitted for culture should be separated from the portion submitted for histopathology by the surgeon or pathologist.
- Transport/Storage:**
- Onsite collections:** Transport specimens to the laboratory immediately.
- Offsite collections: Refrigerate specimen.** Specimens must be promptly transported to the laboratory, with the next available courier, not to exceed 24 hours from the time of collection. However, delayed transport causes a delay of test results.
- Special Processing:** Store at 4°C until specimen can be shipped. Ship within 24 hours.

**Sample Rejection:** Improperly labeled specimen; specimens with prolonged transit time (see Transport/Storage for requirements); clotted specimen; specimen collected with swabs; specimen not submitted in appropriate transport container; insufficient volume; external contamination. If an unacceptable specimen is received, the physician or patient's nurse will be notified and another specimen will be requested before the specimen is discarded.

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### ***Interpretive***

**Reference Range:** No growth

**Critical Values:** *Nocardia* sp. recovered from a central nervous system specimen. Physician will be notified of positive results.

**Limitations:** *Nocardia* sp. will not be recovered by routine bacterial culture techniques because of its relatively slow growth. Growth of *Nocardia* may be obscured by overgrowth of other organisms in mixed culture (i.e., sputum). The diagnosis may not be made unless the laboratory is advised of the clinical suspicion of nocardiosis. *Nocardia* sp. are not strongly gram positive, but their branching pattern when visible is helpful. Actinomyces species is not detected by this procedure.

**Methodology:** Culture

**Additional Information:** *Nocardia* sp. are aerobic, gram-positive bacteria which are filamentous, relatively slow growing, and variably acid fast. *N. asteroides*, *N. brasiliensis*, *N. farcinica*, *N. nova*, *N. otitidiscaviarum* (formerly *N. caviae*), and *N. transvalensis* are human pathogens. Many laboratories do not distinguish organisms in the *N. asteroides* complex (i.e., *N. asteroides*, *N. nova*, *N. farcinica*) from one another, and identify all these organisms as *N. asteroides*. Human infection is seen most frequently in patients whose immune systems are suppressed such as in HIV infection and Chronic Granulomatous Disease.

**References:** [Fairview Diagnostic Laboratories](#) June 2023

Cook, JH, and M Pezzlo (1992). Specimen receipt and accessioning. Section 1. Aerobic bacteriology, 1.2.1-4. In HD Isenberg (ed) Clinical Microbiology Procedures Handbook. American Society for Microbiology, Washington DC

Miller, J Michael (1999) A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington DC

Miller, J Michael, and HT Holmes (1999) Specimen Collection, Transport, and Storage In PR Murray et al, (ed), Manual of Clinical Microbiology, 7th edition, American Society for Microbiology, Washington DC, pp 33-104

**Updates:**

11/20/2014: Offsite information added.

11/3/2015: CPT update