**Culture Referred for Identification**

**Mycobacterium and Nocardia Algorithm**

Organism is in pure culture and actively growing on Middlebrook (7H10 or 7H11) or Lowenstein-Jensen medium agar slant

- Acid-fast stain for bacilli
  - **POSITIVE**
    - *Mycobacterium or Nocardia* identification by matrix-assisted laser desorption ionization-time of flight (MALDI-TOF) mass spectrometry*
  - **NEGATIVE**
    - Organism identified?
      - **YES**
        - Final interpretive report
      - **NO**
        - *Mycobacterium or Nocardia* identification by sequencing or *Mycobacterium Probe Identification (Agar)*

Organism is in pure culture and actively growing in broth (e.g., *Mycobacterium Growth Indicator Tube 7H9 broth*)

- Acid-fast stain for bacilli
  - **POSITIVE**
    - Organism identified?
      - **YES**
        - Final interpretive report
      - **NO**
        - *Mycobacterium Probe Identification, Broth*
  - **NEGATIVE**
    - Organism identified?
      - **YES**
        - Final interpretive report
      - **NO**
        - *Mycobacterium or Nocardia* identification by sequencing or MALDI-TOF mass spectrometry*

*Nucleic acid probes used for identification, when applicable, include those for *Mycobacterium avium*-intracellulare complex, *Mycobacterium gordone*, and *Mycobacterium tuberculosis* complex. MALDI-TOF mass spectrometry or 16S rDNA sequencing is used for identification, when applicable, for slowly and rapidly growing *Mycobacterium* species and aerobic actinomycetes (including Nocardia species and Streptomyces species).