

Burkholderia mallei

Colony Morphology

- Pinpoint to small grey colonies at 24 h that may become smooth, grey, and translucent at 48 h on Blood Agar (BA)
- No growth or colorless to light pink colonies on MacConkey (MAC) agar

Gram Stain

- Faintly staining gram-negative rods or slightly curved coccobacilli (1-3 μm x 0.3 μm)
- May be arranged singly, end to end pairs, in parallel bundles, or letter form, irregularly arranged

Biochemical/Test Reactions

- Oxidase: Negative or variable
- TSI: No change
- Motility: Non-Motile

Additional Information

- May be misidentified as: Other nonfermenting gram-negative bacilli by automated ID systems
- Infectious Dose: 10 colony forming units
- Biosafety Level 2 agent
(Use BSL3 for large or high titer volume culture)
- Transmission: Inhalation, wound contamination, direct contact with infected animals
- Contagious: No infections have been reported

Acceptable Specimen Types

- Abscess material, tissue aspirate, tissue biopsy
- Whole blood: 5-10 ml blood in EDTA, and/or Inoculated blood culture bottle
- Urine (≥ 5 ml)

Burkholderia pseudomallei

Colony Morphology

- Smooth, creamy-white colonies at 24 h that may become dry or mucoid at 48 h on Blood Agar (BA)
- Heavy growth at 42°C
- Pink or colorless colonies after 24 h that may remain pink or turn colorless at 48 h on MacConkey (MAC) agar

Gram Stain

- Gram-negative rods 1-3 μm x 0.3 μm
- Possible bipolar staining
- May appear as long thin bundles or irregularly arranged

Biochemical/Test Reactions

- Oxidase: Positive
- TSI: No change or slight oxidation (picture on back of card)
- Motility: Motile

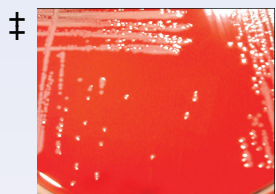
Additional Information

- May be misidentified as: *Chromobacterium violaceum* and other nonfermenting gram-negative bacilli by automated ID systems
- Infectious Dose: 10 colony forming units
- Biosafety Level 2 agent
(Use BSL3 for large or high titer volume culture)
- Transmission: Inhalation, wound contamination

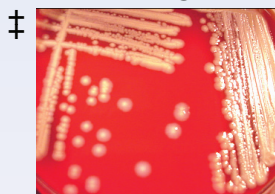
Acceptable Specimen Types

- Abscess material, tissue aspirate, tissue biopsy
- Whole blood: 5-10 ml blood in EDTA, and/or Inoculated blood culture bottle
- Urine (≥ 5 ml)

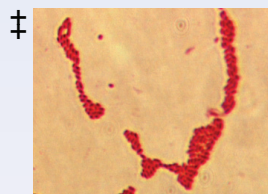
BA-24 h



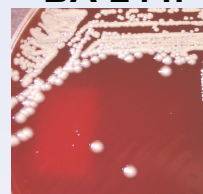
BA-48 h



Gram stain



BA-24 h



BA-48 h



Gram stain

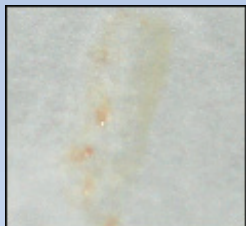


Sentinel Laboratory Rule-Out

Burkholderia mallei

Burkholderia pseudomallei

Oxidase



Negative

Small grey-white colonies on BA (48 h)
Colorless colonies on MAC (72 h)

Gram-negative coccobacilli

TSI



No Change

Perform all additional work in a certified Class II Biosafety Cabinet

*Oxidase: **Negative or Variable**
TSI: **No Change**
*Motility: **Non-Motile**
(use semi-solid media rather than wet mount;
2,3,5-triphenyltetrazolium chloride indicator)

*Oxidase and Motility: Appearances of test results are not agent-specific. Photos represent typical reactions

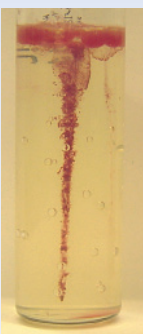
No

Continue laboratory identification procedures

Yes

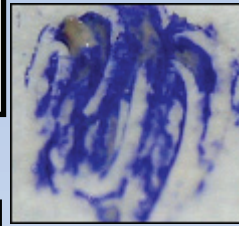
Immediately notify Wadsworth Center Biodefense/Bacteriology Laboratories if within the 5 boroughs of NYC, please call (212) 447-1091

Motility



Non-Motile

Oxidase



Positive

Creamy-white colonies on BA
May become dry or mucoid on BA (48 h)
Pink to colorless colonies on MAC (24 h)

Gram-negative, bipolar staining rods

TSI



Slight Oxidation

Perform all additional work in a certified Class II Biosafety Cabinet

*Oxidase: **Positive**
TSI: **No Change or Slight Oxidation**
*Motility: **Motile**
(use semi-solid media rather than wet mount;
2,3,5-triphenyltetrazolium chloride indicator)

*Oxidase and Motility: Appearances of test results are not agent-specific. Photos represent typical reactions

No

Continue laboratory identification procedures

Motility



Motile