

Overview

Useful For

Diagnosis of brucellosis

Testing Algorithm

When this test is ordered, the reflex tests may be performed and charged.

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
RMALD	Ident by MALDI-TOF mass spec	No, (Bill Only)	No
ISAE	Aerobe Ident by Sequencing	No, (Bill Only)	No
TISSR	Tissue Processing	No, (Bill Only)	No

Method Name

Conventional Culture Technique

NY State Available

Yes

Specimen

Specimen Type

Varies

Ordering Guidance

Mayo Clinic Laboratories does not perform species identification of *Brucella*; these isolates should be submitted to the State Health Department laboratory.

Necessary Information

Specimen source is required.

Specimen Required

Submit only 1 of the following specimens:

Preferred:**Specimen Type:** Bone marrow**Container/Tube:** Sterile container**Specimen Volume:** 1 mL**Specimen Stability Information:** Ambient <24 hours**Alternate:****Specimen Type:** Abscess, respiratory specimen, spinal fluid, sterile body fluid, or tissue**Container/Tube:** Sterile container**Specimen Volume:** 1 mL**Specimen Stability Information:** Refrigerated <24 hours**Reject Due To**

Other Frozen specimen Specimen >24 hours

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Varies (preferred)		

Clinical & Interpretive**Clinical Information**

Brucella species are facultative intracellular Gram-negative staining bacilli capable of producing the disease "brucellosis" in humans. Human disease likely is acquired by contact with animals infected with the organism (*Brucella abortus*, *B suis*, *B melitensis*, and occasionally *B canis*) either by direct contact or by ingestion of meat or milk. The signs and symptoms associated with brucellosis may include fever, night sweats, chills, weakness, malaise, headache, and anorexia. The physical examination may reveal lymphadenopathy and hepatosplenomegaly. A definitive diagnosis of brucellosis is made by recovering the organism from blood, fluid (including urine), or tissue specimens.

Reference Values

No growth after 14 days

Interpretation

Isolation of a *Brucella* species indicates infection.

Cultures of blood and/or bone marrow are positive in 70% to 90% of acute *Brucella* infections, but much less so in subacute or chronic infections. In these latter instances, culture yield is highest from the specific tissue involved, or serology may be necessary to establish diagnosis.

Cautions

Although *Brucella* species are relatively resistant to adverse environmental conditions, excessive delay in the transport of material for culture to the laboratory may result in a lower yield.

If a significant delay is expected, specimens should be refrigerated.

Clinical Reference

1. Cem Gul H, Erdem H: Chapter 228: Brucellosis (Brucella Species). In Douglas and Bennett's Principles and Practice of Infectious Diseases. Eighth edition. Edited by JE Bennett, R Dolin, MJ Blaser. Philadelphia, PA, Elsevier Saunders, 2015. pp 2584-2589
2. Procop GW, Church DL, Hall GS, et al: Chapter 9: Miscellaneous Fastidious Gram-Negative Bacilli. In Koneman's Color Atlas and Textbook of Diagnostic Microbiology. Seventh edition. Philadelphia, Wolters Kluwer, 2017, pp 472-595

Performance**Method Description**

Specimens are inoculated onto buffered charcoal yeast extract agar (BCYE) or GC-Lect agar for urines and respiratory specimens and chocolate blood agar incubated at 35 degrees C with increased carbon dioxide (CO₂). Cultures are incubated for 14 days before issuing a negative report. Matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry and/or nucleic acid sequencing of the 16S ribosomal RNA (rRNA) gene are used for identification. (Araj GF: Chapter 49: *Brucella*. In Manual of Clinical Microbiology. 12th edition. Edited by KC Carroll, MA Pfaller. Washington DC, American Society for Microbiology, 2019, pp 883-892)

PDF Report

No

Specimen Retention Time

1 day

Performing Laboratory Location

Rochester

Fees & Codes**Test Classification**

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information87081-*Brucella* culture

87077-Identification by MALDI-TOF mass spec (if appropriate)

87153-Aerobe identification by sequencing (if appropriate)

87176-Tissue processing (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
BRUC	Brucella Culture	552-0

Result ID	Reporting Name	LOINC®
BRUC	Brucella Culture	552-0