

Overview

Useful For

Diagnosing brucellosis using blood specimens

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

Testing Algorithm

When this test is ordered, the reflex tests may be performed at an additional charge.

Method Name

Conventional Culture Technique

NY State Available

Yes

Specimen

Specimen Type

Whole Blood Culture

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

Container/Tube: Blood Isolator tube

Specimen Volume: Entire collection

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Whole Blood Culture	Ambient	24 hours	

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*, *Brucella suis*, *Brucella melitensis*, and occasionally *Brucella 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

- Gul HC, Erdem H: Brucellosis (*Brucella* species). In: Bennett JE, Dolin R, Blaser MJ, eds. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases. 9th ed. Elsevier; 2020:2753-2758
- Procop GW, Church DL, Hall GS, et al, eds: Miscellaneous fastidious gram-negative bacilli. In: Koneman's Color Atlas and Textbook of Diagnostic Microbiology. 7th ed. Wolters Kluwer; 2017:472-595

Performance

Method Description

Specimens submitted in Isolator tubes are concentrated and inoculated onto blood 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.

Microorganisms recovered are identified by matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry and/or nucleic acid sequencing of the 16S ribosomal RNA (rRNA) gene. Antimicrobial susceptibility testing

is not performed on isolates of *Brucella* species. (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

Day(s) Performed

Monday through Sunday

Report Available

14 to 17 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees & Codes**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

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 Information

87081

87153-(if appropriate)

87077-(if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
BRUCB	Brucella Culture, B	551-2

Result ID	Test Result Name	Result LOINC® Value
BRUCB	Brucella Culture, B	551-2