Test Definition: CHAGI

Trypanosoma cruzi, Technical Interpretation (Non-Orderable)

Overview

Useful For

Only orderable as part of a profile. For more information see CRUZI / *Trypanosoma cruzi* (Chagas) Antibody Panel, Serum.

Diagnosis of chronic *Trypanosoma cruzi* infection (Chagas disease)

Method Name

Only orderable as part of a profile. For more information see CRUZI / *Trypanosoma cruzi* (Chagas) Antibody Panel, Serum.

Technical Interpretation

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Only orderable as part of a profile. For more information see CRUZI / *Trypanosoma cruzi* (Chagas) Antibody Panel, Serum.

Specimen Minimum Volume

See Specimen Required

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Frozen	14 days	

Clinical & Interpretive

Clinical Information

Chagas disease (American trypanosomiasis) is caused by the protozoan hemoflagellate *Trypanosoma cruzi* and can lead to acute and chronic clinical manifestations of disease. *T cruzi* is endemic in many areas of South and Central America.

The parasite is usually transmitted by the bite of reduviid (or "kissing") bugs of the genus *Triatoma* but may also be transmitted by blood transfusion, organ transplantation, food ingestion, and vertically from mother to fetus. The acute febrile stage of disease is frequently undiagnosed and often resolves spontaneously. Diagnosis of acute *T cruzi* infection is typically confirmed by microscopic identification of trypomastigotes in fresh preparations of anticoagulated blood or buffy coat or by molecular detection. Parasitemia decreases and is undetectable within approximately 90 days of infection.

Chronic *T cruzi* infections are often asymptomatic but may progress to produce disabling and life-threatening cardiac (cardiomegaly, conduction defects) and gastrointestinal (megaesophagus and megacolon) disease. These damaged tissues contain the intracellular amastigote of *T cruzi.* The parasite is not seen in the blood during the chronic phase. Diagnosis of chronic *T cruzi* infection relies on serologic detection of antibodies to this organism. However, no single serologic assay is sensitive and specific enough to be relied upon alone. Therefore, per current expert guidelines and the Centers of Disease Control and Prevention, serologic confirmation of chronic *T cruzi* infection requires positivity on 2 tests utilizing two different methodologies and/or two different *T cruzi* antigen preparations. When results are discordant, testing by a third assay is recommended to resolve the initial results or, alternatively, repeat testing on a new sample may be required.

Reference Values

Only orderable as part of a profile. For more information see CRUZI / *Trypanosoma cruzi* (Chagas) Antibody Panel, Serum.

An interpretive report will be provided.

Interpretation

CHAGS result	CHAGL result	Interpretive comment
Positive	Positive	Antibodies to *Trypanosoma cruzi* (Chagas disease) detected by two separate methods, suggesting current or past infection. Results should be interpreted alongside clinical presentation and exposure history.
Positive	Negative	Antibodies to *Trypanosoma cruzi* (Chagas disease) detected by one of two assays. Discordant results can be resolved through submission of a new sample for testing or through additional testing at a public health laboratory.
Positive	Invalid	Submission of a new sample is recommended to resolve discordant results.
Indeterminate	Positive	Antibodies to *Trypanosoma cruzi* (Chagas disease) detected by one of two assays. Discordant results can be resolved through submission of a new sample for testing or through additional testing at a public health laboratory.
Indeterminate	Negative	Submission of a new sample is recommended to resolve discordant results.
Indeterminate	Invalid	Submission of a new sample is recommended to resolve discordant results.
Negative	Positive	Antibodies to *Trypanosoma cruzi* (Chagas disease) detected by one of two

		assays. Discordant results can be resolved through submission of a new sample for testing or through additional testing at a public health laboratory.
Negative	Negative	No antibodies to *Trypanosoma cruzi* (Chagas disease) detected. False negative results may occur in patients tested within 4 weeks of infection.
Negative	Invalid	Submission of a new sample is recommended to resolve discordant results.

Cautions

False-positive results may occur in patients infected with *Leishmania* or other *Trypanosoma* species, including *Trypanosoma rangeli*. Additionally, false-positive results with the *Trypanosoma cruzi* lateral flow assay have been detected in patients with hepatitis C, toxoplasmosis, or syphilis.

Diagnosis of chronic Chagas disease requires both clinical evaluation (including exposure history) and laboratory testing. Chagas disease should not be diagnosed based on a single serologic result alone.

A single negative result does not exclude the diagnosis of Chagas disease as antibodies to the pathogen may not yet be detectable. Sensitivity of the assay may be decreased in significantly immunosuppressed patients.

Clinical Reference

1. Bern C, Montgomery SP, Herwaldt BL, et al. Evaluation and treatment of Chagas disease in the United States: A Systematic Review. JAMA. 2007;298(18):2171-2181
2. Bern C, Messenger LA, Whitman JD, Maguire JH: Chagas disease in the United States: A public health approach. Clin Microbiol Rev. 2019;33(1):e00023-19. doi:10.1128/CMR.00023-19
3. Forsyth CJ, Manne-Goehler J, Bern C, et al. Recommendations for screening and diagnosis of Chagas disease in the United States. J Infect Dis. 2022;225(9):1601-1610. doi:10.1093/infdis/jiab513

Performance

Method Description

Automated interpretation of antibody test results for *Trypanosoma cruzi.*

PDF Report

No

Day(s) Performed

Monday

Report Available

Same day/1 to 8 days

Performing Laboratory Location

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

Not Applicable

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
CHAGI	T. cruzi Interpretation	No LOINC Needed

Result ID	Test Result Name	Result LOINC® Value
CHAGI	T. cruzi Interpretation	59464-8