

# *T. cruzi* (Chagas' Disease) IgG Antibody Detection by Rapid Test

FOR THE QUALITATIVE DETECTION OF ANTI-Trypanosoma cruzi ANTIBODIES

## Disease Overview

- Chagas' disease is caused by the protozoa *Trypanosoma cruzi*, which is transmitted through insects of the *Triatominae* (kissing bugs) subfamily.
- The symptoms of acute infection are flu-like (i.e., fever, swollen lymph glands), but chronic Chagas can be responsible for gastrointestinal complications and severe cardiac distresses, including cardiomyopathy, apical aneurysm, thromboembolism, congestive heart failure, and death.

## Epidemiology

- Chagas' disease is endemic in South and Central America and currently affects 16–18 million people.
- Two-thirds of all active infections occur in Brazil.
- Thousands of individuals become infected each year through blood transfusions.

## Indications for Ordering

- This test should be ordered if exposure to *T. cruzi* is suspected and Chagas' disease symptoms exist.
- Individuals who have recently traveled to areas endemic for Chagas' disease and present with flu-like symptoms should be considered for testing.
- Symptoms may present years following initial infection.

## Interpretation

- A positive result of six units or greater indicates that serum IgG antibodies exist against *T. cruzi* antigens.
- A result of one to five units is considered equivocal, and retesting is suggested.

## Limitations

- This test has been validated for serum and plasma samples only. No other sample types may be used.
- Serological testing has limited utility in acute diagnosis.
- Due to cross-reactivity in patients with other parasitic infections or autoimmune diseases, it is recommended that positivity be confirmed on at least two other methodologies, such as complement-fixation and immunofluorescence tests.

## Methodology

- Patient sample is added to the base of a nitrocellulose strip.
- The strip is then placed in a buffer that travels through an indicator dye and past an immobilized antigen strip that binds antibodies present in the patient's serum.
- The presence of a solid line after 10 minutes of incubation indicates a positive result.

## References

1. Mandell G, Bennett J, Dolin R, eds. 2000. *Principles and Practice of Infectious Diseases*, 5th ed. New York: Churchill Livingstone.
2. Tarleton RL, et al. The Challenges of Chagas Disease — Grim Outlook or Glimmer of Hope? *PLoS Med* 2007;4(12): e332.
3. World Health Organization. The World Health Organization report 2004. Changing history. [www.who.int/whr/2004/en](http://www.who.int/whr/2004/en). (accessed on February 15, 2008).
4. Package Insert for Trypanosoma Detect™ Rapid Test. InBios, 2007.

## Test Information

0051076

*Trypanosoma cruzi* Antibody, IgG

For specific collection, transport, and testing information, refer to the ARUP Web site at [www.aruplab.com](http://www.aruplab.com).

For information on test selection, ordering, and interpretation, refer to ARUP Consult® at [www.arupconsult.com](http://www.arupconsult.com).