

## MOUSE MONOCLONAL ANTIBODIES SPECIFIC TO TRYPANOSOMA CRUZI ANTIGENS

### Technology Summary

*Trypanosoma cruzi* (*T. cruzi*) is the causative parasite agent of Chagas disease. Although, two drugs, Benznidazole (BZ) and Nifurtimox (NFX) are used to treat Chagas disease, treatment rarely results in a complete cure. *T. cruzi* infections are a chronic and lifelong disease with serological assays remaining positive over the lifetime of the infected host. Assays that detect biomarkers correlated with reduced parasitemia or parasite load after drug treatment are needed. Reduced levels of parasite biomarkers, such as secreted antigens would aid in the determination of drug efficacy.

FDA researchers have developed monoclonal antibodies (mAbs) against six *T. cruzi* antigens that are specific to their respective targets and show high binding affinities in the range of  $1 \times 10^{-9}$  to  $<1.0 \times 10^{-12}$ M. These *T. cruzi* mAbs can potentially be used to develop assays to detect antigens in *T. cruzi* patients either as a diagnostic test or an antigen assay to confirm disease status in Chagas patients. Currently, no assays that detect *T. cruzi* secreted antigens are available on the market.

### Potential Commercial Applications

- Research tool
- Diagnostic test for Chagas Disease
- Antigen tests to confirm disease status

### Competitive Advantages

- *T. cruzi* antigen specific monoclonal antibodies

### Development Stage:

- Development assays to detect *T. cruzi* in mice and Chagas patients

### Inventors:

- Alain Debrabant, Rana Nagarkatti, David Acosta

### Publications:

- Nagarkatti, R. et. al. A novel *Trypanosoma cruzi* secreted antigen as a potential biomarker of Chagas disease. *Sci Rep.* 2020 Nov 11;10(1):19591. PMID: [33177582](https://pubmed.ncbi.nlm.nih.gov/33177582/)

### Product Area:

- Research materials, monoclonal antibodies, *Trypanosoma cruzi*, Chagas

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### Licensing Contact:

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