R4. IMMUNOLOGICAL METHOD USING MAGNETIC BEADS FOR CHAGAS INFECTION DIAGNOSIS

Thiago Ferreira de Araújo Rosa1; Regina Helena Saramago Peralta2; Mauro Jorge Cabral-Castro3; Giovani Carlos Verissimo da Costa3; José Mauro Peralta3.

1 Universidade Federal do Rio de Janeiro;

2 Universidade Federal Fluminense;

3 Universidade Federal do]rio de Janeiro.

INTRODUCTION Chagas' disease is caused by *Trypanosoma cruzi* and affects about 8 million people in the Americas. The development of laboratory methods for diagnosis in chronic phase is a major challenge, due to differences in parasite burdens in acute and chronic stages and problems of specificity caused by the cross-reactivity against antigens from other trypanosomatids. Some commercial immunoassays use parasite lysate as antigen, although there are others that use protein fractions, recombinant proteins and synthetic peptides as antigen.

OBJECTIVE In the current study we develop an assay with magnetic beads on Luminex platform using total antigen and protein fraction from the protozoa.

METHODOLOGY To detect antibodies in serum samples from individuals with or without Chagasic infection, from three endemic regions of Brazil, the assay was standardized with a total extract of *T. cruzi* and the 30-34 kDa protein fraction.

RESULTS The assay with beads sensitized with total antigen showed a sensitivity of 100 % and specificity of 97.5%, while the assay with 30-34 kDa protein fraction showed 96.6% and 95 %, respectively.

CONCLUSION It is concluded that the Luminex platform is a promising immunoassay to be applied in the diagnosis of *T. cruzi* infection, once it presented high sensitivity and specificity when using total antigen or fraction of 30 -34 kDa.

KEYWORDS chagas infection, Luminex, antibodies detection.