A NEW VACCINE STRATEGY AGAINST *Trypanosoma cruzi*: DNA ENCODING THE NTPDase-1 ANTIGEN

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Chagas disease, caused by the protozoan parasite *Trypanosoma cruzi*, is responsible for producing significant morbidity and mortality throughout Latin America, and a potentially serious emerging threat to a number of countries throughout the world. For the approximately 10 million people currently infected with *T. cruzi*, a third of which will develop potentially fatal cardiomyopathy and/or severe digestive tract disorders. There is no human vaccine or highly effective cure, despite numerous experimental efforts. Our group has been working on the assessment of the effects of NTPDase-1 enzyme in Chagas disease. This ecto-nucleotidase from pathogenic *T. cruzi*, was previously characterized as a major virulence factor. The aim of this study is to define a new vaccine strategy for the Chagas disease. Using a DNA vaccine encoding the NTPDase-1 antigen from *T. cruzi*. The NTPDase-1 gene was cloned in to the expression pVAX vector and the recombinant plasmid obtained was used to transform *E. coli* bacteria. The insertion of the gene in to the vector was confirmed by PCR, using specific primers. After fermentation, and alkaline lysis, the recombinant plasmid was subject to chromatography with Plasmid select resin (Ge lifescience). The characterized plasmid DNA was used in a transfection protocol for HEK-293A cells using lipofectamine, to confirm the enzyme expression *in vitro*. Upon confirmation of the expression plasmid will be used to evaluate the immunogenicity in mice.

**Keys words:** Vaccine, *T. cruzi*, NTPDase-1

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