

## HEME CATABOLISM IN *T. cruzi*: BILIVERDINE IS THE MAIN METABOLITE IN EPIMASTIGOTES

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Pathogenic protozoa take up heme from the environment to supply their nutritional needs. To avoid the harmful effects of free heme different strategies were developed, such as the formation of hemozoin found in *Plasmodium*. We investigated the heme detoxification by *T.cruzi* epimastigotes (EPI), looking hemozoin formation. We followed the procedure of Marcus F. Oliveira et al. (*Nature*, 1999) and no hemozoin was found in EPI. Other organisms resource on the enzyme heme oxygenase for heme catabolism, therefore we investigated the products of this enzyme in EPI grown. Cells were disrupted and the material was acidified with HCl/acetic acid and extracted with chloroform. After centrifugation, the chloroform layer was washed with water. Part of this extract was taken for spectrophotometric analysis. The spectra showed two peaks consistent with heme and biliverdin standards. These results were confirmed with HPLC data. The remaining chloroform extracts were dried and aliquots were analyzed in a Shimadzu HPLC system, ACE 5 C18 250 x 4.6 mm column. The results confirmed the presence of peaks the same retention times of heme and billiverdine. No bilirubin was found. These findings indicate that an ezymatic system present in EPI is able to oxydize heme to its product biliverdine, indicating the presence of heme oxygenase in this parasite. Supported by: PIBIC/UERJ, CNPq, FAPERJ, CAPES