THE ROLE OF AU-RICH ELEMENTS IN THE DIFFERENTIAL EXPRESSION OF α-TUBULIN mRNA IN *TRYPANOSOMA CRUZI*

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α/β-tubulin mRNAs expression in *T.cruzi* are under an auto-regulatory control that affects these transcript half-lives. Whereas epimastigotes present high levels of tubulin mRNAs, an excess of free tubulin monomers is correlated to mRNA reduction in the amastigote stage. This reduction does not result from changes in transcription but is due to a decrease in the α/β-tubulin mRNA half-lives. In contrast to amastigotes, epimastigotes present lower levels of unpolimerised tubulin, both mRNAs can be destabilized after vinblastine treatment (tubulin depolymerisation agent). Using transient transfections we have shown that the 3'UTR and the first four codons of the α-tubulin gene might be involved in mRNA destabilization. Here, we investigated whether an AU-rich element (ARE) found within the α-tubulin 3'UTR is involved with the control of mRNA abundance. Epimastigotes transiently and stably transfected with plasmids containing the luciferase reporter gene associated with the wild-type α-tubulin 3'UTR and the 3'UTR containing a 44nt deletion encompassing the ARE were analysed. Preliminary results show that the ΔARE construct results in lower levels of luciferase activity than the construct containing the wild-type 3'UTR. After vinblastine treatment, luciferase activity decreased only in cells transfected with the wild-type. Currently, amastigotes derived from stably transfected epimastigotes containing both constructs are being generated to compare luciferase activity and mRNA levels during the parasite life cycle. Financial Support: CNPq