Involvement of an RNA binding protein containing Alba domain in the stage-specific regulation of β-amastin expression in *Trypanosoma cruzi*

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Amastins constitute a group of small surface glycoproteins, first identified in amastigotes of *T. cruzi* but later found to be expressed in several *Leishmania* species, as well as in *T. cruzi* epimastigotes. Amastin differential expression results from regulatory mechanisms involving changes in mRNA stability and/or translational control. Although distinct regulatory elements were identified in the 3' UTR of *T. cruzi* and *Leishmania* amastin mRNAs, RNA binding proteins involved with amastin gene regulation have only being characterized in L. infantum where, through RNA affinity chromatography, an Alba-domain protein (LiAlba20) was demonstrated to bind to the 3' UTR of a δ-amastin mRNA contributing with stage-regulated stability of amastin transcripts. Here we investigated the role of TcAlba30, the LiAlba20 *T. cruzi* ortholog, in the post transcriptional regulation of amastin genes. TcAlba30 protein is expressed in all stages of the *T. cruzi* life cycle. A transfected cell line expressing a cMyc tagged TcAlba30 was generated. RNA immunoprecipitation using anti-Myc antibody followed by RT-PCR revealed TcAlba30 β-amastin RNA interaction. Besides, amastin steady state mRNA levels were altered in these transfectants through TcAlba30 interaction with its 3'UTR. Analysis of changes in the parasite transcriptome resulting from ectopic TcAlba30 expression reveals that this protein modulates steady state mRNA levels from other genes that co-localize in the same chromosomal region. GO analysis for downregulated transcripts reveals a significant ($p<0.01$) enrichment in mRNAs encoding proteins involved in translation processes with many transcripts encoding ribosomal proteins and translation factors.