EVALUATION OF NITROFURANES DERIVATIVES IN THE TRANS-SPLICING OF TRYPANOTHIONE REDUCTASE mRNA

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For Chagas' disease treatment some biochemical processes have been pointed as therapeutical potential targets, such as, the biosynthesis of enzyme trypanothione reductase. Trypanothione reductase is considered the key enzyme in the antioxidative metabolism of the <I>T. cruzi</I>. Being this enzyme important for the parasite survival, we decide to evaluate the interference of two nitrofuranes derivatives (NF- nitrofurazone and NFOH- hydroxymethylnitrofurazone) in trans-splicing reaction of the parasite, using the system of permeable cells, as described before (Ullu & Tschudi, 1990; Ambrósio et al. 2004) and the epimastigote forms of <I>T. cruzi</I> Y strain. When the drugs were introducing in the parasite (at concentrations 5μM of NFOH and 10μM of NF), the bands obtained after RNase protection reaction were similar to the control without drugs; however, the bands showed to be fainter than those presented in the control, respectively. Both drugs seem to influence in the processing of this target gene, probably decreasing the pre-mRNA synthesis. These preliminary results demonstrate that these drugs, in fact, interfere in the enzyme biosynthesis, but still there is no enough knowledge about this issue.
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