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Identification of Gene Expression of J-Binding Protein from *Leishmania major* (MRHO/IR/75/ER) Exposed with Glucantime

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Leishmaniasis is caused by protozoan of *Leishmania* parasite. The pentavalent antimonials compounds remain the first-line treatment. J-binding protein encoded by *JBP1* involves in starting synthesis of J base that is unique in kinetoplastida. In this study, we were assessed the *JBP1* gene expression in exposure of different doses of glucantime. *L. major* (MRHO/IR/75/ER) promastigotes were distributed in groups for exposure with glucantime with end concentrations of 5, 10, 15, and 20 mg/ml. Then, RNA was extracted and cDNA synthesis was performed. Gene expression of *JBP1* was assessed using SYBR Green Real Time PCR by ΔΔCT analysis. Gene expression of all groups exposure with different concentrations of glucantime were the same but the *JBP1* gene expression showed 1.4 fold decreasing in groups with promastigotes exposed with glucantime with the end concentration of 5 mg/ml. The base J is synthesized with JBP1. More synthesis of J base is resulted in decreasing RNA polymerase II that could affect the gene expression of other genes. In this study, we showed that in high concentrations of glucantime, the *JBP1* was increased resulted in increasing in J base synthesis. Therefore, it seems that expression regulation of the genes involving in drug exposure would be in the other mechanisms.