EVIDENCE OF UTR-ASSOCIATED NCRNAS ODD3 WAS ASSOCIATED WITH LOWER EXPRESSION OF S16 GENE IN *LEISHMANIA MAJOR*

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It is well established that non-coding RNAs (ncRNAs) regulate a diversified number of cell processes. ncRNAs with independent expression rising from protein coding genes UTRs (so called UTR-associated RNAs, uaRNAs) is a phenomenon conserved in eukaryotes. The discovery of short and unusually AT-rich transcripts in *Leishmania major* led to a study of putative ncRNAs in the parasite. Four of these odd transcripts were expressed ectopically in *L. major* in the search for a phenotype, and one of them, named *ODD3*, that led to a marked phenotype was further investigated. Available transcriptomic data in association with primer extension assays suggested that ODD3 rises from the 3'UTR of one of the copies of the ribosomal protein S16 gene (LmjF.26.0890), a duplicated gene found in tandem on chromosome 26. We are investigating ODD3 functional role and the existence of uaRNAs in other duplicated ribosomal protein genes. We analyzed the ODD3 and S16 transcript levels in axenic promastigotes from *L. major*. RNA extracted from log-phase and stationary-phase promastigotes were evaluated using qRT-PCR. The existence of uaRNA as a common feature of the *Leishmania* transcriptome was surveyed using RNA-seq from the non-polysomal fraction. Therefore, the *L. major* genome was used as the reference in the current study. The same levels of ODD3 transcript was reached in the observed phases. Comparing RNA expression levels of S16 genes, the gene LmjF.26.0880 is expressed at relatively high levels that LmjF.26.0890 gene in log-phase and stationary-phase promastigotes. The RNA-Seq reads were differently accumulated between 3'UTRs from several duplicated ribosomal protein genes in *Leishmania* genome. In the present study, we reported that presence of ODD3 was associated with lower expression of S16 gene. Apparently, others uaRNAs derived from ribosomal protein genes are going to be discovered in future and are possible it will be observed the same relation was shown in ODD3/S16 expression.