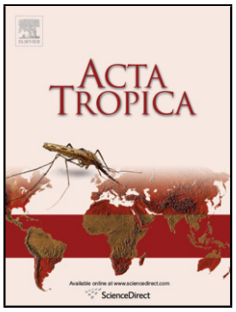

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Two guide RNA genes are up-regulated in *Leishmania infantum* metacyclic promastigotes.

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ABSTRACT

The kinetoplastid parasite *Leishmania infantum* is responsible for zoonotic visceral leishmaniasis in the mediterranean basin, where dogs are the reservoir. Differential gene expression analysis by whole genome DNA microarray hybridization revealed up-regulation of genes involved in infectivity of metacyclic promastigotes in axenic culture, together with two unidentified genes that had not been annotated in the parasite's genome sequences. Sequence analysis revealed that these genes encode for guide RNAs (gRNAs), which are located in the kinetoplast and participate in the kinetoplastid-specific uridine insertion/deletion RNA editing process. Northern blot assays confirmed that both gRNA genes are up-regulated in metacyclic promastigotes, thus suggesting that uridine insertion/deletion RNA editing contributes to metabolic shifts at this stage. A screening strategy described herein has revealed an uncharacterized 16S-like rRNA transcript as a target of one of the aforementioned gRNAs.