

DNA-Binding Domain of *Leishmania amazonensis* RBP38 (LaRBP38)

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Recent results demonstrated that Rbp38 is a protein exclusively expressed in trypanosomatid parasites, which includes the genus *Leishmania*. Rbp38 is a multifunctional protein exerting functions in the kinetoplast, such as the stabilization of mitochondrial RNAs and in the nucleus, as a protein that binds *in vivo* kDNA, the double-stranded (LaTel) and the G-rich telomeric DNAs (Tel1). The trypanosomatid Rbp38 does not share sequence or functional/structural similarities with any other protein deposited in the public data bank. Therefore, we constructed truncated overlapping mutants of LaRbp38 and tested the ability of each mutant to bind *in vitro* the G-rich telomeric DNA, double-stranded telomeric DNA and kDNA using Electrophoretic mobility shift assays (EMSA). Competition assays confirmed that LaRbp38 has at least one central DNA binding domain (DBD), located between amino acid residues 141 and 235. This DBD, interacts with distinct affinities with all DNAs tested. In addition, the results also suggested that this binding domain has at least two extensions one towards the N-terminus of mut2 (aa 95 and 141), which showed binding affinity to LaTel and kDNA and other towards the C-terminus of mut3 (aa 235 to 283) which strongly interacted with kDNA. However, we can not discard that others parts of the protein may also contribute to these interactions. The molecular modeling of LaRbp38 DBD is underway.

Key words: Leishmania, Telomeres, LaRbp38