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## **Structural analysis of the human RPL10 protein expressed in bacterial culture in soluble form**

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The ribosomal protein RPL10 belongs to the L10 family of ribosomal proteins, which is highly conserved from yeast to humans. The function of this protein participates of the for joining the 60S and 40S subunits in a late step of the initiation of mRNA translation, but it also has been identified as a putative tumor suppressor. The crystal structure of the core domain region (Phe34-Glu182) of this protein shows that it has secondary structure elements: beta-1, beta-2, alpha-1, beta-3, beta-4, beta-5, alpha-2 and beta-6. In our laboratory we amplified the 680-bp human RPL10 cDNA, cloned into an expression vector (p1813) and the protein expressed in *Escherichia coli* strain. The RP L10 in soluble form was expression at 25°C and 30°C for 16 h. Structural analysis of the soluble protein fraction by circular dichroism showed that this protein has 24.8 percent of alpha helix and 43 percent of beta sheet. The data obtained with increase of temperature in the sample up to 90°C showed not significant alterations of alpha-helix structure, this was observed by isodichroic points that had not detected confluence. Analysis of the beta structure at 199 nm, showed a decreases with increasing temperature.

In conclusion, the RPL10 protein expression in the soluble form in the bacterial owns secondary structure and the analysis of thermal stability suggest a loss of beta structure and alpha-helix.

Word Keys: RP L10, tumor suppressor, bacteria expression, soluble form, circular dichroism

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