Characterization of recombinant full-length human protein RPL10

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The ribosomal protein L10 (RPL10) plays a role in the binding between the 60S and 40S subunits and in mRNA translation. Evidence indicates that RPL10 has multiple extra-ribosomal functions, such as tumor suppression. This protein is transported by Presenilin 1 to the nucleus, where it interacts with the oncoprotein c-Jun via zinc ions. Recently, RPL10 was evaluated in prostate and ovarian cancers, and it was demonstrated to be associated with autistic disorders and premature ovarian failure. In the present work, we successfully cloned and expressed full length of hRPL10 protein and isolated inclusion bodies (IBs) that were formed under mild growth conditions. The soluble fraction, with an approximately 95% degree of purity, was obtained from a pellet of an extraction of functional proteins via a non-denaturing process. We studied the characteristics of the Circular dichroism (CD) spectra as well as the changes induced by the presence of and absence of zinc ions with EDTA addition by fluorescence. The results suggest that the protein obtained using conventional methods retains its secondary and tertiary structure and undergoes conformational changes with the zinc incorporation.

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