

CLONING AND EXPRESSION OF HUMAN RIBOSOMAL PROTEIN L10 (QM)

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QM protein, identified as a putative tumor suppressor, was first detected in a subtractive hybridization assay in Wilms' tumor cell line. The QM gene encodes the ribosomal protein L10 associated with 40 S and 60 S ribosome in the rough endoplasmic reticulum. This protein identified is basic and hydrophilic, with molecular weights of 24 to 26 kDa, its homologues have been identified in plants, animals, and fungi and the protein sequence is highly conserved suggests its fundamental and critical functions in eukaryotic organisms. Various QM cDNAs have been cloned from diverse species and these were expressed in bacterial inclusions bodies. The periplasm offers several advantages for protein targeting. The oxidizing environment of the periplasm facilitates the proper folding of proteins. The objective of this work was cloning and expression of soluble QM human protein in bacteria periplasmic space. The cDNA of human QM was cloned into pET-26a and expression in E. coli BL21 (DE3) in periplasmic space, this soluble protein containing Histidine-tag to the purification. The recombinant protein expression analysis was in SDS-PAGE and Western blotting in which its identity was confirmed in soluble form. Conclusion: In this work it reached the cloning and expression of the recombinant QM human protein in periplasmic space.