Heterologous Expression of the Splicing-Related Kinase SRPK1

The human SRPK1 is a SR protein-specific kinase involved in pre-mRNA splicing control, mostly through the phosphorylation of members from the SR family of splicing factors. Because SRPK1 has been found involved with the replicative cycle of certain viruses and with the gain of proliferative advantage of tumors cells, it has been considered an important target for therapeutic intervention. Aiming to conduct further structural and functional studies, here we sought to produce SRPK1 in *Escherichia coli*. First, its cDNA was subcloned into the pET28a-TEV-His expression vector, which allows recombinant protein expression fused to a hexa-histidine tail. Then, expression tests were performed by using the strain *E. coli* BL21-CodonPlus(DE3)-RIL, in the presence of 0.20 mM of the inducer IPTG. The expression in soluble/insoluble fractions was evaluated by western blotting, which revealed a soluble expression at 20ºC, during 20 hours of induction. Following large scale expression and purification experiments are currently being conducted in order to obtain appropriated protein preparations for further studies, including structural and protein-protein interaction assays.

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