High-level production of spider silk protein by fed-batch cultivation of recombinant *Escherichia coli* coexpressing *E. coli* dead gene and its purification

이석재, 채송화, 이상엽*
한국과학기술원
(leesy@mail.kaist.ac.kr*)

Silk proteins from Nephila clavipes are fibrous proteins containing repetitive sequences with both crystalline and amorphous domains. The synthetic genes had contiguous units of the consensus repeat sequence of the silk protein were constructed in a tandem multimeric form. Silk proteins were expressed in Escherichia coli BL21(DE3) under the strong inducible T7 promoter. For efficient production of silk proteins with large multimers, coexpression of DeaD-box protein was also carried out to increase stability of long mRNA transcripts by synchronized transcription and translation. In order to obtain high-level production of silk protein in large amounts, pH-stat fed-batch cultures were carried out. Finally silk protein was simply purified using IMAC method.