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Development of the Intein-mediated method for production of recombinant Thymosin β4 from the acetylated *in vivo* fusion protein

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Highlights

The cleavage reaction took place only in the presence of the thiol reagent

The most efficient acetylation of the peptide was observed in the producer strain constructed on the basis of the *E. Coli* C3030 strain

The efficiency of the protein post-translational acetylation exceeded 90%

The serine acetyltransferase had a higher specificity with respect to thymosin β4

The method developed is straightforward and economically viable