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Selection of cultivation medium for production of late stationary phase serine proteinases from *Bacillus intermedius*

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Abstract

B. intermedius have been shown previously to secrete two serine proteinases: glutamyl endopeptidase 2 and subtilisin 2 during the late stationary phase, with maximal levels of the enzymes activities recorded at the 40th and 44th hours of growth, respectively. In the current study, we analyzed the impact of various culture medium components on biosynthesis of these proteinases. Yeast extract and gelatin did not stimulate the enzymes biosynthesis. However, on the medium containing 0.1% casein subtilisin 2 production increased to reach 140%. Biosynthesis of both serine proteinases, produced by *B. intermedius* at the late stationary phase, were found to be inhibited by individual amino acids, and to be insensitive to catabolite repression. In order to maximise enzyme production, the presence of Ca²⁺ and Mg²⁺ at concentration of 5 mM was shown to be necessary. Based on the results of this work, the composition of a complex culture media for the effective production of late stationary phase proteinases by *B. intermedius* was developed.

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