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Isolation and characteristics of *Bacillus intermedius* glutamyl endopeptidase secreted by a recombinant strain of *Bacillus subtilis* at various growth phases

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Abstract

The recombinant strain of *Bacillus subtilis* bearing *B. intermedius* glutamyl endopeptidase gene in multicopy plasmid $\Delta 58.21$ secretes the enzyme to the medium at the phase of slowing of growth and the stationary growth phase with accumulation maxima at 24 and 48 h. Enzyme samples were isolated from the culture liquid after 24 and 48 h of culturing of and were purified up to homogeneity by ion exchange chromatography on carboxymethyl cellulose and HPLC on a MonoS column. The molecular weight of the corresponding proteins was 29 kDa. Both preparations had identical structure, but differed in affinity to the specific substrate Z-Glu-pNA. The effects of Ca^{2+} ions and specific low-molecular and protein inhibitors on the activity of the enzyme corresponding to various growth phases has been studied. © 2008 MAIK Nauka.

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Keywords

Bacillus intermedius, Glutamyl endopeptidase, Recombinant strain