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Purification and characterization of a subtilisin-like proteinases secreted in the stationary growth phase of *Bacillus amyloliquefaciens* H2

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Abstract

Proteinases secreted during the early and late stationary phases have been isolated from the culture liquid of *Bacillus amyloliquefaciens* H2 using CM-cellulose ion-exchange chromatography with subsequent FPLC on a Mono S column. Considering the character of hydrolysis of specific chromogenic substrates and the type of inhibition, these enzymes were identified as subtilisin-like proteinases. The molecular weight of both proteinases is 29 kD. The proteolytic activity of the proteinases secreted during the early and late stationary phases towards the synthetic substrate Z-Ala-Ala-Leu-pNA was maximal at pH 8.5 and 9.0, respectively. The maximal activity of both proteinases was observed at 37°C, and the proteins were stable within the pH range of 7.2-9.5. The subtilisin-like proteinases from *B. amyloliquefaciens* were shown to catalyze synthesis of peptide bonds. © Nauka/Interperiodica 2007.

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Keywords

Bacillus amyloliquefaciens, Properties, Purification, Subtilisin-like proteinases