

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

Balaban N., Malikova L., Mardanova A., Rudenskaya G., Sharipova M.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### **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.

<http://dx.doi.org/10.1134/S0006297907040141>

---

### **Keywords**

*Bacillus amyloliquefaciens*, Properties, Purification, Subtilisin-like proteinases