

## **Thrombolytic and fibrinolytic activity of bacterial proteases**

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### **Abstract**

In medical practice is increasingly use proteolytic enzymes of microorganisms. Particular attention of researchers is attracted proteases, which have fibrinolytic properties, and can lyse clots. Previously had been isolated and purified to homogeneity glutamyl endopeptidase, subtilisin-like proteinase and metalloendopeptidase of *Bacillus pumilis* 3-19, secreted by *B. subtilis* JB 2036 recombinant strain. The analysis of thrombolytic, fibrinolytic, and anticoagulant properties of the recombinant enzymes was conducted. It is shown that all investigated proteinases are able to efficiently lyse the clot. In an in vitro subtilisin and glutamyl endopeptidase of *B.subtilis* recombinant strain have anticoagulant activity. Metalloproteinase is not able to influence the process clot formation. Subtilisinlike proteinase and glutamyl endopeptidase possess fibrinolytic activity and the ability of the activator relative to plasminogen. Metalloproteinase shows no fibrinolytic properties. Due to the high incidence of cardiovascular diseases is urgent search for new enzymes with high biological activity, specificity and low toxicity.

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### **Keywords**

Anticoagulant activity, Glutamyl endopeptidase, Metalloproteinase, Subtilisin-like proteinase, Thrombolytic and fibrinolytic properties