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The biosynthesis of new secretory high-molecular-weight ribonucleases in Bacillus intermedius and Bacillus subtilis

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Abstract

The investigation of new secretory ribonucleases, the Bacillus intermedius binase II expressed in the recombinant B. subtilis strain 3922 and the native RNase Bsn of B. subtilis, showed that they are synthesized in the growth retardation phase, when inorganic phosphate is exhausted in the medium. The biosynthesis of these ribonucleases was found to be suppressed by the presence of inorganic phosphate in the medium and activated by small amounts of the transcriptional inhibitor actinomycin D. The cultivation media of the producing strains were optimized for the maximum production of the enzymes.

Keywords

Actinomycin D, B. Subtilis, Bacillus intermedius, Binase II, Biosynthesis, Phosphate starvation, RNase Bsn