Copper (II) Accumulation and Superoxide Dismutase Activity during Growth of Aspergillus niger B-77

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The influence of copper (II) ions on the growth, accumulation properties and superoxide dismutase (SOD) activity of a growing culture of Aspergillus niger B-77 were studied. Microbial growth, the level of copper (II) accumulation and SOD activity depended on the initial copper (II) concentration. Aspergillus niger is able to accumulate large amounts of copper (II) from the nutrient medium with 200 mg.l⁻¹ copper (II) ions without losing its biological activities. Addition of copper (II) ions increased the SOD activity in the growing cell cultures. The changes in enzyme activity induced by heavy metal ions might be used as an indicator of intracellular oxy-intermediate generation in a cell culture growing under stress conditions.