

Biotechnological conditions of amylase and protease complex production and utilization involving filamentous bacteria

Gabriela Elena BHRIM*, **Mihaela SCÂNTEE*** and **Teodor NEGOIȚĂ***

* Galati *Dunarea de Jos* University, Faculty of Food Science and Engineering, Bioengineering Dept., 47, Domneasca St., 800008 Galati, Romania., Tel./Fax: +40 236 460165, e-mail: Gabriela.Bahrim@ugal.ro

** Romanian Polar Research Institute, C.P. 42-29, Bucharest, Romania

Abstract

Streptomyces, bacterial filamentous, largely spread into soil micro biota, have a high enzymatic potential, and are able to produce hydrolytic enzymes with natural implications in organic compounds biodegradation and bioremediation. Studies proved the variability of the biosynthesis potential and of the catalytic behaviour of the enzymes from the category of amylase and protease, synthesized by two selected strains of *Streptomyces* species, taken from local and East Antarctic coast soils. The preliminary researches show that the polar strain *Streptomyces* 11P features biosynthesis properties and the characteristics of the amylases and proteases synthesized, slightly modified comparing to strain *Streptomyces* MIUG 4.116, isolated from Romanian soil.

Key words: cold activity of enzymes, Antarctic soil micro biota, filamentous bacteria, *Streptomyces* species, α -amylase, β -amylase, proteases, submerged fermentation

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