

Production and properties of the amylase from *Trichoderma virens*

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Amylase is one of the most important industrial enzymes which can be used in a number of industrial processes including brewing, baking, textile and detergent. There has been considerable interest in the potential use of raw starch degrading enzymes for industrial applications, especially those capable of hydrolyzing starch molecules in large raw starch granules. Conventionally, the conversion of starch to glucose and other oligosaccharides required a two-step process namely liquefaction and saccharification before addition of amylase and glucoamylase. The present investigation reports the properties of an extracellular amylase from *Trichoderma virens*. The fungus produced amylase activity in all tested carbon sources, such as glucose, maltose, starch, wheat flour, sucrose or sugar-cane syrup, being starch the best source. Maximum amylase activity was obtained after 72h of incubation. The optimal pH and temperature of the enzyme were 5.5 and 50°C, respectively. The enzyme was activated by Mg⁺², Mn⁺, Zn⁺², with Ca⁺² showing the highest rank (173%). On the other hand, Al⁺³, Ag⁺¹, Fe⁺², and Hg⁺² ions strongly inhibited the enzyme. For determination of industrially availability advanced experimental properties such as characterization and enzyme kinetics will be investigated.

Keywords: amylase, *Trichoderma virens*, filamentous fungus.

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