

## **Abstract**

$\beta$ -glucosidase cleave glucose residues from oligosaccharides and glycoconjugates. Enzyme plays many important roles in growth and development of a plant. Many of the plant hormones and defence substances are being stored in form of glucosides and they are activated after hydrolysis catalyzed by  $\beta$ -glucosidase. It is involved in cell wall metabolism together with another glucosidases. In this work, an extraction of  $\beta$ -glucosidase from tobacco leaves was optimized. Further a soluble glycosylated, a soluble unglycosylated and ion-bound forms of  $\beta$ -glucosidase were isolated. The soluble glycosylated form had the same pH optimum as the ion-bound form of  $\beta$ -glucosidase (pH 4.5). The soluble glycosylated form of the enzyme had a higher affinity to p-NP- $\beta$ -D-glucopyranoside substrate ( $K_m = 2,0 \times 10^{-3}$  M) than the soluble unglycosylated form ( $K_m = 13,9 \times 10^{-3}$  M).