conferenceseries.com

7th World Congress on

MICROBIOLOGY

November 28-29, 2016 Valencia, Spain

Purification and characterization of a beta-mannanase from *Lactobacillus plantarum*

Nelishan Dikbas and **M Senol Kotan**
Ataturk University, Turkey

Thermoalkaline mannanase enzyme from *Lactobacillus plantarum* (X) bacterium was purified for 111 folds and with 36% yield by utilizing ammonium sulfate sedimentation technique along with DEAE-Sephadex ion exchange chromatography and Sephacryl S200 Gel filtration chromatography. It had been observed that the enzyme was formed of two subunits; 35 kDa and 55 kDa when purified enzyme was carried out in gel filtration chromatography and SDS PAGE electrophoresis systems. Optimum temperature was set out as 40° C whereas optimum pH was determined to be 10. It has been observed that the activity of the enzyme was stable between the ranges of pH levels of 3-11 and at the temperature of 90 oC and did not lose its activity. Additionally, the effect of the several metal ions such as Ca^{2+}, Mn^{2+}, Co^{2+}, Zn^{2+}, Cu^{2+}, Fe^{2+} and Ni^{2+} on the enzyme activity was tried out and it was observed that these mentioned metal ions increased the activity of the enzyme by 100-344%. Furthermore, the purified enzyme was tested in order to investigate the activity of this enzyme on the clarification of some fruit juice such as orange, apricot, grape and apple juice. During the process of comparison with crude extract, the highest amount of purified enzyme was detected in apple juice with the percentage of 154%.

Biography

Nelishan Dikbas is an Associate Professor at the Agriculture Faculty in the Ataturk University.

neslidikbas@atauni.edu.tr

Notes: