

Production of Xylanase Enzyme from *Aspergillus Terreus* SUK-1

Abdalla.A.M.Ali^a, Manaf Almatar^b, Heyam I. M. Al-Astal^c, Emsalem Faraj Hawege^a and Azzam Aladdin^c

^aDepartment of Chemical, Universiti Malaysia Pahang (UMP), 26300 Gambang, Kuantan, Malaysia.

^bInstitute of Natural and Applied Sciences Cukurova University
Rectorate 01330 Balcali, Adana, Turkey.

^cDepartment of Biotechnology and Medical Engineering, Universiti Teknologi
Malaysia (UTM), 81310 Johor Bahru, Johor, Malaysia.

ABSTRACT

Xylanase production from *Aspergillus terreus* SUK-1 was carried out in submerged culture fermentation (SCF). The fermentation process was performed by using 0.30% of xylan and 0.75% - cellulose as substrates of carbon source at 30°C, 150 rpm in the shaker for 7 days. Two processes, which were used for xylanase production, were shake flask culture and fermenter. In the shake flask culture, the maximum xylanase activity was 52.18 U/mL with xylan as a substrate, while 63.29 U/mL was for α -cellulose as substrate; after 5 days. In 5 L fermenter with 3 L working volume, the xylanase activity reached the maximum value which was 78.65 U/mL after five days. Two conditions were studied to get the optimum conditions for xylanase activities which were pH and temperature by using xylan as substrate. The highest activity was at pH 6.5 and constant temperature 37°C. While the optimum temperature was 50°C with constant pH 5.