

Optimization of cultural conditions for production of xylanase by *Spingobacterium spp. SaH-05*

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Background and aims: Xylanase is a class of enzymes which involve in lignocellulose biomass decay processes as a source of energy. Xylanases have potential applications in a wide range of industrial processes such as production of pharmacologically active polysaccharides for use as antimicrobial agents or antioxidants or surfactants. In this study we investigated optimization of cultural conditions for increase production of xylanase by *Spingobacterium sp. saH-05*.

Material and method: *Spingobacterium sp. saH-05* isolated from agricultural residues sample and collected by optimization of cultural conditions for production of xylanase. In this research we used different concentration of xylan (0.3,0.6,0.9 %w/v) and different nitrogen sources in incubation period (24-72h) with in cubation temperature (25-45°C), pH (5-11) for production of xylanase by *Spingobacterium sp. saH-05*. All experimental designs and data analysis were done by MINITAB software(version 16)

Results : Maximum of xylanase production by the strain *saH-05* was observed in temperature 37°C, pH 8 of xylan 0.9% of ammonium sulfate after 24 h of incubation.

Conclusions: Xylanase producing bacteria that isolated and optimized by this technique can utilize for industrial strains development and biologic processes instead of chemical agents.

Key words: Xylanase, *Spingobacterium sp. saH-05*, optimization