



RESEARCH ARTICLE :

Studies on Amylase activity of probiotic lactic acid bacteria *Enterococcus durans*

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SUMMARY : The aim of this research was to study the amylase activity of probiotic lactic acid bacteria *Enterococcus durans* Amf 50. The strain *E.durans* Amf 50 originally isolated from finger millet. The amylase activity of the strain was determined in MRS starch medium and at different concentrations of soluble starch, rice flour and various pH levels. Kinetic parameters of amylase enzyme were also determined. Maximum amylase activity (9.17 ± 0.01 U min⁻¹) exhibited at 48 h when the cell population also at its maximum (9.31 ± 0.04 log cfu ml⁻¹). The amylase enzyme activity and stability were observed in pH range of 5 to 6.5. The highest amylase activity was recorded at pH 5.5, which was the optimal pH. The amylase activity of *E.durans* Amf50 displayed in starch and rice flour at concentration of 1 to 10 % and exhibited the maximum activity at 6 % of pure starch and in 6 % rice flour concentration. Nevertheless, the activity in rice flour was less than in soluble starch. The Km values of amylase of *E. durans* Amf50 were 0.7 and 6.92 mg ml⁻¹ for soluble starch and rice flour, respectively.

KEY WORDS :

Amylase activity,
Probiotic, Lactic acid
bacteria,
Enterococcus durans

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