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
of

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Kinetic Studies with Crude Tomato Alcohol Dehydrogenase

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Abstract: Tomato alcohol dehydrogenase (ADH) is very important in the formation of fresh tomato aroma volatiles. The kinetic characterization and isolation of this enzyme may promote some in vitro applications. Kinetic studies of crude tomato ADH associated with NAD⁺ cofactor revealed Km values of 2.03 mM for ethanol and 0.064 mM for NAD⁺, a Vmax value of 24.51 µM/min, and an activation energy of 0.0208 kcal/mole. Variable pH measurements indicated that the enzyme is optimally active in a narrow range above pH 8.5. Dalziel coefficients were consistent with a sequential but not ordered mechanism. Also the enzyme was found to be heat labile. Crude tomato alcohol dehydrogenase can be a suitable enzyme for some biotechnological applications.

Key Words: tomato, alcohol dehydrogenase, Dalziel coefficients, enzyme kinetics

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