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Partially Purification and Characterization of Polyphenol Oxidase of Quince

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Abstract: Polyphenol oxidase (PPO, EC 1.14.18.1) was extracted from quince (*Cydonia oblonga*) by using 0.1 M phosphate buffer, pH 6.8. The polyphenol oxidase of quince was partially purified by $(\text{NH}_4)_2\text{SO}_4$ and dialysis. Substrate specificity experiments were carried out with catechol, pyrogallol, L-DOPA, p-cresole and tyrosine. Catechol was the most suitable substrate compound for quince PPO. The Michaelis constants were 4.54 mM, 7.35mM and 17.8 mM for catechol, pyrogallol and L-DOPA, respectively at 25°C. The optimum pH and temperature were determined with the specific substrate catechol as 8.0 and 40°C, respectively. Of eight inhibitors tested L-cysteine, ascorbic acid and potassium cyanide were the most effective against quince PPO.

Key Words: Quince, polyphenoloxidase, purification, characterization

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