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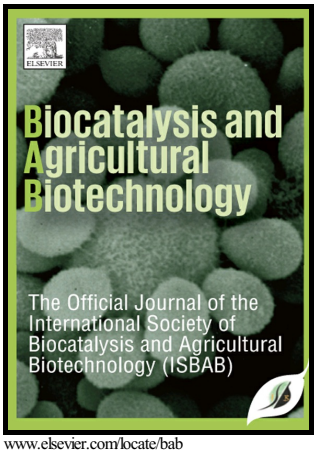

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Purification and biochemical characterization of peroxidase isoenzymes from *Ficus carica* latex

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Abstract

Three peroxidase isoenzymes were isolated from *Ficus carica* latex using CM-Sepharose, DEAE-Sepharose and Sephacryl S-200. The complete purification was carried out for FP1 only due to the low level of activity and protein concentration of FP2 and FP3. The purified isoenzyme FP1 was found to be monomeric with a molecular weight of 30 kDa. FP1 and FP3 isoenzymes had the same pH and temperature optima at pH 5.5 and 40°C, whereas the optimum values of pH and temperature were at pH 7.0 and 30 °C for FP2. On the other hand, FP1, FP2 and FP3 were stable at 50°C, 40°C and 30 °C respectively, whereas FP3 had low thermostability. FP1 isoenzyme was found to be stable between pH 5.0 and 7.5, and FP2 was stable from pH 4.0 to 8.0, while FP3 was found to be stable in acidic range between pH 4.5 and pH 5.5. The activity of both FP1 and FP2 peroxidase isoenzymes was increased by the high concentration of Ca^{2+} (10mM). The three peroxidase isoenzymes have a broad specificity towards some phenolic substrates and *O* -Phenylenediamine showed higher affinity towards the three peroxidase isoenzymes,