

Title Partial purification, heat stability and kinetic characterization of the pectinmethylesterase from
 Brazilian guava, Paluma cultivars

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Abstract

Pectinmethylesterase (PME) was extracted from guava fruit (*Psidium guajava* L.), cultivar Paluma, by 70% ammonium sulphate saturation and partially purified by gel filtration on Sephadex G100. Gel filtration showed PME isoenzymes with different values of molecular mass. Two samples were examined: concPME (70% saturation by ammonium sulphate) and Iso4 PME (one of the isoforms from gel filtration with the greatest specific activity). Optimum pH of the enzyme (for both samples) was 8.5 and optimum temperature ranged from 75 and 85 °C. The optimum sodium chloride concentration was 0.15 M. The K_M and V_{max} ranged from 0.32 to 0.23 mg ml⁻¹ and 244 to 53.2 μmol/min, respectively, for concPME and Iso4PME. The activation energies (E_a) were 64.5 and 103 kJ/mol, respectively, for concPME and Iso4PME. Guava PME, cv Paluma, is a very thermostable enzyme, showing great heat stability at all temperatures studied.