

Abstract

Pectate lyase (PL) from *Colletotrichum gloeosporioides* was purified to apparent homogeneity by hydrophobic interaction chromatography followed by isoelectric focusing. The purified preparation showed one band corresponding to 40 kD on sodium dodecyl sulfate-polyacrylamide gels. The isoelectric point of the enzyme was 7.9, and the optimum pH for activity was 8.9. The purified PL efficiently macerated unripe avocado fruit wedges. *In vitro* translation of mRNA from an induced fungal culture revealed a 36-kD precursor polypeptide, which was precipitated with PL antibodies. The antibodies inhibited enzymatic activity and maceration ability on avocado wedges. Epicatechin, a flavan 3-ol present in the peel of unripe avocado fruit, had a K_i of 3.4 μ M for inhibition of PL activity *in vitro*. At 20 Mg/ml (68 μ M), epicatechin reduced the enzyme's macerating ability by 64%. Since the flavan is present in unripe fruit at much higher concentrations (about 350 μ g/g fresh weight) than the inhibitory concentrations, epicatechin may be involved in the resistance of unripe avocado fruits by inhibiting the PL activity of *C. gloeosporioides*.