

Purification and properties of polygalacturonase associated with the infection process of *Colletotrichum truncatum* CP2 in chilli

ABSTRACT

In this study, polygalacturonase enzyme produced by *Colletotrichum truncatum* CP2 was partially purified by aqueous two-phase system and the properties of this enzyme was characterized. The highest yield (57.4%) and purification fold (5.1) was obtained using 22% PEG 6,000/15% sodium citrate comprising crude load of 16% (w/w) at pH 7.0 with addition of 1.0% (w/w) sodium chloride. The partially purified PG remained active over a wide range of pH (2.5-6.0) and the optimum activity was obtained at pH 5.0. Incubation of the partially purified PG at 40 and 50 °C for 30 min caused the activity of PG to decrease up to 20% and 40%, respectively. However, no significant changes in the activity when the enzymes were incubated up to 4 h at 40 and 50 °C. The results from this study suggested that ATPS comprising of PEG and sodium citrate could be potentially used as an alternative method for purification of PG.

Keyword: Chilli; *Colletotrichum truncatum*; Polygalacturonase; Aqueous two-phase system