

Histochemical localization of polyphenol oxidase and peroxidase from Metroxylon sagu

ABSTRACT

Polyphenol oxidase (PPO) and peroxidase (POD) activities were visualized histochemically at the cellular level of a young and a mature tree of *Metroxylon sagu* employing histochemical technique. In the mature tree, intense PPO activity was observed in the cell wall of the parenchyma and xylem cells when visualized under light microscope. Pith collected from the young tree showed PPO activity in the amyloplast and mitochondria inner membrane and to some extent in the golgi complex and endoplasmic reticulum. Whereas, a positive POD reaction product was visualized in the cell wall, peroxisomes and to some extent in the cytoplasm and the vacuole. The localization of PPO activity in the amyloplast and being adsorbed by the starch granules is in line with the general view that enzyme is involved in the browning of sago starch.

Keyword: *Metroxylon sagu*; Polyphenol oxidases; Peroxidase; Cellular localization