



Catalytic properties of lipase from *Ficus trichopoda* and *Euphorbia unispina* latex: Study of their typo-selectivity.

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ABSTRACT

Objective: The search for lipase with distinct features, from plant latex is of great importance for industrial applications. The catalytic properties of lipases from *Ficus trichopoda* and *Euphorbia unispina* latex were characterized.

Methodology and Results: Fresh latex from *Ficus trichopoda* and *Euphorbia unispina* were collected and dried through solar. Dried latex was taken for complete proximate analysis and their activity was analysed by thin layer chromatography. The two lipases were optimally active at pH=5 and temperature of 35°C and 50°C for *Ficus trichopoda* and *Euphorbia unispina* latex, respectively. The presence of metal ions enhances the activity of *Ficus trichopoda* latex, while no significant enhancement was observed in the case of *Euphorbia unispina* latex. Both lipases were able to hydrolyze saturated esters, and showed typo-selectivity for this group. However, the lipases are weak selective for the hydrolysis of unsaturated esters, especially for 18:2 fatty acids.

Conclusions and application of finding: The enzyme from *Ficus trichopoda* latex was able to attack specific oil to generate free fatty acids or ester as the major product. This understanding may help in devising efficient methods to produce valuable modified oils.

Key words: Latex; Lipase activity; esterification reaction; typo-selectivity; *Ficus trichopoda*; *Euphorbia unispina*.