CHARACTERIZATION OF PHOSPHOLIPASES C AND D ENVOLVED IN DEFENSE SIGNALING PATHWAYS OF *Ricinus communis* (CASTOR BEAN)

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Castor bean is an industrial culture explored in function of its seeds oil. The modern industry uses the oil in the manufacture of explosives, lubricants, dyes, plastics, fertilizers cosmetics, laxatives, antimicrobial preparations. Nowadays, castor bean has also been seen as a promising matter for biodiesel. In order to investigate the defense response in castor bean (*Ricinus communis*) against predators, we analysed the effect of mechanical wounding upon the phospholipase PLC and PLD activities of leaf extracts. These phospholipases are involved in plant growth, development and responses to biotic and abiotic stress. They play a pivotal role in the production of lipid second messengers. In this work phospholipases activities in *R. communis* leaves were detected using a spectrophotometric assay. Biochemical characteristics of PLC and PLD activities like optimum pH, detergent and calcium effects was determined. PLD activity was observed mainly in microsome, while PLC activity was observed in cytosolic fraction. Both PLD and PLC activities were increased about 3 to 4 times after wounding treatment. In conclusion, it was determined that PLD and PLC are envolved in wounding injury processes. Now we are studing how these enzymes participate in defense against other elicitors like methyl jasmonate.

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