

DETECTION OF ANTIOXDANT ENZYMES, HYDROGEN PEROXIDE AND REACTIVE OXYGEN SPECIES ACCUMULATED IN *Ricinus communis* PLANTS TREATED WITH METHYL JASMONATE

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It is known that superoxide dismutase (SOD), catalase (CAT), ascorbate peroxidase (APX), peroxidase (Prx) and polyphenol oxidase (PPO) influence several reactions involved in plant defense systems. Their concentrations and activities will orchestrate many physiological processes involved in oxidative stress. In this work, the behavior of the antioxidant enzymes in *Ricinus communis* plants and the accumulation of reactive oxygen species (ROS) was analyzed after methyl jasmonate (MJ) exposition for 1, 4, 6, 12, 24 and 48 hours. The proteins of the leaves were extracted after MJ treatment with phosphate buffer and were analyzed by SDS-PAGE. Antioxidant activities, hydrogen peroxide and reactive oxygen species accumulation were verified by their respective protocols. Activity of CAT and Prx was transient while SOD activity decreased and APX increased after treatment with MJ. PPO activity does not show significant modificatons. The bands with Prx activity were extracted from the gel and its mass and pI were determined. Both of them presented two proteic bands after SDS-PAGE (37 and 39kDa). Methyl jasmonate induced both hydrogen peroxide and free radicals accumulation. This data supports the idea that MJ can be related to changes in oxidative stress, altering the activities of some key enzymes that control this process, promoting the accumulation of ROS at early stages of stress.

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