

PARTIAL CHARACTERIZATION OF TWO CYSTEINE PROTEASES FROM CASTOR BEAN LEAVES (*RICINUS COMMUNIS* L.) AFTER WOUND AND METHYL JASMONATE STRESS.

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Plants produce a wide variety of proteins in response to biotic and abiotic stress. Jasmonates are signaling molecules that play a key role in wounding response and acting on regulation the biosynthesis of many defensive proteins including proteases. These enzymes are also involved on regulation of senescence leaf and are induced by jasmonate treatments. We investigated the effects of wounding and methyl jasmonate (MJ) on the protein pattern and on proteolytic activity in castor leaves. The leaves were extracted with Tris-HCl buffer (50 mM pH 8.0), centrifuged at 14.000 g for 20 min and the supernatant was analyzed. We showed by gelatin zimography that MJ and wounding induced alterations in proteolytic pattern of castor bean leaves. Two cysteine proteinases (38 and 29 kDa) were induced by employed treatments; however, MJ induced higher level than mechanical wounding through stress period. The 29 kDa proteinase have acidic optimum pH while the 38 kDa proteinase have neutral optimum activity and both were quite completely inhibited by E-64 and cystatin. Their strong inductions by MJ suggest a possible means in leaf senescence and they could be involved in regulation of wound response in castor bean leaves. Supported by: CAPES, CNPq and FAPERJ.