

MODULATION OF A PLA₂ FROM *C. D. CASCAVELLA* BY AN ISOLECTIN ISOLATED FROM A RED ALGA

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This work presents the effects of an interaction between a lectin isolated from the red alga *Bryothamnion triquetrum*, named BTL-2, and the PLA₂ enzyme isolated from the venom snake *Crotalus durissus cascavella*. The PLA₂ and the lectin formed a stable heterodimer of 24kDa molecular mass estimated by analytical molecular exclusion HPLC. BTL-2 induced antibacterial activity against gram-positive bacteria *Clavibacter michiganensis subsp. michiganensis*, but did not present any activity against gram-negative bacteria *Xanthomonas axonopodis* pv. *passiflorae*. The PLA₂ strongly inhibited the growth of gram-positive bacteria and showed a moderate activity against gram-negative, in both cases BTL-2 increased the effect induced by PLA₂, probably because the lectin increases its enzymatic activity in 23%. BTL-2 on lower concentrations did not show significant platelet aggregation activity, whereas PLA₂ induced a platelet aggregation on concentrations of 1, 3 and 5 µg, but its activity was significantly inhibited by the lectin. In addition, BTL-2 did not show any oedematogenic activity in rat paw, but this protein significantly decreased the oedema induced by isolated PLA₂, besides it did not decrease the oedema induced by 48/80 compound. These unexpected results observed over the complex PLA₂:BTL-2 strongly suggest that the pharmacological activity of this PLA₂ is not dependent of the enzymatic activity.

Key words: red marine alga, lectin, antibacterial activity, PLA₂, oedema, platelet aggregation.