

The Platelet Aggregation And Edema Effect Induced By sPLA2 Isolated From  
The *Apis Mellifera* Venom

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The PLA2s are classified into XI distinct groups, according to source, and primary structure of sulfide bridges and other structural and biological properties. sPLA2 of Group III widely found in the wasps and bees venom and more recently it found in the human tissues. In case of bee, these peptide form a natural occurring complex protein with mellitin, which is considered the main biologically and pharmacologically active protein. The isolated sPLA2 from bee is glycoproteins, containing 130 to 135 amino acid residues that is considered as not so important protein. In this work, we investigated the biological effects of the PLA2 and mellitin from the *Apis mellifera* venom separately. Both fractions were fractionated initially by molecular exclusion chromatography and then purified by reverse phase HPLC. Only sPLA2 was the most abundant fraction isolated that induced a dose dependent platelet aggregation and of paw edema, which was abolished after incubation of the sPLA2 and quercetin and rutin. The CD spectra analysis showed that *Apis mellifera* sPLA2 showed high content of  $\alpha$ -helice and  $\beta$ -sheet that diminished after incubation with quercetin and rutin. Rutin and quercetin has been used as potent inhibitor of enzymatic activity of sPLA2 from bovine pancreas and of snake venom. Thus, the platelet aggregation and edema induced by sPLA2 from *Apis mellifera* involve the generation of araquidonic acid and its enzymatic activity.

KEY WORDS: Apis mellifera venom, phospholipase, platelet aggregation.

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