INHIBITION OF PLA_2 ENZYMATIC ACTIVITY FROM *C. ADAMANTEUS* BY ACETOPHENONE DERIVATIVES

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Phospholipases A_2 (PLA_2) hydrolyze the glycerophospholipids and liberate the aracdonic acid that serves as substrate to other enzymes, cyclooxygenases (COX-1/COX-2) and 5-lypoxygenase, to produce pro-inflammatory eicosanoids (prostaglandins and leukotrienes). Non-steroidal anti-inflammatory drugs (NSAIDs) reduce the inflammation inhibiting COX-1 and COX-2, decreasing the production of prostaglandins. Several polyphenolic compounds such as flavonoids, vitamin E and rosmarinic acid are able to inhibit PLA_2 through the binding of phenolic hydroxyls probably to HIS 48 or to ASP 49, in the catalytic site of the enzyme. In this work, it was studied the enzymatic kinetics of PLA_2 from *C. adamanteus* venom in the presence of three hydroxyled acetophenone derivatives (2,4 dihidroxi; 2,6 dihidroxi and 2,4,6-trihidroxi acetophenone), using 4-nitro-3-octanoyloxy-benzoic acid as substrate. The assays have shown that all the compounds analyzed were able to inhibit the enzymatic activity of PLA_2. It was observed that the Vmax was kept constant for all inhibitors; nevertheless, the K_H increased according to a raise in concentration of acetophenone derivatives, what indicates that the inhibitors are bond in same regions of the enzyme active site (competitive inhibition).

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