

Evaluation of Anti-Inflammatory Activity of *Pseudananas macrodontes* (Morr.) Harms (Bromeliaceae) Fruit Extract in Rats

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Several species of the family Bromeliaceae are characterized by the production of proteases in unusual amounts, especially in fruits. Bromelain, an extract rich in cysteine endopeptidases obtained from *Ananas comosus* L., and a few other proteases have been used as anti-inflammatory agents for some years, but bromelain is still mainly being used as alternative and/or complementary therapy to the treatment with glucocorticoids, nonsteroidal antirheumatics, and immunomodulators. In this study, the anti-inflammatory action of a partially purified extract from *Pseudananas macrodontes* (Morr.) Harms fruits (PPE_{pm}) is presented, whose main components are cysteine endopeptidases. The effect of PPE_{pm} was assessed in carrageenan-induced and serotonin-induced rat paw edema, as well as in the cotton pellet granuloma model. Doses with equal proteolytic activity of PPE_{pm} and bromelain produced significantly similar anti-inflammatory responses in the acute inflammatory models assayed, supporting the hypothesis that proteolytic activity could be responsible for the anti-inflammatory action. On the contrary, comparable anti-inflammatory effects of PPE_{pm} and bromelain in the chronic inflammatory assay required a much lower proteolytic activity content of PPE_{pm}, which could be due to a differential affinity for the protein target involved in this process.

Key words: Anti-Inflammatory, *Pseudananas macrodontes*, Plant Proteases