

## ASPARTYL PEPTIDASE INHIBITOR ACTIVITY OF *Hyptis pectinata* ESSENTIAL OIL

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Plants are rich in a wide variety of secondary metabolites, which have been found *in vitro* to have antimicrobial properties. *Hyptis pectinata* (L.) Poit (Lamiaceae) popularly known in Brazil as "sambacaitá", was the aim of the present study because of its application in several treatments, such as skin diseases, bacterial and fungal infections, fever, inflammation and pain. In this context, we evaluated the influence of *H. pectinata* essential oil and of its major component caryophyllene on proteolytic activity secreted by *Fonsecaea pedrosoi* conidia. This dematiaceous fungus is the most frequent etiologic agent of chromoblastomycosis, a subcutaneous chronic infection human disease common in tropical and subtropical countries. Conidia grown under chemically defined conditions (Czapek-Dox medium) secreted aspartyl peptidase that cleaved soroalbumin bovine (BSA) reaching a maximum activity at pH 4.0. This proteolytic activity was totally inhibited by O.E (1:10) and caryophyllene (1:10) as well as with pepstatin A, a classical aspartyl peptidase inhibitor. Considering the accumulating evidence showing the direct involvement of proteases in fungus-host interactions, which includes digestion of exogenous proteins for nutrition purposes, invasion of host cells and tissues, and inactivation of host proteins that are detrimental to fungus survival, this aspartyl peptidase inhibition by *H. pectinata* essential oil could be related to its *in vitro* antimicrobial activity.

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