

## TWO ISOFORMS OF KUNITZ-TYPE INHIBITORS FROM *PITHECOLOBIUM DUMOSUM* AND THEIR *IN VITRO* ACTIVITIES AGAINST INSECT LARVAE

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Two isoform inhibitors were purified from *Pithecolobium dumosum* seeds. Isoforms were purified by TCA precipitation, affinity chromatography on Trypsin-Sepharose and reverse-phase HPLC. JBI1 and JBI2 were submitted to a MALDI-TOF analysis presenting a molecular mass of 19698 Da and 19694 Da, respectively. JBI1 and JBI2 had a  $K_i$   $4.2 \times 10^{-8}$ M and  $2.9 \times 10^{-8}$ M to trypsin and a moderate activity against papain. The JBI1 inhibited larvae enzyme extracts from *C. maculatus*, *Z. subfasciatus*, *P. interpunctella*, *C. capitata* and *A. argillacea* at 7.9%, 67%, 49%, 37% and 15.5% and for JBI2 it at 5%, 56%, 37%, 29% and 10%, respectively. The N-terminal sequenced for both isoforms differed in only one aminoacid and presented identity with others Kunitz type inhibitors from Mimosoideae sub-family. The current study confirms the role these inhibitors in plant defense against insects and a way to improve the actual technologies of pest control in agriculture.

Supported by: CAPES, CNPq, FINEP and FUNDECIBNB