ACTION OF BARBATIMÃO FRUIT EXTRACT IN ACTIVITY OF GELATINASES

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Introduction: Since Matrix metalloproteinase (MMPs) have been suggested to contribute to degradation of the extracellular matrix the hypothesis that MMP inhibition would affect the progression of tumour invasion and metastasis is clinically relevant. *Stryphnodendron adstringens* (Barbatimão) is a Brazilian Cerrado plant, wich bark is used in traditional medicine. **Objective:** Evaluate the phytochemical profile of barbatimão fruit extracts and their action about gelatinolytic activity of MMP-2 and 9.

**Materials and Methods:** The crude extract hydroalcoholic (EB), the partitions (with hexane, chloroform, ethyl acetate and ethylic alcohol) and fractions (by column chromatography) of the best partitions of fruit without seed of *S. adstringens* was obtained by lyophilization. The qualitative phytochemical analysis to identify the classes of secondary metabolites was made, and subsequently, zymography assays were held. Finally, secondary metabolites were identified by thin layer chromatography (CCD).

**Results:** The crude extract had the highest inhibitory effect on MMP-9 (98.78%) and MMP-2 (56.32%). The hydroalcoholic partition achieved the best inhibiting effect and thereby their separation column was done to obtain single substances. Of all the column fractions, one (21VI) had a greater inhibitory effect on MMP-9 (92.2%) and of MMP-2 (89.67%). Secondary metabolites were identified as belonging to the class of flavonoids and tannins. **Conclusions:** The fruit of *S. adstringens* presents possible secondary metabolites with high ability to inhibit MMPs 2 and 9. Additional studies should be performed to better determine and quantify these compounds, applying them in research and activities molecule target therapies.

**Keywords:** *Stryphnodendron adstringens*; Phytochemical; Gelatinases.