Inhibitory effects from plant extracts of genus *Astronium* on gelatinolitic action

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For metastasis to occur, neoplastic cells must be able to separate from primary tumor and invade adjacent structures, through the degradation of basement membrane (BM) and extracellular matrix (ECM). The metalloproteinases 2 and 9 (gelatinases) are important in these processes, because wears out ECM and BM components. Adhesion and invasiveness inhibition, mediated by gelatinases, may be the key to prevent metastasis of tumor cells. In search of molecules that mimic the action of tissue inhibitors of gelatinases, the genus *Astronium* has been selected for the tests. The ethyl acetate fraction, partition from the crude extract, was eluted in the chromatographic column and had their points grouped according to the chromatographic profile. Each pool of gel was loaded with 0.1g/mL of human saliva containing the gelatinases. Gels were sectioned and placed into solutions with the different extracts. To stimulate the proteolytic activity of gelatinases, the gel was incubated in activation buffer. The in vitro inhibition of saliva’s gelatinases was measured by incubation of gel in plants extracts. Images were inverted in Adobe Photoshop and densitometry was performed using Scion Image. The gelatinolytic band was detected as a clear zone against the dark background and the sizes of the bands were inversely proportional to the inhibitory effect of each extract. The B fraction from the column chromatographic inhibited 93.6% and 91.0% the action of MMP-9 and MMP-2, respectively. The coumarins, alkaloids, tannins and flavonoids were present in the extract (B) responsible for the inhibitory effect on gelatinases.

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