ACTION OF PLANTAGO MAJOR’S EXTRACTS ON THE ACTIVITY OF GELATINOLYTIC FROM METALLOPROTEINASES 2 AND 9

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Introduction: Matrix metalloproteases (MMPs) endopeptidades are overexpressed in some types of cancers, contributing to tumor aggressiveness and metastasis. There is a growing interest in traditional medicine in the search for plant derived natural agents which are effective and have low toxicity. Plantago major L. is a perennial plant found throughout the world, the Plantaginaceae family and widely used for medicinal purposes, such as anti-inflammatory and healing. Objective: To assess the effect of Plantago major extracts on the activity of MMP-2 and 9 and identify compounds that are effective. Methodology: From the extracted hydroalcoholic get extracts parties by solvents of different polarities (hexane, chloroform, ethyl acetate, methanol). Zymograms were performed with all extracts and those with higher activity were subjected to extraction column thin layer. Phytochemical test was made with all fractions. Results: The chloroform fraction, rich in esteróidestriterpenos, flavonoids, tannins and alkaloids, proved the most effective in inhibiting gelatinase activity (80% and 65% inhibitory action on MMP2 and MMP9, respectively). Of the fractions obtained by column thin layer, a (46-48) inhibited approximately 70% and 90% MMP-2 and MMP-9, respectively. This fraction is rich in alkaloid. Conclusions: P. major inhibits the gelatinolytic activity of MMP-2 and MMP-9.

Key words: Plantago major, metalloproteinases, gelatinase.

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