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Masticadienonic and 3α-OH Masticadienoic Acids Induce Apoptosis and Inhibit Cell Proliferation and Tumor Growth in Prostate Cancer Xenografts *In Vivo*.

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The triterpenes have been constituted as a group of interesting molecules as possible antitumor agents. Despite several of them not presenting a potent cytotoxic activity in vitro against cancer cells, in vivo in xenotransplant tumors studies, they show promising results.

Based on the above considerations, we investigated the antitumor activity of both masticadienonic (MDA) and 3α-OH masticadienoic (3α-OH MDA) acids in a mouse prostate cancer xenograft model.

Immunohistochemical assays were used to evaluate the decrease in the expression of the Proliferating Cell Nuclear Antigen (PCNA) and the Ki-67 induced by MDA and 3α-OH MDA.

Terminal deoxynucleotidyl transferase dUTP nick end labeling (TUNEL) assay was performed to demonstrate the fragmentation of DNA. Our results showed that the two triterpenes inhibited tumor growth, had anti-proliferative effect in vivo and induced cell death by apoptosis.

Collectively, our data suggested that the antitumor mechanism of MDA and 3α-OH MDA involves several molecular targets related to cell proliferation and apoptosis.