B183 Cytotoxic activity of *Lithraea molleoides* against human tumor cell lines

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Lithraea molleoides (Vell.) Engl. (Anacardiaceae), trivial named "chichita" or "molle de Córdoba", grows in South America and have long been use among the native population as antirheumatic, diuretic and in respiratory disorders.

The dichloromethane extract of aerial parts of *L. molleoides* shows cytotoxic activity against Hep G2 (1), for this reason a bioguided fractionation was done to isolate the active constituents. A Sephadex LH20 column was used, with dichloromethane:methanol in different proportions, to obtain 6 fractions; the most active was purificated with HPLC where a catechol was identificated.

The cytotoxic effect of the dichloromethane extract, fractions 3 and 6 and the catechol isolated from *L. molleoides* was evaluated against three human tumor cell lines (Hep G2, SK-Mel-28, H292) and three transformed, but not tumor, cell lines (Vero, MDBK, MDCK).

The residue of each sample was suspended in DMSO:H_2O (1:5), it was centrifuged and the supernatant was used. In the in vitro cytotoxic activity assay, cells in the exponential phase of growth were incubated 48 h at 37°C with serial dilutions of the different samples. Cell proliferation was evaluated with MTT and the IC_{50} was determined (2).

As a result of the cytotoxic bioguided assay against Hep G2 a catechol was isolated from *L. molleoides*. This compound also presented cytotoxic activity against the other five cell lines tested, with different IC_{50} values: 17.0±1.4 µg/ml (SK-Mel-28), 18.0±1.4 µg/ml (H292), 21.7±3.8 µg/ml (Hep G2), 73.5±9.2 µg/ml (Vero), 59.5±7.8 µg/ml (MDBK) and 72.1± 4.8 µg/ml (MDCK).

The result of our investigation shows a poor selective cytotoxic activity of the catechol against the human tumor cell lines; but the same effect was seen with the positive control vinblastine (an anticancer drug in clinical use) (3). Nowadays, studies are carried out to elucidate the mechanism of action of the isolated compound.

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B184 Bioactive compounds from Atlantic Forest species *Alchornea glandulosa* and *A. sisifolia* (Euphorbiaceae)

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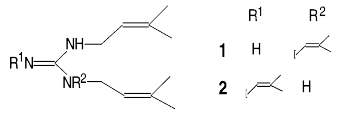
Plants of the family Euphorbiaceae have been used as traditional medicines in several parts of the world. In Africa, *Alchornea cordifolia* has been used as anti-parasitic, mainly to treat amoebiasis and malaria. As part of our continuing efforts to search for new antioxidant and DNA-damaging agents from Brazilian plant species, specially from Atlantic Forest, we have investigated the hydroalcoholic extract of leaves from *Alchornea sisifolia* and the chloroformic extract of leaves from *A. glandulosa* collected in São Paulo State. The guided-fractionation of these extracts using β-carotene (1) and DPPH (2) tests to detect antioxidant agents led to the isolation of the ellagic tannin coriolagin and the flavonol glucoside astilbin from *A. sisifolia*, and 3-*O*-glucosyl-kaempferol from *A. glandulosa*. The use of mutant strains of yeast *Saccharomyces cerevisiae* to select DNA-damaging agents led to the isolation of four guanidine-type alkaloids from *A. glandulosa* extract: pterogynine, pterogynidine besides the two new derivatives **1** and **2**. The structures of the bioactive compounds were established on the basis of spectroscopic data, mainly 1D and 2D NMR and MS. In the plant kingdom, guanidine alkaloids are rare and restrict to the families Euphorbiaceae and Leguminosae. Pterogynine and pterogynidine have previously been isolated from *Pterogyne nitens* (Leguminosae) and proved to be potential antitumoral agents (3).



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