

Biocide activity from *Ageratina jojotepecana* B. L. Turner

Actividad Biocida de *Ageratina jojotepecana* B. L. Turner

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Abstract

Introduction: Since time immemorial, indigenous plant material have been explored, processed and utilized for medicinal purposes. Many drugs from plants, used extensively in modern medicine have their roots in the ancient herbal drugs. In the last years, the microbial resistance to the current antibiotics has stimulated to the searching of new therapeutics alternatives from natural source. According to the literature reports *Ageratine* genus has antibacterial, antifungal, antiviral and cytotoxic properties. The relationship between the biological properties of some plants species of the genera and the presence of the kind of metabolites has been reported. **Material and Methods:** The plant *Ageratina jojotepecana* B.L. Turner was collected on February 2006, 19° 42.821' N, 101° 36.711' W at 2266 amsl. Flowers, leaves air dried were extracted sequentially with hexane, CH₂Cl₂, MeOH, the extracts were chromatographed on column. The fractions obtained were analyzed by NMR and gas chromatography/mass spectrometry. The antibacterial activity and MIC of the extracts of *A. jojotepecana* were evaluated against bacteria, yeast and oomycetes. The brine shrimp lethality bioassay technique was applied for the determination of preliminary toxic property of the plant extractives. DMSO solutions of the samples were applied against *Artemia salina* in a 1/day *in vivo* assay. For the testing of the cytotoxicity of the bonding agent, it was extracted with DMEM medium and the different cell-lines (A549, MCF-7, MDA-MB, 3T3) were expose to the extraction. The MTT assay was used to establish the number of viable cells. **Results and Discussion:** The identification of cativic acid, labdanolic acid, squalene, isolated from hexane extract of the leaves and flowers were based by spectroscopic methods. **Conclusion:** Cativic and labdanolic acids showed antibacterial property against gram positive bacteria. While the cytotoxicity evaluation could be ascribed to squalene, this is the first phytochemical and biological activity reported studio of the *A. jojotepecana*.

Keywords: *Ageratina jojotepecana*; biocide; diterpenes.