

## ***Duguetia flagellaris* Huber: Cytotoxic and Antimicrobial Potential**

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**INTRODUCTION:** Amazon rainforest area's concentrates 1/3 of the total of all species on Earth and among them are the plants of Annonaceae family. Annonaceae are potential substances producers with biological activities, such as anti-cancer, leishmanicide, antimalarial and insecticide. These activities are attributed to two important groups of molecules: the acetogenins, exclusive of these plants, and alkaloids. **OBJECTIVE:** This research aimed to find antimicrobial and cytotoxic potential of *Duguetia flagellaris* Huber (Annonaceae). **MATERIAL AND METHODS:** To obtain the extracts of *D. flagellaris* extraction was performed with hexane, acetate and methanol from the branch, flagellum and leaves. For the antimicrobial activity, the extracts (2mg/mL) were tested by agar diffusion against: *Candida albicans*, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Enterococcus faecalis*. The extracts were subjected to the cytotoxicity test against *Artemia salina* Leach (TAS) at concentrations of 1000, 500, 50 and 10 µg/mL. Then, antitumor tests were performed with HCT116 cell lines MCF-7, 50 µg/mL of extracts and doxorubicin (5 µg/mL). **DISCUSSION AND RESULTS:** As a result, the extracts mostly showed activity against at least two microorganisms. Four extracts were active against *S. aureus*, eight to *E. faecalis*, one to *P. aeruginosa* and four against *C. albicans*. However, the mean antimicrobial activity (18 mm, positive control: 20 mm) was demonstrated by the branch-hexane extract against *E. faecalis*. Therefore, in the TAS was observed DL<sub>50</sub> below 1000 µg/mL in all hexane extracts and branch-acetate extract. Overall, the main activity was detected in the branch-hexane extract (146 µg/mL). Cell viability of HCT 116 cell line was 21.4% in the presence of leaf-acetate extract and 23.6% in the positive control (doxorubicin). The smaller cell viabilities of MCF-7 cell line were 33.4% (doxorubicin), 42% (Branch-Hexane), 46% (Leaf-Methanol) and 50.3% (Leaf-Acetate). **CONCLUSION:** Thus, *D. flagellaris* has a cytotoxic and antimicrobial potential activity of biotechnological and pharmacological concerns.

**KEYWORDS:** Antibacterial Activity, Cytotoxicity, Natural Products.  
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