



## ANTIFUNGAL ACTIVITY OF *Plinia jaboticaba* (Vell.) Berg. LEAVES EXTRACT ON *Candida* sp. CULTURES

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### INTRODUCTION

The species *Plinia jaboticaba* (Vell.) Berg, popularly known as "jaboticaba-sabará" is an endemic plant of Southeast of Brazil, belonging to the Myrtaceae family. The literature describes its application in popular medicine on treatment of angina, dysentery, erysipelas and asthma, though the few studies on the species concentrate themselves in analyzing the fruits properties. The aim of this study was to evaluate their antifungal effect on *Candida* sp. cultures and their monocytes cytotoxicity.

### MATERIAL AND METHODS

To evaluate the action of *P.jaboticaba* leaves extract on *Candida* sp., it was used the doses of 50 mg/mL, 25 mg/mL and 12.5 mg/mL. Fungal growth was assessed by viable fungi recovery from co-cultures for 24 hours, after plating in Potato Dextrose agar. It was considerate the average of co-culture to the results. The cell viability of human monocytes against the different doses of the extract was performed by MTT reduction test, which finalized to verify cytotoxicity. This experiment was submitted to the Human Ethics Committee under approval number 53361116.3.0000.5370/ 2016.

### RESULTS

After evaluating the duplicate cocultures, following results were obtained: in the cultures of 12.5mg/ml there was no antifungal action, as well as in control fungal culture. However, in the 25 and 50mg/mL doses, there was a significant decrease in fungal growth. The average fungal recovery at a dose of 25mg/mL was

696 CFU and for 50mg/mL it was 188 CFU. There was no cytotoxicity in all concentrations when compared to the control group, a positive sign for further studies of therapeutic application of the plant specimen.

### CONCLUSIONS

According to the results obtained in the present work, it is concluded that the extract of *P.jaboticaba* leaves has antifungal effect when used at doses of 25 to 50mg/mL. It is important to remember that the analysis performed is a preliminary to confirmatory experiments and that it is necessary to carry out co-cultures containing phagocytic cells to verify the potentiation of the antifungal action of this extract.

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### REFERENCES

Pereira, J. V. Antifungal potential of *Sideroxylon obtusifolium* and *Syzygium cumini* and their mode of action against *Candida albicans*. Journal Pharmaceutical Biology, v. 54, p. 2312-2319, 2016.  
Soares, T. S. Análise fitoquímica e avaliação do potencial biológico do extrato bruto e frações das folhas de *Plinia jaboticaba* (VELL.) BERG. Blumenau, 2015. Dissertação (Mestrado em Química). Universidade Regional de Blumenau.