



OPTIMIZATION OF THE OBTAINMENT PROCESS OF HYDROALCOHOLIC EXTRACT FROM *Lippia organoides* H.B.K., FLAVONOIDS IDENTIFICATION AND HYPOTENSIVE ACTIVITY

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“Alecrim do Campo” or *Lippia organoides* H. B. K. is used in traditional medicine to treat flu and lung infections. Hydroalcoholic extract of de *Lippia organoides* H.B.K. (Lo-EHA), show phenolics and terpenic compounds, substances associated with the prevention and treatment of cardiovascular diseases¹. This study has sought optimize the process to obtain Lo-EHA, investigate the presence of flavonoids and evaluate its hypotensive activity in normotensive rats. Was performed factorial design 2³ (triplicate), for three factors on two levels: Solvent (ethanol or ethanol/water (1: 1)); sonication (+ or -); solvent exchange (daily for three days or each three days, resulting in twelve days). After initial optimization, the ratio plant material/ solvent (1: 5, 1: 8; 1:10) was determined from 5g of dried and ground plant material. The results of optimization were compared by ANOVA Tukey and *Student* paired test. Lo-EHA was analyzed by HPLC-ESI-IT-MS and FIA-ESI-IT-MSⁿ (negative mode) and the compounds were identified by precursor ions obtained and their fragmentation. The measurement of hypotensive activity was conducted by tail cuff method in rats *Wistar* (230 ± 30 g) at 30 minutes intervals up to 390 minutes after oral administration of Lo-EHA in 100 e 200 mg/kg doses. The ANOVA-Tukey and t test *Student's* paired of masses obtained showed that 9 days extraction and the ratio 1:8 (w/v) was more efficient, while the presence sonication procedure doesn't have significant effects, obtaining a yield of 25%. Were identified in Lo-EHA six major compounds: eriodictyol, narigenin and hesperetin , luteolin-6,8-di-*C*-glycoside, orientin and vitexin^{1,2}. After administration of Lo-EHA, was observed a hypotensive response in both doses in 60 to 90 minutes (-19,12 mmHg ± 4,82; -19,09 mmHg ± 2,54) relative to control group (1,41 mmHg ± 2,45; 6,21 mmHg ± 1,43), with effect duration of 270 and 300 minutes, respectively. The results showed that the optimization of process preparation of Lo-EHA, favored obtain a yield of 25%, flavones and flavanones as major compounds and their activity hypotensive was pronounced and prolonged doses studied, which indicates a chronic use to control arterial hypertension.

References:

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