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CHEMICAL COMPOSITION AND *IN VITRO* CYTOTOXIC ACTIVITY OF ESSENTIAL OIL FROM LEAVES OF *PLECTRANTHUS AMBOINICUS* (LAMIACEAE)

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Abstract: *Plectranthus amboinicus* (Lour.) Spreng is a native species from Asia and distributed in all Tropical America since the Antilles up to Brazil South [1]. It is commonly known as hortelã-da-folha-grossa and has been used in the Brazilian folk medicine to the treatment of several diseases including inflammations [2] and cancer [3]. In an attempt to identify cytotoxic components in the essential oil of *Plectranthus amboinicus* (Lour.) Spreng, we carried out a description of the essential oil chemical composition and a study of *in vitro* cytotoxic activity against murine melanoma cell line (B16F10-Nex2) with the oil and its main compounds. The essential oil was obtained from fresh leaves of *P. amboinicus* by hydrodistillation for four hours in a Clevenger apparatus and analyzed by gas chromatography/mass spectrometry (GC-MS) [4]. *In vitro* cytotoxic activity of essential oil (100 µg/mL) and their main compounds standard (100 µg/mL) was evaluated against murine melanoma cells (B16F10-Nex2) using MTT colorimetric assay [5]. Fourteen compounds were identified in the oil, which accounted for 97.35% of the total oil composition. The main compounds identified were carvacrol (37.70%), γ-terpinene (14.74%), (*Z*)-caryophyllene (14.07%). The evaluation of *in vitro* cytotoxic activity of essential oil exhibited cell viability of approximately 17% and IC_{50} (inhibitory concentration 50%) 52,97 µg/mL indicating a cytotoxic activity of essential oil, whereas the cell viability of isolate compounds carvacrol, γ-terpinene and (*Z*)-caryophyllene were 100%. Thus the cytotoxic activity observed to crude oil is not conferred to their main compounds individually, suggesting possible synergism or activity responsible for its other compounds. (Acknowledgments – CNPq, FAPESP, CAPES)

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