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In vitro* cytotoxicity and initial safety evaluation of extracts from 16 plants used in Yao ethno medicine*Nadin Almosnid and Elliot Altman**
Middle Tennessee State University, USA

Cancer is the second cause of death due to the limited treatment options. Because of the side effects and drug resistance of the current chemotherapy, there is an urgent need to develop new chemotherapeutic agents. Based on an ethnopharmacological survey, 16 plant species widely used in the Medicines of Yao ethnic group in China, which is a special branch of traditional Chinese medicine (TCM), were collected and 64 plant extracts were prepared from these plants. An *in vitro* cytotoxicity screening was conducted with a panel of four human cancer cell lines namely, lung cancer A549, breast cancer BT20 and MCF-7, bone cancer U2OS. Besides, their possible toxicity was evaluated using two normal human cell lines, lung HPL1A and breast HMEC. A potent activity ($IC_{50} < 5 \mu\text{g/mL}$) was observed for ethanol extract from *Melaleuca leucadendra* Linn. against U2OS cells. The most potent extract was acetate extract from *Elephantopus scaber* against all tested cancer cells (BT20, A549, U2S, and MCF7) with IC_{50} range between 3.1-24 $\mu\text{g/mL}$. However, most of the antitumor behaviors were against U2OS cell with IC_{50} 49.3-4 $\mu\text{g/mL}$. The selectivity index of the active samples varied from 0 to >100. Additionally, extracts that showed the anti-proliferation activity exhibited the ability of inducing apoptosis in U2OS cells. This study provides *in vitro* evidence for the traditional use of these ethnomedicinal plants, and validates the safety of these plant extracts.

Biography

Dr. Nadin Almosnid is working as Associate professor. She has been published 12 International Journals, 22 National Journals and attended 23 conferences. She belongs to Pharmaceutics and Pharmaceutical Technology specialization

nma2v@mtmail.mtsu.edu

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