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The anti-proliferative activity of *Coriandrum sativum* alcoholic extract on HCT-116 and MCF-7 cell lines

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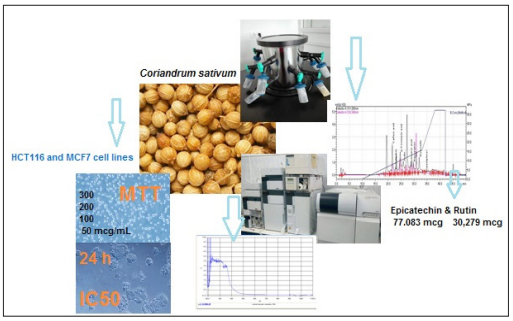
Statement of the Problem: It is known that vegetal extracts can generate positive responses in stages of several patho-processes. The anti-oxidant; protection against DNA damage and cancer activities of *Coriandrum sativum* were intensely studied in the last decade. Our research envisaged the polyphenolic compounds' structure and the anti-proliferative biologic activity of *C. sativum* 10% alcoholic extract against HCT-116 and MCF-7 cell lines.



Methodology: The *C. sativum* extract was obtained respecting the Romanian Pharmacopoeia 10th edition, the plant being lyophilized (with Ilshin Kryptonstraat 11, 6718WR EBE lyophilisator to -55 oC, 5 mTorr pressure and 24 hours lyophilization time). The polyphenols were determined by LC-MS and the *in vitro* evaluation effects by the MTT proliferation test, using HCT116 (colorectal carcinoma) and MCF7 (mammary adenocarcinoma). The cells were seed as: 2×10^4 (MCF7) and 1×10^4 (HCT) in 96 well plates. The lyophilized extracts were suspended in specific culture medium being obtained a 300 mg/mL *C. sativum* stock solution. From this, different test concentrations were prepared by dilution (300, 200, 100 and respectively 50 mcg/mL).

Result & Conclusion: As a following, after 24 hours from the exposure, using HCT-116 and MCF-7 cell lines it was observed that the cellular proliferation reduced, this being correlated to dose and the alterations of cell morphology to the groups studied; to great extract doses, apoptotic and necrotic alterations were observed, both for HCT and MCF cells; the IC50, representing concentration to which a marker substance is reducing the tissues viability with 50% after a fixed time exposure period wasn't observed for the cell lines used in this test; the chromatographic analysis of *C. sativum* alcoholic extract evidenced the presence of the polyphenolic compounds, the greatest concentrations were ascertained for epicatechin (77.083 mcg/mL) and rutin (30.279 mcg/mL), substances with known hard anti-oxidant proprieties.

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Biography

Eugenia Dumitrescu has her expertise in the veterinary field, reproductive toxicology, heavy metals, phyto-therapy and oxidative stress in animals. She is an Associate Professor at the Faculty of Veterinary Medicine at Banat's University of Agriculture and Veterinary Medicine, Romania.

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