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Abstract

Screening of Some Apiaceae and Asteraceae Plants for Their Cytotoxic Potential †

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Abstract: Terpenoids, especially sesquiterpene lactones (SLS) and furanocoumarins are diverse secondary metabolite groups which show a promising efficiency on different cancer cell lines. Therefore the screening of terpenoid and/or coumarin rich palnts from the plant kingdom remains still importance. Breast cancer and lung adenocarcinoma are the most common cancer types leading to cancer-related deaths in the world. To investigate the cytotoxic effects of some Asteraceae plants [*Jurinea* spec., *Ptilostemon* spec., *Circium* spec., *Centaurea* spec., *Tanacetum* spec., *Tragopogon* spec., *Pulicaria* spec., *Cyanus* spec.] and Apiaceae [*Heracleum* spec., *Pastinaca* spec.] plant extracts, real time cell analyzer xCELLigence system was used. A549 (12.500 cells/well) and MCF-7 (5000 cells/well) cells were seeded in E-plate then approximately 24 h post-seeding when the cells were in the log growth phase, the cells were treated with the samples. Cell viability was observed during 48 h after treatment and IC_{50} values have been calculated. According to results, *Jurinea macrocephala*, *Tanacetum partheneum* and *Pulicaria dysenterica* MeOH extracts showed significant cytotoxic effects on both two cell lines. The IC_{50} values of those extracts on MCF-7 cell line were calculated as 17 µg/mL, 21.47 µg/mL and 27.05 µg/mL respectively after the end of the 24 h. To understand the secondary metabolite profiles of the extracts; crude ^{1}H NMR experiments were performed. For each active extracts the major compounds and/or group of compounds were discussed.

Keywords: Apiaceae; Asteraceae; A549; MCF-7; SLS; furanocoumarin