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*Abstract*

# In Vitro Anticancer and Cytotoxic Activities of Some Plant Extracts on HeLa and Vero Cell Lines †

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**Abstract:** The aim of our study was to evaluate the effect of in vitro anticancer and cytotoxic activity of the methanolic extracts of 14 medicinal plants, 8 of which are endemic species in Anatolia, against the human HeLa cervical cancer cell line and to compare to the normal African green monkey kidney epithelial cell line (Vero) using the MTT colorimetric assay. Values for cytotoxicity measured by MTT assay were expressed as the concentration that causes 50% decrease in cell viability ($IC_{50}$, μg/mL). The degree of selectivity of the compounds can be expressed by its selectivity index (SI) value. High SI value (>2) of a compound gives the selective toxicity against cancer cells (SI = $IC_{50}$ normal cell/$IC_{50}$ cancer cell). Dose-dependent studies revealed $IC_{50}$ of 293 mg/mL and >1000 mg/mL for *Cotinus coggygria* Scop., $IC_{50}$ of 265 μg/mL and >1000 mg/mL for *Rosa damascena* Miller, $IC_{50}$ of 2 μg/mL and 454 mg/mL for *Colchicum sanguicolle* K.M. Perss, $IC_{50}$ of 427 μg/mL and >1000 μg/mL for *Centaurea antiochia* Boiss. var. *praealta* (Boiss & Bal) Wagenitz on the HeLa cells and the Vero cells, respectively. Four plants showed significant SI values which were 227 for *Colchicum sanguicolle* K.M. Perss (endemic species), >3.8 for *Rosa damascena* Miller, >3.4 for *Cotinus coggygria* Scop. and >2.3 for *Centaurea antiochia* Boiss. var. *praealta* (Boiss & Bal) Wagenitz (endemic species). According to our study, 4 methanolic extracts of 14 tested plants exhibit greater activity on the HeLa cell line and little activity on the Vero cell line, meaning that these plants can be evaluated for potential promising anticancer activity.

**Keywords:** anticancer activity; crude extracts; HeLa and Vero cell lines

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