Abstract

Analysis of the Cytotoxic Effects of Achillea millefolium L. Extracts on MCF7 Cell Line †

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Abstract: Achillea millefolium L. an herbaceous perennial plant from Asteraceae family which has antitumor, anti-inflammatory and antioxidant activity. Breast cancer is the most common cancer in woman. Therefore, in this study we aimed to investigate the effects of the different extracts of A. millefolium on breast cancer with in vitro cytotoxicity assay. Within the scope of this study, the compositions of extracts prepared with water, 30% ethanol, 60% ethanol, 90% ethanol and absolute ethanol obtained from the above-ground parts of A. millefolium, was investigated by Folin-Ciocalteu method for total phenolics, AlCl₃ colorimetric method for total flavonoid content. Cytotoxic effects on MCF7 (human breast cancer cell line) cell line were studied with MTT assay. It has been elucidated that 60% ethanol extract is rich in total phenolics content and 90% ethanol extract is rich in total flavonoid content. Water extract was found to be most cytotoxic extract with 30.67 ± 2.27 µg/mL IC₅₀ value on MCF7 cell line.

Keywords: Asteraceae; Achillea millefolium; cytotoxicity; MCF7; MTT

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