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The Cytotoxic Effect of Fractions of Chloroform Extract from the Endemic *Achillea multifida* Aerial parts

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ABSTRACT

The objective of this study was to evaluate for the first time cytotoxic effects of fractions of chloroform extract from the endemic Achillea multifida aerial parts. The heptane, chloroform and methanol extracts from A. multifida aerial parts were prepared and screened for their cytotoxic effects. Among all the extracts chloroform extract showed the strongest cytotoxic activity. Therefore, chloroform extract was fractionated using column chromatography and obtained F-1, F-2, F-3, F-4, F-5 and F-6 fractions respectively. The cytotoxic activity of these fractions was determined on cancer (Human colon adenocarcinoma cancer cell line, HT29; Human cervix adenocarcinoma cancer cell line, HeLa; Human breast adenocarcinoma cancer cell line, MC-7) cell lines. The F-4 fraction showed a stronger cytotoxic effect and selectivity activity against HT-29 (74.3 %) and MCF-7 (73.67 %) tumour cell line and moderate activity against HeLa (52.33 %) cell lines. Thus, the fraction F4 of chloroform extract from A. multifida aerial parts might be a potential source of anti-cancer agent(s).

Keywords: *A. multifida*, cytotoxic activity, HeLa, HT-29, MCF-7.