**SUPPORTING INFORMATION**

**Metabolomic Profile and *In vitro* Evaluation of the Cytotoxic Activity of *Asphodelus microcarpus* against Human Malignant Melanoma Cells A375**

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a b c

**Fig. S1**: Photograph of *A. microcarpus;* a) at the collection site; b) tubers of the plant; c) after cultivation of the plant at the garden of Environmental Studies and Research Institute.

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**(a)**

**(b)**

**(c)**

**Fig. S3:** Apoptotic analysis of*A. microcarpus* EtOAc fraction treated with melanoma A375 cells after 72 h.

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**Fig.** **S4**: Effect of *A. micrpcarpus* EtOAc fraction and PPT on the induction of apoptosis in melanoma A375 cell. Melanoma A375 cells were cultured in the presence of various concentrations of the EtOAc fraction and PPT for 24 h. The cells were then stained with Annexin V and PI and analyzed by flow cytometry. (a): control; (b) EtOAC (85 µg/mL); (c) EtOAC (100 µg/mL); (d) PPT (65 µg/mL) and (e) PPT (100 µg/mL).

**Table S1:** Cell cycle phase according to two fractions EtoAc with two concentrate and PPT fraction with two concentrate and control.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fractions** | **Conc.** | **G1 phase** | **S phase** | **G2 phase** |
| **EtoAC** | 100µg/mL | 60.45 | 27.22 | 9.5 |
|  | 83µg/mL | 58 | 25.79 | 11.67 |
| **PPT** | 100µg/mL | 62.67 | 22.6 | 11.17 |
|  | 65µg/mL | 60.04 | 24.52 | 11.8 |
| **Control**  **paclitaxel** | 1µmL | 62.09 | 19.02 | 15.99 |

**Table S2:** Apoptosis assay according to two fractions EtOAc fraction & PPT with two concentrate and control.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fractions** | **Conc.** | **Early apoptosis** | **Late apoptosis** | **Live cells** | **Necrosis** |
| **EtOAc** | 100µg/mL | 93 | 3892 | 469 | 4086 |
|  | 83µg/mL | 63 | 1952 | 797 | 4236 |
| **PPT** | 100µg/mL | 1491 | 1941 | 4310 | 897 |
|  | 65µg/mL | 707.3 | 1137 | 5580 | 645.3 |
| **Control**  **doxorubicin** | 10 µ/mL | 43 | 147.6 | 81 | 14 |