In vitro Cytotoxic Activity of Salsola oppositifolia Desf. (Amaranthaceae) in a Panel of Tumour Cell Lines

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The aim of the present study was to evaluate for the first time the in vitro cytotoxic activity of fractions and isolated flavonols from Salsola oppositifolia Desf. (Amaranthaceae). The n-hexane fraction demonstrated an effective cytotoxic activity on the large lung carcinoma and amelanotic melanoma cell lines with IC₅₀ values of 19.1 µg/ml and 24.4 µg/ml, respectively. Also the dichloromethane fraction exhibited cytotoxic activity against COR-L23 (IC₅₀ 30.4 µg/ml) and C32 (IC₅₀ 33.2 µg/ml) cells, while the EtOAc fraction demonstrated a selective cytotoxic activity against MCF-7 cells (IC₅₀ 67.9 µg/ml). The major active constituents of this fraction were isorhamnetin-3-O-glucoside (1) and isorhamnetin-3-O-rutinoside (2), which showed an interesting activity against the cell line MCF-7 with IC₅₀ values of 18.2 and 25.2 µg/ml, respectively. Compound 2 exhibited a strong activity against the hormone-dependent prostate carcinoma LNCaP cell line with an IC₅₀ of 20.5 µg/ml. Constituents of S. oppositifolia were identified by GC-MS and NMR analyses.

Key words: Salsola oppositifolia Desf., Cytotoxicity, Tumour Cells, Flavonols