



Triptolide Modulates Adriamycin Sensitivity Via Regulating Mir-21 and Bcl-2 Expression in K562/A02 Cell Line

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SUMMARY. Drug resistance is a major obstacle for successful treatment of leukemia. Increasing evidence suggests that microRNA-21 (miR-21) is over-expressed in K562/A02 cell line, promoting drug resistance. The aim of our present study is to investigate the reversal effects of triptolide on drug resistance in adriamycin-resistant cells. Cell viability was measured by MTT assays and adriamycin induced apoptosis was evaluated by flow cytometry. Levels of miR-21 quantified by real-time PCR. Bcl-2 protein level were measured by western blot. TPL enhanced sensitivity of K562/A02 cells to adriamycin and promoted adriamycin-induced apoptosis. Levels of miR-21 and Bcl-2 was significantly decreased after triptolide treatment. Transfection with anti-miR-21, a significant up-regulation of sensitivity to adriamycin and a significant down-regulation of Bcl-2 protein level was noted in K562/A02 cells. Our study suggests that triptolide significantly sensitizes K562/A02 cell to adriamycin by inducing apoptosis and these effects of triptolide may be due to its down-regulation of miR-21.

KEY WORDS: Bcl-2, Chemosensitivity, MicroRNA-21.

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