

Anticancer effects and mechanism of Ginsenoside Rg3

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Ginsenoside Rg3, the main component isolated from ginseng, inhibits some kinds of tumour growth and angiogenesis. Angiogenesis is now known to play an important role in both growth and metastasis of cancer. The combination of low dose chemotherapy and antiangiogenesis inhibitors suppresses growth of experimental tumours more effectively than conventional therapy. Life quality of mice in ginsenoside Rg3 and combined treatment groups were better and number of living days longer than control. Ginsenoside Rg3 significantly inhibited growth and angiogenesis of ovarian cancer when used alone or combined with CTX. Ginsenoside Rg3 and CTX combination reinforced the antitumour effect each other and improved the living quality and survival time of mice with tumour.

Continuous low-dose regimen of CTX increases the efficacy of targeting the tumor microvasculature on Lewis lung carcinoma, which produces therapeutic activity with decreased toxicity. The effects of the low-dose schedule of CTX may be further enhanced by concurrent administration of angiogenic inhibitor ginsenoside Rg3. Ginsenoside Rg3 can block angiogenesis and inhibit tumor growth and metastasis by down regulating the expression of VEGF mRNA and protein and reducing microvascular density.