

□1: [Zhonghua Zhong Liu Za Zhi](#). 1996 May;18(3):169-72. [Links](#)

[The antitumor activity of elemene is associated with apoptosis]

[Article in Chinese]

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Elemene, isolated from the Chinese medicinal herb *Rhizoma Zedoariae* was shown to exhibit antitumor activity in vitro and in vivo to human and murine tumor cells. This novel antineoplastic agent has been demonstrated to have substantial clinical activity against various tumors. In this paper, the mechanisms of antitumor activity of elemene are reported. The in vitro effect of elemene on the growth of leukemia cells was evaluated by MTT assay. The IC50 values of elemene for promyelocytic leukemia HL-60 cells and erythroleukemia K562 cells were found to be 27.5 micrograms/ml and 81 micrograms/ml, respectively, while IC50 for peripheral blood leukocytes (PBL) was 254.3 micrograms/ml. The inhibitory effect of elemene on proliferation of HL-60 cells was associated with cell cycle arrest from, S to G2M phase transition and with induction of apoptosis. The apoptosis of tumor cells was confirmed by DNA ladder formation on gel electrophoresis and characteristic ultrastructural alternations. These results indicate that induction of apoptosis contributes to the mechanisms for antitumor activity of elemene.

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