

Antitumor effects of Osthol from *Cnidium monnieri*: an in vitro and in vivo study

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摘要

Abstract

Cnidium monnieri (L.) Cusson is a Chinese medicine which is used widely by traditional medicine doctors. Osthol is a major bio-activity compound of the herb. In this study, osthol was isolated from *C. monnieri* and its in vitro and in vivo antitumor effects studied. The results of the in vitro study showed: that osthol inhibited the growth of HeLa, in a time- and concentration-dependent manner, with IC(50) values of 77.96 and 64.94 microm for 24 and 48 h, respectively; that osthol had lower cytotoxic effects in primary cultured normal cervical fibroblasts; and that increased DNA fragmentation and activated PARP in HeLa after treatment with osthol which could induce apoptosis. The results of the in vivo model showed that the survival days of the P-388 D1 tumor-bearing CDF(1) mice were prolonged (ILS% = 37) after osthol (30 mg/kg) was given once a day for 9 days. Based on these results, it is suggested that osthol could inhibit P-388 D1 cells in vivo and induce apoptosis in HeLa cells in vitro, and that osthol is good lead compound for developing antitumor drugs. However, *C. formosanum* Yabe of Taiwan's endemic plants contained little osthol, with no imperatorin, and its major components were different from that of *C. monnieri*. Therefore, it is suggested that *C. formosanum* also may possess economic worth.