

Ganoderma lucidum. Extrato metanólico in vivo e in vitro no câncer

04/06/11

Anticancer properties of Ganoderma lucidum methanol extracts in vitro and in vivo.

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Nutr Cancer. 2009;61(5):696-707.

Source

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Abstract

Anticancer activities of various extracts of the medicinal mushroom, *Ganoderma lucidum*, have been widely demonstrated and are mainly associated with the presence of different bioactive polysaccharides and triterpenoids. We have evaluated and compared in vitro and in vivo the antitumor effects of two preparations from *Ganoderma lucidum*: a methanol extract containing total terpenoids (GLme) and a purified methanol extract containing mainly acidic terpenoids (GLpme). Both extracts inhibited tumor growth of B16 mouse melanoma cells inoculated subcutaneously into syngeneic C57BL/6 mice and reduced viability of B16 cells in vitro, whereby GLme exhibited stronger effect. Furthermore, anticancer activity of GLme was demonstrated for the first time against two other rodent tumor cell lines, L929-mouse fibrosarcoma and C6-rat astrocytoma. The mechanism of antitumor activity of GLme comprised inhibition of cell proliferation and induction of caspase-dependent apoptotic cell death mediated by upregulated p53 and inhibited Bcl-2 expression. Moreover, the antitumor effect of the GLme was associated with intensified production of reactive oxygen species, whereas their neutralization by the antioxidant, N-acetyl cysteine, resulted in partial recovery of cell viability. Thus, our results suggest that GLme might be a good candidate for treatment of diverse forms of cancers.

PMID:

19838944