Ganoderma lucidum. Efeito na indução da diferenciação de células leucêmicas U937

The effect of Ganoderma lucidum on induction of differentiation in leukemic U937 cells.


Source

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Abstract

Ganoderma (G.) lucidum is a herbal medicine with tumoricidal activity capable of inhibiting the proliferation of mouse Sarcoma 180 cells both in vitro and in vivo. In this study, we investigated the effect of the polysaccharide fraction of G. lucidum (PS-G) on the proliferation and differentiation of human monocytic leukemia cell line, U937. Using an in vitro liquid culture system, we found that the conditioned medium from PS-G-stimulated human blood mononuclear cells (PSG-MNC-CM) contained an activity that could significantly inhibit the growth of U937 cells and induce them to differentiate into mature monocytes/macrophages which had functions of phagocytosis and producing cytoplasmic superoxide. Neither PS-G nor normal (untreated) MNC-CM was found to have a differentiating effect on the target cells. The optimal condition for stimulating the in vitro production of MNC-derived differentiation-inducing activity was to use PS-G at a low concentration of 50 micrograms/ml and to incubate MNC for a short period of 24 hours. Long-term (greater than 3 days) incubation resulted in a decrease in the differentiating activity of the conditioned media.

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