Ganoderma lucidum possui o triterpeno Ganodermanontriol que suprime o crescimento do câncer colo-rectal

Ganodermanontriol, a lanostanoid triterpene from Ganoderma lucidum, suppresses growth of colon cancer cells through β-catenin signaling.
Jedinak A, Thyagarajan-Sahu A, Jiang J, Silva D.

Source
Cancer Research Laboratory, Methodist Research Institute, Indianapolis, IN 46202, USA.

Abstract
Colorectal cancer is one of the most common cancers in men and women in the world. Previous molecular studies have revealed that deregulation of the β-catenin signaling pathway plays a crucial role in the progression of colorectal cancer. Therefore, modulation of the β-catenin pathway offers a strategy to control colorectal cancer progression. The medicinal mushroom Ganoderma lucidum (GL) is a rich source of triterpenes with anticancer properties. Here, we show that ganodermanontriol (GNDT), a purified triterpene from GL, inhibited proliferation of HCT-116 and HT-29 colon cancer cells without a significant effect on cell viability. Moreover, GNDT inhibited transcriptional activity of β-catenin and protein expression of its target gene cyclin D1 in a dose-dependent manner. A marked inhibition effect was also seen on Cdk-4 and PCNA expression, whereas expression of Cdk-2, p21 and cyclin E was not affected by the GNDT treatment. In addition, GNDT caused a dose-dependent increase in protein expression of E-cadherin and β-catenin in HT-29 cells. Finally, GNDT suppressed tumor growth in a xenograft model of human colon adenocarcinoma cells HT-29 implanted in nude mice without any side-effects and inhibited expression of cyclin D1 in tumors. In conclusion, our data suggest that ganodermanontriol might be a potential chemotherapeutic agent for the treatment of cancer.

PMID:
21225227