Ganoderma capense. Efeito mitogênico potente no baço e antiproliferativo em células tumorais: hepatoma (HepG2) e na leucemia (L1210 e M1)

A mushroom (Ganoderma capense) lectin with spectacular thermostability, potent mitogenic activity on splenocytes, and antiproliferative activity toward tumor cells.

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Abstract

An 18-kDa lectin, with an N-terminal sequence displaying slight similarity to some lectins and fungal immunomodulatory proteins, was isolated from the mushroom Ganoderma capense (Lloyd) Teng. It exhibited more potent mitogenic activity than that of concanavalin A toward mouse splenocytes, and antiproliferative activity toward leukemia (L1210 and M1) cells and hepatoma (HepG2) cells. The isolation procedure entailed ion exchange chromatography on Q-Sepharose, fast protein liquid chromatography (FPLC)-ion exchange chromatography on Mono S, and FPLC-gel filtration on Superdex 75. D(+)galactose and D(+)galactosamine specifically inhibited the hemagglutinating activity of the lectin. The hemagglutinating activity of the lectin was not affected over the temperature range 0-100 degrees C and after exposure to 100 degrees C for 60min. The activity was stable in the pH range of 4-11, and after incubation with solutions of various chlorides (from 3.125 to 50mM) including NaCl, KCl, CaCl(2), MgCl(2), ZnCl(2), MnCl(2), and AlCl(3). However, it was potentiated by 12.5-50mM FeCl(3). The lectin was devoid of HIV-1 reverse transcriptase inhibitory and antifungal activities.

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