

ブナシメジ(*Hypsizigus marmoreus*) から分離されたテルペンの腫瘍成長抑制作用

Tumor-growth Inhibitory Activity of the Terpene Compound Isolated from Buna-shimeji Mushroom

We have observed that dose-dependent tumor-growth inhibitory activity of Buna-shimeji mushroom, *Hypsizigus marmoreus*, against murine Sarcoma-180 (S-180) was observed by the administration of 5% and 10% powdered fruiting body-mixed feed (dose of fruiting body, ca.16mg/kg/day). Moreover, we have found that ethyl acetate-extract from the powdered fruiting body also exhibited tumor-growth inhibitory activity. Approximately 3g of the active substance (acetone-eluting fraction) was obtained from 250 g of powdered fruiting body by the silica gel fractionation. Following the administration of the acetone fraction(ca.250 mg/kg/day), equivalent to the dose present in 10% powdered fruiting body-mixed feed, the tumor volume of solid S-180 was 41.5% compared to that of control mice that were fed only CE-2. The acetone fraction also exhibited similar inhibitory activity against syngeneic IMC carcinoma. The main active substance of the acetone fraction was subsequently identified as the tandem-type polyterpene (C₄₅H₈₆O₇) by NMR and MS analysis. In addition to the murine tumor cells, S-180 and IMC, we have found that this terpene fraction exhibits cytotoxicity against various human tumor cells, U937, MKN45 and HL-60. Moreover, the purified active substance (C₄₅H₈₆O₇) was observed to induce apoptosis in HL-60 cells, and it was suggested that this activity might also exhibit the tumor-growth inhibitory activity.