

Newly recognized anticarcinogenic substance produced from mushroom mycelial culture of *Agaricus blazei*

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An active anticarcinogenic substance was isolated from the submerged liquid culture of *Agaricus blazei* Murill using a typical culture medium containing soybean powder and ribose combining with basal culture medium. To produce this noble anticarcinogenic and immune enhancing substance, autolysis enzyme technology was applied to the submerged liquid culture. Precipitates of autolyzed agaricus mycelial extracts by 80% ethanol (80EP) showed high anticarcinogenic activity against S-180 cell, Hella cell (uterine cervix cancer cell line), and MCF-7 cell (breast cancer cell line), of which ED₅₀ ($\mu\text{g}/\text{ml}$) was 0.9, 0.9, 1.2, respectively. 80EP also showed high anticarcinogenic effects on the S-180 cell-induced mouse ascites cancer, of which 40% extension of survival rate was resulted. The reduction of ICR female body weight induced by lipopolysaccharide (LPS) was much lower in the group of mouse treated with 80EP, indicating that the immune activity was enhanced by 80EP. The active compound, isolated by column chromatographic methods (DEAE-cellulose, silica gel), TLC, and HPLC, and then identified by UV, IR, NMR from the 80EP was tentatively identified as β -D-glucan conjugated with genestein (HK-1, MW ca. 25,000).