

## Production of anticancer hispidin in *Phellinus linteus* mycelium

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Natural products have attained great importance as they represent a potential source of valuable secondary metabolites which can be used as food additives, nutraceuticals and pharmaceuticals. Hispidin is a secondary metabolite found in *Phellinus linteus* (*Pl*) that exhibits anticancer activity. In spite of its immense value, *Pl* has been shown to induce low yield of hispidin. To induce the biosynthesis of hispidin, nine *Pl* strains from different sources were screened under various extreme external environments to trigger the response of secondary metabolite synthesis. Due to the slow growth rate of natural *Pl* in the wild and the negative impact of over-deforestation on its growth, developed submerged liquid culture systems have emerged for *Pl* mass production. Submerged fermentation in a batch stirred tank bioreactor with constantly controlled culture parameters showed many potential advantages for both constant mycelia composition and bioactive metabolites that undergo a shorter incubation time with a lesser chance of contamination. Under optimal conditions, the production of hispidin was 830 µg/mL in a 100-L of bioreactor. We further investigate the anticancer effect of hispidin-enriched *Phellinus linteus* against several human cancer cells. Taken together, these results show that there is potential in developing *Phellinus linteus* enriched with hispidin as an ingredient in functional foods or medicinal products intended to prevent cancer.

### Biography

I-Chen Li received her Master's degree in molecular medicine at National Cheng Kung University in Taiwan. She is currently the Research Specialist of Grape King Bio. Her research focuses on the development and commercialization of bio-fermentation of medicinal fungus as dietary supplements and the isolation of active compounds from the fungal mycelia.

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