



**The Chinese University of Hong Kong**  
**Non-confidential Abstract of Technology Disclosure**

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**Title:**

**Cultivation of a New Mushroom and Its Preparation of Novel Mushroom Dietary Fiber or Non-Starch Polysaccharides and Their Derivatives Having Antitumor and Other Biological Activities as Potential Functional Foods and Nutraceuticals**

**CUHK Ref. No.:**

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**Inventor(s):**

Professor Peter C K CHEUNG, Department of Biology

**Non-confidential abstract:**

Firstly, this patent is about the growing of the different morphological forms including the fruiting body, sclerotium and mycelium of a newly cultivated mushroom by use of solid compost and submerged fermentation technology. The optimum cultivation conditions and chemical composition of the solid compost for the growing of sclerotium and fruiting body as well as those for the liquid medium in the submerged fermentation of the mycelium were disclosed. Secondly, preparation of mushroom dietary fiber or non-starch polysaccharides (NSPs) including those from the sclerotium and mycelium as well as exo-polysaccharides (EPS) isolated from the liquid culture medium of this mushroom were reported. The isolated mushroom NSPs were characterized for their chemical and physico-chemical as well as structural characteristics. Thirdly, the antitumor activity of the structurally characterized mushroom NSPs was evaluated by in vivo and in vitro bioassays. A structure and function correlation of the mushroom NSPs was proposed. Fourthly, chemical modifications of the native mushroom NSPs were used to enhance their antitumor activity which widen their application as a potential antitumor and antiviral agents. Fifthly, other biological activities and potential applications of this novel mushroom dietary fiber or NSPs as functional foods/food ingredients and nutraceuticals/ oral supplements were also reported.

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**For further queries, please contact:**

Mr Billy Lam  
Technology Licensing Coordinator  
*Tel:* (852) 2609 8882  
*Fax:* (852) 2603 5451  
*Email:* [billylam@cuhk.edu.hk](mailto:billylam@cuhk.edu.hk)

*Address:*  
Technology Licensing Office  
The Chinese University of Hong Kong  
Room 226, Pi Ch'iu Bldg, Shatin, New Territories  
Hong Kong SAR