

十一、研究計畫中英文摘要：請就本計畫要點作一概述，並依本計畫性質自訂關鍵詞。

(二) 計畫英文摘要。(五百字以內)

*Tremella fuciformis* is a natural edible and medical fungus. It contains of very rich nutrients which can protect the health of kidney, lung, brain, and improve facial skin and prolong the life. The scientific researches also confirmed that *Tremella fuciformis* consists of polysaccharide which can reduce the blood sugar in mouse, low density cholesterol, inflammation, and promote the proliferation of lymphocytes and platelets and macrophage activities in spleen. It also can increase the human immunity. In 2008, the consumption of *Tremella fuciformis* was 300 tons in Taiwan; however the pesticide and the sulphur dioxide were detected from *Tremella fuciformis* which was imported from China in 2009. Therefore, it is an urgent matter to produce safe products of *Tremella fuciformis*. The polysaccharides of *Tremella fuciformis* are very high potential in the health food and cosmetic industry. If we put lots efforts in the development of fuctional products of *Tremella fuciformis*, it will be able to promote the consumption of *Tremella fuciformis* and to increase its added value. Therefore, the research goals of first year in this plan include: (1) To identify molecular markers of *Tremella fuciformis*; (2) To examine the anti-oxidation ability of *Tremella fuciformis* extract, and to study how *Tremella fuciformis* extract promotes the growth of probiotics and affects the activity of immunal cells. The research goals of second year include: (1) To establish the primers of molecular markers of *Tremella fuciformis*; (2) To examine the functions of *Tremella fuciformis* extract to improve retina failure, and to evaluate the reduction probability of *Tremella fuciformis* extract to senile eye disease. Finally, the research goals of third year include: (1) To identify the distances between intra- and inter- species of *Tremella fuciformis*; (2) To establish the animal model of *Tremella fuciformis* extract to affect retina. The results of this research plan will become the foundation to further develop *Tremella fuciformis* extract as health food products. In addition, the technology plateform established by this research will be transfered to the industry to supply the needs of domestic market, and also to promote the international competitiveness of Taiwan health food industry.

Key word :

*Tremella fuciformis*, molecular markers, identification, polysaccharide, health food, antioxidation, retina