

白牛樟芝固態培養基、生物活性及其對人類肝癌細胞Hep G2抑制之研究 Bioactive and anticancer effects of extracts from solid-state fermentation of white *Antrodia cinnamomea* against human liver HepG2

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摘要

本試驗進行白牛樟芝生物活性成分含量測定，發現以自製培養基培育白牛樟芝加微量元素之樟芝酸總量為 2.98%，而自製培養基培育白牛樟芝為 1.81%，結果顯示微量元素 P 的添加，有助於白牛樟芝樟芝酸含量的增加。由 DPPH 抗氧化能力試驗結果顯示，自製培養基培育之白牛樟及紅牛樟芝萃取物，其抗氧化能力優於白牛樟芝於牛樟木培育 1 個多月之萃取物。以牛樟芝之萃取物對 HepG2 細胞株之細胞毒殺試驗(MTT assay)，結果顯示，各種培育牛樟芝之萃取物濃度在 62.5 μ g/mL 時，約具有 50% 之抑制能力，但野生紅牛樟芝在濃度提高至 125 μ g/mL，其對肝癌細胞具有超過 80% 之毒殺效果，表示野生紅牛樟芝亦呈現極佳抗癌效果。總多醣體含量測定結果，自製培養基培育白牛樟芝的總多醣體含量為 31.06%，較市售培養基白牛樟芝 18.50% 高出許多；由此可知，總多醣體的含量多寡，可能是影響著樟芝生物活性表現的重要因素。

關鍵詞：白牛樟、生物活性、固態發酵、MTT 測試、抗氧化力。

ABSTRACT

The study results showed that *Antrodia cinnamomea*(AC) in the homemade medium added P element can enhance anticin indicators content from 1.81% to 2.98% of mycelia and basidiomatal formation of AC under Petri-dish solid-state fermentation. The antioxidant effects (DPPH) of white and red AC in the Petri-dish culture were greater than that of Basswood white AC (culture growth only for 1 month). Anti-B cancer cell tests showed that approximately 50% inhibition was achieved at 62.5 μ g/mL. The wild-type AC fruiting bodies extract concentration was higher than 125 μ g/mL, and the anti-B cancer cell effect was over 80%. The results showed that wild-type red AC also exhibited good anti-cancer effects. The polysaccharides content of white AC in homemade medium is 31.06% higher than in the commercial medium 18.50%. The total polysaccharides amount may be an important factor affecting the AC performance of biological activity.

Keywords: White *Antrodia cinnamomea*, Bioactive, Solid-state fermentation, MTT assay. Antioxidant ability.

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