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Abstract
Study on the Bioactivities of Phellinus igniarius
ABSTRACT
The aim of this thesis was selected optimum cultural medial combination of Phellinus igniarius on agar. Afterward by modified conditions to study antitumor, antioxidant and antibacterial activities by submerged culture fermented in 100/250 ml flask. As the results showed that the optimum culture condition was medial components of peptone 1% and fructose 5% at 30℃ initial on pH 8.0.
The biological activity in antitumor was assayed by MTT assay. On the 4th day, base on the medial component of peptone 1% and fructose 5% at 30℃ by shaking at 100 rpm the survival rate were 36% against HT-1080. At the concentration 33.3 mg/ml, the hot water and ethanol extractions treated with mycelia, which the culture condition were medial components of corn steep liquor 1% and soluble starch 3% at 30℃ by 150 rpm shaking on the viability of MCF-7, were respective 56% and 57%. Besides, the hot water and ethanol extractions treated with fruiting bodies at 33.3 and 3.3 mg/ml, the viability of MCF-7 and Du145 were 60% and 58% respectively.
Concerning the activity of reducing DPPH (1,1-diphenyl-2-picryl-hydrazyl) radicals, the result showed that the hot water extractions of P. igniarius from fruitbodies and the mycelia of liquid sates at 33.3 mg/ml, and submerged culture by shaking at 100 and 150 rpm had remarkable effect on reducing DPPH radicals. By the way, the results of concentration 33.3 mg/ml to relative ascorbic acid were as the followings: fruitbody (104.1μg/ml) , mycelia of solid state culture (66.2 μg/ml), PF150 (84.7 μg/ml), PF100 (45.0 μg/ml), CS150 (86.9 μg/ml), CS100 (63.0 μg/ml).
Finally, the results showed that the fermented broth of P. igniarius, fruitbody and the mycelia growing on solid substrates treated with hot water and ethanol extractions did not have any antibacterial ability on Escherichia coli, Staphylococus aureus subsp. Aureus, as well as Pseudomonas aeruginosa.
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