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Abstract
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Phellinus linteus belongs to the family of Hymenochaetaceae founded on wild mulberry trees. It’s extremely rare to find in the nature and hardly to cultivate artificially. The P. linteus was used as a medicine in Korea and Japan, due to its highly effective in treatment for anti-tumor, diuresis, gastro-intestinal disorders, and breathing disorders. We have successfully cultivated the P. linteus CCJ PL-101 and investigated the anti-tumor activities by in vitro and in vivo assay. The extracts of P. linteus were following by hot water, ethanol, methanol, ethanol/water and methanol/water. The result has shown that the ethanol extracts (PLEE) is effectively in the inhibition of cellines, i.e. SW480, AGS, and A549. Treat together with the Doxorubicin which is widely used in chemo-therapy, showed the PLEE had proven in enhancing the effective of Doxorubicin and induce apoptosis to follow reducing side-effect. On the
other hands, tumor metastasis and invasion had related with the action of matrix metalloproteinase (MMPs), degradation of basement membranes, stromal extracellular matrix, migration, angiogenesis, and the major cancer invasion and metastasis were MMP-2 and MMP-9. The PLEE significantly reduced the activities of MMP-2 、MMP-9 and gene transcription under the dosage of 500 μg /ml. Besides, the effect of migration by wound scratch assay has shown that the inhibition AW480 and A549 of cell motility with dose-dependent .PLEE under the dosage of 500 μg /ml to SW480 and A549 reached to 41.5% and 62% respectively. Moreover, tumor metastasis dependents on angiogenesis by chicken chorioallantoic membrane assay. The result
has shown the 250 μg/ml of PLEE had anti-angiogenesis effectively. Thus, the study demonstrated of anti-tumor proliferation, induction of apoptosis,anti-metastasis, and chemotherapy medicine booster treated with PLEE suggest that it is potential develop for health food or even new drug in near future.
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