

Antioxidant and Anticancer Activities of *Inonotus obliquus* Liquid Culture Extracts

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Abstract

The extracts of *Inonotus obliquus* liquid cultures were examined for antioxidant activity, nitrite scavenging activity, and *in vitro* anticancer activity against cancer cell lines of female cervix adenocarcinoma (HeLa), human hepatocellular carcinoma (HepG2) and human lung carcinoma (A549). The liquid culture extract (Extract I) was prepared by directly boiling the whole culture broth of *Inonotus obliquus* on day 4 of the growth and then removal of mycelial debris through filtration. This culture extract was further extracted with ethyl acetate (Extract II) or ethanol (Extract III). Comparing to Extracts I and II, the Extract III showed a stronger DPPH radical scavenger activity as shown by the RC_{50} of 1.04 mg/ml, although its effect was about 5-times weaker than that of L-ascorbic acid. The highest nitrite scavenging activity was also recorded by ethyl acetate extract, 79.3% and 74.1% at pH 1.2 and 3.0, respectively. The Extract III also showed the highest anticancer activity by inhibiting the growth of HeLa, HepG2 and A549 up to 85, 70 and 59% at 6 mg/ml.

References

1. S. J. Lee, S. H. Moon, T. Kim, J. Y. Kim, J. S. Seo, D. S. Kim, J. Kim Y. J. Kim and Y. I. Park, Anticancer and Antioxidant Activity of *Coriolus versicolor* Culture Extracts Cultivated in the Citrus Extracts (2003), *Kor. J. Microbial. Biotechnol.*, **31**(4), 362-367.