P66

# Effects of Fermented Liquor by using *Phellinus linteus* on the Expression of Inflammation-Related Proteins in Human Hepatoma Cell and in Rat Liver

Seong Min An[1], Jun Hyuk Lee[1], Yung Hyun Choi[2], Young Kee Jeong[3] and Byung Tae Choi[1]

[1]Departments of Anatomy and [2]Biochemistry, College of Oriental Medicine, [3]Department of Life Science and Biotechnology, College of Natural Science, Dong-Eui University, Busan, 614-714, Korea

*Phellinus linteus* is known as a drug, which has pharmacological activity for various tumors and inflammatory diseases in Oriental Medicine. In the present study, it was examined the effects of liquor of fermentation using mycelium of *P. linteus* (LFMP), on the alterations of inflammation-related proteins and liver function markers with human hepatocarcinoma cells and rats. $HepG_2$ cells were treated with ethanol and LFMP for 24 hours, the morphology and expression of inflammatory proteins were examined by microscopy, Western blotting, RT-PCR, and immunohistochemistry. In the morphological observation, $HepG_2$ cells were dose-dependently damaged in cells treated ethanol, however, LFMP had no effect on the morphology. Also, the expressions of cyclooxygenase (COX)-1, COX-2, which are major inflammatory enzymes, inducible nitric oxide synthase (iNOS) and tumor necrosis factor (TNF)-α were significantly induced by ethanol, however the expressions were weakly induced by LFMP. In the animal model, the markers for liver functions such as, GOT, GPT, total protein and were significantly increased by administration with ethanol, while the group administrated with LFMP had lower effect on the changes of markers compared with ethanol-administrated group. And also, the expressions of inflammatory proteins, including iNOS, COX-1 and COX-2 were induced in ethanol-administrated rat liver. However the expressions were not or weakly induced in LFMP-administrated rat liver. In conclusion, these results suggest that LFMP is not only lower than other grain alcohol in liver damage, but also stands comparison with other existing commercial functional liquors.