

P111

Effects of Citrus Peel Biotransformed by Viscozyme and *Aspergillus oryzae* on Serum Lipids Level in Mice

Sun Nyoung Yu, Hyo Jin Cho, Kwang Youn Kim, Yeong Jin Kim and Soon Cheol Ahn

Department of Microbiology and Immunology, Pusan National University School of Medicine, Busan 602-739, Korea

The purpose of this study was to investigate the effects of citrus peel biotransformed by viscozyme and *Aspergillus oryzae* on lipid level in serum of mice. Female ICR mouse were fed with high fat diet containing 40% beef tallow for 5 weeks. Simultaneously, thirty five mice were divided into seven groups, normal diet group, high fat diet group, group I (citrus), group II (citrus + *A. oryzae*), group III (citrus + viscozyme), group IV (citrus + *A. oryzae* + viscozyme), group V (naringin + hesperidin). The body weight gain tended to decrease when the group IV was compared with high fat diet group. The serum triglyceride (TG) of group V was lower than the other treatment group and normal diet group. The serum total cholesterol of group IV and group V showed the lowest levels in all groups, and there was a significant difference between the mouse fed with the high fat diet and normal diet. The serum HDL cholesterol of group III was showed the highest levels in the treatment groups. Atherogenic indices(AI) were also remarkably decreased in these group IV and V, compared with high fat diet group. These results suggest that biotransformed citrus by viscozyme and *A. oryzae* decreases level of TG, total cholesterol and atherogenic indices and increases level of HDL cholesterol. The biotransformed citrus peel showed strong activity in antiobesity and similar effects to the major compound in citrus, such as naringin, hesperidin. Therefore we suggest that citrus peel biotransformed by viscozyme and *A. oryzae* might help a treatment of obesity and hyperlipidemia.

Key words: Biotransformation, citrus, serum lipid

P112

Regulation of Deoxyphdophyllotoxin in Human Prostate Cancer Cell Lines PC-3

Hyo Jin Cho, Sun Nyoung Yu, Kwang Youn Kim, Yeong Jin Kim,
Hyun Cheol Oh¹ and Soon Cheol Ahn

Department of Microbiology and Immunology, College of Medicine, Pusan National University, Busan, Republic of Korea

¹*Department of Bio-food Materials, College of Natural Science, Silla University, Busan, Republic of Korea*

Prostate cancer is one of the leading causes of cancer-related mortality in men worldwide. In the united states, prostate cancer is liable to modern man and is increasing risk. Molecular mechanism of prostate cancer is not fully defined, but age, race, diet, and androgen secretion and metabolism are the identifiable risk factors associated with this malignancy. The aim of present study was to examine the anti-proliferation effects of methanol-extracted various crude plant on PC-3 cells. Among them, *Anthriscus sylvestis* with strong activity was selected and then chromatographed on a silica gel, a reverse phase-18 (RP-18) silica gel and a sephadex LH-20 gel column chromatography, in turn. Pure compound from methanol extracted *Anthriscus sylvestis* was analyzed by instrumental spectroscopy and identified as deoxyphdophyllotoxin. Purified deoxyphdophyllotoxin showed significantly inhibition of cell proliferation in a dose-dependent and time-dependent manner by MTT. Taken together, deoxyphdophyllotoxin can be used in the clinic for the treatment of Prostate cancer.

Key words: *Anthriscus sylvestis*, HPLC, MTT, deoxyphdophyllotoxin