

[PB4-27] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Inhibition of proliferation of human breast cancer cell (SK-BR3) and liver cancer cell (SK-Hep1) in tissue culture by the CCCA from Cordyceps militaris

Lee Seungjeong, Han Shinha, Park Eunjung^o, Lee Chong-Kil, You Byeongjin, Cho Kyunghae, Ha Nam-Joo, Kim Kyungjae

CM Biotec, Obongri 281-2, Kangnung, Kangwon, Korea, Department of Pharmacy, Sahmyook University, 26-21 Gongreung-Dong, Seoul, 139-742 South Korea, College of Pharmacy, Chungbuk National University, 48 Gaeshin-Dong, Chungju, 360-763 South Korea, Department of Food Science, Kangnung National University, Department of Biology, Seoul Women's University, 126 Gonglung-Dong, Seoul, 139-774 South Korea

Permanent cell culture lines derived from human cancer tissue are important experimental models in the study of human cancer cell proliferation. The in vitro effects of *C. militaris* and its extracted fractions on the human breast cancer (SK-BR3), liver cancer (SK-Hep1, HepG2), kidney cancer (p15), lymphoma (Jurkat) were studied. F1 (CCCA, crude cordycepin containing adenosine), F2 (ethanol precipitation), F3 (ethanol soluble supernatant) and F4 (fraction of through SK-1B) significantly stimulated in vitro cytotoxic activity in human cancer cell lines. Those compounds that are found to be potent in killing cancer cells or inhibiting cell growth are then further screened for their ability to suppress the growth of tumors in human cancer cell lines. In the present work, F1 and F4-treated human breast cancer (SK-BR3) and liver cancer (SK-Hep1) showed killing effects in a dose dependent manner between 15 and 60 $\mu\text{g/ml}$. DNA fragmentation was also examined those cells exposed to F1 and F4. We conclude that CCCA and F4 may be useful in the control of human breast (SK-BR3) and liver cancer (SK-Hep1).

[PB4-28] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Inhibition of IL-1 β and IL-6 in osteoblast-like cell by Isoflavones extracted from Sophorae Fructus and its potential role in preventing from osteoporosis

Joo SeongSoo, Won TaeJoon, Lee MinWon, Choi YoungWook, Lee Dolk^o

Department of Immunology, College of Pharmacy, Chung-Ang University, Seoul 156-756, Korea

Isoflavone found in Leguminosae is one of natural phytoestrogens and its effect on bone remodeling is one of key investigational interests in terms of estrogen replacement therapy (ERT). As commonly known, osteoporosis is one of hormonal deficiency diseases, especially in menopausal women. When estrogen is blocked, local factors such as IL-1 β and IL-6 that are related in bone resorption are increased and enhance osteoclastogenesis, which is responsible for bone resorption. In the present study, we investigated the effect of isoflavones (Isocal) extracted from *Sophorae Fructus* on bone resorption in vitro. From the study, we found that the active control (PIII) effectively enhanced the level of nitric oxide, attenuated local factors (IL-1 β & IL-6), and inhibited osteoclastogenesis. The most efficient concentration was observed at 10⁻⁸% for three to five days, whereas comparative control (soybean isoflavone) was not effective in lower concentration. In conclusion, the product which contained enriched glucosidic isoflavone and nutrient supplements such as shark cartilage and calcium can be used for treatment of osteoporosis by its role of inhibiting local factors, IL-1 β and IL-6, and nitric oxide produced through eNOS may play a role in inhibiting bone resorption.

[PB4-29] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Isoflavones extracted from Sophorae Fructus upregulate the growth factors, IGF-I and TGF- β in MG-63 cells

Joo SeongSoo, Kang HeeChul, Lee MinWon, Choi YoungWook, Lee Dolk^o

Department of Immunology, College of Pharmacy, Chung-Ang University, Seoul 156-756, Korea

Isoflavones have been a central subject in natural phytoestrogens found in Leguminosae. Their effects on bone