College of Pharmacy, Duksung Women's University, [1]Sungkyunkwan University, [2]Seoul National University

In an attempt to provide useful information on the development of an artifitial nerve tubing, proliferative and migrative properties of two glioma cell lines, C6 rat glioma cells and Hs683 human glioma cells, were examined. The present study shows that C6 cells proliferated more rapidly than Hs683 cells. The Hs683 cells are more adequate for the development of nerve tubing since unlike C6 cells, they are of human origin and known to be non-tumorigenic. In order to enhance proliferative and migrative abilities of Hs683 cells for the application as an artificial nerve tubing, we studied the effect of glial cell-derived neurotrophic factor (GDNF) on C6 and Hs683 cells. GDNF increased proliferation and migration of Hs683 cells in a dose-dependent manner. As an approach to develop artificial nerve tubing, we wished to determine if GDNF stimulate proliferation of glioma cells in the scaffolds. Cells were seeded in the scaffolds (polymer constructs), fabricated with type I collegen and alginate modified with cinnamoyl moiety, in the presence or absence of GDNF. Compared to control, cell proliferation was greatly enhanced by GDNF treatment of scaffolds as evidenced by staining of the cells in paraffin block. We then tested cytotoxicity of scaffolds used in this study. Hs683 cell growth was not inhibited by scaffold, proving that scaffold is not cytotoxic. Taken together, we show that GDNF treatment of scaffolds effectively increased Hs683 cell proliferation, suggesting a possible use of GDNF for developing artificial nerve tubing.

Poster Presentations - Field C2. Microbiology

[PC2-1] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Isolation, Identification and Characterization of vancomycin-resistant Streptococcus equinus from raw milk sample

Lee JinWoo°, Choi SungSook, Kim KyungJae, Ha NamJoo

1Dept of Pharmacy, Sahmyook University, Seoul 139-742, Korea 2Dept. of Food Science, Sahmyook College

To determine the occurrence of vancomycin-resistant Enterococcus and Streptococcus in raw milk samples, we examined raw milk samples for three month. Resistant strains were isolated directly from Enterococcal selective agar plates supplemented with 2mg of vancomycin per liter. 6 strains having high resistance were isolated . 5 of six were identified as Streptococcus equinus and 1of 6 was identified as Enterococcus faecium.
To determined resistance, 6 isolates were tested with vancomycin and teicoplanin. Vancomycin resistant were genotyped by PCR analysis and Enterococcus faecium was VanC type

[PC2-2] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Antihyperlipidemic Effect of Alpinia officinarum

Shin JeEun°, Kim DongHyun, Han Myungjoo

Department of Food and Nutrition, and College of Pharmacy, Kyung Hee University

The inhibition of lipase improves the condition of hyperlipidemia, obesity, hypertension, atherosclerosis and many other cadiovascular diseases. Therefore, the objective of this study was to investigate antihyperlipidemic effects of functional food ingredients.
Cinnamomum cassia, Rheum palmatum, Alpinia officinarum and *Chrysanthemum indicum* were selected as the the potent lipase inhibitor in vitro. However, *Cinnamomum cassia, Rheum palmatum* and *Chrysanthemum indicum* showed no significant antihyperlipidemic activity in high cholesterol diet induced hyperlipidemic mice. However, *Alpinia officinarum* improved serum TG, HDL and LDL level in corn oil

feeding and triton WR-1339 induced hyperlipidemic mice.

[PC2-3] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Antithrombotic Activities of Yangkyuksanwha-tang

Park EunKyung°, Choo MinKyung, Han YeoOk, Han MyungJoo, Kim DongHyun

College of Pharmacy, and Department of Food and Nutrition, Kyung Hee University

As part of our continuing search for biological active anti-stroke agents from the herbal medicinal resources. We examined the possibility of Yangkyuksanwha-tang and its ingradients as a novel antithrombotic agent *in vitro, ex vivo* and *in vivo*.
Forsythiae Fructus, Gardeniae Fructus, Ledebouriellae Radix and Nepetae Spica potently inhibited *in vitro* ADP- and collagen-induced rat platelet aggregation in a dose-dependent manner. However, Yangkyuksanwha-tang did not inhibit both ADP- and collagen-induced rat platelet aggregation. Yangkyuksanwha-tang, Forsythiae Fructus, Menthae Herba and Ledebouriellae Radix significantly inhibited *ex vivo* rat platelet aggregation. Yangkyuksanwha-tang, Forsythiae Fructus and Gardeniae Fructus showed significant protection from death due to pulmonary thrombosis in mice. These results suggest that the components of Yangkyuksanwha-tang could be transformed to the active compounds for antiplatelet aggregation by intestinal bacteria.

[PC2-4] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

The Antiallergic Activity of Compound K, a Main Metabolite of Ginseng Protopanaxadiol Glycosides

Choo MInKyung°, Park EunKyung, Kim DongHyun

College of Pharmacy, Kyung Hee University

Ginseng (the roots of *Panax ginseng* C.A. Meyer, Araliaceae) has been used for thousands of years as a traditional medicine in Asian countries, for enhancing body strength, recovering physical balance and stimulating metabolic function. The main components of Ginseng are ginsenoside Rb1, Rb2, Rc and Rd. These compounds are transformed by intestinal microflora, and absorbed from the intestine to the blood. The main metabolite of protopanaxadiol-type ginsenosides was compound K (IH-901). Compound K is important in the pharmacological activity of Ginseng Radix. Therefore, we measured antiallergic activity of compound K.
Compound K exhibited more inhibitory effect of β-hexosaminidase release from RBL-2H3 cells than any other ginsenoside and inhibited DNP-HSA induced passive cutaneous anaphylaxis. Compound K inhibited the nitric oxide production in LPS-induced RAW 264.7 more significantly. However, it did not show the inhibitory effect of hyanulonidase and antioxidant effect. These results suggest that ginsenosides are prodrugs, which can be transformed to active compounds by intestinal microflora.

[PC2-5] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Purification and Characterization of Novel α-L-Arabinopyranosidase from Bifidobacterium breve K-110

Shin HoYoung°, Park SunYoung, Sung JongHwan, Kim DongHyun

College of Pharmacy, Kyung Hee University, Il Hwa Central Research Institute