

tyrosine catalyzed by mushroom tyrosinase with IC_{50} of 16.8 μ M and 21.5 μ M, respectively. It compared well with kojic acid, a well-known tyrosinase inhibitor, with an IC_{50} of 22.4 μ M. The inhibitory kinetics, analyzed by a Lineweaver-Burk plot, found rosmarinic acid and its methyl ester to be competitive inhibitors with K_i of 2.35×10^{-5} M and 1.52×10^{-5} M, respectively. In addition, compounds 1 and 2 showed the scavenging activities on DPPH radical, with IC_{50} of 4.27 μ M and 3.05 μ M, respectively. These scavenging effects were more potent than that of L-ascorbic acid ($IC_{50} = 11.75 \mu$ M).

[PD2-50] [10/17/2002 (Thr) 09:30 – 12:30 / Hall C]

Study on antifungal activity of herb oils against *Trichophyton* spp.

Shin SeungWon⁰, Kim JiHyun, Lim Sook, Pyun MiSun

College of Pharmacy, Duksung Women's University

The antifungal activities of the essential oils from *Citrus bergamia*, *Ciderus atlantica*, *Cymbopogon ditratus*, *Eucalyptus globulus*, *Juniperus communis*, *Lavandula angustifolia*, *Melaleuca aterifolia*, *Pelargonium graveolens*, *Pogostemon patchouli*, *Rosmarinus officinalis*, *Styrax tonkinensis*, and *Thymus vulgaris*, which are recommended for the treatment of microbial infections in aromatherapy and complementary medicines, were tested against *Trichophyton* spp. The activities were measured by broth dilution method and disk diffusion assay. As the results, most of the test oils inhibited growth of *T. tonsurans*, *T. mentagrophytes*, *T. ferrugineum*, and *T. rubrum*. Especially, the essential oils from *C. atlantica*, *C. ditratus*, *E. globulus*, and *P. graveolens* showed the strongest activity among the tested herb oils showing MICs between <0.09 and 0.39 mg/ml.

[PD2-51] [10/17/2002 (Thr) 09:30 – 12:30 / Hall C]

In vitro Antiinflammatory Activity of the Essential oil Extracted from *Chrysanthemum sibiricum* in Murine Macrophage RAW 264.7 Cells

Lee KyungTae¹, Kim RyungKyu¹, Ji SaYoung¹, Shin KyoungMin¹, Choi Jongwon², Jung HyunJu³, Park HeeJuhn⁰³

¹College of Pharmacy, Kyung-Hee University Seoul 130-701, ²College of Pharmacy, Kyungsung University, Pusan 608-736 and ³Division of Applied Plant Sciences, SangJi University, Wonju 220-702

This research was undertaken to find the in vitro anti-inflammatory action of the essential oil (CS-oil) extracted from *Chrysanthemum sibiricum* (Compositae) herbs. We investigated the effects of the CS-oil not only on the formation NO and PGE₂ and TNF- α but also on inducible nitric oxide synthase and cyclooxygenase-2 (COX-2) in lipopolysaccharide (LPS)-induced murine macrophage 264.7. The data obtained were consistent with the modulation of iNOS enzyme expression. A similar fashion was also observed when LPS-induced PGE₂ release and COX-2 expression were tested. The significant inhibitory effects were shown in concentration-dependent manners. In addition, CS-oil also mildly but significantly reduced the formation of TNF- α . These actions may contribute to the availability of CS-oil as an antiinflammatory essential oil. GC-MS data on the oil led to the finding of 2-methoxythioanisol, (+)-camphor, geraniol, citral, thymol, eugenol, β -caryophyllene oxide, β -caryophyllene, β -eudesmol, juniper camphor together with an unknown substance contained more than 3% of the total oil.

[PD2-52] [10/17/2002 (Thr) 09:30 – 12:30 / Hall C]

Antigastric and anti-ulcerative constituent from Panax ginseng head and its pharmacological activity

Jeong ChoonSik⁰, Hyun JinEe¹, Li DaWei, Lee EunBang, Kim YeongShik²

1College of Pharmacy, Duksung Women's University, Seoul 132-714, 2Natural Products Research Institute, Seoul National University, Seoul 110-460, Korea

Head of *Panax ginseng* C. A. Meyer indicates its growth number of years and has been widely used for supplying energy to weaklings or used as vomit. Butanol fraction of *Panax ginseng* head was significantly effective on gastritis and ulcer models in rats, and also had anti-oxidative properties in the previous study.

It has been well established that gastric ulcer is induced by imbalance between aggressive factors and protective factors, and the oxidative reaction makes the lesions on gastric mucosal injury severer. Besides, Helicobacter pylori infection is one of the important pathogen recently. Thus the study was performed focused on these properties.

For further investigation, the butanol fraction of *Panax ginseng* head was systematically isolated with silica gel open column chromatography by activity-guided isolation with HCl-ethanol-induced gastritis. Two active component were identified to ginsenoside Re and ginsenoside Rb1, however ginsenoside Re was dropped because of its insufficient yield for animal test. Ginsenoside Rb1 drastically reduced gastric damages on the tissue induced by HCl-ethanol, indomethacin, gastric ligature (Shay ulcer) and showed significant increase in mucin secretion, but did not affected gastric secretion. Ginsenoside Rb1 showed significant increase in GSH and activation of SOD. Ginsenoside Rb1 protected gastric tissue against mucosal injury by stimulation of mucin secretion as a protective factor and direct anti-oxidative action on irritated gastric tissue.

[PD2-53] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

The effect of Cordyceps pruinosa on renal failure rats

Cho AhnNa^o, Kim SunYoung, Yang KiSook, Sung JaeMo

College of Pharmacy, Sookmyung Women's University:College of agricultural and life Sciences, Kangwon National University

Cordyceps has been used as a tonic for replenishing vital function in Chinese traditional medicines. As an attempt to obtain fundamental data for the kidney function, MeOH Ex. and its hexane, ethyl acetate, butanol and water fractions of cultivated Cordyceps pruinosa on mercuric chloride induced renal failure rats were investigated. Urin volume, blood parameters(urea nitrogen, uric acid, creatinine) and urinary electrolytes content (natrium, potassium, chloride) were determined. MeOH extract and butanol fraction showed diuretic effect.

[PD2-54] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

The effect of Corni Fructus on renal function

Jeong MyungKum^o, Yang KiSook

College of Pharmacy, Sookmyung Women's University

Cornus officinalis has been used as protective drug for liver and kidney function. In order to evaluate the effect on renal function of Corni Fructus, We measured urine volume, chemical parameters(urea nitrogen, creatinine, uric acid), electrolytes(Na⁺, K⁺, Cl⁻) in serum and urine. Furosemide showed significant urine volume, serum and urine parameters, but Corni Fructus showed normal level parameters by dose increasing in rats.

[PD2-55] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Synergistic effect of a mixed herbal extract on bone loss in ovariectomized (OVX) rats

Ha Hyekyung^o, Lee Je-Hyun, Lee Han Gu, Song Kye-Yong, Kim Chungsook*