

**Purification and characterization of a novel lectin with high specificity for an N-glycolylneuraminic acid from hemolymph of *Philyra pisum***

Kim YounJung<sup>o</sup>, Jun Jaill, Kim BumSoo, Cho DueHyeon, Kim HaHyung

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

A sialic acid-binding lectin, PPA, has been purified from the hemolymph of *Philyra pisum*. SDS-PAGE, mass spectrometry, and carbohydrate analysis of the purified PPA showed that it is a glycoprotein with a molecular mass of about 28.9 kDa, and is composed of single subunit. PPA induced an agglutinating reaction in mouse, rat, and rabbit erythrocytes, but not in human ones. The agglutinating activity of PPA was inhibited selectively by 0.19 mM N-glycolylneuraminic acid, 1.3 μM bovine submaxillary mucin, and 0.4 μM thyroglobulin. The N-terminal amino acid sequence of PPA was determined as IVGGTEATA, which is highly heterogeneous compared to that of lectins obtained from other sources.

[PE3-6] [ 10/19/2001 (Fri) 09:00 - 12:00 / Hall D ]

**Purification and characterization of an N-acetylneuraminic acid-specific lectin from *Maackia fauriei***

Kim BumSoo<sup>o</sup>, Kong KwangHoon, Kim HaHyung

College of Pharmacy, College of Natural Sciences, Chung-Ang University, Seoul 156-756, Korea

A lectin, MFA, composed of four subunits with each molecular mass of 30 kDa and demonstrating high homogeneity with the *Maackia amurensis* lectin, has been purified from *Maackia fauriei* by extraction with 0.15 M NaCl, gel-filtration chromatography using Sepharose CL-6B, and fetuin-affinity chromatography. The hemagglutination activity with human erythrocytes was specifically inhibited by 10.0 mM N-acetylneuraminic acid alone as a monosaccharide, and was also inhibited by 5.17 μM fetuin or 25.0 μM bovine submaxillary mucin which contains N-acetylneuraminic acid as a terminal component of oligosaccharide residues. This hemagglutination activity was independent of the presence of Ca<sup>2+</sup> and Mn<sup>2+</sup>. In a comparison of cytotoxic effects on the MCF-7 breast cancer cell line, MFA was more effective than *Maackia amurensis* lectin.

Poster Presentations - Field F1. Clinical Pharmacy

[PF1-1] [ 10/19/2001 (Fri) 14:00 - 17:00 / Hall D ]

**Influence of kinds of food on absorption of itraconazole in healthy volunteers**

Woo SuKyung<sup>o</sup>, Yun MinHyuk, Sohn SooJung\*, Yoo TaeMoo\*, Kwon KwangIl

College of Pharmacy, Chungnam National University, Division of Biopharmaceutics and Clinical Pharmacology, KFDA\*

In most Asian countries, the indication and the use of drug follow the insert paper of the original pharmaceutical company, usually European or American. Itraconazole capsule are indicated to be taken after meal to enhance the absorption. Previous other studies showed that a fatty meal significantly

enhanced the amount of itraconazole absorbed. When six healthy male received single 100 mg dose of itraconazole, both the mean maximum concentration of itraconazole in plasma and AUCinf after the standard meal (bread meal with milk and bacon) were approximately a three-fold increase compared with that after the fasting. As the kinds of food for Asian are mainly non-fat carbohydrates and different from fatty western food, the pharmacokinetics of itraconazole was studied with healthy Korean volunteers. In a cross-over study, single itraconazole capsule (100 mg) was administered with and without Korean standardized breakfast (rice meal with vegetable soup and vegetable side dish) after an overnight fast. Plasma samples were obtained up to 72 hr after intake of each drug. Measurement of itraconazole plasma concentrations was performed by HPLC. In results, non-fat rice meal appeared to decrease the absorption rate and extend of itraconazole significantly, tmax being doubled from about 3 hr to 6 hr and Cmax decreased to half. The corresponding AUCinf also decreased to half with rice meal. The rate of elimination was not affected (terminal half-life, approximately 19 hr). These results indicate that the kinds of food influence the absorption of itraconazole significantly by increasing the absorption with fatty meal and rather decreasing the absorption of itraconazole with non-fat carbohydrates meal. Therefore, it shows that the indication of itraconazole in Asian countries should be reconsidered.

[PF1-2] [ 10/19/2001 (Fri) 14:00 – 17:00 / Hall D ]

### **Nested case-control study on the association between histamine-2-receptor antagonist and gastric cancer in the Korean elderly.**

Kim Yooni<sup>01</sup>, Lee SeungMi<sup>1</sup>, Yoon KyoungEun<sup>1</sup>, Heo DaeSeog<sup>2</sup>, Jung KuiOak<sup>3</sup>, Paek JiEun<sup>4</sup>, Park ByungJoo<sup>13</sup>

1Dept. of Preventive Medicine, 2 Dept. of Internal Medicine, Seoul National University College of Medicine, 3 Clinical Trial Center, Seoul National University Hospital, 4 Dept. of Statistics, Seoul National University College of Natural Science

Gastric cancer is the most common cancer in the Korean elderly. Some epidemiological studies suggested that histamine-2-receptor antagonist (H<sub>2</sub>-RA) increase the risk of gastric cancer. But little has been known about the association between H<sub>2</sub>-RA and gastric cancer in the elderly. The goal of this study was to estimate whether H<sub>2</sub>-RA increases the risk of gastric cancer in the elderly. The study population were members of the Korean Elderly Pharmacoepidemiology Cohort (KEPEC:n=23,649), aged 65 years or more. The information on drug exposure including H<sub>2</sub>-RA was collected from the claims data of hospitals between 1993 and 1994. The information on the potential gastric cancer cases was collected from the claims data between 1993 and 1998. The hospital survey was conducted to confirm the final diagnoses of the potential cases. The information on confounders was collected by questionnaire survey. Every gastric cancer patient was matched with 4 non-gastric cancer controls of the same age and gender in the KEPEC. Conditional logistic regression model was used to evaluate the risk of gastric cancer after controlling for potential confounders. 52 cases were identified as the final gastric cancer. 208 controls were selected. 8 cases (15.4%) and 9 controls (4.3%) were exposed to H<sub>2</sub>-RA. The crude odds ratio was 4.0 (95% CI: 1.47-11.00). After adjusting for existence of heart burn, body shape, total smoking dose, insomnia and medication history, adjusted OR was 5.1 (95% CI=1.72-14.99). The use of H<sub>2</sub>-RA might increase the risk of gastric cancer in the Korean elderly. This finding supports the hypothesis that achlorhydria induced by H<sub>2</sub>-RA increases the risk of gastric cancer.

[PF1-3] [ 10/19/2001 (Fri) 14:00 – 17:00 / Hall D ]

### **Drug Utilization Review for the Antiulcerative Agents in the Elderly Inpatients**

Lee SeungMi<sup>01</sup>, Lee Wonsik<sup>1</sup>, Kim Yooni<sup>1</sup>, Yoon KyoungEun<sup>1</sup>, Koo HyeWon<sup>2</sup>, Park ByungJoo<sup>12</sup>

1Dept. of Preventive Medicine, Seoul National University College of Medicine, 2 Clinical Trial Center, Seoul National University Hospital