

bark of *Maackia fauriei*. This purified lectin exhibited the same hemagglutination inhibition and molecular characterization as lectin purified using conventional purification methods.

[PE3-4] [ 04/18/2003 (Fri) 09:30 - 12:30 / Hall P ]

### Sialic acid-binding protein from mushroom *Paecilomyces japonica*

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Carbohydrate-binding proteins have been isolated from various sources, including plants, animals, fungi, and bacteria, and they have been used extensively in the detection, localization, and isolation of glycoconjugates. Many carbohydrate-binding proteins are purified from mushrooms, however, only a few proteins with sialic acid-binding specificity have been reported. In the present study, a novel sialic acid-binding protein, designated PJA, has been purified from the mushroom *Paecilomyces japonica*, followed by extraction and affinity chromatography. PJA exhibits hemagglutination activity to human ABO, mouse, rat, and rabbit erythrocytes. This hemagglutination activity is specifically inhibited by *N*-acetylneuraminic acid as well as by glycoprotein containing *N*-acetylneuraminic acid. The carbohydrate-binding activity of PJA was stable at pH values of 4.0-8.0, and at temperatures below 55°C. The results of sodium dodecyl sulfate-polyacrylamide gel electrophoresis, gel filtration chromatography, and carbohydrate analysis indicate that PJA is a monomer glycoprotein with a molecular mass of approximately 16 kDa comprising a hybrid-type oligosaccharide containing *N*-acetylneuraminic acid, D-mannose, and N-acetyl-D-glucosamine. PJA exerts cytotoxic effects on human pancreas cancer AsPC-1 cells and human stomach cancer SNU-1 cells.

## Poster Presentations - Field F1. Clinical Pharmacy

[PF1-1] [ 04/18/2003 (Fri) 09:30 - 12:30 / Hall P ]

### The Effect of Sun Ginseng on Hemodynamics and Body Temperature in Healthy Young Men

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The current study was performed to observe the effect of Sun Ginseng (SG) on hemodynamics such as blood flow rate (BF), blood flow velocity (BV), heart rate (HR), systolic blood pressure (SBP) and diastolic blood pressure (DBP), and body temperature (BT) in healthy young men. This is a randomized, single-blind study observed during 6 hrs after orally single administration of SG. Forty-one subjects were divided into four groups, such as control (n=13), SG 0.6 (n=9), SG 1.2 (n=10) and SG 3.6 (n=9). In BF, BV and HR, there were no intergroup statistical differences observed, but in BT ( $p=0.0367$ ), SBP ( $p=0.0011$ ) and DBP ( $p=0.0030$ ) observed. In BF, there was one significant increase versus control 3 hrs after administration of 1.2 g ( $p=0.0244$ ), and in

BV, there were two significant increases vs. control in 3 hrs later at dose of 1.2 g ( $p=0.0032$ ) and in 2 hrs at dose of 3.6 g ( $p=0.0081$ ). In BT, statistical differences were showed at the three points, as following; one increase ( $p=0.0235$ ) in 3 hrs at dose of 1.2 g, other decrease ( $p=0.0208$ ) in 1 hr at dose of 3.6 g and another decrease ( $p=0.0088$ ) in 4 hrs at dose of 3.6 g. In BP, SBP and DBP, SG groups except for SG 1.2 stood for statistical differences at almost every time point. These results showed that SG was more efficient for SBP and DBP than for BF, BV, BT and HR.

[PF1-2] [ 04/18/2003 (Fri) 09:30 – 12:30 / Hall P ]

### The Effects of *Panax ginseng* and *P. quinquefolium* on Hemodynamics and Body Temperature in Healthy Young Men (II)

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The current study was performed to observe the effects of *Panax ginseng* (PG) and *P. quinquefolium* (PQ) on hemodynamics such as blood flow rate (BF), blood flow velocity (BV), heart rate (HR), systolic blood pressure (SBP), and diastolic blood pressure (DBP) and body temperature (BT) in healthy young men. This is a randomized, single-blind study observed during 6 hrs after orally single administration of PG and PQ groups. Sixty-nine subjects were divided into seven groups, such as control (n=13), PG 2.25 (n=9), PG 4.5 (n=10), PG 9.0 (n=9), PQ 2.25 (n=11), PQ 4.5 (n=10) and PQ 9.0 (n=8). There was only one intergroup statistical difference observed in DBP ( $p=0.0134$ ). We examined statistical differences between PG groups and their counterparts in PQ groups. HR ( $p=0.0024$ ) and DBP ( $p=0.0144$ ) at dose of 2.25 g, DBP ( $p=0.0440$ ) at dose of 4.5 g and BV ( $p=0.0412$ ) at dose of 9.0 g showed intergroup statistical differences. PQ tended to drop BF, BV, SBP and DBP abruptly and also to increase them suddenly. PG groups were more well-balanced than PQ groups in hemodynamics. In BT, PG 4.5, PG 9.0 and PQ 9.0 significantly reduced BT, but PG and PQ 2.25 tended to increase BT with no significance. In summary, PG is more effective on keeping homeostasis than PQ in the changes of hemodynamics, while PG and PQ groups showed similar tendency in BT.