P89

Effect of Garlic and Medicinal Plants Composites on the Liver Function and Lipid Metabolism in Alcohol Administered Rats for Short-term

Kang Min Jung, Soo Jung Lee[1], Jung Hye Shin[2], Mi Ja Chung[3], Sun Young Choi[4] and Nak Ju Sung[1]*

Namhaegun Agricultural Technology Center
[1]*Dept. of Food Science and Nutrition, Institute of Agriculture and Life Science, Gyeongsang National University*
[2]*Dept. of Hotel Culinary Arts & Bakery, Namhae College*
[3]*The Nutraceutical Bio Brain Korea 21 Project Group, Kangwon National University*
[4]*Dept. of Home Economics Education, Education Research Institute, Gyeongsang National University*

Effect of garlic and 13 kinds of medicinal plants composites (GP) on liver function and lipid metabolism in 40% ethanol-administered rats for 1 week was investigated. Effect garlic or medicinal plants on ADH and ALDH activity *in vitro* was tested. ADH activity of garlic extract was significantly increased in model system containing 20% ethanol. ALDH activity was lower in garlic treatment sample than control, and its activity in medicinal plants treatment sample was significantly increased in proportion of sample concentration in model system containing 40% ethanol. Blood glucose was significantly decreased in garlic fed group (GP-1%). Adminstration of GP (added to 0.5% and 1% for basial diet) significantly decreased levels of total lipids, cholesterol, triglyceride and phospholipids in serum for alcohol-administered elevation. And 1% garlic content inhibited the increase of lipids content in serum. The dosage of GP significantly inhibited the activities of GOT, GPT, *r*-GTP and ALP elevated by 40% ethanol- adminstered rats. TBARS content of serum was significantly decreased by GP adminstration group. It is believed that GP plays an important roles to recover liver function from alcoholic fatty liver of rat.

Key words: Garlic, Medicinal plants, Alcohol, Liver damage

P90

PrhA Controls a *hrp* Gene Cluster of *Pseudomonas syringae* pv. *tabaci* in Plant Cells

Jun Seung Lee, Ji Young Cha and Hyung Suk Baik*

Department of Microbiology, College of Natural Sciences, Pusan National University, Busan 609-735, Korea

The *hrp* gene cluster in the phytopathogen bacterium *Pseudomonas syringae* is a key determinant of pathogenicity. Recent studies have demonstrated that specific host cell induction of the *Ralstonia solanacearum hrp* gene cluster is controlled by the PrhA (plant regulator of *hrp*) receptor. To characterize the role that *P. syringae* PrhA plays in the virulence of plant cells, a *prhA* homolog was isolated from *P. syringae* pv. *tabaci* and a *ΔprhA* mutant was constructed by allelic exchange. The *ΔprhA* mutant had reduced virulence in the host plant, and co-culture of *P. syringae* pv. *tabaci* and plant cell suspensions induced a much higher level of *hrpA* gene transcription than culture in *hrp*-inducing minimal medium. These results indicate that PrhA of *P. syringae* is a putative pathogen-plant cell contact sensor, therefore, we used a *hrpA-gfp* reporter fusion to monitor the *in situ* expression of PrhA. The results of this study demonstrated that PrhA induces *hrp* gene expression in *P. syringae* pv. *tabaci* in the presence of plant cells.

Key words: Plant regulator of *hrp* (PrhA); Plant-microbe interaction; *Pseudomonas syringae* pv. *tabaci*; *hrp* gene cluster