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The herbal combination *allergina* has been used for the treatment of inflammatory diseases in South Korea. In this study, we investigated the immunosuppressive activities of *allergina* in more detail. Acute graft-versus-host disease (GVHD) is a major cause of morbidity and mortality in patients undergoing allogeneic bone marrow transplantation. Administration of *allergina* into Balb/c mice given total body irradiation followed by transplantation of bone marrow and spleen cells from C57BL/6 mice markedly reduced the mortality. In addition to systemic GVHD, *allergina* also showed therapeutic activity in local GVHD, in which *allergina* reduced lymph node weight of B6C3F1 mice transplanted of spleen cells from C3H mice. This herbal medicine also inhibited delayed-type hypersensitivity in which mice were intradermally injected with sheep red blood cells into the left footpad and were given *allergina* orally, suggesting that *allergina* inhibited cell-mediated immunity. *Allergina* also inhibited collagen-induced arthritis in DBA/1 mice, which were immunized with type II collagen, complete Freund adjuvant, and LPS. These results suggest that *allergina* could be a potent therapeutic agent for the treatment of immune-related diseases such as graft rejection, hypersensitivity, and autoimmune arthritis.

[PA1-48] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Comparisons of thermogenic activity among Ginseng Radix Alba (GRA), Ginseng Radix Rubra (GRR), and Panax Quinquefolii Radix (PQR)

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Uncoupling proteins (UCPs) are transmembrane proton transporters present in the mitochondria. In UCPs, UCP1 and UCP3 play an important role in adaptive thermogenesis by uncoupling mitochondrial oxidation of substrates from ATP synthesis.

PPAR γ coactivator 1 (PGC-1) regulates transcriptional activity of PPAR γ and other nuclear receptors and controls the expression of UCPs. We compared the adaptive thermogenic activity in ICR mouse treated with either GRA, GRR or PQR under the condition of either room (25 \rightarrow) or cold temperature (4 \rightarrow) by measuring rectal temperature, non-esterified fatty acid (NEFA), and glycerol. In addition, we investigated gene expressions of UCP1, UCP3 and PGC-1 in intrascapular brown adipose tissue, and gastrocnemius muscle using RT-PCR. Under of cold temperature, rectal temperature was increased to the level of room temperature by treatment. NEFA and glycerol decreased remarkably. In the mechanism study, expressions of UCPs and PGC-1 was upregulated by treatment. From these results, we may conclude that up-regulation of UCPs with treatment cause rectal temperature recovery under the cold temperature.

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Anti-inflammatory, analgesic, and hypouricemic effect of *Actinidia polygama*(AP)

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