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Phenylpropanoids(PP), C6–C3 compounds, are widely distributed in many plants. In this experiments, effect of PP on sheep red blood cells (sRBC)–induced delayed type hypersensitivity (DTH) were studied in ICR male mice. SRBC were challenged by i.p. injection at two weeks after sensitization of i.p. injection of sRBC. Five days after the challenge of antigen, paw edema induced 24 hours after the last challenge by DTH, respectively. Drugs were orally administered one hour before the last challenge of antigen. Spleen cells were isolated by cytosieve, and rosette forming cell (RFC) to sRBC were determined. It shows that all of PP inhibited dose–dependently not only DTH, but also RFC. Chlorogenic acid at a dose of 25 mg/kg inhibited significantly DTH as compared with control ($P<0.01$). And also coumaric acid, sinapinic acid and caffeic acid at a dose of 50 mg/kg inhibited significantly DTH ($P<0.05$). Quinic acid at a dose of 50 mg/kg inhibited significantly DTH ($P<0.05$). Quinic acid at a dose of 12.5 mg/kg inhibited significantly RFC, but their activity were less than prednisone acetate. These results indicated that PP have significant inhibitory action on type IV hypersensitivity, as it were, PP can be inhibited cytokines production and proliferation of T cells.

[PB2–5] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]

Inhibitory Action of Phenylpropanoids on Arthus Reaction, Plaque Forming Cells and Hemagglutinin titer

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Many kinds of phenylpropanoids(PP), C6–C3 compounds, are widely distributed in many plants. In this experiments, effect of PP on sheep red blood cells (sRBC)–induced Arthus reaction (AR) were studied in ICR male mice. SRBC were challenged by i.p. injection two weeks after sensitization of i.p. injection of sRBC. Five days after the challenge of antigen, paw edema induced 3 hours after the last challenge by AR. Drugs were orally administered one hour before the last challenge of antigen. Spleen cells were isolated by cytosieve, and Hemagglutinin (HA) titer and plaque forming cell (PFC) to sRBC were determined. It shows that all of PP inhibited dose–dependently not only Arthus reaction, but also HA titer and PFC. Chlorogenic acid at a dose of 25 mg/kg inhibited significantly AR as compared with control ($P<0.01$). And also coumaric acid, sinapinic acid and caffeic acid at a dose of 50 mg/kg inhibited significantly the AR ($P<0.05$). Quinic acid at a dose of 50 mg/kg inhibited significantly AR ($P<0.05$). Quinic acid at a dose of 12.5 mg/kg inhibited significantly HA titer and PFC ($p<0.01$), but its activity was less than that of prednisolone acetate. These results indicated that PP have significant inhibitory action on type III hypersensitivity, as it were, PP can be inhibited synthesis of the antibody and immune complex.

[PB2–6] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]

Inhibitory Action of Cinnamic Acid Derivatives on Heterologous Passive Cutaneous Anaphylaxis

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Cinnamic acid derivatives (CAD) originating from medicinal plants have some biological activity.