

Effect of Compound-A, a phenylpropanoid isolated from *Arctium lappa* fruit, on heterologous passive cutaneous anaphylaxis (HPCA), the release of histamine, and Phospholipase A₂ (PLA₂) and phosphodiesterase (PDE) activities were studied by the method of Levine and Vaz. Anti-serum was prepared from ovalbumin (OA)-sensitized male Balb/c mouse at two weeks after the last challenge of OA and alumina gel. Heterologous PCA test in rats were carried out to determine the contents of leaked pigment in the dorsal skin 30 minutes after i.v. injection of 0.2 ml of 1 % OA and 1 % Evans blue mixture (1 : 1). Peritoneal mast cells from rats were isolated by the discontinuous gradients of Percoll and the histamine release from mast cells determined by stimulation of compound 48/80 and A23187 at a concentration of 6.0 µg/ml, respectively. PLA₂ and PDE activities in the asthmatic lung tissue were determined by the method of Pouch. Asthmatic lung tissue were prepared by the challenge of OA twenty-one days after sensitization of OA in guinea pigs. Crude PDE in the supernatant of homogenized lung tissue were precipitated by 70 % H₂SO₄ and purified by the diffusion bag for 18 hours. PLA₂ and the PDE activities were determined by the spectrofluorometric analysis and Kits, respectively. It shows that Compound-A has dose-dependently inhibited the HPCA : Its inhibitory activity at a dose of 25 and 50 mg/kg was 38.1±2.9 and 46.9±2.1 %, respectively. Compound-A was dose-dependently inhibited the histamine release from rat peritoneal mast cells : Its inhibitory activity at a concentration of 30 and 100 µM were 35.3±2.6 and 39.89±3.5 %, respectively. Compound-A at a dose of 30 µM inhibited significantly PLA₂ (26.6±1.5 %) and PDE activities (25.3±2.1 %) in the asthmatic lung tissue. These results indicate that its activity are same as disodium cromoglycate, but less than prednisolone.

[PB2-4] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Effects of Compound-A on Delayed Type Hypersensitivity and Formation of Rosette Forming Cells

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Compound-A is a phenylpropanoid isolated from *Arctium lappa* fruit. In this experiments, effect of Compound-A on sheep red blood cells (sRBC) - induced delayed type hypersensitivity (DTH) were studied in ICR male mice and determined the Rosette Forming Cells (RFC). Two weeks after sensitization of i.p. injection of sRBC (4×10⁸ cells), ICR male mice were challenged by i.p. injection of sRBC (2×10⁸ cells). Five days after the challenge of antigen, paw edema induced twenty-four hours after the last challenge by DTH. Drugs were orally administered one hour before the last challenge of antigen. Spleen cells of the mice were isolated by cytosieve (100 mesh), and the viability of spleen cells was determined by trypan blue exclusion test immediately before used. RFC to sRBC were calculated with microscope and exhibited as the number of RFC. It shows that Compound-A at a dose of 50 mg/kg inhibited significantly the DTH as compared with control (41.2±2.9 %, p<0.05), and its activity was same as prednisolone acetate (10 mg/kg) and disodium cromoglycate (20 mg/kg). Also Compound-A at a dose of 50 mg/kg inhibited significantly formation of RFC as compared with control (23.2±2.3 %, p<0.05), but its activity was less than prednisolone acetate (10 mg/kg). These results indicated that Compound-A can be inhibited reaction of Type IV Hypersensitivity.

[PB2-5] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Compound-A inhibited the Reversed Cutaneous Anaphylaxis and Complement-Dependent Hypersensitivity

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Effect of Compound-A, a phenylpropanoid isolated from *Arctium lappa* fruit, on the reversed cutaneous anaphylaxis (RCA) and complement-dependent hypersensitivity (CDH) were studied in SD male rats and ICR male mice, respectively. RCA and hemolysin (HY) titer test are related to reaction of Type II Hypersensitivity. Experiments were carried out to determine RCA as the edema of skin two hours after injection of 0.05 ml/site of