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PRODUCTION OF INTERLEUKIN-2 (IL-2) DERIVED
FROM PERIPHERAL BLOOD MONONUCLEAR CELLS (PBM)
STIMULATED BY CONCANAVARIN A (Con A)
IN SUCKLING PIGLETS

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Activity of IL-2 was demonstrated in the supernatants of cultured PBM which was stimulated with Con A derived from adult swine, suckling piglets and neonatal pigs. The concentration of IL-2 was detected with a method utilizing the cell proliferation of an IL-2-dependent murine T cell line (CTLL-2). The results of the study were summarized as follows.

1. IL-2 was clearly produced with Con A-stimulated fresh PBM in adult pigs. The optimum concentration of Con A as the mitogen and the incubation time of adult PBM were determined with preliminary experiments. The final concentration of Con A was 10 μ g/ml, whereas the proper incubation time was 48 hr.

2. A relatively high level of IL-2 activity of PBM derived from neonatal pigs and suckling piglets, 1 to 5 weeks of age was seen and the levels were similar to or higher than that of adult PBM. The IL-2 production activity of PBM stimulated with Con A in suckling piglets had no significant differences in connection with age during the experiments, i. e., from 1 week to 6 weeks.

3. The effect of the administration of dihydroheptaprenol (DHP) upon IL-2 activity and the influence on the population of white blood cells in adult pigs and suckling piglets were investigated. The levels of IL-2 activity in piglets treated with and without DHP were not significantly different 24 hr. after administration. It was clear, however, that the level of IL-2 activity increased on and after 72 hr. in the swine treated with DHP.