〔Int. J. Immunopharmac., **11**, 607 (1989)〕

Immunological mechanisms of antitumor activity of some kinds of crude drugs on tumor necrosis factor production

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Previously, we described the antitumor sctivity of four crude drugs, *A. capillaris*, *S. doederleinii*, *A. macrocephala* and *S. subprostrata*. In the present paper, a fluorometric method using ethidium bromide was developed to assay TNF activity in serum *in vitro*, and then examined whether the four crude drugs displayed the priming and eliciting activities for TNF production. The crude drugs except for *A. macrocephala* showed priming activity for TNF production in mice without the liver and spleen hyperplasia seen in the case of *Corynebacterium parvum* (CP)-primed mice. *S. subprostrata* showed an eliciting activity in CP-primed mice. These results suggest the usefulness of the crude drugs as inducers of intrinsic TNF in cancer patients.

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Solid phase enzyme-linked immunosorbent assay(ELISA) for anti-sheep erythrocyte antibody in mouse serum.

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The solid phase enzyme-linked immunosorbent assay (ELISA) was developed to measure IgM and IgG anti-SRBC antibody titers in mouse serum. Sheep erythrocytes, which have a surface negative charge, were attached directly to the bottom of an aminoplate well which is charged positively to provide a solid phase for the ELISA antigen. Alkaline phosphatase-labeled goat anti-mouse IgM and/or IgG preparations were used as second antibody. Alkaline phosphatase activity in a well was measured by the Kind and King method. The ELISA developed here requires no fixative for preparation of cell-coated plates, and serum IgM and IgG antibody titers can be measured without any fractionation technique.

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Emotional stress and immune and allergic responses.

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It has been proposed that immune and allergic responses are probably regulated by the central nervous system (CNS). In order to elucidate the relationship between the CNS function and immune and allergic responses, the influence of non-physical emotional stress on the number of plaque forming cells (PFC), IgE antibody formation and passive systemic anaphylaxis was investigated in mice employing the communication box in which shocked mice communicated their distress to unshocked mice in neighboring boxes.