

[Anticancer Res., 16, 2735-2740 (1996)]

[Lab. of Biochemistry]

The Combination of Different Types of Antitumor Topoisomerase II Inhibitors, ICRF-193 and VP-16, Has Synergistic and Antagonistic Effects on Cell Survival, Depending on Treatment Schedule.

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VP-16 and ICRF-193 are different types of antitumor topoisomerase II inhibitors, being cleavable and non-cleavable complex-stabilizing types, respectively. To examine the possibility of enhancing the efficacy of combination chemotherapy. When KB cells were exposed continually to low concentrations of the drugs, the effects were synergistic. In contrast, when the cells were treated with high concentrations of the drugs, the VP-16-induced cytotoxicity was prevented by ICRF-193. The antagonistic or synergistic effects of ICRF-193 and VP-16 depended on the concentration of the drug, as it may be critical as to how many molecules of cellular topoisomerase II interact with the drugs.

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[Lab. of Pharmacology]

TNF- α participates in an IgE-mediated cutaneous reaction in mast cell deficient, WBB6F₁-W/W^v mice.

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Mice were passively sensitized by monoclonal anti-dinitrophenol IgE, and their ears challenged with dinitrofluorobenzene 24h later in WBB6F₁-W/W^v (W/W^v) mice. The cutaneous reaction reached a peak 48-72h (LPR) after the antigen challenge and an increase of tumor necrosis factor (TNF)- α mRNA was detected. A monoclonal anti-TNF- α antibody inhibited LPR. Prednisolone inhibited LPR and TNF- α -induced cutaneous reaction but not affect the expression of TNF- α -mRNA. These results that TNF- α plays a role in LPR in W/W^v mice and that prednisolone inhibits the cutaneous reaction in part by inhibiting the action of TNF- α .

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[Lab. of Pharmacology]

Effect of Chinese herbal medicine, Sho-fu-san, on IgE antibody-mediated biphasic cutaneous reaction in mice.

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The effects of some traditional Chinese herbal medicines on monoclonal anti-dinitrophenyl IgE-mediated biphasic cutaneous reaction were studied in Balb/c mice. This cutaneous reaction was inhibited by Sho-fu-san but not Jumi-haidoku-to and Oren-gedoku-to. Sho-fu-san suppressed the edema induced by histamine and TNF- α in mouse ears. The expression of TNF- α and IL-1 β mRNA caused by antigen challenge in passively sensitized mouse ears was not affected by Sho-fu-san. These results suggest that Sho-fu-san inhibited this cutaneous reaction due to the suppression of histamine- and TNF- α -induced cutaneous reactions.