NIS INSTABILITY OF TUMOUR CELL POPULATIONS AND DEPENDENCE ON CULTURE AND TRANSPLANTATION CONDITIONS

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The stability in the composition of cell population has been investigated in the case of a human mesothelioma (1), breast carcinoma (2) and lung carcinoma(3). DNA-distribution patterns prior to and after in vitro culture or transplantation into nude mice were determined. Changes of cell populations measured by flow cytometry were found to depend on culture or transplanation conditions; they were also accompanied by changes of biological properties (e.g. contact inhibition of movement, drug sensitivity). The environment dependence of cells and biological differences between in vivo - in vitro tumours and human neoplasms have to be taken into account when using cells as in vivo or in vitro model systems in experimental and clinical cancer research.

(1) Nissen et al. Arch. Geschwulstforsch. 49, 544-550, (1979).
(2) Nissen et al. Arch. Geschwulstforsch. 52, 17-27, (1982).
(3) Nissen et al. Arch. Geschwulstforsch. 54, 443-450, (1984).

OCH POLYOMA TUMOUR ANTIGEN BINDING T CELLS IN MICE

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It has been shown that solubilized (1% Triton X-100) polyoma antigen of CBA mice has polyoma and H-2^k specificities. Purified tumour associated antigen (TAA-57 kd) was obtained by means of affinity chromatography. In syngeneic immunizations with TAA, dependence of regulation of T cell immune responses on antigen dose was observed. It was manifested as enhancement or inhibition of tumour growth. An increase of receptor affinity of TAA-restimulated T-lymphocytes derived from TAA-immunized donors in binding of TAA was noted. Hence, selection of specific antigen binding T cells during restimulation is postulated.

OLÁ ANTIMETABOLITE-ALKYLATING AGENT DRUG COMBINATIONS IN VITRO

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Cell cultures provide a convenient model to evaluate drug interactions. The experiments were conducted with Morris hepatoma 3924A cell cultures. The combinations were designed on the basis of the Kinetic Classification of anticancer agents (Bruce et al., 1977) and of the targeting key metabolic processes of these cells (Weber, 1981; Oláh, 1982). Isobologram analysis was used to determine the combined effects of the drugs. The cytostatic effect of the alkylating drug Dibromodulcitol (DBD) was improved by VF-122 in an additive way, while DBD combinations with Tiazofurin, Acivicin and Pyrazofurin yielded synergism. The results of drug combinations could be well interpreted by the alterations induced in the ribonucleotide and deoxyribonucleotide pools, as determined by high pressure liquid chromatography.

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