

using intravenous or subcutaneous routes in newborn dogs under immunosuppression with anti-lymphocyte serum. Intravenous injections of tumour cells resulted in miliary nodules in the lungs and heart in as little as 3 weeks. Melanoma of the subcutis with metastases in some cases followed subcutaneous inoculation. Regression has been observed following cessation of ALS treatment. Normal cells have not produced tumours but melanoma cell cultures have retained this characteristic of malignancy.

NUCLEAR PROTEIN METABOLISM DURING ONE-DOSE URETHANE CARCINOGENESIS. C. F. FARNSWORTH and M. GRONOW. Department of Cancer Research, University of Leeds.

Treatment of 7-9 day old B6AF1 mice with a single carcinogenic dose of urethane, at 1.2 mg/g body weight resulted in an immediate decrease in liver DNA synthesis reaching a maximum at about 8-12 h after injection, the rate of synthesis returning to normal after 48 h.

Of the nuclear proteins, the non-histone protein fraction showed a significant decrease in specific activity 8 h after injection, and an increase in specific activity 24 h after injection. Histone and residual proteins did not show any significant changes.

The proteins present in the non-histone protein fraction were analysed by isoelectric focusing electrophoresis. The gels of treated and control samples showed similar gel patterns but with a much denser band appearing in the treated sample having a pI of 7.4.

Histone and residual protein fractions were also analysed by electrophoresis and showed no difference between treated and control samples.

SOME IMMUNOLOGICAL PARAMETERS IN RELATION TO PROGNOSIS IN PATIENTS WITH CARCINOMA OF THE BRONCHUS. H. M. ANTHONY and J. A. KIRK. Department of Cancer Research, University of Leeds, K. E.

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The strength of DHS skin test response to *Candida albicans*, mumps and Old Tuberculin have been used to assess the effector reactivity of the immune system in patients with newly diagnosed carcinoma of the bronchus. Significant positive correlations were found between the strength of skin test response and length of survival, symptom pattern on diagnosis and general condition on diagnosis. Most surviving patients retested at 6 months showed the same strength of skin test response in spite of deterioration of general condition, indicating that immune competence determines general condition rather than *vice versa* (*Cancer N.Y.*, in the press).

Studies of T and B lymphocyte populations in peripheral blood using resetting techniques identifying 97% of cells of mononuclear preparations of healthy donors have shown that survival is significantly poorer among patients with low T lymphocytes or increased null cells at the time of diagnosis.

STUDIES RELATED TO THE CARRIER PRINCIPLE IN THE DESIGN OF CYTOTOXIC DRUGS. M. SZEKERKE. Research Group for Peptide Chemistry, Hungarian Academy of Science, Budapest.

With the aim of rationalizing the design of peptide-type carriers attached to cytotoxic drugs, attention was focused on the mechanism of carrier function. The interaction of model peptides with nucleic acids was analysed by following the thermal denaturation profiles.

Complex formation with DNA reflects adequately the differences in the anti-tumour activity of diastereoisomer α - and γ -glutamyl melphalan derivatives. The changes of T_m -values of poly I : C-peptide complexes are in marked contrast to the behaviour of the complexes of DNA with the same peptides. No differences were detected in the ultraviolet absorption spectra (25°C) of DNA in the presence of peptides, while with N-aminoacyl D-glucosamine derivatives interactions are indicated by spectral shifts.

Both for carrier activity and DNA interaction there seem to exist precise structural requirements for peptides.