

antigens, actin) was observed when comparing fresh and cultured cells. Lumenal epithelia and myoepithelia were clearly distinguishable by MAbs. The broad range anticytokeratin MAb A45-B/B3 has been used to detect metastases in regional lymph nodes from 22 breast carcinoma patients. Conventional histology and immunohistochemistry using A45-B/B3 showed a good agreement, but significantly more lymph nodes with metastases were detected by immunohistochemistry. This method seems to be superior in terms of sensitivity and reliability, and it may provide more confidence in diagnosing disease-free lymph nodes.

DOES THE EXPOSURE TO ENVIRONMENTAL FACTORS INFLUENCE THE DISTRIBUTION OF DIGESTIVE TRACT MALIGNANCIES?

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We have compared the incidence of gastrointestinal (GI) malignancies with selected environmental risk factors in a total of 109,000 people living in a defined selected region. The age distribution of the population is slightly progressive with prevailing industrial social structure.

Tumours of gastrointestinal system represent 25 to 36% of all malignancies. Their geographic distribution was modelled with the aid of a computer. The localities with high and low incidence of tumours were compared with the mean confidence interval and correlated with various environmental pollution factors.

The results of our study clearly demonstrate that some of environmental factors (water pollution, etc.) participate in the increased incidence of GI tumours.

THE FATE OF RSV SEQUENCES IN THE TRANSFORMED DUCK CELLS

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The long-term RSV passage in duck cells does not raise virus production in spite of viral genome integration even at the first passage. However, after six transfers the titre of virus sharply increased, the period of transformation was shortened and the transfecting activity of proviral DNA appeared. These alterations of RSV

properties correlate with the changes in the nucleotide sequences of the viral genome. The td mutant deleted in v-src has been isolated from the pool of duck-adapted RSV. The transforming activity of the mutant recovered after inoculation in chickens. The new isolate of rASV is replication defective. The genome has only one unusual 4 kb EcoRI fragment. The provirus contains src-specific sequences and RSV-specific LTR but lacks of all replicative genes.

ONCOGENIC POTENTIAL OF A NOVEL HUMAN src-RELATED GENE, fyn

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We have isolated cDNAs representing the complete coding sequence of a new human gene which is a member of the src family of oncogenes. Nucleotide sequence analysis revealed that this gene, termed *fyn*, encoded a 537-residue protein which was 74% identical to the chicken oncogene product, p60c-src, over a stretch of 191 amino acids at its carboxy terminus. In contrast, only 6% amino acid homology was observed within the amino-terminal 82 amino acid residues of these two proteins. It was possible to activate *fyn* as a transforming gene by substituting about two-thirds of the *fyn* coding sequence for an analogous region of the v-fgr onc gene present in Gardner-Rasheed feline sarcoma virus. The resulting hybrid protein molecule expressed in transformed cells demonstrated protein tyrosine kinase activity.

POLYADENYLATE POLYMERASE ACTIVITY IN SEVERAL CELL LINES

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The soluble poly(A)-polymerase content of growing and stationary cell populations from several (6) cell lines was determined. Cell populations from stationary cultures presented enzyme values with a mean of 31±12 units/mg of protein. The mean of values for growing cell populations was 62±18 units per mg of protein. A statistically significant difference was found between stationary and growing cell populations from the variety of cell lines examined. The observed differences in poly(A) polymerase levels

persisted after fractionation of the crude extracts and revealed two molecular forms of the enzyme activity with a net charge difference in stationary and growing cell cultures. These findings indicate the role of mRNA polyadenylation in cell transitional states and further support its regulatory role in differentiation and transformation.

CHARACTERIZATION OF CHROMOSOME 7 LONG ARM DELETIONS BY DNA PROBES IN MYELODYSPLASTIC SYNDROME

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Partial deletion of the long arm of chromosome 7 is a common abnormality in the bone marrow of patients with myelodysplastic syndrome (MDS) or acute non-lymphocytic leukaemia (ANLL). We have used chromosome 7-specific DNA probes in restriction fragment length polymorphism studies to characterize these deletions in molecular terms. Four patients with a deletion of 7q and MDS or ANLL were studied. Three closely linked loci in band 7q22 (detected by the probes MetH, J3.11, B79a) were deleted in all patients. The proalpha2(I)collagen gene (probe NJ-3, band 7q21-22) was present in the deleted chromosome in one patient. In one patient the deletion was interstitial since the T cell receptor beta chain locus was present in the deleted chromosome. Our results suggest that the proximal breakpoint is in a narrow region in 7q22, that a common region deleted in all patients is 7q22-32, and that the distal breakpoint is variable, at least one deletion being interstitial rather than terminal.

TRANSFORMING GROWTH FACTOR- β : A MAJOR REGULATOR OF CELL GROWTH AND PROTEOLYTIC ACTIVITY

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The effects of TGF β on the growth and plasminogen activator (PA) activity of normal and malignant human cells were studied in culture. A549 cells are very sensitive to TGF β growth inhibition. In these cells TGF β enhanced the mRNA levels and secretion of urokinase (u-PA). Increased proteolytic activity appeared to

correlate with TGF β inhibition of growth in A549 cells. In WI-38 lung fibroblasts the expression of u-PA and t-PA were decreased by TGF β . Induction of PA-inhibitor-1 and fibronectin were observed in both cell lines. In an NRK cell line exogenous u-PA was able to revert TGF β inhibition of anchorage-independent growth. Altered responsiveness to TGF β growth inhibition correlated with decreased ability to produce PAI-1 in transformed NRK cells. Inactive forms of TGF are secreted by most cultured cells, a fraction of which is activatable by plasmin. Local PA-mediated activation of TGF may be a way for the cells to regulate the proteolytic balance in their vicinity. This may offer a physiological feed-back mechanism for TGF β activation. Divergent effects on normal and malignant cell suggest that TGF β may participate in the regulation of the invasive, proteolytically active phenotype of cancer cells.

TESTICULAR CANCER - INFLUENCE OF THE MAJOR HISTOCOMPATIBILITY COMPLEX (MHC) ON PURE SEMINOMA

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There is some evidence that genetic factors might play an important role in the pathogenesis of germ-cell tumours. Analyses of the MHC antigens have so far yielded inconsistent results, which might be due to the heterogeneity of the disease. We have therefore conducted a multicenter study on HLA antigens and testicular cancer. 13 HLA-A, 23 HLA-B, 7HLA-C and 10 HLA-DR antigens were tested by the standard microlymphocytotoxicity technique in 44 patients and 257 unrelated healthy controls from the same geographical area. Statistical analysis was carried out using the Chi-square test with Yates' correction. The data obtained were as follows: in the group of 22 patients with pure seminoma, a statistically significant increase in HLA-B 44 (12) was found (4.3% compared to 21% in the control group, Chi-square 4.11, $p < 0.05$). There was a minor, not significant increase in DR 7 (37% compared to 20%), together with a complete absence of DR 1. These preliminary data suggest that susceptibility or resistance to seminoma could be HLA-associated. More prospective studies on HLA antigens and seminoma are needed, which might also yield additional information on correlations with the development of tumour dissemination.