close relatives of patients with large bowel malignancies. This excess of cases suggests that genetic factors may be involved in about 20% of the registered colonic tumours.

ARA-C INDUCED DIFFERENTIATION OF A NEW HUMAN NEUROBLASTOMA CELL LINE (GI-ME-N)

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Cytosine-arabinoside (ARA-C) effects on a new human neuroblastoma (NB) cell line (GI-ME-N) recently established in our laboratory, have been extensively tested. Low doses of ARA-C allowing 100% cell viability induce morphological differentiation and growth inhibition; differentiated cells appear larger and flattened with elongated dendritic processes; such cells appeared within 48 hrs after a dose of ARA-C as low as 0.1 µg/ml. The new morphological aspect reached the maximum expression after 5 days of culture being independent of the addition of fresh drug to the culture. A decrease in [3]H-thymidine incorporation was also observed within 48 hr, the cell growth being completely inhibited by the 5th day. Membrane immunofluorescence with specific monoclonal antibodies showed several dramatic changes in NB-specific antigen expression after 4 days of treatment with ARA-C. Concurrent studies including transmission electron microscopy, appearance of 68, 120 and 200 kD, neurofilaments and catecholamines determination will contribute to further definition of this system. Our data suggest that low ARA-C doses promotes in vitro differentiation of human NB cells resulting in an interesting alteration of the malignant phenotype.

SYNGENEIC TUMOUR INHIBITION AFTER TRANSFER OF IN VITRO INDUCED SPECIFIC T CELLS AND IN VIVO LAK CELLS

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Inhibition of polyoma growth after transplantation in CBA mice was achieved in 70% of animals treated with IL-2 and T cells induced in culture. transferred cells derived from donors with DTH to TAA and were stimulated with TAA. Soluble TAA with both specificities (polyoma and H-2K) have affinity to cell receptors. Antitumour effects and DTH in recipients are dependent on the period of time of the culture of T cells and dosage of IL-2.

PRESENCE OF A BREAST CARCINOMA ANTIGEN IN BODY FLUIDS

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The anti-breast carcinoma monoclonal antibody, NCRC-11 defines complex, high molecular weight glycoprotein antigens associated with secretory glandular epithelia, as well as with most epithelial malignancies. These components have been identified in, and purified from, normal body fluids including urine and skim milk. Analysis of these materials from normal fluids or tumours by sodium dodecyl sulphate polyacrylamide gel electrophoresis and immunoblotting with the NCRC-11 antibody revealed that the major antibody binding species were present as a single band or doublet of low electrophoretic mobilities.

Since it was shown that NCRC-11 antigens were released from tissues in a soluble form, the possibility that these antigens, when secreted from a developing tumour into the circulation, might represent a diagnostic marker for breast cancer was evaluated. For this purpose, the NCRC-11 antibody was employed in a solid phase 'sandwich' radioimmunoassay, whereby antigen in the serum of cancer patients was captured by adsorbed NCRC-11 antibody, and the antigen was then detected by the subsequent binding of radiolabelled NCRC-11 tracer antibody. The findings obtained indicated that NCRC-11 antigens were elevated in the serum of advanced breast cancer patients in comparison to healthy control females. Thus, access to the circulation was available to NCRC-11 antigens released from the tumour but not to equivalent products released from normal epithelia.

COMPARISON OF GEOCHEMICAL AND CANCER INCIDENCE DATA IN FINLAND

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As a joint effort of the Finnish Cancer Registry and the Geochemistry Department of the Geological Survey of Finland a research project has been started in which the role of elements in the soil will be studied as risk or protective factors in different cancers. Soil samples were collected from