PRI APPLICATION OF A MICRO-RADIOIMMUNOASSAY TO THE ANALYSIS OF HUMAN TUMOUR ANTIGENS DEFINED BY MONOCLONAL ANTIBODIES

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A solid phase micro-radioimmunoassay, performed in Terasaki tissue culture plates with wells of 10µl capacity, has been developed for the analysis of human tumour antigens defined by monoclonal antibodies. Briefly, tumour antigen preparations are adsorbed to the surface of the wells and following the addition of monoclonal antibodies to the wells, bound antibodies are detected using an appropriate radiolabelled antiglobulin reagent.

The technique has been applied in the initial screening and selection of anti-colorectal tumour antibodies by determining their reaction with unfractionated membrane preparations from tumour and normal tissues, and in the subsequent evaluation of their reactivity with epitopes on carcinoembryonic antigen and related antigens. In addition, the assay has been employed in the analysis of an immunoadsorbent purified, breast carcinoma antigen defined by an IgM antibody, termed B55. This antigen preparation also expressed epitopes defined by antibodies against oligosaccharide sequences on human milk fat globule membranes.

The assay has been shown to be sensitive, relatively rapid and easy to perform with minimal consumption of valuable reagents.

PUL RETICULUM CELL SARCOMA OF SJL/J MICE AS AN EXPERIMENTAL MODEL SYSTEM FOR MOLECULAR ANALYSIS OF GENETICALLY LINKED SPONTANEOUS NEOPLASIAS.

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The inbred mouse strain SJL/J has a high incidence of reticulum cell sarcomas (RCS) at the mean age of 13.3 months and therefore is a suitable animal model to investigate the genetic basis of cancers at a molecular level. DNA has been isolated from transplantable tumour cell line established from spontaneous RCS of SJL/J mice and transfected into normal mouse and rat fibroblasts. Foci of transformed cells were scored in both mouse and rat recipient cells. These foci show a peculiar and distinguishable round morphology. Clones established from selected foci consisted of highly refractile cells which grew in semi-solid media with 60-85% efficiency. DNA from these transformants readily transfer the malignant phenotype to normal recipient cells in further cycles of transfections. Digestion with EcoRI and Hind III restriction enzymes did not affect the biologic activity of the DNAs tested, although this was abolished by Bam HI cleavage. Moreover, mouse or rat transformants, obtained in every cycle of transfection, had similar morphologic appearances and growth properties suggesting that the same transforming gene was involved in their malignant conversion.

RAJ SUBRENAL CAPSULE (SRC) ASSAY AS A CHEMOTHERAPEUTIC TOOL

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The SRC assay was first used by Bogden in 1978. By transplanting surgically removed human tumour fragments under the renal capsule of nude and normal mice, he was able to determine the individual tumour response to drugs. Here, we present a report about the first experiences using this assay in Hungary. We attempted to transplant fragments of serially transplantable xenografts under the renal capsule of normal and immunosuppressed mice. The chemotherapeutic sensitivity of some lines (testicular embryonal carcinomas, squamous cell carcinomas) using SRC and subcutaneous transplantation were compared. The early results call attention to the importance of morphological evaluation of tumours showing progressive growth, since in certain cases the increase in size was caused by oedema, cyst formation or even by the accumulation of inflammatory cells without signs of tumour-proliferation.
