URI ALPHAFOETOPROTEIN (AFP) AS A RADIOTRACER IN TUMOUR SCINTIGRAPHY

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We have recently demonstrated that the ability to incorporate AFP, characteristic of embryonic and foetal cells undergoing differentiation, may be shared by neoplastic cells of different origin. Evidence is presented here of the selective accumulation of radiolabelled ^{125}I-AFP by spontaneous mammary carcinomas of the mouse, as well as by a mouse neuroblastoma and a mouse teratocarcinoma cell line grafted into syngeneic recipients. External photoscans of tumour bearing mice injected with ^{131}I-AFP confirmed the significant accumulation of the protein in the tumours. These results show the usefulness of a novel approach to tumour localization.

UZV CHARACTERIZATION OF SPONTANEOUSLY OCCURRING LEUKAEMIAS IN A NEW INBRED STRAIN OF MICE

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A new inbred mouse strain (HSS) with high frequency of spontaneously occurring leukaemias has been selected in our laboratory. Leukaemias arise after 4-8 months latency and depending on the age of mice, differ morphologically. Atrophic thymus with enlarged liver and thoracic lymph-nodes, lymphocytosis with Gumphrecht formations characterizes Type I leukaemia, whereas generalized lymphoma with greatly enlarged liver and mesenteric lymph-nodes are seen in Type II. Both types were negative for cytoplasmic and cell membrane Ig as well as for the Thy 1.2. antigen. Reverse transcriptase activity could be detected in supernatants of culture fluids of leukaemia cells when using a poly A-oligod T template-primer combination. Type I leukaemia cells produce ecotropic as well as polytropic virus. The ecotropic virus is XC^+, whereas the polytropic virus is XC^-. In addition Type I leukaemia cells react with antisera produced to the Moloney leukaemia virus.

VÄH SYNCHRONOUS FLUORESCENCE SPECTROPHOTOMETRY TO DETECT BENZO(A)PYRENE-DNA ADDUCTS IN HUMAN TISSUES

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We are currently applying synchronous fluorescence spectrophotometry (SFS) to detect the minute amounts of carcinogens that are bound to DNA following metabolic activation of environmental carcinogens within the body, and comparing this technique with ultrasensitive enzymatic radioimmunoassay (USERIA). In SFS excitation and emission are scanned simultaneously with a fixed wavelength difference of 34 nm. This way benzo(a)pyrene (BP)-diolepoxide-derived products give a single peak at around 380 nm. Before the measurement BP-DNA is acid-hydrolyzed to BP-tetrols, because these are more fluorescent. Coke oven workers and cigarette smokers are heavily exposed to BP. In two materials of coke oven workers 10/44 and 4/36 were positive by SFS for BP-DNA when DNA from peripheral blood lymphocytes was studied. There were more positives by USERIA, but by both of the assays higher percentage of the smokers than of the non-smokers were positive. We have also found BP-DNA adducts in smokers who are not occupationally exposed, and from human placentas.
