epithelial non-transformed immortalized rat cells of the Clone 9-3 line (Vanhamme and Szpirer, Exp. Cell. Res., 169: 120, 1987). Here we report that several of the H-ras-1-transformed methionine-dependent clones can yield methionine-independent revertants at a high frequency. We analyzed these revertants for several of their properties, including cloning-efficiency in soft agar to determine whether reversion of the methionine-dependent character is associated with full reversion of the transformed phenotype. Methionine-independent revertant clones were found to retain their ability to grow in agar, indicating only partial reversion of the H-ras-1 induced transformed phenotype.

REACTIVITY OF ANTIBODIES TO DNA MODIFIED BY BENZO(A)PYRENE IS DEPENDENT ON THE LEVEL OF MODIFICATION - IMPLICATIONS FOR QUANTITATION OF BENZO(A)PYRENE-DNA ADDUCTS IN VIVO

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Antibodies specific for DNA modified by (±) trans-7,8-dihydroxy-anti-9,10-epoxy-7,8,9,10 tetra hydroxybenzo(a)pyrene (BPDE) have been used in an enzyme-linked immunosorbent assay (ELISA) to quantitate the products of BP covalently bound to DNA. The antibodies were made by immunizing rabbits and mice with BPDE-modified DNA (2% modified) complexed with methylated bovine serum albumin. The resulting polyclonal and monoclonal antisera showed a high reactivity towards single-stranded BPDE-DNA, but had a lower reactivity for double stranded BPDE-DNA. The free N2-deoxyguanosinyl adduct of BPDE was less well recognized and no affinity was detected for BPDE-tetrols or DNA modified with N-acetoxy-AAF. A high cross-reactivity was found with DNA modified with (±) trans-1,2-dihydroxy-anti-3,4-epoxy-1,2,3,4-tetrahydrochrysene (CDE).

The antibody-reactivity towards BPDE-DNA depended on the level of modification; in the competitive ELISA as little as 4 fmol BPDE-DNA (42 pmol/µg) was sufficient for 50% inhibition, whereas 17 fmol of adduct was requird when [3]H-BPDE of a low level of modification (1 to 10 fmol/µg) was used as inhibitor. Samples of [3]H-BP-DNA isolated from the livers of mice treated with various doses of [3]H-BP were examined by ELISA. The binding values, calculated from the immunoassay, were in good agreement with the values from radioactivity measurements. The combination of standards of a low level of modification and highly specific antisera in a competitive ELISA is a valuable tool in the detection and reliable quantitation of human exposure to PAHs.

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EXPRESSION OF c-sis IN HUMAN MALIGNANT MESOTHELIOMA CELL LINES

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Malignant mesotheliomas are mesodermally derived tumours. Occasionally a reactive connective tissue growth occurs. The expression of mRNA of PDGF A and PDGF B (c-sis) was studied in malignant mesothelioma cell lines and normal mesothelial cells. From five patients with confirmed malignant mesotheliomas, seven malignant mesothelioma cell lines were isolated. All were found to have chromosomal aberrations. Normal mesothelial cells were derived from patients without a malignant mesothelioma and had a normal karyotype. All malignant mesothelioma cell lines were found to express the 4.2 kb c-sis mRNA abundantly while the normal mesothelial cells did not express this messenger. The PDGF A chain was expressed by normal as well as malignant mesothelial cells. These studies indicate that the c-sis oncogene may possibly play a role in this type of malignancy.

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RECESSIVE MODE OF INHERITANCE OF MELANOMA FORMATION IN XIPHOPHORIN FISH

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Studies on oncogenes provide evidence that the transformed phenotype is conferred onto cells in a dominant fashion. Studies on retinoblastoma, Wilms tumour, etc. show contrary evidence, i.e. tumours are due to homozygosity or to a total loss of recessive genes. Some of this controversy in interpreting genetic mechanisms in tumourigenesis could best be resolved in an