VES CHARACTERISTIC PATTERNS OF IN VITRO BEHAVIOUR OF SARCOMA CELLS CAPABLE OF METASTASIZING AFTER INTRADERMAL INJECTION INTO SYNGENEIC LEWIS RATS

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The cell line K2M which metastasizes into the lungs and other sites in the body after subcutaneous or intradermal injection, was obtained from a population of sarcoma cells, LW13K2, that resulted from spontaneous neoplastic transformation in vitro of mixed embryo fibroblasts of inbred Lewis rats. Various subpopulations and clones of K2M cells isolated in vitro differ in their efficiency to metastasize between 0-70%. Metastatic nodules growing in the lungs invade surrounding tissue. In vitro characteristics of the invading and metastasizing cells, such as patterns of dynamic morphology, defect of heterotypic contact inhibition of locomotion and increased migration at an acid pH, indicate that the alteration of regulation of cell locomotory activity and the invasiveness and capability of metastasizing are linked.

ZAJ STUDY OF EXPRESSION OF BLV GENES IN BACTERIA AND IN MAMMALIAN CELLS USING RECOMBINANT VECTORS

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Attempts were made to introduce defined fragments of the BLV genome into bacterial expression vectors. Fragments of BLV proviral DNA obtained by Bam HI digestion were isolated. The DNA fragments were ligated either into the Bam HI open ATG vector having strong stop phage promotor or into the plasmid having both bacterial and SV-40 origin of replication. Recombinant plasmids were selected by colony hybridization by the labelled BLV specific probe. The BLV containing plasmids were tested for synthesis of BLV specific proteins by immunoprecipitation by means of anti-BLV serum. Several recombinant plasmids gave different patterns of immunoprecipitated proteins in comparison with original plasmid. Experiments were also conducted to determine whether the recombinant BLV DNA can be expressed in mammalian cells after its transfection. Detection of the virus specific products was performed by ELISA technique using the anti-BLV serum.

ZER KINETICS OF CELL PROLIFERATION DURING HEPATOCARCINOGENESIS

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Earlier cytomorphological and cytochemical investigations of hepatocarcinogenesis induced in rat liver by "stop experiments" with N-nitrosomorpholine (NNM) suggested a sequence of cellular changes leading from clear or acidophilic cell foci storing glycogen in excess through mixed cell foci and basophilic foci poor in glycogen to neoplastic nodules and hepatocellular carcinomas (Adv. Enzyme Reg. 22, 97, 1984). We have now studied the kinetics of cell proliferation in these different cell populations by autoradiographic determination of ^{3}H-thymidine indices in rat liver between 7 and 48 weeks from NNM treatment for 7 weeks. The ^{3}H-thymidine labelling index is increased only slightly in the early appearing clear and acidophilic cell foci. However, a steadily increasing cell proliferation is linked with the development of mixed and basophilic cell populations in foci, nodules and carcinomas in later stages of hepatocarcinogenesis. These results are in favour of the hypothesis of sequential cellular changes during hepatocarcinogenesis and suggest that a pronounced enhancement of cell proliferation is not an early but a later feature of putative preneoplastic cell populations in rat liver.
