and lymph node status. The percentage of positive tumours slightly increased with patients' age. It seems that elastosis has a limited value as a single prognostic factor.

ANTIGENS EXPRESSED IN VIVO FROM THE BamH1 W FRAGMENT OF EPSTEIN BARR VIRUS

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A gene bank was prepared in a plasmid expression vector from small fragments of Epstein Barr Virus (EBV) DNA. When screened with serum from patients known to be immunopositive for EBV, a number of colonies which expressed EBV antigens were identified. Subsequent screening of these colonies with a probe for the repeated BamH1 W fragment showed that 4 of them originated from that region of the EBV genome.

The exact locations of the antigen coding sequences were established by DNA sequencing. All correspond to parts of potential open reading frames which had previously been identified by sequence analysis. These are in three different reading frames and two of the sequences, which are in different reading frames, contain overlapping sequences. The DNA fragments identified in this study do not correspond to exons shown previously to be part of EBNA2 or EBNA5.

DEREGULATION OF THE TYROSINE KINASE ASSOCIATED WITH THE BOMBESIN RECEPTOR IN SMALL CELL LUNG CARCINOMAS

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It has been hypothesized that bombesin-like peptides produced by small cell lung carcinomas (SCLC) may sustain deregulated proliferation through an autocrine mechanism. We have recently identified, using phosphotyrosine antibodies, a 115 kD tyrosine kinase (p115) which is part of the bombesin receptor complex in mouse Swiss 3T3 fibroblasts (Cirillo D., Gaudino G., Naldini L. and Comoglio P.M., Mol. Cell. Biol. 6: 4641-4649). We now report that phosphotyrosine antibodies recognize a protein of 115 kD, phosphorylated at tyrosine, in four human SCLC lines producing bombesin, but not in a non-producer "variant" line. P115 from detergent treated SCLC does bind to bombesin-Sepharose and becomes phosphorylated at tyrosine in the presence of radiolabeled ATP and MN++ ions. As in the case of p115 kinase immunoprecipitated from mouse fibroblast, the SCLC p115 is phosphorylated in an immunocomplex kinase assay. However, the latter does not require the presence of exogenous bombesin activity. Binding data, obtained using radiolabelled ligand, indicate receptor occupancy in the cell lines producing bombesin. These observations fulfill the hypothesis of autocrine control of human small cell lung carcinoma cell proliferation, via constitutive activation of bombesin receptors.

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GROWTH FACTOR PRODUCTION BY NORMAL HUMAN MESOTHELIAL CELLS AND MESOTHELIOMA CELL LINES

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It has been shown that normal human mesothelial cells (NHM) blocked in G1 by serum starvation can be induced to undergo a round of DNA synthesis either by TGF-beta or by PDGF. Seven human mesothelioma cell lines were compared to NHM primary cultures by northern analysis for their level of expression of mRNA hybridizing with cDNA for PDGF A chain, PDGF B chain (c-sis) or TGF-beta. NHM cells produced no detectable B-chain mRNA and low levels of A chain message. Mesothelioma cell lines produced high levels of either A or B chain message or both. Both normal and tumour cells produced TGF-beta mRNA. NHM cells transformed by transfection with an SV40 T antigen construct produced levels of message for all three growth factor genes which fell within the normal range of hybridization analysis. Mesothelioma lines but not NHM cells are positive for PDGF by immunoprecipitation or bioassay of conditioned medium. Thus, mesothelioma cell lines produce a growth factor which is mitogenic for NHM cells. An autocrine role of PDGF in tumourigenesis is being investigated.

ROLE OF HOST RESPONSES IN THE DRUG TREATMENT OF METASTASES

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